PLANNING COMMISSION - PC - REGULAR MEETING

WEDNESDAY, APRIL 5, 2023
REGULAR SESSION: 6:00 P.M.

COUNCIL CHAMBERS 23873 CLINTON KEITH ROAD SUITE 106 WILDOMAR, CA 92595
REGULAR SESSION 6:00 PM

Kim Strong - Chair
Eric Filar - Vice Chair
Arrin Banks - Commissioner
Brianna Bernard - Commissioner
George Cambero - Commissioner

Matthew Bassi - Community Development Director Stephanie Gutierrez, 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 - REGULAR SESSION - 6:00 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 Meeting Minutes - March 1, 2023 Regular Meeting:
Presented By: Matthew Bassi , Planning Department

RECOMMENDATION:
Staff recommends the Planning Commission approve the March 1, 2023 regular meeting minutes as submitted.

2. PUBLIC HEARINGS

2.1 **Conditional Use Permit No. 23-0030 (Golden Coast Veterinary Clinic): Planning Commission review of a CUP to establish a 2,629 sq. ft. veterinary hospital in the Clinton Keith Village retail center (existing Suite #105 & 106) located at the NEC of Clinton Keith Road and Wildomar Trail (APN: 362-250-003).**

Presented By: Abdu Lachgar , Planning Department

RECOMMENDATION:

Staff recommends the Planning Commission take the following actions:

1) Find and determine that approval of Conditional Use Permit No. 23-0030 meets the findings for a Categorical Exemption in accordance with Section 15301 of CEQA; and

2) Adopt a Resolution entitled:

PC RESOLUTION NO. 2023-07

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, ADOPTING A CATEGORICAL EXEMPTION IN ACCORDANCE WITH SECTION 15301 OF CEQA; AND APPROVING CONDITIONAL USE PERMIT NO. 23-0030 TO ESTABLISH A 2,629 SQUARE-FOOT VETERINARY CLINIC IN THE CLINTON KEITH VILLAGE RETAIL CENTER, SUBJECT TO CONDITIONS, LOCATED AT 24046 CLINTON KEITH ROAD, SUITE #105/106 (APN: 362-250-003)

2.2 Beyond Gas Station/Warehouse Project (CUP/Plot Plan No. 22-0006) Planning Commission review of an MND/MMRP and CUP/Plot Plan for a gas station with beer and wine sales, 2 fast-food restaurants and a 17,312 square-foot industrial building.

Presented By: Abdu Lachgar , Planning Department

RECOMMENDATION:

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

1. Find and determine that the CUP/Plot Plan No. 22-0006 meets the requirements for adoption of a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program in accordance with Section 15070 of the California Environmental Quality Act (CEQA) Guidelines.

2. Adopt a Resolution entitled:

PC RESOLUTION NO. 2023-08

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, ADOPTING A MITIGATED NEGATIVE DECLARATION / MITIGATION MONITORING AND REPORTING PROGRAM (SCH# 2023020343) FOR CONDITIONAL USE PERMIT NO. 22-0006 AND PLOT PLAN NO. 22-0006 (BEYOND GAS STATION/WAREHOUSE PROJECT) LOCATED AT THE SOUTHWEST CORNER OF JANA LANE AND CLINTON KEITH ROAD (APN: 380-290-002)

3. Adopt a Resolution entitled:

PC RESOLUTION NO. 2023-09

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING CONDITIONAL USE PERMIT NO. 22-0006 TO ALLOW BEER AND WINE SALES FOR OFF-SITE CONSUMPTION AND PLOT PLAN NO. 22-0006 TO DEVELOP A 7,460-SQUARE-FOOT CONVENIENCE STORE AND GAS STATION WITH EIGHT PUMPS UNDER A 5,971-SQUARE-FOOT CANOPY, A 1,790-SQUARE-FOOT DRIVE-THROUGH CAR WASH FACILITY, TWO (2) DRIVE-THROUGH RESTAURANTS TOTALING 3,800 SQUARE FEET, AND A TWO-STORY 17,312-SQUARE-FOOT INDUSTRIAL WAREHOUSE BUILDING, SUBJECT TO CONDITIONS, LOCATED AT THE SOUTHWEST CORNER OF JANA LANE AND CLINTON KEITH ROAD (APN: 380-290-002)

2.3 Tentative Tract Map No. 33840 (EOT #2)

Presented By: Abdu Lachgar , Planning Department

RECOMMENDATION:

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

1) Find and determine that the Extension of Time #2 for TTM No. 33840 does not require additional environmental review in accordance with Section 15162 of the California Environmental Quality Act (CEQA) guidelines; and

2) Adopt a Resolution entitled:

PC Resolution No. 2023-10

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING A 2-YEAR EXTENSION OF TIME (EOT #2) TO MARCH 23, 2025 FOR TENTATIVE TRACT MAP NO. 33840 TO SUBDIVIDE A 4.16-ACRE SITE INTO 15 SINGLE FAMILY RESIDENTIAL LOTS LOCATED AT THE TERMINUS OF ELM STREET BETWEEN GRUWELL STREET AND WILDOMAR TRAIL (APN: 376-043-027), AND A DETERMINATION THAT ADDITIONAL ENVIRONMENTAL REVIEW IS NOT REQUIRED PER CEQA GUIDELINES SECTION 15162

2.4 Zoning Ordinance Amendment No. 2023-05:

Presented By: Matthew Bassi , Planning Department

RECOMMENDATION:

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

1. Find and determine that approval of Zoning Ordinance Amendment No. 2023-05 meets the findings for a General Rule Exemption in accordance with Section 15061(B)(3); and

2. Adopt a Resolution entitled:

PC RESOLUTION NO. 2023-11

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, RECOMMENDING CITY COUNCIL APPROVAL OF ZONING ORDINANCE AMENDMENT NO. 2023-05 TO AMEND CHAPTER 17.315 (CANNABIS BUSINESSES) OF WILDOMAR MUNICIPAL CODE, AND FIND THAT THAT ZONING ORDINANCE AMENDMENT NO. 2023-05 IS EXEMPT FROM CEQA REVIEW PURSUANT TO CEQA GUIDELINES SECTION 15061(B)(3)

3. GENERAL BUSINESS

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, Heidi Jemane-Lobjoit, Wildomar Deputy City Clerk, 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.

Heidi Jemane-Lobjoit
Deputy City Clerk
Dated:

CITY OF WILDOMAR
PC - REGULAR MEETING
CONSENT CALENDAR
Agenda Staff Report # 1.1
Meeting Date: April 5, 2023

SUBJECT: Planning Commission Meeting Minutes - March 1, 2023 Regular Meeting:

SUBMITTED BY: Matthew Bassi

PREPARED BY: Matthew Bassi

ACTION:
Staff recommends the Planning Commission approve the March 1, 2023 regular meeting minutes as submitted.

ATTACHMENTS:
03-01-23 PC Meeting Minutes.pdf

MINUTES
CITY OF WILDOMAR
PLANNING COMMISSION PC - REGULAR MEETING
WEDNESDAY, MARCH 1, 2023
COUNCIL CHAMBERS
23873 CLINTON KEITH ROAD SUITE 106
WILDOMAR, CA 92595

REGULAR SESSION: 6:00 P.M.

Members in attendance: Eric Filar, Arrin Banks, Kim Strong, George Cambero
Members absent: Brianna Bernard

Staff in Attendance - Matthew Bassi - Community Development Director, Stephanie Gutierrez - Assistant City Attorney

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CALL TO ORDER - REGULAR SESSION - 6:00 P.M.
The regular session was called to order by Chair Strong at 6:00pm.

ROLL CALL
Staff in Attendance: City Clerk Morales, Community Development Director Matthew Bassi, Assistant City Attorney Stephanie Gutierrez, IT Specialist Sung, Associate Planner Abdu Lachgar, Associate Engineer Cameron Luna, Economic Development Director, Kimberly Davidson.

FLAG SALUTE
Vice Chair Filar led the flag salute.

PUBLIC COMMENTS
No public comments.

APPROVAL OF THE AGENDA AS PRESENTED
No changes to the agenda as presented. Agenda approved.

1. CONSENT CALENDAR
Approved all items on the consent calendar.

1.1 Minutes - February 1, 2023 Regular Minutes
Approved the minutes of February 1, 2023 as presented by Janet Morales from the City Clerk's Office.

Moved by Eric Filar; seconded by Arrin Banks to Approve

Motion Approved: 4- 0

Voting For: Eric Filar, Arrin Banks, Kim Strong, George Cambero
Voting Against: None
Abstain: None
Absent: Brianna Bernard

1.2 2022 HCD Annual Housing Element/General Plan Progress Report
Presented by: Community Development Director, Matthew Bassi.

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

Moved by Eric Filar; seconded by Arrin Banks to Approve Motion to Approve 2022 HCD Annual Housing Element/General Plan Progress Report.

Motion Approved: 4- 0

Voting For: Eric Filar, Arrin Banks, Kim Strong, George Cambero
Voting Against: None
Abstain: None
Absent: Brianna Bernard

2. PUBLIC HEARINGS

The following individuals provided public comments:

1. Eric Flodine
2. Dan Long (Rancon Group)

2.1 Zoning Ordinance Amendment No. 2023-04 (EOT's):
Presented by Community Development Director, Matthew Bassi for a Code Amendment, not EOT.

Moved by Eric Filar; seconded by Arrin Banks to Approve

Motion Approved: 4- 0

Voting For: Eric Filar, Arrin Banks, Kim Strong, George Cambero
Voting Against: None
Abstain: None
Absent: Brianna Bernard

3. GENERAL BUSINESS

3.1 Plot Plan No. 13-0086 - Extension of Time #2 (Walmart):
Presented by: Abdu Lachgar
Resident Matthew Nelson, provided public comments.

Moved by Arrin Banks; seconded by Kim Strong to Approve Vice Chair Filar voting No

Motion Approved: 3- 1

Voting For: Arrin Banks, Kim Strong, George Cambero
Voting Against: Eric Filar
Abstain: None
Absent: Brianna Bernard

3.2 Plot Plan No. 16-0006 - Extension of Time #2 (Bundy Resort Apartments):
Presented by: Abdu Lachgar

Moved by Arrin Banks; seconded by Eric Filar to Approve

Motion Approved: 4- 0

Voting For: Eric Filar, Arrin Banks, Kim Strong, George Cambero
Voting Against: None
Abstain: None
Absent: Brianna Bernard

PLANNING COMMISSION COMMUNICATIONS

Commissioner Cambero's granddaughter was in attendance.

PLANNING DIRECTOR REPORT

There will be new agenda items for April 5th meeting, as presented by Matthew Bassi.

CITY ATTORNEY REPORT

Nothing to report.

FUTURE AGENDA ITEMS

ADJOURN THE MEETING

With there being no further business, Chair Kim Strong adjourned the meeting at

6:34pm. **AFFIDAVIT OF POSTING**

Submitted by:

_____

Matthew C. Bassi
Community Development Director/Minutes Secretary

CITY OF WILDOMAR
PC - REGULAR MEETING
PUBLIC HEARING
Agenda Staff Report # 2.1
Meeting Date: April 5, 2023

SUBJECT: Conditional Use Permit No. 23-0030 (Golden Coast Veterinary Clinic):
Planning Commission review of a CUP to establish a 2,629 sq. ft. veterinary hospital in the Clinton Keith Village retail center (existing Suite #105 & 106) located at the NEC of Clinton Keith Road and Wildomar Trail (APN: 362-250-003).

SUBMITTED BY: Matthew Bassi

PREPARED BY: Abdu Lachgar

ACTION:
Staff recommends the Planning Commission take the following actions:

1) Find and determine that approval of Conditional Use Permit No. 23-0030 meets the findings for a Categorical Exemption in accordance with Section 15301 of CEQA; and

2) Adopt a Resolution entitled:

PC RESOLUTION NO. 2023-07

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, ADOPTING A CATEGORICAL EXEMPTION IN ACCORDANCE WITH SECTION 15301 OF CEQA; AND APPROVING CONDITIONAL USE PERMIT NO. 23-0030 TO ESTABLISH A 2,629 SQUARE-FOOT VETERINARY CLINIC IN THE CLINTON KEITH VILLAGE RETAIL CENTER, SUBJECT TO CONDITIONS, LOCATED AT 24046 CLINTON KEITH ROAD, SUITE #105/106 (APN: 362-250-003)

PROJECT DESCRIPTION:
The Applicant (Golden Coast Veterinary Care, Inc.) is proposing to establish a 2,629 sq. ft. veterinary hospital in the Clinton Keith Village retail center (existing Suite #105 & 106) located at the North East corner (NEC) of Clinton Keith Road and Wildomar Trail (APN: 362-250-003). The applicant proposes an animal hospital with business hours 7am - 5pm (7 days a week). The expected daily patient count is approximately 20 surgical procedures and 10 - 20

preventative care patients per day. There will be no animal boarding proposed as part of this project, nor will the proposed hospital be open 24 hours a day. The project requires Planning Commission adoption of a Categorical Exemption, and a Conditional Use Permit (CUP) for the animal hospital use in the C-P-S zone.

Conditional Use Permit No. 23-0030:

In accordance with Section 17.76 of the Wildomar Municipal Code (WMC), the proposed project requires approval of a CUP to establish an animal hospital. The CUP discussion is provided in the Analysis section of this staff report and the Findings are provided in PC Resolution No. 2023-07 (Attachment B).

Project Location/Vicinity:

The proposed veterinary use will be located in an existing multi-tenant commercial/retail building located at the Clinton Keith Village retail center (existing Suite #105 & 106) located at the NEC of Clinton Keith Road and Wildomar Trail (APN: 362-250-003).

PROJECT ANALYSIS:

CEQA Analysis:

In accordance with the California Environmental Quality Act (CEQA) Guidelines, the Planning Department evaluated the proposed Conditional Use Permit No. 23-0030 establishing a 2,629 sq. ft. veterinary hospital in the Clinton Keith Village retail center (existing Suite #105 & 106) located within the C-P-S (Scenic Highway Commercial) zone to determine what level of CEQA environmental review is required. Based on this review, the Planning Department determined that approval of Conditional Use Permit No. 23-0030 meets the findings for a Categorical Exemption in accordance with Section 15301 (Existing Facilities, Class 1) of CEQA. Class 1 consists of the operation or minor alteration of existing structures involving negligible expansion of the existing space.

The applicant has proposed to make tenant improvements to the lease space located at 24046 Clinton Keith Road (Suite #105 - 106) (APN: 362-250-003) as part of the animal hospital operations for which building permits will be required. Therefore, based on this, the Planning Department hereby recommends the Planning Commission adopt this Categorical Exemption in accordance with Section 15301 (Existing Facilities, Class 1) of CEQA for Conditional Use Permit No. 23-0030. A Notice of Exemption (NOE) will be filed within five (5) working days of Planning Commission approval in accordance with CEQA guidelines.

Conditional Use Permit 22-0030 Analysis:

The Applicant is proposing to establish an animal hospital within an existing tenant suite. In accordance with Section 17.76 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 an animal hospital with no animal boarding is consistent with the General Plan land use designation of CR 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

17.76 of the Zoning Ordinance.

The Planning Commission has the authority to approve CUP No. 23-0030, subject to conditions, for the proposed Gold Coast Animal Hospital. The findings to support approval of the CUP is provided in PC Resolution No. 2023-07 (Attachment C).

ATTACHMENTS:

Attach A - PC Resolution 2023-07-CUP-COA.pdf
Attach B - Development Plans-Floor Plans.pdf

ATTACHMENT B

PC Resolution No. 2023-07

CUP No. 23-0030

PC RESOLUTION NO. 2023-07

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, ADOPTING A CATEGORICAL EXEMPTION IN ACCORDANCE WITH SECTION 15301 (CLASS 1) OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), AND APPROVING CONDITIONAL USE PERMIT NO. 23-0030 TO ESTABLISH A 2,629 SQ. FT. VETERINARY HOSPITAL IN THE CLINTON KEITH VILLAGE RETAIL CENTER (EXISTING SUITE #105 & 106) LOCATED AT THE NEC OF CLINTON KEITH ROAD AND WILDOMAR TRAIL (APN: 362-250-003).

WHEREAS, the Planning Department has received a development application for the Gold Coast Veterinary Hospital project consisting of a Categorical Exemption and Conditional Use Permit No. 23-0030, to develop a 2,629 sq. ft. veterinary hospital in the Clinton Keith Village retail center (existing Suite #105 & 106) located at the NEC of Clinton Keith Road and Wildomar Trail (APN: 362-250-003) from:

Project Applicant: Golden Coast Veterinary Care, Inc.

Project Location: NEC of Clinton Keith Road and Wildomar Trail

APN: APN: 362-250-003

Project Area: 2,629 sq. ft.

WHEREAS, in accordance with Chapter 17.76.010 of the WMC, the proposal to establish a 2,629 sq. ft. veterinary hospital in the Clinton Keith Village retail center (existing Suite #105 & 106) located at the NEC of Clinton Keith Road and Wildomar Trail (APN: 362-250-003) requires review of a Conditional Use Permit by the Planning Commission; and

WHEREAS, in accordance with Chapter 17.200 of the Wildomar Municipal Code (WMC), the Planning Commission has the authority to review the proposed Conditional Use Permit No. 23-0030 to establish a 2,629 sq. ft. veterinary hospital in the Clinton Keith Village retail center (existing Suite #105 & 106) located at the NEC of Clinton Keith Road and Wildomar Trail (APN: 362-250-003); and

WHEREAS, in accordance with Section 17.192 of the Wildomar Municipal Code, the Planning Department on March 22, 2023 gave public notice to all property owners within a 600-foot radius of the project boundary, notifying said property owners and tenants of the April 5, 2023 Planning Commission meeting at which time the Planning Commission would consider Conditional Use Permit No. 23-0030 to establish an animal hospital; and

WHEREAS, in accordance with Ordinance No. 135, the Planning Department on March 24, 2023 posted a public hearing notice “sign board” along Wildomar Trail and Clinton Keith Road frontages notifying the neighborhood residents of the April 5, 2023

Planning Commission meeting at which time the Planning Commission would consider Conditional Use Permit No. 23-0030 to establish the proposed animal hospital; and

WHEREAS, in accordance with Chapter 17.04.050 of the Wildomar Municipal Code, the Planning Department, on March 24, 2023 published a legal notice in the Press Enterprise, a local newspaper of general circulation, notifying the general public of the April 5, 2023 Planning Commission meeting at which time the Planning Commission would consider Conditional Use Permit No. 23-0030 to establish a proposed animal hospital; and

WHEREAS, in accordance with Chapter 17.200 of the Wildomar Municipal Code, the Planning Commission conducted a duly noticed public hearing to discuss the proposed Conditional Use Permit No. 23-0030 on April 5, 2023, and at which time interested persons had an opportunity to testify in support of, or opposition to the proposed Conditional Use Permit, and at which time the Planning Commission received public testimony concerning Conditional Use Permit No. 23-0030.

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

SECTION 1. CEQA.

In accordance with the California Environmental Quality Act (CEQA) Guidelines, the Planning Department evaluated the proposed Conditional Use Permit No. 23-0030 establishing a 2,629 sq. ft. veterinary hospital in the Clinton Keith Village retail center (existing Suite #105 & 106) located within the C-P-S (Scenic Highway Commercial) zone to determine what level of CEQA environmental review is required. Based on this review, the Planning Department determined that approval of Conditional Use Permit No. 23-0030 meets the findings for a Categorical Exemption in accordance with Section 15301 (Existing Facilities, Class 1) of CEQA. Class 1 consists of the operation or minor alteration of existing structures involving negligible expansion of the existing space. The applicant has proposed to make tenant improvements to the lease space located at 24046 Clinton Keith Road (Suite #105 - 106) (APN: 362-250-003) as part of the animal hospital operations for which building permits will be required. Therefore, based on this, the Planning Department hereby recommends the Planning Commission adopt this Categorical Exemption in accordance with Section 15301 (Existing Facilities, Class 1) of CEQA for Conditional Use Permit No. 23-0030.

SECTION 2. MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP).

The project is found to be consistent with the MSHCP. The project is located outside of any MSHCP criteria area and mitigation is provided through payment of the MSHCP Mitigation Fee.

SECTION 3. CONDITIONAL USE PERMIT 23-0030 FINDINGS.

Pursuant to Chapter 17.200 (Conditional Use Permits) 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 establish an animal hospital is consistent with the General Plan land use designation of CR and the C-P-S zoning in that it is a conditionally permitted use in this zone in accordance with Chapter 17.76.010 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 service commercial uses which include animal hospitals. The project has been properly conditioned in accordance with Section 17.200 of the WMC which outlines restrictions for selling beer and wine.

B. The proposed use will not be detrimental to the health, safety, or general welfare of the community.

Evidence: The proposal to establish an animal hospital will not be detrimental to the health, safety, or general welfare of the community since it will be a use that is substantially similar to surrounding service commercial uses in that it will be a fully indoor use. Furthermore, an animal hospital provides a needed service to the community, similar to other types of uses such as medical offices.

SECTION 4. 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. 2023-07 approving CUP No. 23-0030, subject to conditions of approval, as provided herein and attached hereto to this Resolution as Exhibit 1.

PASSED, APPROVED AND ADOPTED this 5th day of April, 2023 by the following vote:

AYES.

NOES:

ABSENT:

ABSTAINED:

_____
Kim L. Strong
Planning Commission Chair

ATTEST:

_____
Matthew C. Bassi
Community Development Director/Minutes Secretary

APPROVED AS TO FORM:

_____
Stephanie Gutierrez
Assistant City Attorney

ATTACHMENT A - EXHIBIT 1 GOLD COAST VETERINARY HOSPITAL PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP No. 23-0030			
Applicant: Golden Coast Veterinary Care, Inc. APN: 362-250-003			
CUP No. 23-0030 Approval Date (PC): April 5, 2023	**CUP No. 23-0030 Expiration Date: April 5, 2026**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
PLANNING DEPARTMENT CONDITIONS			
General / Standard Conditions			
1. In compliance with Section 15062 of the CEQA Guidelines, a Notice of Exemption (NOE) shall be filed with the Riverside County Clerk within five (5) working days of project approval by the Planning Commission. The notice shall include the required Riverside County Clerk administrative fee to be paid by the Applicant. A cashier's check payable to the Riverside County Clerk in the amount of **$50.00** shall be provided to the Planning Department prior to the deadline (4/12/22).	April 12, 2023	Planning Division	
2. The Applicant shall review, and sign below verifying adoption of these Conditions of Approval by the Planning Commission for CUP No. 23-0030 and submit the signed page to the Wildomar Planning Division within two weeks of the Planning Commission approval. Applicant Signature Date	April 19, 2023	Planning Division	
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	Ongoing	Planning Division	

	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 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.			

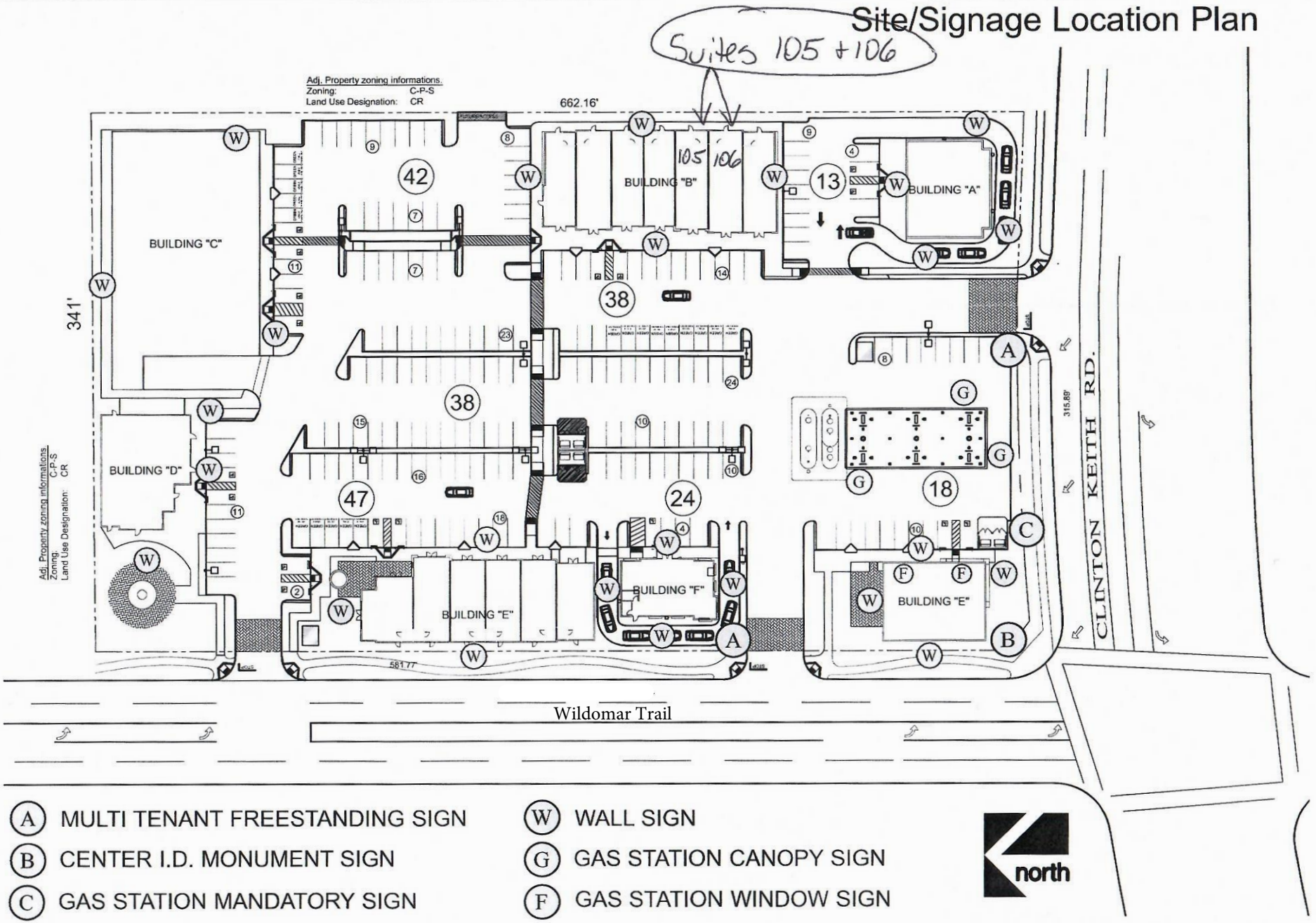
ATTACHMENT A - EXHIBIT 1 GOLD COAST VETERINARY HOSPITAL PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP No. 23-0030			
Applicant: Golden Coast Veterinary Care, Inc. APN: 362-250-003			
CUP No. 23-0030 Approval Date (PC): April 5, 2023	**CUP No. 23-0030 Expiration Date: April 5, 2026**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
4. Approval of *CUP/Plot Plan No. 23-0030* shall expire on April 5, 2026 (3 years after approval by the Planning Commission) if 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 17.200 & 17.216 of the Wildomar Municipal Code. Said extension of time application and required fee must be submitted to the Planning Division prior to the expiration date.	April 5, 2026	Planning Division	
5. In accordance with the WMC, approval of *CUP No. 23-0030* shall not become effective until the 10-day appeal period has concluded. If no appeal is filed with the city by April 17, 2023, the project becomes effective on April 18, 2023	April 18, 2023	Planning Division	
6. 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.	July 5, 2023	Planning Division	
7. Within 60 days of approval of *CUP No. 23-0030* 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.	June 5, 2023	Planning Division	

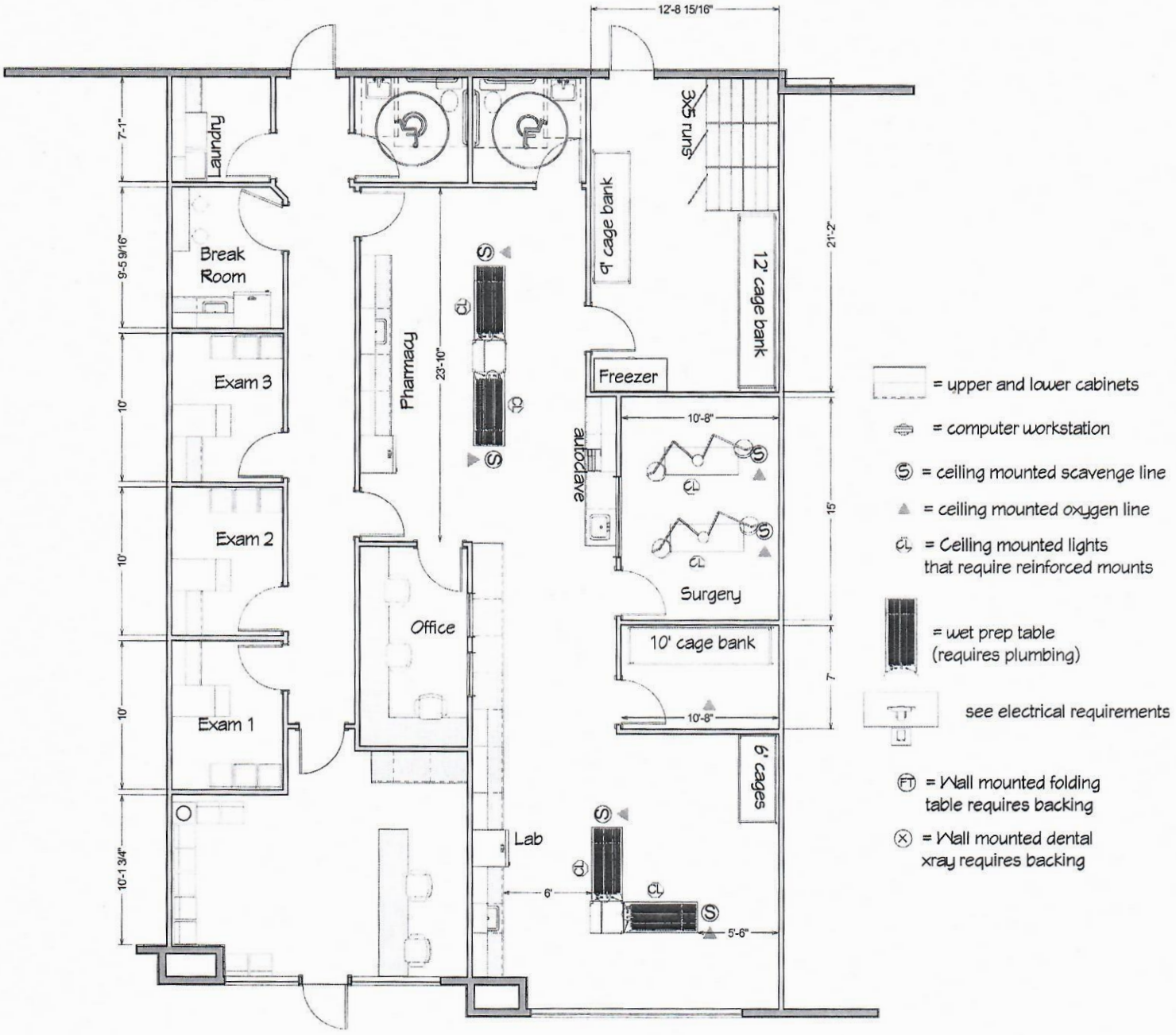
ATTACHMENT A - EXHIBIT 1 GOLD COAST VETERINARY HOSPITAL PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP No. 23-0030			
Applicant: Golden Coast Veterinary Care, Inc. APN: 362-250-003			
CUP No. 23-0030 Approval Date (PC): April 5, 2023	**CUP No. 23-0030 Expiration Date: April 5, 2026**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
8. 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 conditional use permit.	On-Going	Planning Division	
9. The project shall be developed in accordance with the CUP approved by the Planning Commission on April 5, 2023. The Applicant may request a modification/revision to the approved project, if needed, in accordance with Section 17.228 of the Wildomar Municipal Code.	Ongoing	Planning Division	
10. No outside kennels or boarding facilities are allowed under this permit.	On-Going	Planning Division	
11. 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 Division	
12. Any building signage is subject to the approval of a sign permit.	On-Going	Planning Division	
13. The proposed Project shall comply with the requirements of Chapter 9.48 of the WMC relating to noise.	On-Going	Planning Division	

END

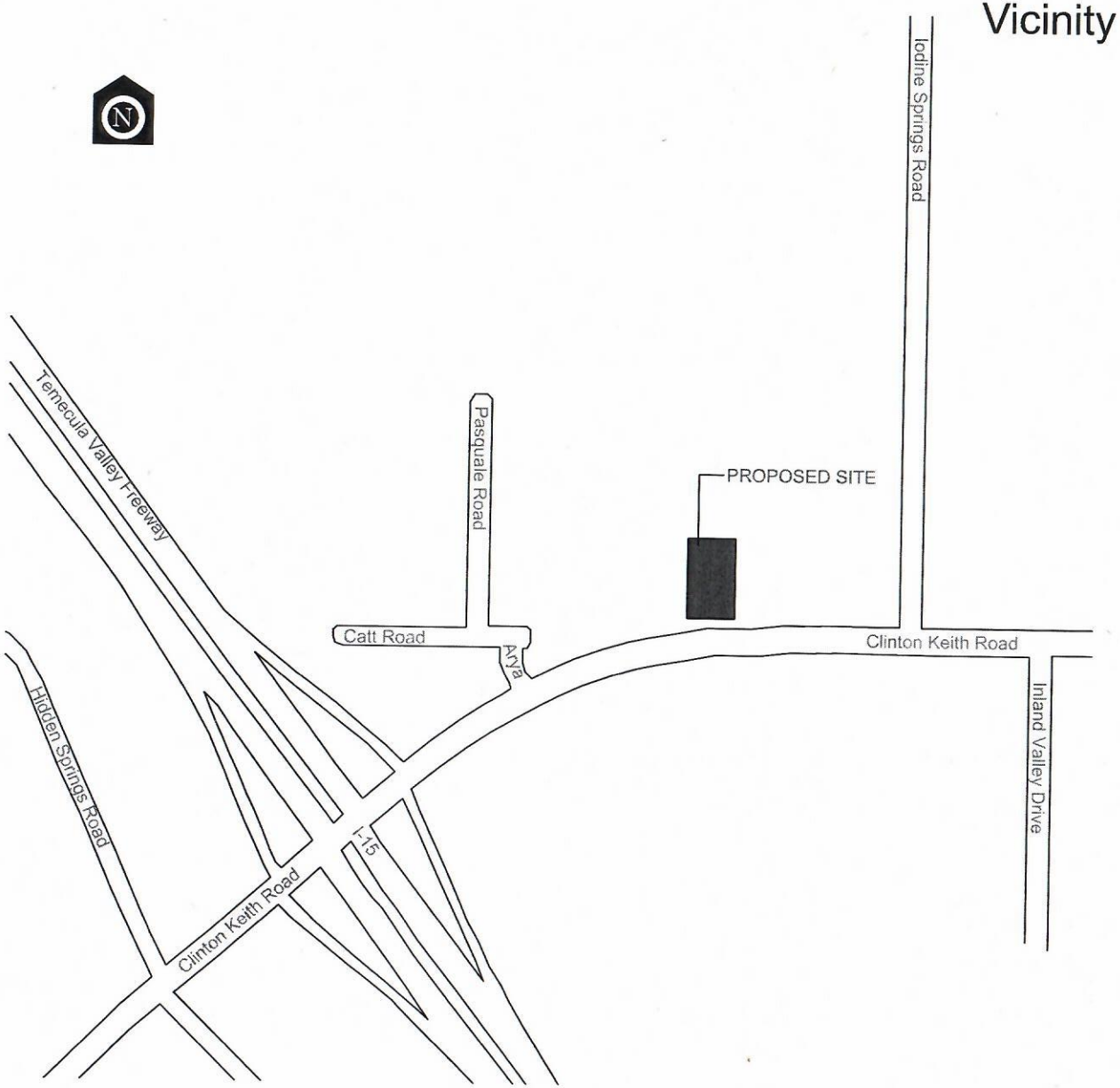
Clinton Keith Village

Site/Signage Location Plan




12'-8 15/16"
Laundry
Break Room
Exam 3
Exam 2
Exam 1
Pharmacy
23'-10"
Office
Lab
6'
5'-6"
9' cage bank
3x5 runs
12' cage bank
21'-2"
Freezer
10'-8"
autoclave
Surgery
15'
10' cage bank
7'
10'-8"
6' cages
7'-1"
9'-5 9/16"
10'
10'
10'
10'-1 3/4"
= upper and lower cabinets
= computer workstation
= ceiling mounted scavenge line
= ceiling mounted oxygen line
= Ceiling mounted lights that require reinforced mounts
= wet prep table (requires plumbing)
see electrical requirements
= Wall mounted folding table requires backing
= Wall mounted dental xray requires backing

Vicinity Map



Refer to Thomas Guide
San Bernardino & Riverside Counties 2007
Page 897

Google Maps
Marna O'Brien Park
Matrix Gear USA
Round-Up Feed
Grand Ave
Palomar St
15
GREER RANCH
Site location
Montague Brothers Coffee
Wildomar Senior Leisure Community
Wildomar
The UPS Store
WaBa Grill
Clinton Keith Rd
David Brown MS
Southwest Healthcare Inland Valley Hospital
Prielipp Rd
Nutmeg St
California Oaks Rd
Bear Creek Golf Club
Temecula Valley Fwy
Glen Arbor Park
Mountain Pride Park Disc Golf Course
The Colony Golf Course
Hancock Ave
Google
Ralphs
Esporta Fitness
Map data ©2023 Google
2000 ft

CITY OF WILDOMAR
PC - REGULAR MEETING
PUBLIC HEARING
Agenda Staff Report # 2.2
Meeting Date: April 5, 2023

SUBJECT: Beyond Gas Station/Warehouse Project (CUP/Plot Plan No. 22-0006)
Planning Commission review of an MND/MMRP and CUP/Plot Plan for a gas station with beer and wine sales, 2 fast-food restaurants and a 17,312 square-foot industrial building.

SUBMITTED BY: Matthew Bassi

PREPARED BY: Matthew Bassi

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

1. Find and determine that the CUP/Plot Plan No. 22-0006 meets the requirements for adoption of a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program in accordance with Section 15070 of the California Environmental Quality Act (CEQA) Guidelines.

2. Adopt a Resolution entitled:

PC RESOLUTION NO. 2023-08

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, ADOPTING A MITIGATED NEGATIVE DECLARATION / MITIGATION MONITORING AND REPORTING PROGRAM (SCH# 2023020343) FOR CONDITIONAL USE PERMIT NO. 22-0006 AND PLOT PLAN NO. 22-0006 (BEYOND GAS STATION/WAREHOUSE PROJECT) LOCATED AT THE SOUTHWEST CORNER OF JANA LANE AND CLINTON KEITH ROAD (APN: 380-290-002)

3. Adopt a Resolution entitled:

PC RESOLUTION NO. 2023-09

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING CONDITIONAL USE PERMIT NO. 22-0006 TO ALLOW BEER AND WINE SALES FOR OFF-SITE CONSUMPTION AND PLOT PLAN NO. 22-0006 TO

DEVELOP A 7,460-SQUARE-FOOT CONVENIENCE STORE AND GAS STATION WITH EIGHT PUMPS UNDER A 5,971-SQUARE-FOOT CANOPY, A 1,790-SQUARE-FOOT DRIVE-THROUGH CAR WASH FACILITY, TWO (2) DRIVE-THROUGH RESTAURANTS TOTALING 3,800 SQUARE FEET, AND A TWO-STORY 17,312-SQUARE-FOOT INDUSTRIAL WAREHOUSE BUILDING, SUBJECT TO CONDITIONS, LOCATED AT THE SOUTHWEST CORNER OF JANA LANE AND CLINTON KEITH ROAD (APN: 380-290-002)

PROJECT DESCRIPTION:

The Applicant (Beyond Gas) is proposing to develop a 7,460-square-foot convenience store (with beer and wine sales) and gas station with eight (8) pumps under a 5,971-square-foot canopy with a 1,790-square-foot drive-through car wash facility, two (2) drive-through restaurants totaling 3,800 square feet, and a two-story, 17,312-square-foot industrial warehouse building on a 4.35-acre site. The project requires Planning Commission adoption of a Mitigated Negative Declaration (MND) /Mitigation Monitoring and Reporting Program (MMRP), a Conditional Use Permit (CUP) for beer and wine sales associated with the gas station and a Plot Plan to develop the site as noted above.

Mitigated Negative Declaration and Mitigation Monitoring & Reporting Program:

In the course of the preliminary review of the proposed project, the Community Development Director determined that there was substantial evidence that the Beyond Gas Station/Warehouse 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 and adoption of a MND and MMRP (SCH# 2023020343). 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 the PC Resolution No. 2023-08 (Attachment A).

Conditional Use Permit No. 22-0006:

In accordance with Section 17.248 of the Wildomar Municipal Code (WMC), the proposed project requires approval of a CUP to establish beer and wine sales in association with the proposed gas station/mini-mart. The beer and wine sales are restricted to off-site consumption only in accordance with local and state laws (i.e., ABC). The CUP discussion is provided in the Analysis section of this staff report and the Findings are provided in PC Resolution No. 2023-09 (Attachment B).

Plot Plan No. 22-0006:

In accordance with Section and 17.92 and 17.216 of the WMC, the proposed development project requires approval of a Plot Plan to develop the 4.35-acre site with the proposed uses in the M-SC zone. The Plot Plan discussion is provided in the Analysis section of this staff report and the Findings are provided in PC Resolution No. 2023-09 (Attachment B). The project site

is 4.35 acres in size and will include the proposed gas station/mini-mart, associated car wash, 2 fast-food restaurants and 1 industrial building totaling about 27,300 square-feet. The buildings and uses are more specifically described as follows:

Beyond Gas Station/Mini-Mart – The gas station/mini-mart is comprised of a 7,460-square-foot convenience store with eight (8) fuel pumps and a 5,971-square-foot overhead canopy building. As is typical for Beyond mini-mart buildings, the interior will food service and sundry items for sale. The floor plan shows an interior seating area and an outdoor seating (adjacent to the entrance). The store will also sell beer and wine in accordance with the ABC Type 20 alcohol license with no onsite consumption being allowed.

The mini-mart building also includes a drive through lane where customers can pick up pre-ordered items. The applicant has indicated that they have an "app-based" menu for smart phones where customers can pre order their coffee, drinks and other items and drive through and pick their order. All payments are made on the app and there is no ordering or paying while in the drive through lane. Nonetheless, the site is designed to accommodate stacking for 12 vehicles in compliance with City standards. Further, the drive through lane will be obscured by a 25-foot landscape planter area between Jana Lane and the drive-through area.

The car wash is a standard self-serve car wash building typically found in gas stations and has a 60-foot setback from Jana Lane. The car wash is also about 150 feet away from several homes on the east side of Jana Lane; however, this area is zoned M-SC and will be industrial in nature sometime in the future. The applicant is providing six (6) vacuum pumps located on the south side of the car wash.

Fast Food Restaurants (QSR 1 & 2) – The Applicant has proposed two (2) fast food restaurants located between the gas station area and industrial building totaling 3,800 square feet. The site is designed to accommodate stacking for 12 vehicles in compliance with City standards. As of the writing of this report, the Applicant has not secured tenants for these restaurants. Adequate parking has been provided for both restaurants in compliance with City standards.

Industrial Building – The Applicant has proposed on the southerly portion of the site a two-story, 17,312-square-foot industrial warehouse building. As of the writing of this report, the Applicant has not secured tenant for the building. The floor plan has been designed to allow for a single user with one (1) loading area/doc on the west side of the building not visible from Jana Lane or Clinton Keith Road. All setbacks and other development standards are in compliance with the M-SC zone standards. The Applicant intends to occupy the industrial building and will be the "corporate building" for Beyond Foods (i.e., Owner User).

M-SC Development Standards (Chapter 17.92.040):

The uses and buildings described above are allowed in the M-SC zone as outlined in Chapter 17.92 of the WMC. This code section establishes standards and requirements related to lot area, setbacks, building height, etc. In reviewing the project, staff has determined that the site has been has been designed to meet and exceed the minimum development standards of the M-SC zone. A copy of the overall site plan, grading plan, architectural elevations, and landscaping, is provided in Attachments C (Final Development Plans). Refer to Attachment D for the M-SC development standards table.

Off-Street Parking (Chapter 17.188):

The proposed commercial and industrial project is subject to the parking requirements outlined in Chapter 17.188.030 of the WMC. Based on the square-footage of the proposed buildings, staff has determined a total parking count of 122 parking spaces are required. The Applicant has provided 125 parking spaces, including electric vehicle spaces, carpool spaces and bicycle spaces per City and state codes. As this is a single parcel (with a single owner), there is no need for a reciprocal access and parking agreement. The design of the parking stalls and aisle widths meet and exceed code requirements, including Riverside County Fire standards. Lastly, the two drive through restaurants include vehicle stacking for 12 cars (2 lanes) in accordance with parking code requirements.

Vehicular Traffic/Access:

Primary vehicular access to and from the site will be provided via entrances on Clinton Keith Road and Jana Lane. The Clinton Keith Road drive entrance has been designed to accommodate turning movements in a “right-in & right-out” fashion. Internal vehicular circulation allows for movement in the property without having to exit on the street. Both streets are conditioned to be fully improved to provide proper vehicular access. 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 has 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’s 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 the development plans (Attachment C).

Proposed Architecture:

As the proposed project is industrial/business park with a gas station, it is not required to follow the City's Commercial Design Standards and Guidelines. The architectural theme can be characterized as a modern look typical of a gas station and industrial building. Staff has provided exhibits of the architectural elevations for Commission consideration (Attachment C).

PROJECT ANALYSIS:

CEQA/MND Analysis:

The proposed Beyond Gas Station/Warehouse 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 Beyond Gas Station/Warehouse 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 and Mitigation Monitoring and Reporting Program (SCH# 2023020343). 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. 2023-08. A copy of the MND package is provided for Commission consideration in Attachment A, Exhibits 1 - 3 (under separate cover).

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 to 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 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 (Attachment B, Exhibit 1). As a result, AB 52 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 February 15, 2023 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 February 15, 2023 and concluded on March 16, 2023.

In addition, IS/MND was uploaded to the City's Environmental Documents Center webpage during the same 30-day public review period. During the 30-day public review period, the City did not receive any public comments on the IS/MND. Thus, it was not necessary detailed responses as part of the typical final MND. In accordance with CEQA Guidelines Section 15097, the Planning Department has prepared a Mitigation Monitoring and Reporting Program (MMRP) for the Beyond Gas Station/Warehouse 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.

The Planning Commission has the authority to adopt the MND/MMRP for the proposed project. The findings to support adoption of the MND and MMRP are provided in PC Resolution No. 2023-08 (Attachment A, Exhibits 1 – 3).

CUP No. 22-0006 Analysis:

The Applicant is proposing to establish beer and wine sales for the proposed Beyond Food Mart/Gas Station building. 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 beer and wine sales for off-site consumption as part of the Beyond Food Mart is consistent with the Business Park (BP) land use designation and M-SC zoning in that it is a conditionally permitted use in this zone in accordance with Chapter 17.248 of the WMC. The sale of alcohol is typically associated with gas stations and mini-marts, and 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. 22-0006, subject to conditions, for the proposed project. The findings to support approval of the CUP for beer and wine sales in conjunction with the gas station is provided in PC Resolution No. 2023-09 (Attachment B).

Plot Plan No. 22-0006 Analysis:

As noted, the proposed project requires approval of a plot plan to develop a 7,460-square-foot convenience store (with beer and wine sales) and gas station with eight (8) pumps under a 5,971-square-foot canopy with a 1,790-square-foot drive-through car wash facility, two (2) drive-through restaurants totaling 3,800 square feet, and a two-story, 17,312-square-foot industrial warehouse building. Based on staff's analysis, the project complies with all the development standards of the M-SC zone related to setbacks, building height, landscaping, parking, etc. (refer to Project Description above and Attachment D). In addition, the development standards of Chapter 17.188 (Parking) were reviewed in detail and the project is in compliance with these provisions. A copy of the full development plans and architectural plan is provided for Commission consideration in Attachment C. Further, the project as proposed and conditioned is also consistent with the General Plan land use designation of BP. 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. 22-0006, subject to conditions, for the proposed Beyond Gas Station/Warehouse project. The findings to support approval of the Plot Plan is provided in PC Resolution No. 2023-09 (Attachment B). The plot plan conditions matrix is provided in Exhibit 1 of Attachment B.

ATTACHMENTS:

Attach A - PC Resolution 2023-08-MND.pdf
Attach A-Ex1 - Beyond Gas IS-MND Document.pdf
Attach A-Ex2-Appendix 1-Development Plans.pdf
Attach A-Ex2-Appendix 2-AQ-TAC-EN Analysis.pdf
Attach A-Ex2-Appendix 3-BRA-JD-MSHCP Analysis.pdf
Attach A-Ex2-Appendix 4-Cultural Resources.pdf
Attach A-Ex2-Appendix 5-Geotech Report.pdf
Attach A-Ex2-Appendix 6-Phase I ESA.pdf
Attach A-Ex2-Appendix 7-Project-Specific WQMP.pdf
Attach A-Ex2-Appendix 8-Prelim Hydrology Study.pdf
Attach A-Ex2-Appendix 9-Noise Impact Analysis.pdf
Attach A-Ex2-Appendix 10-Traffic Impact Analysis.pdf

Attach A-Ex3-Beyond Gas MMRP Document.pdf
Attach B - PC Resolution 2023-09-CUP-PlotPlan-COA.pdf
Attach C - Final Development Plans.pdf
Attach D - Development Standards Tables.pdf
Attach E - Aerial Photo Exhbits.pdf

ATTACHMENT A

PC Resolution No. 2023-08
for
Initial Study/Mitigated Negative Declaration

PC RESOLUTION NO. 2023-08

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, ADOPTING A MITIGATED NEGATIVE DECLARATION / MITIGATION MONITORING AND REPORTING PROGRAM (SCH# 2023020343) FOR CONDITIONAL USE PERMIT NO. 22-0006 AND PLOT PLAN NO. 22-0006 (BEYOND GAS STATION/WAREHOUSE PROJECT) LOCATED AT THE SOUTHWEST CORNER OF JANA LANE AND CLINTON KEITH ROAD (APN: 380-290-002)

WHEREAS, the Planning Department has received a development application for the Beyond Gas Station/Warehouse project consisting of an Initial Study/Mitigated Negative Declaration (MND), Conditional Use Permit No. 22-0006, and Plot Plan No. 22-0006 to develop a 7,460-square-foot convenience store and gas station with eight pumps under a 5,971-square-foot canopy, a 1,790-square-foot drive-through car wash facility, two drive through restaurants totaling 3,800 square feet, and a two-story 17,312-square-foot industrial warehouse building on a 4.35-acre site from:

Project Applicant:	Beyond Food Mart, Inc.
Project Location:	Southwest corner of Jana Lane and Clinton Keith Road
APN:	APN: 380-290-002
Project Area:	4.35 +/- acres

WHEREAS, the proposed Beyond Gas Station/Warehouse 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# 2023020343) in accordance with Section 15070 of the California Environmental Quality Act (CEQA) Guidelines.

2) Conditional Use Permit (CUP) No. 22-0006 - The project requires approval of a CUP to establish alcohol sales for off-site consumption for the proposed Beyond Gas Station/Food Mart in accordance with Section 17.248 of the WMC; and

3) Plot Plan No. 22-0006 - The project requires approval of a Plot Plan to develop a 7,460-square-foot convenience store and gas station with eight pumps under a 5,971-square-foot canopy, a 1,790-square-foot drive-through car wash facility, two drive through restaurants totaling 3,800 square feet, and

a two-story 17,312-square-foot industrial warehouse building, 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 Beyond Gas Station/Warehouse project; and

WHEREAS, the proposed Beyond Gas Station/Warehouse 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 Beyond Gas Station/Warehouse 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 Beyond Gas Station/Warehouse project IS/MND consists of the following documents as Exhibits to this Resolution:

- Exhibit 1 - Mitigated Negative Declaration Document (SCH# 2023020343 - under separate cover);
- Exhibit 2 - IS/MND Technical Appendices (under separate cover).
- Exhibit 3 – IS/MND Mitigation Monitoring and Reporting Program (MMRP).

WHEREAS, in accordance with CEQA Guidelines Section 15072, the Planning Department on February 15, 2023 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 Beyond Gas Station/Warehouse 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 February 15, 2023 and concluded on March 16, 2023; 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 February 15, 2023 and concluded on March 16, 2023; and

WHEREAS, during the 30-day public review period, the City did not receive any public review comments; thus, preparation of a "Response to Comments" document was not prepared; and

WHEREAS, the Planning Department, on March 21, 2023 gave public notice to all property owners within a 600-foot radius of the project boundary notifying said property owners of the April 5, 2023 Planning Commission meeting at which time the Planning Commission would consider the Beyond Gas Station/Warehouse project IS/MND; and

WHEREAS, In accordance with Ordinance No. 135, the Planning Department on March 24, 2023 posted two (2) public hearing notice "sign boards" on Wildomar Trail and Clinton Keith Road notifying the general public of the April 5, 2023 Planning Commission meeting at which time the Planning Commission would consider the Beyond Gas Station/Warehouse project IS/MND; and

WHEREAS, the Planning Department, on March 24, 2023 published a legal notice in the "Press Enterprise," a local newspaper of general circulation, notifying the general public of the April 5, 2023 Planning Commission meeting at which time the Planning Commission would consider the Beyond Gas Station/Warehouse project IS/MND; and

WHEREAS, the Planning Commission conducted the duly noticed public hearing on April 5, 2023, at which time interested persons had an opportunity to testify in support of, or opposition to, the proposed Beyond Gas Station/Warehouse 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, and Mitigation Monitoring and Reporting Program (Exhibits 1 - 3) 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 February 15, 2023 and concluded on March 16, 2023 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 those 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 Beyond Gas Station/Warehouse 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 Beyond Gas Station/Warehouse project attached hereto this Resolution as Attachment A, Exhibits 1 - 3.

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 Beyond Gas Station/Warehouse 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 Beyond Gas Station/Warehouse 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 5th day of April, 2023 by the following vote:

AYES:

NOES:

ABSENT:

RECUSED:

_____
Kim L. Strong
Planning Commission Chair

ATTEST:

_____
Matthew C. Bassi
Planning Director/Minutes Secretary

APPROVED AS TO FORM:

_____
Stephanie Gutierrez
Assistant City Attorney

EXHIBIT 1

Beyond Gas Station/Warehouse Project IS/MND

(Under Separate Cover)

EXHIBIT 2

Beyond Gas Station/Warehouse Project Technical Appendices
(Under Separate Cover)

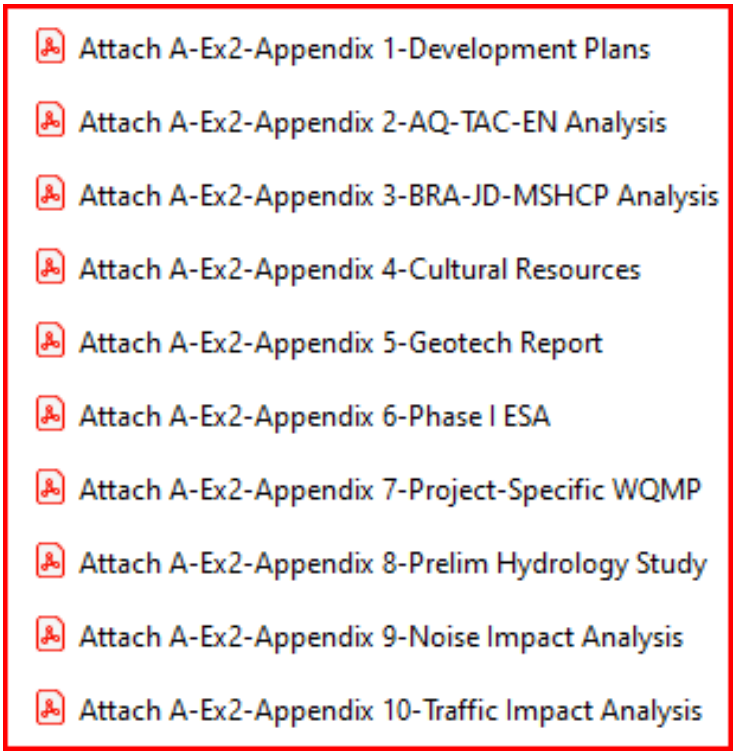


EXHIBIT 3

Beyond Gas Station/Warehouse Project

Mitigation Monitoring and Reporting Program (Under Separate Cover)

INITIAL STUDY &

MITIGATED NEGATIVE DECLARATION

Beyond Gas Station and Industrial Warehouse Project (Planning Application No. 22-0006 / 22-0030)

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

February 2023

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APPENDICES

1. **Appendix 1 –** Project Development Plans, Pegasus Architects (October 24, 2022).
2. **Appendix 2** – Beyond Food Mart (Clinton Keith Road & Jana Lane) Air Quality, Global Climate Change, TAC, and Energy Impact Analysis, Ganddini Group, Inc. (November 14, 2022).
3. **Appendix 3** – Biological Resources Assessment, Jurisdictional Delineation, and MSHCP Consistency Analysis for the Beyond Food Mart Development Project on the Southwest Corner of Jana Ln. and Clinton Keith Rd., Wildomar, Riverside County, California, Jennings Environmental, LLC (November 2022)
4. **Appendix 4** – A Phase 1 Cultural Resources Assessment of the Pre-Application Review No. 21-0065, Jean A. Keller, Ph.D. (June 2022).
5. **Appendix 5 –** Limited Geotechnical Engineering Report, Proposed Commercial Development, 24831 Clinton Keith Road, Wildomar, California; NTS Geotechnical (November 9, 2022)
6. **Appendix 6 –** Phase I Environmental Site Assessment Report, Robin Environmental Management (November 8, 2022)
7. **Appendix 7 –**Project Specific Water Quality Management Plan (WQMP), Blue Engineering and Consulting, Inc (March 14, 2022)
8. **Appendix 8** – Preliminary Hydrology Study, Jana Ln Commercial Development, Wildomar, CA; Blue Engineering and Consulting, Inc (March 2022)
9. **Appendix 9** – Beyond Food Mart (Clinton Keith Road & Jana Lane) Noise Impact Analysis (October 28, 2022)
10. **Appendix 10** – Beyond Food Mart (Clinton Keith Road & Jana Lane) Traffic Impact Analysis, Ganddini Group, Inc. (November 30, 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)

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I. INTRODUCTION AND PROJECT DESCRIPTION

Project Summary

This project proposes the construction of a 7,460-square-foot convenience store and gas station with eight pumps under a 5,971-square-foot canopy, a 1,790-square-foot drive-through car wash facility, two drive through restaurants totaling 3,800 square feet, and a two-story 17,312-square-foot industrial warehouse building on a 4.35-acre site on the southwest intersection of Clinton Keith Road and Jana Lane at 24831 Clinton Keith Road. The project also includes a request to sell beer and wine for off-site consumption. The Assessor's Parcel Number (APN) for this project site is 380-290-002**.**

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 gas station requires a CUP to sell beer and wine for off-site consumption in accordance with Section 17.248 of the Wildomar Municipal Code (WMC).
- **Plot Plan (PP):** The project will require approval of a plot plan to develop the proposed project in accordance with Section 17.216 of the WMC, site planning, architecture, landscaping, parking, etc. and onsite and off-site improvements consistent with the City's commercial objective 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 following improvements will be made conditions of approval and are therefore evaluated as part of this Initial Study (IS)/Mitigated Negative Declaration (MND):

- **Intersection #4 – Inland Valley Drive at Clinton Keith Road:** This improvement involves adding pavement to the intersection within the existing right of way, and paint to delineate lanes and turning movements.
    - Construct additional westbound through lane, and
    - Construct additional eastbound through receiving lane.
- **Intersection #5 – Salida Del Sol at Clinton Keith Road:** This improvement is a sign restricting turning movements and construction within of turn lanes within the existing right of way.
    - Restrict the southbound approach to right turns only during weekday peak periods (7 AM to 9 AM, and 4 PM to 6 PM).
    - Install a traffic signal;

- Construct northbound, southbound, and westbound left turn lanes; and
- Restripe northbound, southbound, and westbound shared left/through/right turn lane to shared through/right turn lane.

- **Intersection #6 – Elizabeth Lane at Clinton Keith Road:** Improvements include construction of a new traffic signal in the existing right of way at the intersection. Additional pavement will be added to the existing roadway to accommodate the turning movement. Paint will be added to complete the improvements and delineate lanes and turning movements.
  - Install a traffic signal;
  - Construct northbound and southbound left turn lanes;
  - Restripe northbound and southbound shared left/through/right turn lane to shared through/right turn lane; and
  - Construct additional eastbound through lane.
- **Intersection #7 – Jana Lane at Clinton Keith Road:** The project will contribute its fair share for all improvements at this intersection. The future improvements involve construction of a new traffic signal in the existing right of way at the intersection. Additional pavement will be added to the existing roadway to accommodate the turning movement. Paint will be added to complete the improvements and delineate lanes and turning movements.
  - Install a traffic signal;
  - Construct a northbound left turn lane; and
  - Restripe northbound shared left/right turn lane to right turn lane.

II. EXISTING CONDITIONS

Project Site

Project Location

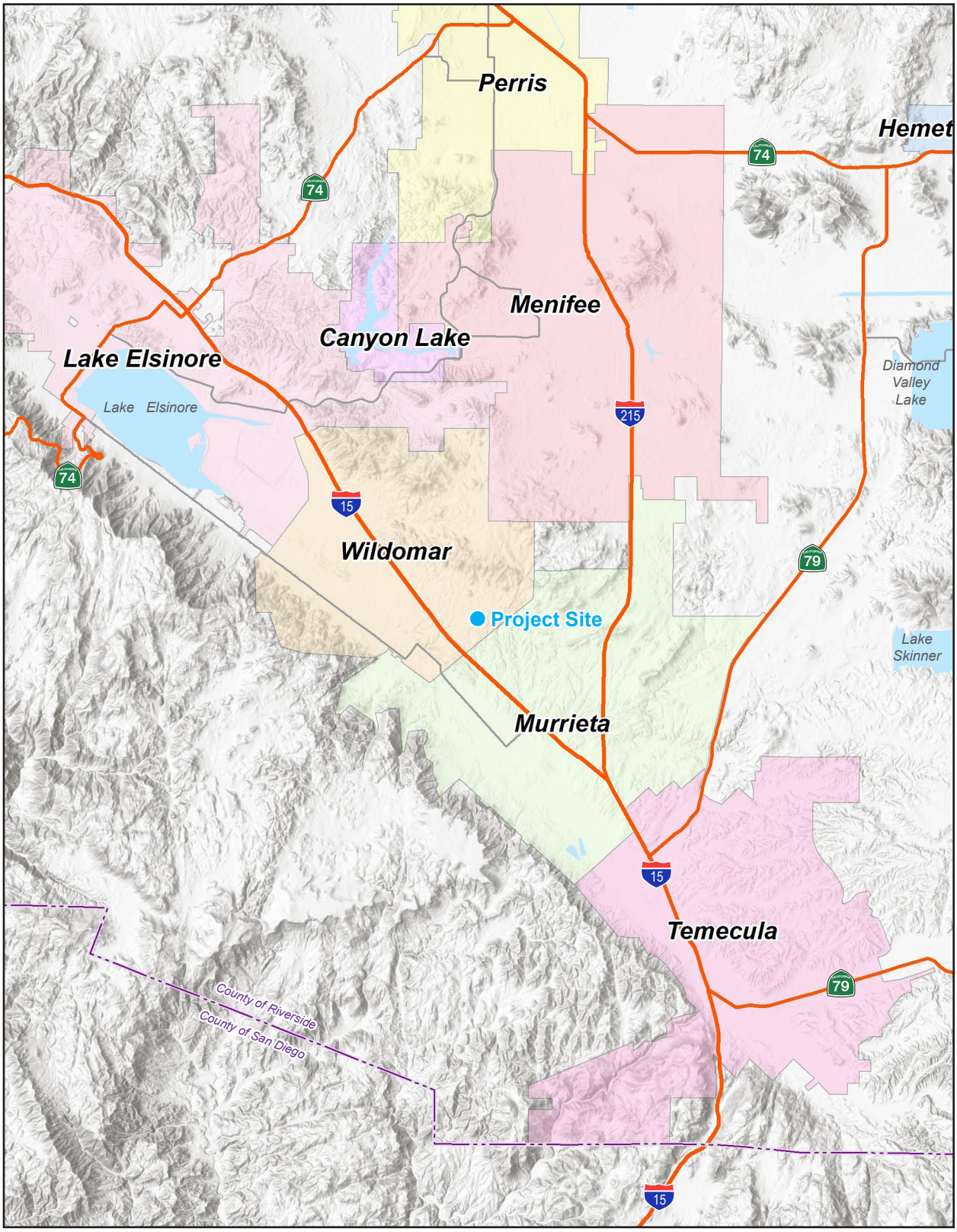
The project site is located at 24831 Clinton Keith Road in the City of Wildomar, Riverside County, California. The project site consists of a rectangular-shaped parcel that covers approximately 4.35 acres and is comprised of Assessor's Parcel Number (APN) 380-290-002. Regional and local vicinity maps of the project site 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 residential uses to the north, commercial uses to the south, commercial and residential uses to the east, and a vacant lot and commercial uses to the west.

North of the site across Clinton Keith Road and further east past Smith Ranch Road are single family residential units. These areas are zoned Residential. Directly east, west, and south of the project site sits commercial and industrial facilities also zoned Manufacturing Service Commercial (M-SC). Further west across Elizabeth Lane sits empty, vacant lots. The lot west from the project site across Elizabeth Lane is zoned Industrial Park (I-P), whereas the lot northwest of the project site is zoned Rural Residential (R-R). Further west of the project site are institutional and medical uses including Wildomar City Hall and Inland Valley Regional Medical Center, which are approximately 0.8-mile and 0.6-mile west of the project site, respectively.

Figure 1 - Regional Location



Note: Unincorporated county areas are shown in white.
Source: Generated using ArcMap, 2022.

0 3
Scale (Miles)

PlaceWorks

Figure 2 - Local Vicinity

Project Boundary

Note: Unincorporated county areas are shown in white.

Source: Generated using ArcMap, 2022.

0 2,000
Scale (Feet)

PlaceWorks

Figure 3 - Aerial Photograph

Project Boundary

0 155
Scale (Feet)

Source: Nearmap, Inc., 2022.

PlaceWorks

Access

Regional access to the project site is provided by Interstate 15 (I-15) located approximately 1.1 miles west. In addition, local access to the site is provided by Jana Lane directly east of the site and Clinton Keith Road directly north.

Physical Setting

The project site consists of an undeveloped and vacant lot with exposed soil, moderate growths of native shrubs, and one tree. An existing power pole is located in the southeastern 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 2022a).

Natural Hazards

The project site is not within an Alquist-Priolo Earthquake Zone, and no active faults traverse the site (NTS 2022). The project site does not fall within a mapped Riverside County Fault Hazard Zone (Riverside County 2022b). The nearest known active fault is the Elsinore Fault, approximately 1.2 miles southwest of the site (NTS 2022). The project site is located within a Very High Fire Hazard Severity Zone (VHFHSZ) (CALFIRE 2009).

Regulatory Setting

The City of Wildomar General Plan designates this site as Business Park (BP) with a zoning designation of Manufacturing Service Commercial (M-SC). The proposed plan would require the approval of a Conditional Use Permit and Plot Plan.

III. PROJECT DESCRIPTION

The project site is currently vacant and undeveloped and consists of ruderal vegetation. The proposed project would consist of constructing new commercial development including a convenience store, gas station, car wash and two quick-service restaurants as well as an office/warehouse building, as shown in **Figure 4,** Conceptual Site Plan. The proposed project is anticipated to be operational by year 2024. The project is anticipated to be built in one phase with project construction to start in January 2023 and be completed by September 2023. The square footage of the convenience store, gas station and canopy, car wash, and restaurants would total 19,021 square feet, and the square footage of the office and warehouse space would total 17,312 square feet.

Convenience Store

The 7,460-square-foot convenience store of the proposed project would be on the northeastern portion of the site, as shown in **Figure 5,** Convenience Store Elevation. As shown in **Figure 5,** Convenience Store Elevation, the exterior of the proposed convenience store would be painted stucco with batten siding, painted aluminum trim, and glazing. It would also include signage on the eastern façade of the building and on the parapet on the west side, and a drive-through window on the northern façade. The height of the proposed convenience store would be 23 feet to the parapet.

Gas Station

The proposed gas station would be west of the convenience store on the northwestern portion of the project site, as shown in **Figure 4,** Conceptual Site Plan. It would consist of eight pumps and 16 stations under a 5,971-square-foot canopy; the height of the canopy, to the top, is 20 feet and 7 inches, as shown in **Figure 6,** Conceptual Gas Station Elevation. The proposed project would also include an air/water tower and four underground fuel storage tanks: one 8,000-gallon tank for diesel, and 7,000, 12,000, and 15,000-gallon tanks for gasoline.

Drive-Through Car Wash

The proposed drive-through car wash would be located directly south of the convenience store and east of the gas station, as shown in **Figure 4,** Conceptual Site Plan. As shown in **Figure 7,** Conceptual Drive-Through Car Wash Elevation, the car wash would be 1,790 square feet and 17 feet and 8 inches to the parapet. The car wash is divided into a carwash tunnel, an electrical room, a riser room, and an equipment room. The entrance to the carwash tunnel would be on the east side and the exit on the west side. An aluminum canopy would be mounted above the entrance and exit of the car wash. The exterior of the car wash would consist of painted aluminum trim, stucco with a paint finish, and metal wall panels. The proposed signage would be mounted on the north and south exterior façades of the car wash.

Drive-Through Restaurants

The two quick-service restaurants of the proposed project would be in the central portion of the project site, as shown in **Figure 4,** Conceptual Site Plan. The first restaurant would be located southwest of the car wash and would be 2,000 square feet, as shown in **Figure 8,** Conceptual Drive-Through First Restaurant Elevation. The second restaurant, located south of the car wash, would be 1,800 square feet, as shown in **Figure 9,** Conceptual Drive-Through Second Restaurant Elevation. Both restaurants would include drive-through windows and an outdoor seating area, and the exteriors of both would consist of metal railing and columns, cement board siding with a paint finish, and smooth stucco with a paint finish. The storefronts of the first restaurant would face north and east, and that of the second restaurant would face west. The height of both restaurants would be 20 feet to the parapet.

Office/Warehouse Building

The proposed office/warehouse building would be located on the southern portion of the project site, as shown in **Figure 4,** Conceptual Site Plan. As shown in **Figure 10,** Conceptual Office/Warehouse Building Elevation, the structure comprises two floors, and the exterior would consist of tilt-up concrete with a painted finish, standing seam metal, and metal roll-up door. The height of the office/warehouse structure would be 30 feet to the parapet. An aluminum storefront would be located on the north side of the structure. The Office/Warehouse building would be a total of 17,312 square feet—the first floor would include a 10,049-square-foot warehouse space and 4,203-square-foot office space, and the second floor would consist of a 3,060-square-foot open office space.

Landscaping

The project site would include 36,825 square feet of onsite drought-tolerant landscaping with an automatic irrigation system, and 11,130 square feet of offsite landscaping. Landscaping would be divided into two zones based on fuel modification: a setback zone (Zone A) and an irrigated zone (Zone B). The

setback zone would extend 30 feet beyond the edge of any proposed structure and consist primarily of inherently highly fire-resistant vegetation. The irrigated zone would extend from the outer edge of the setback zone to 100 feet from structures. Zones closer to proposed structures would include vegetation with increasing fire resistance; therefore, vegetation in the setback zone would contain inherently highly fire-resistant species, whereas vegetation in the native brush thinning zone may consist of native plants and ornamental shrubs. **Figure 11,** Landscaping Plan, shows the fuel modification zones and the landscaping plan for the site.

Access and Parking

Access to the project site would be provided via four entrances/exits: one on the northwest portion of the project site via Clinton Keith Road, and three on the eastern side of the project site via Jana Lane (see **Figure 4,** Conceptual Site Plan).

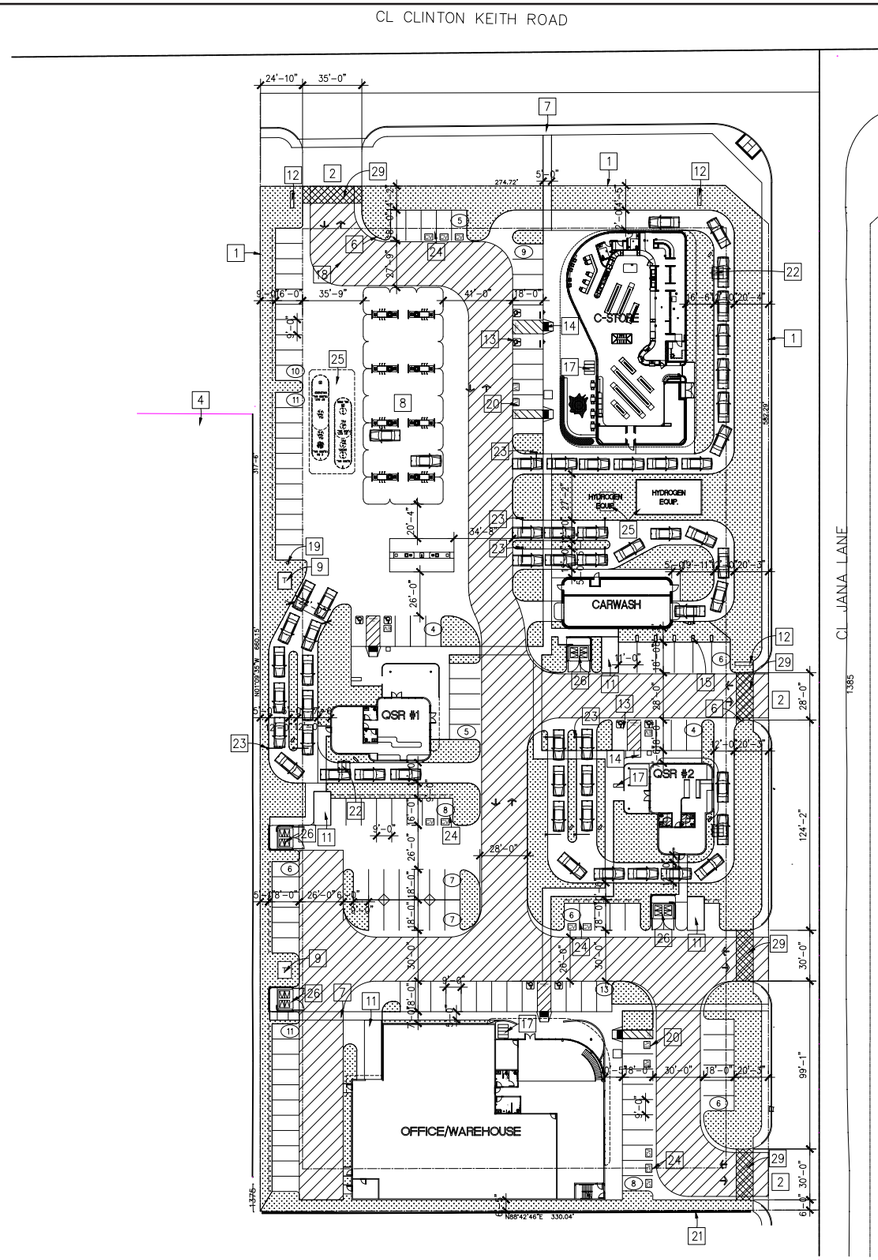
The proposed project would include a total of 131 parking spaces as follows: 38 spaces for the convenience store, 43 spaces for both drive-through restaurants, 44 spaces for the office/warehouse, and six electric vehicle (EV) spaces. A total of eight ADA-accessible parking spaces would be provided onsite. The project site would also include a bicycle rack with 10 bicycle spaces adjacent to northern boundary of the office/warehouse building.

Once occupied, the proposed project is expected to generate a total of approximately 5,667 daily trips with 270 AM peak hour trips and 264 PM peak hour trips. The proposed development plans, including architectural renderings and elevations, are provided in **Appendix 1.**

Water/Sewer

Water and sewer services would be provided by Elsinore Valley Municipal Water District, electrical power services by Southern California Edison, and natural gas services by Southern California Gas. Additional electric, gas, telephone, and cable services to the proposed development would be provided through extension of existing infrastructure. The existing power pole in the southeast portion of the site would be removed during the construction phase of the project.

Figure 4 - Conceptual Site Plan



Reference Notes

1. (E) PROPERTY LINES
2. (N) CURB AND GUTTER/DRIVEWAY (RIGHT IN & OUT)
3. (N) LANDSCAPE
4. ADJACENT BUILDING
5. (N) HEALY TANK
6. (N) CONCRETE CURB
7. (N) CONCRETE SIDEWALK
8. (N) CANOPY 47'–0"x128'–0" (UNDER SEPARATED PERMIT)
9. (N) TRANSFORMER PAD
10. (N) TRASH/RECYCLE ENCLOSURE
11. (N) LOADING/UNLOADING (10'–0" x 20'–0")
12. (N) CORNER MONUMENT, SIGN BY OTHERS, UNDER SEPARATE PERMIT.
13. (N) HCP PARKING
14. (N) HCP RAMP
15. (N) VACUUM @ 7 LOCS
16. (N) 5'–0" WIDE HCP PATH OF TRAVEL PER CODE STD.
17. BIKE RACK PER CITY'S STANDARD.
18. (N) 26' WIDE FIRE LANE
19. (N) AIR/WATER TOWER
20. EVCS PARKING PER CITY'S STD. PROVIDE MIN. 1" CONDUIT TERMINATING IN LISTED ENCLOSURE FOR FUTURE CHARGER.
21. (N) 6' HT. SPLITFACE CMU FENCE WALL
22. (N) MENU BOARD
23. (N) HEIGHT BAR
24. (N) CLEAN AIR VEHICLE
25. (N) UNDERGROUND TANK STORAGE
26. (N) TRASH ENCLOSURE
27. (N) HYDROGEN EQUIPMENT (UNDER SEPARATE PERMIT)
28. (N) HYDROGEN CANOPY (UNDER SEPARATE PERMIT)
29. (N) ENTRY DECORATIVE PAVED DRIVEWAY

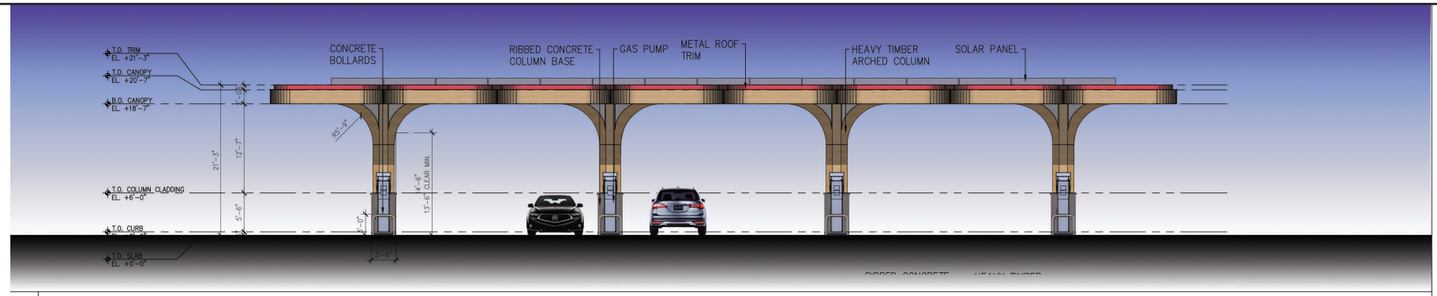
0 100
Scale (Feet)

Source: Pegasus Architects, 2022.

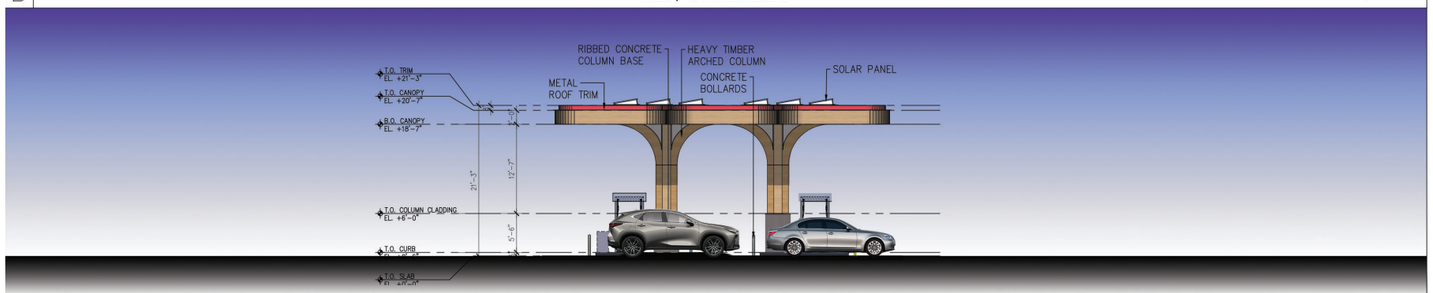
Figure 5 - Conceptual Convenience Store Elevation

Source: Pegasus Architects, 2022.

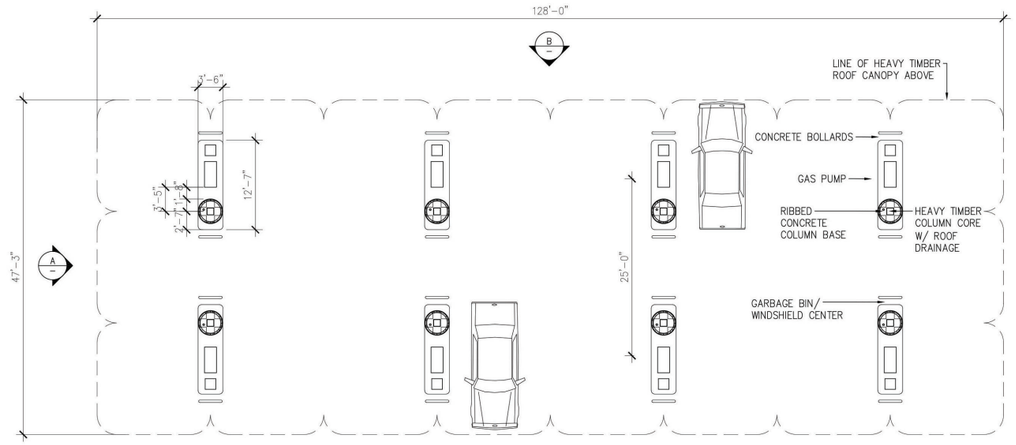
Figure 6 - Conceptual Gas Station Elevation



B East / West Elevations



A North / South Elevations

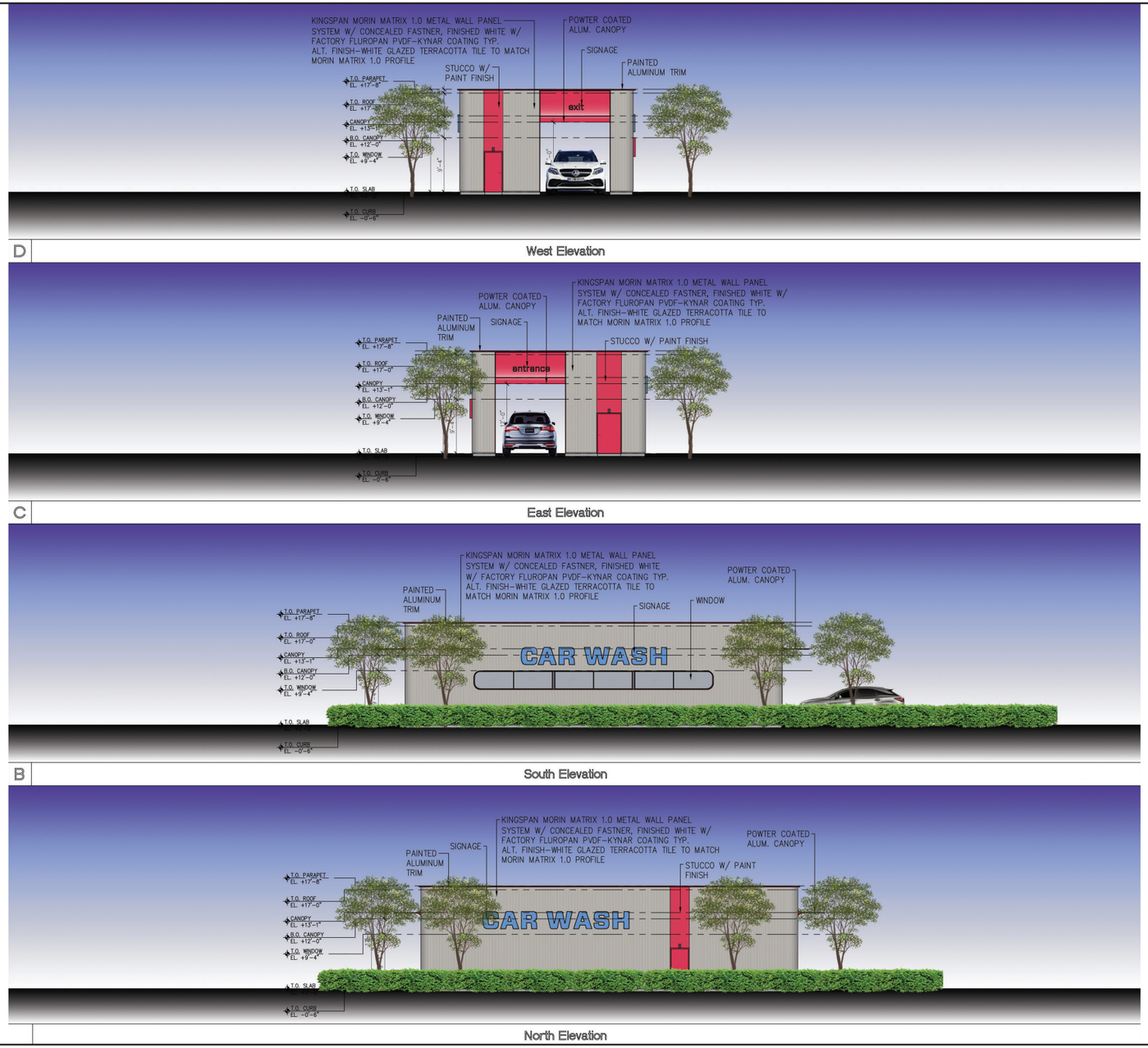


Canopy Floor Plan

0 21
Scale (Feet)

Source: Pegasus Architects, 2022.

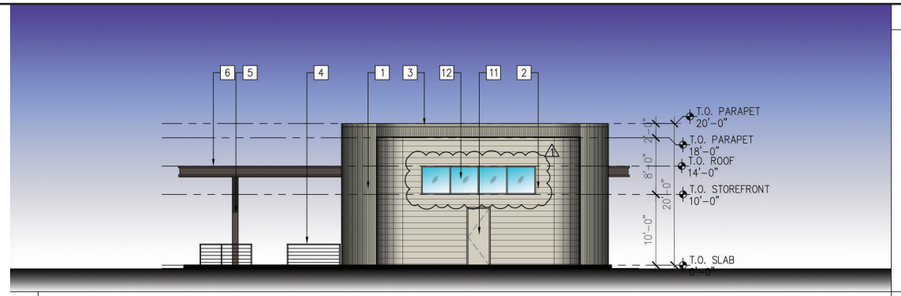
Figure 7 - Conceptual Drive-Through Car Wash Elevation



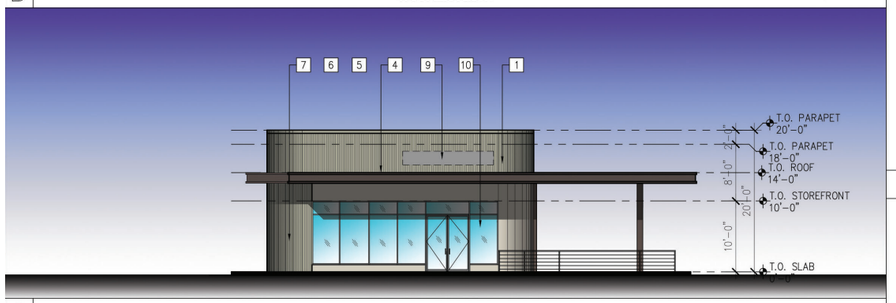
0 20
Scale (Feet)

Source: Pegasus Architects, 2022.

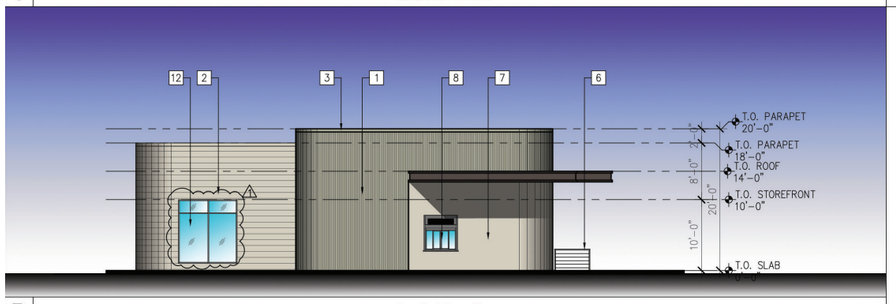
Figure 8 - Conceptual Drive-Through First Restaurant Elevation



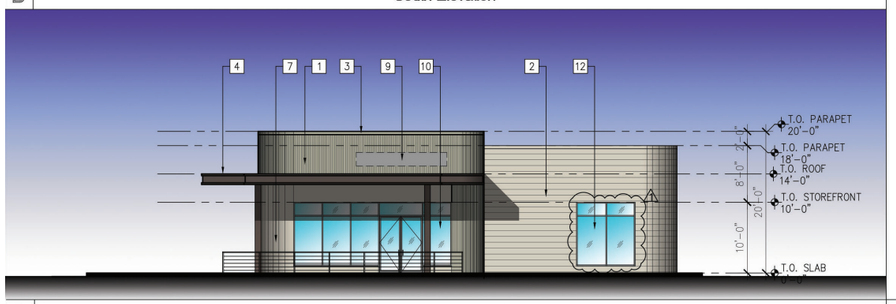
D West Elevation



C East Elevation



B South Elevation



A North Elevation

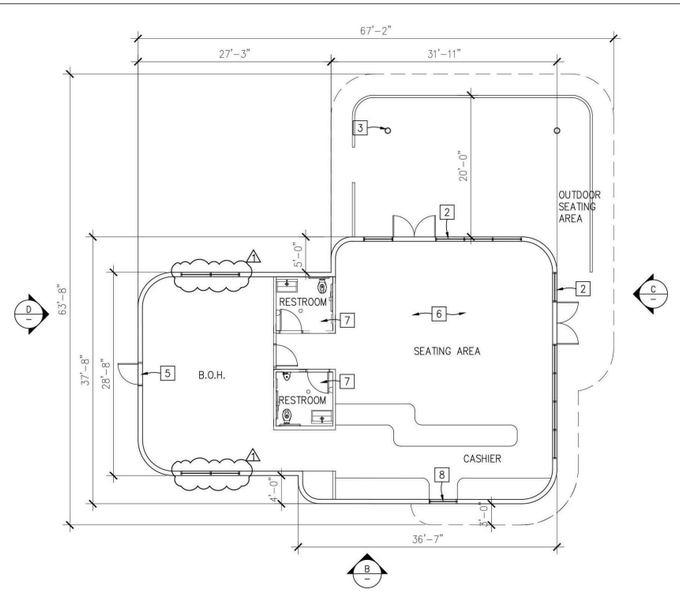
Reference Notes (Elevations)

1. STANDING SEAM METAL
2. CEMENT BOARD SIDING W/ PAINT FINISH
3. METAL COPING
4. C-CHANNEL METAL TO MATCH ADJ. WALL
5. METAL COLUMN
6. METAL RAILING
7. SMOOTH STUCCO W/ PAINT FINISH
8. DRIVE-THRU WINDOW
9. SIGNAGE
10. GLASS / ALUMN. STOREFRONT
11. METAL DOOR AND FRAME W/ PAINT FINISH TO MATCH ADJ. WALL
12. SPANDREL GLASS WINDOW

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

Reference Notes (Floor Plan)

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. METAL HANDRAIL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. SEATING AREA
7. RESTROOMS
8. DRIVE-THRU WINDOW

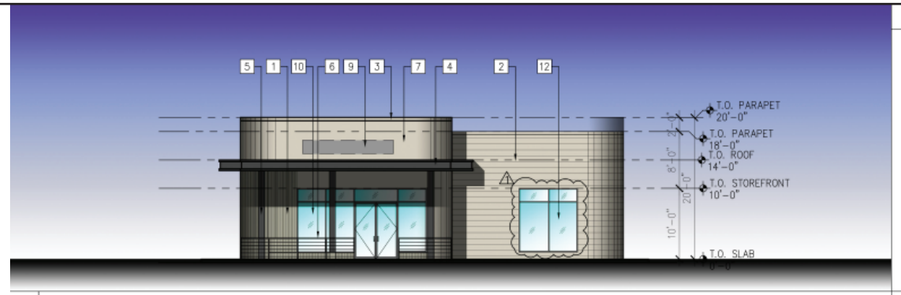


1 QSR #1 Floor Plan

0 20
Scale (Feet)

Source: Pegasus Architects, 2022.

Figure 9 - Conceptual Drive-Through Second Restaurant Elevation



D West Elevation

C East Elevation

B South Elevation

A North Elevation

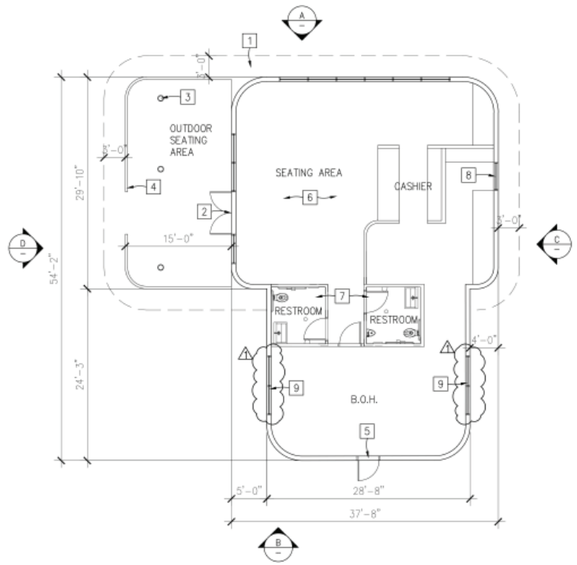
Reference Notes (Elevations)

1. STANDING SEAM METAL
2. CEMENT BOARD SIDING W/ PAINT FINISH
3. METAL COPING
4. C-CHANNEL METAL TO MATCH ADJ. WALL
5. METAL COLUMN
6. METAL RAILING
7. SMOOTH STUCCO W/ PAINT FINISH
8. DRIVE-THRU WINDOW
9. SIGNAGE
10. GLASS / ALUMN. STOREFRONT
11. METAL DOOR AND FRAME W/ PAINT FINISH TO MATCH ADJ. WALL
12. SPANDREL GLASS WINDOW

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

Reference Notes (Floor Plan)

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. METAL HANDRAIL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. SEATING AREA
7. RESTROOMS
8. DRIVE-THRU WINDOW
9. SPANDREL WINDOW

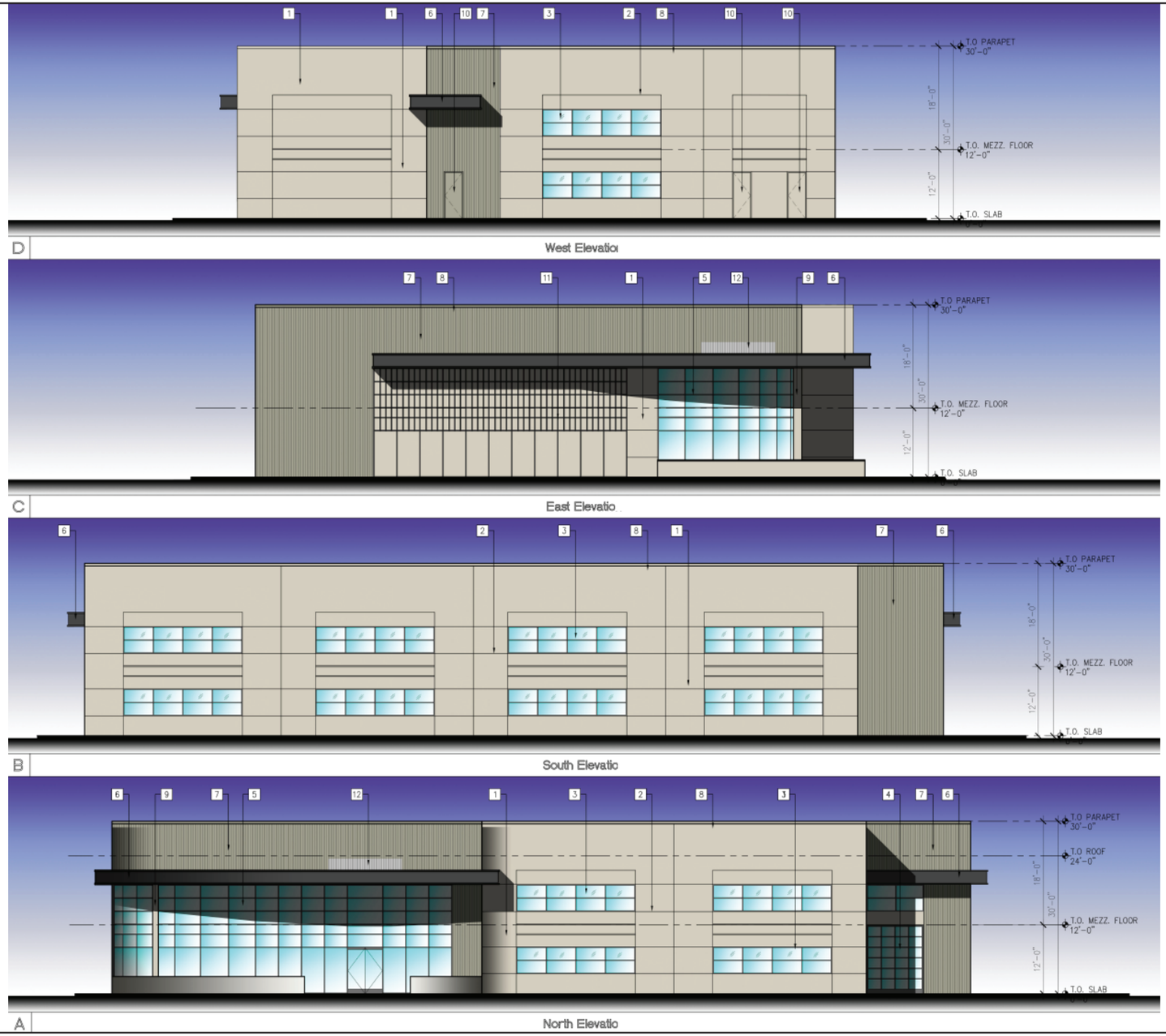


1 QSR #2 Floor Plan

0 20
Scale (Feet)

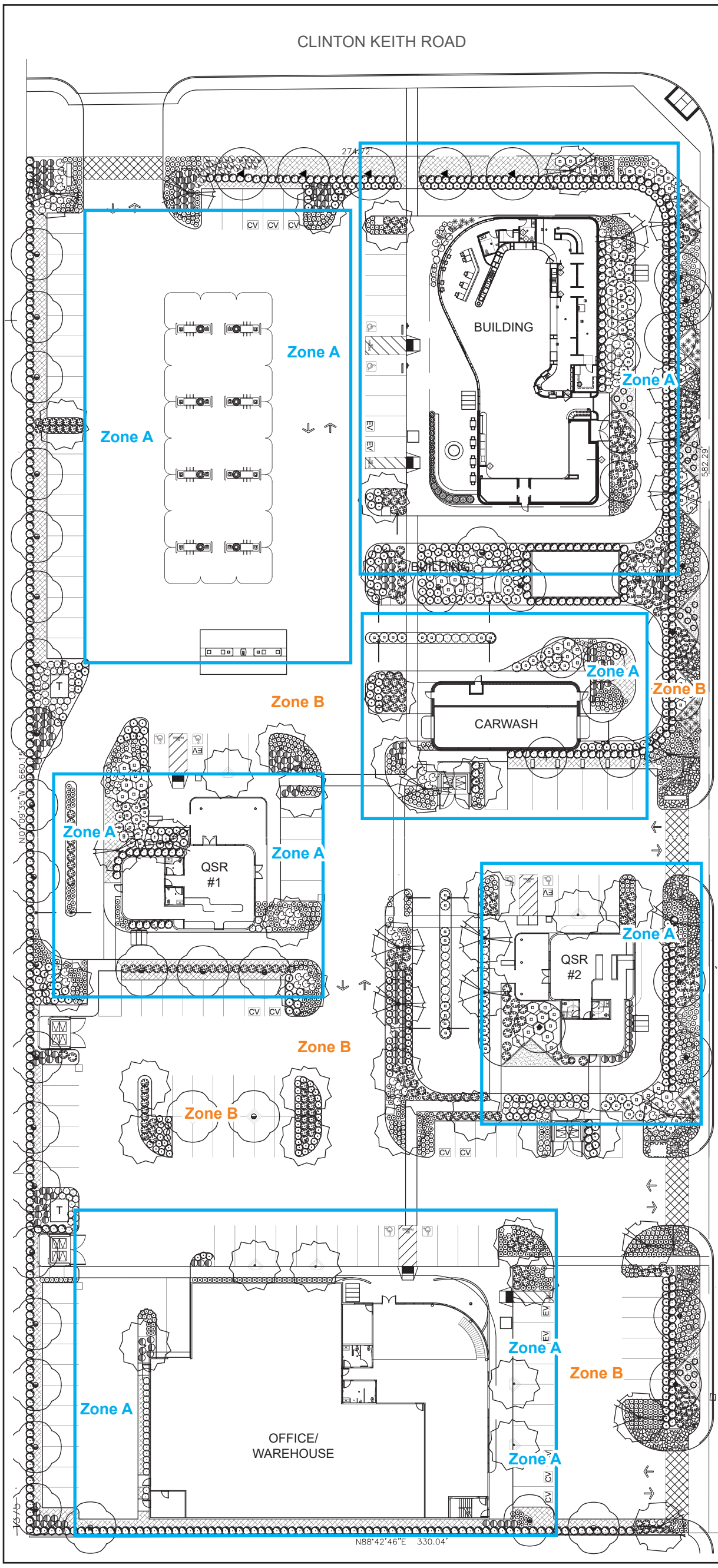
Source: Pegasus Architects, 2022.

Figure 10 - Conceptual Office/WarehouseBuildingElevation



Source: Pegasus Architects, 2022.

Figure 11 - Landscaping Plan



PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS	O.C. SPACING	REMARKS
	TREES					
	Acer p. Adrian's Compact	Compact J. Maple	24" box	M	15'	Multi-trunk
	Cercis c. 'Forest Pansy'	Forest Pansy Redbud	24" box	M	20'	Standard trunk
	Arbutus 'Marina'	NCN	24" box	M	20'	Multi-trunk
	Geijera parvifolia	Australian Willow	24" box	M	25'	Standard trunk
	Lophostemon confertus	Brisbane box	24" box	M	30'	Standard trunk
	Parkinsonia 'Desert Museum'	Palo Verde	24" box	L	30'	Multi-trunk
	Lagestroemia i. 'Tuscarora'	Crape Myrtle	24" box	M	30'	Multi-trunk
	SHRUBS					
	Agave a. Nova	Blue Clone Foxtail Agave	5 gal	L	4'	
	Agave 'Blue Glow'	Blue Glow Agave	5 gal	L	3'	
	Bougainvillea 'Raspberry Ice'	Raspberry Ice Bougainvillea	5 gal	L	4'	
	Callistemon 'Little John'	Dwarf Bottlebrush	5 gal	L	4'	
	Yucca 'Color Guard'	Color Guard Yucca	5 gal	L	4'	
	Ligustrum j. 'Texanum'	Texas Privet	5 gal	L	5'	
	Westringia fruticosa 'Smokey'	Dwarf Coastal Rosemary	5 gal	L	4'	
	Westringia fruticosa 'Mundi'	Mundi Coastal Rosemary	5 gal	L	4'	

0 50
Scale (Feet)

Source: Phil May Landscape Architecture, 2022.

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 Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Tribal Cultural Resources, Noise, Transportation 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			
4. Biological Resources			
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-1 Prior to construction activities, the Project applicant/developer shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey and prepare a Project-Specific Nesting Bird Management Plan, if work cannot be conducted outside of the nesting season (March 15th to September 15th), 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			
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
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			

<table>
<tr><th colspan="4">Table ES-1 Project Impact and Mitigation Summary</th></tr>
<tr><td colspan="4">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</td></tr>
<tr><td colspan="4">7. Geology and Soils</td></tr>
<tr><td colspan="4">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.</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">GEO-1 The project applicant/developer shall incorporate the recommendations of the Geotechnical Report prepared by NTS Geotechnical (Appendix 5) 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</td></tr>
<tr><td colspan="4">a) ii) Strong seismic ground shaking?</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 Measure GEO-1</td></tr>
<tr><td colspan="4">b) Result in substantial soil erosion or the loss of topsoil?</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 Measure GEO-1</td></tr>
<tr><td colspan="4">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?</td></tr>
</table>

Table ES-1 Project Impact and Mitigation Summary			
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			
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-1 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 2022 California Building Code (or the most recent edition) (Part 2 of Title 24 of the California Code of Regulations) and the 2022 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 2022 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-2 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: **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: **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-1 and HAZ-2</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-1 and HAZ-2</td></tr>
</table>

Table ES-1 Project Impact and Mitigation Summary			
Mandatory Findings of Significance			
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 of restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
Implement Mitigation Measures **BIO-1**, **CUL-1**, **GEO-1**, **GEO-2**, **HAZ-1**, **HAZ-2**, **NOI-1**, **TRF-1**, and **TRI-1** through **TRI-7**.			
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).			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
Implement Mitigation Measures **BIO-1**, **CUL-1**, **GEO-1**, **GEO-2**, **HAZ-1**, **HAZ-2**, **NOI-1**, **TRF-1**, and **TRI-1** through **TRI-7**.			
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
Implement Mitigation Measures **BIO-1**, **CUL-1**, **GEO-1**, **NOI-1**, and **TRI-1** through **TRI-7**.			

V. ENVIRONMENTAL CHECKLIST FORM

A. BACKGROUND

1. Project Title:

Beyond Gas Station and Industrial Warehouse Project (Planning Application No. 22-0006 / 22-0030)

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 at 24831 Clinton Keith Road on the southwest corner of Clinton Keith Road and Jana Lane and encompasses Assessor's Parcel Number (APN) 380-290-002.

5. **Project Sponsor's Name and Address:**

   Mark Sater, Beyond Food Mart, 4300 Edison Avenue, Chino, CA 91710

6. **General Plan Designation:**

   BP (Business Park)

7. **Zoning:**

   M-SC (Manufacturing Service Commercial)

8. **Description of Project:**

   The proposed project is a commercial and office/warehouse development on a 4.35-acre site. The commercial portion would include a 7,460-square-foot convenience store and gas station with eight pumps under a 5,971-square-foot canopy; a 1,790-square-foot drive-through car wash facility; and two drive through restaurants with a total of 3,800 square feet. The proposed project would also include a 17,312-square-foot industrial warehouse building in the southern portion of the project site.

   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	Single-family units	Medium Density Residential (MDR)	One-Family Dwellings (R-1)
South	Commercial development consisting of self-storage space	Business Park (BP)	Manufacturing Service Commercial (M-SC)
East	Jana Lane followed by commercial development, single-family home	Business Park (BP)	Manufacturing Service Commercial (M-SC)
West	Commercial development consisting of self-storage space and vacant lot	Business Park (BP)	Manufacturing Service Commercial (M-SC)

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 September 26, 2022, 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 — 01/26/23

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.

01/26/2023

Mark Sater (Beyond Food Mart), 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 a gas station, car wash, restaurants, and convenience store that would be up to 23 feet in height, and a two-story office/warehouse building that would be 29 feet tall. The average elevation across the site is 1,380 feet above mean sea level (amsl). Scenic vistas in the project vicinity include mountain ridgelines north, south, and southwest of the project site ranging from approximately 4,000 feet amsl to 10,000 feet amsl. The site is vacant and surrounded by residential uses to the north, commercial uses to the south, commercial uses and a vacant lot to the west, and light industrial uses to the east, most of which partially obstruct the ridgelines. 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 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 would be less than significant.

b) No Impact. There are no State Scenic Highways proximate to the project site. The nearest officially designated State Scenic Highway is the portion of State Route (SR-74) that runs through San Bernardino National Forest, which is approximately 23.5 miles northeast of the project site (Caltrans 2022). Additionally, 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 residential neighborhoods uses to the north and east, and commercial uses to the south, east, and west. The existing commercial development near the project site contains a mix of white, beige, and dark blue color palette. The proposed restaurants, car wash, gas station, and office/warehouse building would have similar tones of grey, beige, blue, and red, as shown in **Figure 6** through **Figure 10**, as the surrounding uses. The convenience store would be painted in multiple colors including red, orange, yellow, blue, and purple, which would be incompatible with the design of surrounding uses (please refer to **Figure 5**).

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. The applicant has stated that the commercial components of the proposed project have been designed under the "Farm Chic" design guidelines, one of the City of Wildomar's commercial design styles. The Planning Commission will make the final decision on compatibility with the adopted design standards. If the project is consistent with the design standards, then it will not substantially degrade the existing visual character or quality of the site and its surroundings. The Commission will determine consistency and can establish conditions of approval to ensure compliance with the design standards. The project would be consistent with the standards of the Manufacturing Service Commercial Zone as shown in Chapter 17.92, M-SC Manufacturing-Service Commercial Zone, of the Wildomar Municipal Code including the restriction of building height to 50 feet and a minimum designation of 10 percent of the site to be landscaped and irrigated. 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 building display and store lighting, signs, streetlights, and lights associated with vehicular travel. Chapter 8.64, Light Pollution, of the WMC 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 would 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. Additionally, the proposed project would include perimeter landscaping which would reduce impacts of lights in the surrounding area. 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 by urban development (CDC 2016a). The project site is surrounded by urbanized uses. The vacant lot located northwest of the project site across the intersection of Clinton Keith Road and Elizabeth Lane is designated Farmland of Local Importance. However, it is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and the project impacts are contained within the project site. The project would not result in the conversion of agricultural lands, and therefore no impact would occur.

b) No Impact. The project site is not zoned for agricultural use by the City, nor are there any Williamson Act contracts on the project site (CDC 2023). Therefore, no impact would occur.

c) No Impact. The project site is not designated as forestland or timberland by the City, and there is no forestland or timberland adjacent to these sites. The project site is designated under the class "Other Land," which describes a land use that is vacant and nonagricultural surrounded by urban development (CDC 2016a). The project site is in an urbanized portion of the City and is surrounded by development. Therefore, no impact would occur.

d) No Impact. The project site does not contain forestland, nor is the project site zoned as forestland by the City. 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,** Aerial Photograph. 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, Global Climate Change, TAC, and Energy Impact Analysis was prepared by Ganddini Group (Ganddini 2022a), Inc. on November 14, 2022 (see **Appendix 2**).

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 2022 Air Quality Management Plan (AQMP). The 2022 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2022 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 2022 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's 2020–2045 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 indicated in the Air Quality Assessment, short-term construction and long-term operational impacts would not result in significant impacts based on the SCAQMD regional significance thresholds or LSTs. 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 Business Park (BP), and the site has a zoning designation of Manufacturing Service Commercial (M-SC). The proposed project would include a convenience store, gas station, drive-through car wash, two quick-serve restaurants, and an office/warehouse building. As the warehouse would not attract a significant amount of truck traffic and is similar to a manufacturing/Research and Development type "clean" industrial use, it is considered to be a comparable use with the City's land use designation (Ganddini 2022a). Therefore, as the proposed project would be consistent with the City's existing land use designations, the proposed project is not anticipated to exceed the AQMP assumptions and would be consistent with the second criterion. 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 would result in emissions of reactive organic gases (ROGs), NO_x, CO, SO_2, PM_{10}, and $PM_{2.5}$. Emissions would result from site preparation, grading with a maximum number of 2.5 acres disturbed in a day, building construction, paving, and architectural coating. Construction is anticipated to last 10 months from January 2023 to September 2023. As shown in **Table 3-1**, Project Construction Regional Pollutant Emissions Summary, 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 Regional Pollutant Emissions Summary

Activity		Pollutant Emissions (lbs/day)					
		ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Site Preparation	On-Site[1]	0.84	8.66	5.34	0.01	2.95	1.68
	Off-Site[2]	0.02	0.01	0.18	0.00	0.06	0.02
	Subtotal	0.85	8.67	5.52	0.01	3.01	1.69
Grading	On-Site[1]	1.71	17.94	14.75	0.03	3.54	2.05
	Off-Site[2]	0.05	0.04	0.55	0.00	0.17	0.05
	Subtotal	1.77	17.97	15.30	0.03	3.71	2.09
Building Construction	On-Site[1]	2.27	20.49	21.48	0.04	0.96	0.90
	Off-Site[2]	0.32	1.26	3.27	0.01	1.08	0.30
	Subtotal	2.59	21.74	24.75	0.05	2.04	1.20
Paving	On-Site[1]	1.16	8.79	12.19	0.02	0.44	0.40
	Off-Site[2]	0.07	0.05	0.73	0.00	0.22	0.06
	Subtotal	1.23	884	12.92	0.02	0.66	0.46
Architectural Coating	On-Site[1]	16.9	1.30	1.81	0.00	0.07	0.07
	Off-Site[2]	0.06	0.04	0.59	0.00	0.18	0.05
	Subtotal	16.96	1.34	2.40	0.00	0.25	0.12
Total for Overlapping Phases[3]		20.78	31.92	40.07	0.08	2.95	1.79
South Coast AQMD Regional Threshold		75	100	550	150	150	55
Threshold Exceeded?		**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

[1]On-site emissions from equipment operated onsite that is not operated on public roads. Onsite grading PM_{10} and $PM_{2.5}$ emissions show mitigated values for fugitive dust for compliance with SCAQMD Rule 403.

[2]Offsite emissions from equipment operated on public roads.

[3]Construction, painting, and paving phases may overlap.

Source: Ganddini 2022a (Appendix 2)

Operational Emissions

Operational activities associated with the proposed project would result in emissions of ROGs, NOx, CO, SO2, 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 Regional Operational Pollutant Emissions, 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 Regional Operational Pollutant Emissions

Activity	Emissions (lbs/day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area Source[1]	0.69	0.00	0.02	0.00	0.00	0.00
Energy Usage[2]	0.04	0.37	0.31	0.00	0.03	0.03
Mobile Source[3]	16.07	16.40	110.16	0.22	22.15	6.03
Total Emissions	**16.80**	**16.77**	**110.49**	**0.22**	**22.18**	**6.06**
South Coast AQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

[1]Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

[2]Energy usage consists of emissions from generation of electricity and onsite natural gas usage.

[3]Mobile sources consist of emissions from vehicles and road dust.

Source: Ganddini 2022a (Appendix 2)

c) Less Than Significant Impact The proposed project would not expose sensitive receptors to substantial pollutants.

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 at the Nearest Receptors, identifies the localized impacts at the nearest receptor locations in the vicinity of the project. None of the analyzed criteria pollutants would exceed the applicable South Coast AQMD LSTs for localized construction emissions.

Table 3-3 Project Localized Construction Emissions at the Nearest Receptors

Construction Activity	Emissions (lbs/day)			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Site Preparation	8.66	5.34	2.95	1.68
Grading	17.94	14.75	3.54	2.05
Building Construction	20.49	21.48	0.96	0.90

Paving	8.79	12.19	0.44	0.40
Architectural Coating	1.30	1.81	0.07	0.07
SCAQMD Localized Threshold	234	1100	7	4
Exceeds Threshold?	**NO**	**NO**	**NO**	**NO**
Source: Ganddini 2022a (Appendix 2)				

Localized Operational Impacts

Table 3-4, Local Operational Emissions at the Nearest Receptors, shows the onsite emissions from the CalEEMod model that includes natural gas usage, landscape maintenance equipment, and vehicles operating onsite, and the calculated emissions thresholds. Per LST methodology, mobile emissions include only onsite sources which equate to approximately 10 percent of the project-related new mobile sources (Ganddini 2022a). As shown in **Table 3-4**, the operational activity of the proposed project would not exceed SCAQMD's local operational thresholds. Therefore, impacts would be less than significant.

Table 3-4 Local Operational Emissions at the Nearest Receptors

Construction Activity	Emissions (lbs/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Area Sources[1]	0.00	0.02	0.00	0.00
Energy Usage[2]	0.37	0.31	0.03	0.03
Vehicle Emissions[3]	1.64	11.02	2.21	0.60
Total Emissions	2.01	11.35	2.24	0.63
SCAQMD Localized Threshold[4,5]	325	1,677	3	2
Exceeds Threshold?	**NO**	**NO**	**NO**	**NO**

Source: Ganddini 2022a (Appendix 2)

[1] Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

[2] Energy usage consists of emissions from onsite natural gas usage.

[3] Onsite vehicular emissions based on 1/10 of the gross vehicular emissions and road dust.

[4] The nearest receptors to the project site include the existing single-family detached residential dwelling units located approximately 50 feet (~15 meters) to the east, 115 feet (~35 meters) to the north, and 665 feet (~203 meters) to the southeast of the site; therefore, the 25-meter threshold was used.

[5] The project site is approximately 4.35 acres; therefore, the 4-acre thresholds were interpolated from the 2-acre and 5-acre thresholds in the SCAQMD's Mass Rate Look-up Tables.

Carbon Monoxide Hotspots

CO attainment in the South Coast Air Basin by the SCAQMD was analyzed as part of the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide. As part of the 1992 CO Plan, an analysis for CO "hot spots," adverse CO concentrations, was conducted for four 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 busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day.

As further discussed in Section V.17, Transportation, the proposed project would generate a maximum of approximately 5,667 daily vehicle trips. The intersection with the highest traffic volume is located at I-15 Northbound Ramps and Clinton Keith Road and has an Existing Plus Ambient Growth Plus Project Plus Cumulative Weekday PM peak hour volume of 1,718 vehicles. The 1992 CO Plan showed that an

intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. Therefore, as the traffic volume for the proposed project falls short of the 100,000 vehicles per day, no CO hotspot modeling was performed, and no significant long-term air quality impact is anticipated. Therefore, project impacts associated with CO hot spots are less than significant.

Toxic Air Contaminants (TAC)

CONSTRUCTION TAC IMPACTS

The greatest potential for TAC emissions during construction would be related to diesel particulate emissions associated with the operation of heavy equipment. Given the temporary and short-term construction schedule for the proposed project, the proposed project would not result in a long-term (i.e., lifetime or 30-year) exposure as a result of project construction. Furthermore, construction-based particulate matter (PM) emissions, including diesel exhaust emissions, do not exceed any local or regional thresholds and the nearest sensitive receptors to the project site are located approximately 50 feet to the east, 115 feet to the north, and 665 feet to the southeast of the project site. The proposed project would be required to comply with CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation. Compliance with these regulations would minimize TAC emissions during construction. Therefore, impacts would be less than significant.

OPERATIONAL TAC IMPACTS

The CARB Air Quality and Land Use Handbook provides an advisory recommendation that a 50-foot separation be provided between sensitive receptors and typical gasoline dispensing facilities. The project includes the construction and operation of eight fuel pumps which is anticipated to have up to approximately 750,000 gallons of throughput annually (Ganddini 2022a). The closest receptors to the proposed service station are located approximately 215 feet from the closest portion of the gasoline fueling canopy and 260 feet from the underground tanks. The proposed project would be regulated by the SCAQMD Rule 461 and be required to obtain a Permit to Operate. Gas-dispensing facilities are required to use Phase I/II Enhanced Vapor Recovery (EVR) systems which have an average efficiency between 95.1 percent to 98 percent. Therefore, potential fugitive VOC and TAC emissions from the gas pumps is negligible. As such, the proposed project would result in less than significant impacts.

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)
- Wastewater treatment plants
- Food processing 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 VOCs and the application of asphalt and architectural coatings during construction activities and intermittent delivery truck emissions and trash storage areas 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

None required.

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?			✓	

Jennings Environmental prepared a Biological Resources Assessment in November 2022 for the project, which is included as **Appendix 3** (Jennings 2022).

DISCUSSION

a) Less Than Significant Impact.

The project site is not within a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) criteria cell (Jennings 2022). The project site is within a Stephens' Kangaroo Rat Plan Fee Area and the MSHCP Fee Area; both of which encompass the City of Wildomar (Riverside County 2022b). According to the Biological Resources Assessment, the project site consists of a mix of ruderal vegetation, bare ground, and *Amsinckia (menziesii, tessellate)* – *Phacelia* spp. Herbaceous Alliance, or Fiddleneck – Phacelai Fields (Jennings 2022). The site does not contain any plants with a California Rare Plant Ranks (CRPR) of Rank 1 or Rank 2.

Species observed on or in the vicinity of the project site during the field surveys included house finch (*Haemorhous mexicanus*), California towhee (*Melozone crissalis*), and Anna's hummingbird (*Calypte anna*). No state and/or federally listed threatened or endangered species or other sensitive species were observed onsite during the field surveys (Jennings 2022).

The project site is not located within or adjacent to any United State Fish and Wildlife Service (USFWS) designated Critical Habitat. Additionally, based on the April 2022 field study, the site does not contain suitable habitats for the burrowing owl species, and no burrowing owls or burrows were identified onsite. The project site is continually maintained. Therefore, impacts would be less than significant.

b) No Impact. Riparian/riverine areas are lands which contain habitat dominated by trees, shrubs, persistent emergent vegetation, or emergent mosses and lichens, which occur close to, or which depend upon soil moisture from nearby freshwater sources, or areas with freshwater flow during all or a portion of the year. The Biological Resources Assessment concluded the project site does not contain any areas that meet the definition of riparian/riverine areas. Therefore, no impact would occur.

c) No Impact. According to the Biological Resources Assessment, the project site does not contain any wetlands, vernal pools, Waters of the US, or Waters of the State. The field study determined that only one of the requirements for wetland designation (hydric soils) was present within the project site. However, the site does not contain hydric vegetation or wetland hydrology; to be classified as a wetland, all three criteria must be present within the onsite. Therefore, no wetlands are present on-site and no impacts would occur.

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. The Biological Resources Assessment notes that the proposed project site is surrounded by urbanized uses. 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 (Jennings 2022). Furthermore, the project site is not within any MSHCP core areas, linkages, or wildlife corridors.

The project site and adjacent area contain suitable habitat for nesting birds, and therefore, a pre-construction nesting bird survey should be conducted prior to any construction activities taking place during the nesting season to avoid potentially taking any birds or active nests. In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season (generally March 15th to September 15th), and conducting a worker awareness training. If all work cannot be conducted outside of the nesting season, a Project-specific Nesting Bird Management Plan would be prepared to determine suitable buffers (see **Mitigation Measure BIO-1**) to avoid any potential project-related impacts to nesting birds. 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-1** would ensure raptors and other nesting bird species that may or may not be covered under the MSHCP would be protected. Impacts would be less than significant with the implementation of mitigation.

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 Biological Resources Report indicates that project site is not within a subunit, pursuant to Section 3.3.12 of the MSHCP. Additionally, pursuant to Section 6.1.2 of the MSHCP, the project site does not include vernal pools or riparian/riverine habitats; Section 6.1.3 of the MSHCP, the project site is not within a Narrow Endemic Plant; and Section 6.1.4 of the MSHCP, the project site is not within or adjacent to an area that meets the definition of an urban/wildland interface. Additionally, the site does not support habitats for fairy shrimp, riparian birds, Delhi Sands flower-loving fly, or any of the species listed in Section 2.1.4 of the MSHCP (Jennings 2022). As required per the City's Municipal Code, the project applicant/developer would be required to pay MSHCP and Stephens' Kangaroo Rat fees. Therefore, the proposed project is consistent with the MSHCP, and 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 Prior to construction activities, the Project applicant/developer shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey and prepare a Project-Specific Nesting Bird

Management Plan, if work cannot be conducted outside the nesting season (March 15th to September 15th), 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 Phase 1 Cultural Resources Assessment was prepared for the 4.35-acre (Proposed Project) by Jean A. Keller, Ph.D in June 2022 which is included as **Appendix 4** (Keller 2022).

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.

Although the property is located within an area of moderate sensitivity for cultural, archaeological, and historical resources, no cultural resources of prehistoric (Native American) or historical origin were observed during the field investigation to be within the boundaries of the site. Cartographic research shows no structures or other development within the property boundaries between 1854 (date of first General Land Office [GLO] survey) and 1951 (date of aerial photographs taken for the 1953 USGS Murrieta quadrangle), indicating that the property was vacant during this period. Between 1951 and 1973, two structures appear near the northwestern corner of the subject property (1973 photorevised USGS Murrieta quadrangle), but by at least as late as 1996, aerial photographs show that the structures no longer existed. No more precise information about the date of construction or occupants could be located (Keller 2022).

The Phase 1 Cultural Resources Assessment did not find the site to be eligible for listing in the National Register of Historic Places (NRHP), California Office of Historic Preservation Archaeological Determinations

of Eligibility, or California Office of Historic Preservation Historic Properties Directory (Keller 2022). No cultural resources of prehistoric or historical origin were observed within the project site (Keller 2022). Furthermore, the project site is vacant and undeveloped, and does not contain structures that could be designated as a historic resource. Therefore, no impact would occur.

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 Phase 1 Cultural Resources Assessment concluded that there are no known archaeological, cultural or historical resources on the project site (Keller 2022). However, 19 cultural resource properties have been recorded within a one-mile radius of the site (Keller 2022).

As the project site is within an area of moderate sensitivity for cultural, archaeological, and historical resources, and due to construction and ground-disturbing activities, there is potential for archaeological resources to be discovered onsite. 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. Therefore, impacts would be less than significant with mitigation incorporated.

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?			✓	

An Air Quality, Global Climate Change, TAC, and Energy Impact Analysis was prepared by Ganddini Group, Inc. on November 14, 2022 and is included as Appendix 2 (Ganddini 2022a).

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 total estimated electric usage from the construction phase of the proposed project is expected to use 4,018 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 (SoCalGas). 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. Impacts would be less than significant.

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 41,956 gallons of fuel from the use of construction equipment, construction vendor/hauling trips as well as from construction worker commutes (Ganddini 2022a). 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 office/warehouse 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 416,223 kilowatt-hours per year (kWh/year) to serve operational demands (Ganddini 2022a).

In 2020, the non-residential sector of the County of Riverside consumed approximately 8,015 million kWh of electricity. The proposed project is anticipated to have an estimated electricity consumption of approximately 144 kWh per service population per year. The County of Riverside had an estimated electricity consumption of approximately 3,314 kWh per service population per year in 2020. Therefore, the increase in electricity demand of approximately 4.3 percent from the proposed project is insignificant compared to the County's 2020 non-residential sector demand and the proposed project would be anticipated to reduce per service population energy consumption.

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 of approximately 4.3 percent 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/developer 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 2022 Title 24 standards which require that new buildings reduce water consumption,

employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials, 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 1,384,898 million kilo-British thermal units per year (KBTU/year) of natural gas during its operational phase (Ganddini 2022a). In 2020, the non-residential sector of the County of Riverside consumed approximately 135 million therms of gas. The proposed project is anticipated to result in an estimated natural gas consumption of approximately 479 kilowatt Britch thermal units (kBTU) per service population per year. The County of Riverside had an estimated natural gas consumption of approximately 5,583 kBTU per service population per year in 2020. Therefore, the increase natural gas demand of approximately 8.6 percent from the proposed project is insignificant compared to the County's 2020 non-residential sector demand and the proposed project would be anticipated to reduce per service population energy consumption.

The increased demand of approximately 8.6 percent 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 major use of natural gas on site would be from the fast-food restaurant (1,036,110 kBTU/year) and primarily building heating at the other facilities on-site. 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

Pursuant to the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by Southern California Edison and Southern California Gas Company. Regarding the State's Renewable Energy Portfolio Standards, the proposed project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CALGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. Additionally, the development of the proposed project would not interfere with the 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 would decrease from current emission estimates. Therefore, impacts would be less than significant.

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 project would come from delivery vehicles, maintenance vehicles, and the general public/refueling vehicles that would primarily use diesel fuel and/or gasoline.

The proposed project would generate 5,667 trips per day, and is estimated to generate the vehicular use of 669,587 gallons of fuel per year during the operation of the proposed project. Trip generation and VMT generated by the proposed project are consistent with other similar commercial uses of similar scale and configuration. Therefore, the proposed project would not propose uses or operations that would result in excessive and wasteful vehicle trips or vehicle energy consumption. Therefore, impacts would be 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. 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 the most recent version of the California Energy Code, which sets standards that improve energy efficiency of newly construction 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 being disposed. 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?		✓		

NTS Geotechnical (NTS) prepared a Limited Geotechnical Engineering Report on November 9, 2022 (NTS 2022) for the proposed project which is included as **Appendix 5**.

DISCUSSION

a) i) **Less Than Significant Impact with Mitigation Incorporated**. According to the Geotechnical Report, the site is not within an Alquist-Priolo Earthquake Fault Zone, and no known active faults traverse the site. However, the project site is within a seismically active region of Southern California. The nearest known active fault is the Elsinore fault system, which is located approximately 1.2 miles southwest of the site (NTS 2022). The project site is also approximately 1,885 feet west of an unnamed fault in the Elsinore fault zone (NTS 2022). The project site is not located within a mapped Riverside County Fault Hazard zone (Riverside County 2022b). 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/developer shall incorporate all recommendations made in a final geotechnical report as approved by the City related to temporary excavations, grading, utility trench backfill, foundation and concrete slab-on-grade, concrete flatwork, conventional retaining walls, lateral loading, and preliminary pavement. Compliance shall be confirmed by the City as part of the building permit and inspection requirements. Therefore, impacts would be less than significant with mitigation incorporated.

ii) **Less Than Significant Impact with Mitigation Incorporated.** The project site is in a seismically active region. Strong ground shaking due to 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 most recent version of the California Building Code (CBC) Section 1613. After implementation of mitigation measure **GEO-1,** which states that the project applicant/developer shall incorporate all recommendations made in a final geotechnical report, impacts would be less than significant.

iii) **Less Than Significant Impact.** A portion of the site is within a moderate liquefaction hazard zone (NTS 2022). The Geotechnical Report summarizes findings of exploratory excavations in with groundwater was not encountered at approximately 23 feet below ground surface. No groundwater data was found during a literature search. Based on a review of the County of Riverside Map My County website, approximately the southern ¾ of the project site is within a moderate liquefaction hazard zone (NTS 2022). However, based on the anticipated lot grading and the inferred groundwater depths, the report concludes that groundwater should not be a

factor for project design or for long-term performance. Therefore, impacts would be less than significant.

iv) **No Impact.** The project site is not located within an earthquake-induced landslide zone (NTS 2022). The Geotechnical Report did not disclose the presence of older, existing landslides on or near the project site. In addition, due to the relatively gentle sloping of the site, the potential for landslides to impact the project site is low. Therefore, no impact would occur.

b) Less Than Significant Impact with Mitigation Incorporated. The proposed project would include ground-disturbing activities that could subject surface soils to erosion. 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/developer would 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 are required to 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, any undocumented fill, topsoil, or native soil within the project site should be removed and replaced with properly compacted fill. Compliance with the recommendations of a final geotechnical report (see mitigation measure **GEO-1**) would reduce impacts to less than significant. Therefore, project impacts to erosion and topsoil would be mitigated to less than significant.

c) Less Than Significant Impact with Mitigation Incorporated. See discussion above in a.iii) and a.iv). The project site is not at risk for landslide, collapse, liquefaction, or lateral spreading due to the relatively

level terrain of the site and surrounding developed properties. According to Figure S-7 in the City of Wildomar General Plan, the site is located within an area that is susceptible to subsidence. As groundwater was not encountered during exploratory excavations of approximately 23 feet below the ground surface, the potential for subsidence is low.. 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 would be less than significant with mitigation incorporated**.**

d) Less Than Significant Impact. The soils found onsite are considered to possess a low expansion potential (NTS 2022). Therefore, impacts would be less than significant.

e) No Impact. The proposed project would connect to the Elsinore Valley Municipal Water District (EVMWD) sewer collection system and therefore the use of septic tanks or an alternative wastewater disposal system is not proposed. 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. As shown in Figure OS-8 of the General Plan, the project site is within an area with high paleontological sensitivity. However, according to the Geotechnical Report, the majority of the materials encountered during the subsurface investigation consisted of alluvium ranging from approximately 2 to 16 feet in thickness, underlain by Monzogranite rock which is a crystalline igneous rock that has very low paleontological potential. Additionally, the alluvium encountered during the field survey would most likely be Holocene in age, which would have a low sensitivity to paleontological resources. Nonetheless, given that the proposed project would require ground-disturbing activities and deep excavations for underground storage tanks, there is a potential to uncover paleontological resources. As such, implementation of mitigation measure **GEO-2,** which requires paleontological monitoring, would reduce 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.

MITIGATION MEASURES

GEO-1 The project applicant/developer shall incorporate the recommendations of the Geotechnical Report prepared by NTS Geotechnical (**Appendix 5**) 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?			✓	

An Air Quality, Global Climate Change, TAC, and Energy Impact Analysis was prepared by Ganddini Group, Inc. on November 14, 2022 (Ganddini 2022a) (see **Appendix 2**).

DISCUSSION

a) **Less Than Significant Impact**. According to **Table 8-1**, Proposed Project GHG Emissions (Without Sustainable Design/Regulations), the proposed project would result in a net total of approximately 3,474.25 metric tons of CO_2e per year without the implementation of sustainable design measures or regulations, which would exceed the South Coast AQMD and City's screening threshold of 3,000 $MTCO_se$ per year.

Table 8-1 Proposed Project GHG Emissions (Without Sustainable Design/Regulations)

Category	Emissions (MT/yr)					
	Bio-CO_2	**NonBio-CO_2**	**CO_2**	**CH_4**	**N_2O**	**Total CO_2e**
Area Sources[1]	0.00	0.01	0.01	0.00	0.00	0.01
Energy Usage[2]	0.00	149.44	149.44	0.01	0.00	150.26
Mobile Sources[3]	0.00	3,194.81	3,194.81	0.22	0.19	3,255.85
Waste[4]	14.76	0.00	14.76	0.87	0.00	36.57
Water[5]	1.30	13.21	14.52	0.14	0.00	18.88
Construction[6]	0.00	12.55	12.55	0.00	0.00	12.69
Total Emissions	**16.07**	**3,370.01**	**3,386.08**	**1.24**	**0.19**	**3,474.25**
SCAQMD Draft Screening Threshold						3,000
Threshold Exceeded?						**YES**

Source: Ganddini 2022a (Appendix 2)

[1] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.

[2] Energy usage consist of GHG emissions from electricity and natural gas usage.

[3] Mobile sources consist of GHG emissions from vehicles.

[4] Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.

[5] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.

[6] Construction GHG emissions CO_2e based on a 30-year amortization rate.

As shown in **Table 8-2,** Proposed Project GHG Emissions (With Incorporation of Sustainable Design/Regulations), compliance with regulations and incorporation of sustainable designs would reduce the proposed project's emissions to 2,516.60 $MTCO_se$ per year. The reduction comes from incorporation of the following California Air Pollution Control Officers Association (CAPCOA)-based reduction measures and regulatory compliance:

- Utilizing low-flow fixtures that would reduce indoor water demand by 20 percent per CALGreen Standards,
- Recycling programs that reduce waste to landfills by a minimum of 37 percent (per AB 341),
- Utilizing Energy Star appliances, and
- Utilizing water-efficient irrigation systems.

The reduction also comes from incorporation of the CAPCOA-based land use and site enhancement reduction measures:

- LUT-1 Increased Density – the project site would include a mix of uses across the site, which is currently vacant.
- LUT-5 Increase Transit Accessibility – the project site is bound by Clinton Keith Road to the north and Jana Lane to the east, and regional access is provided via I-15.
- SDT-1 Improve Pedestrian Network – the proposed project would provide pedestrian access with proposed sidewalks within the site and connecting off-site. .

Table 8-2 Proposed Project GHG Emissions (With Incorporation of Sustainable Design/Regulations)

Category	Emissions (MT/yr)					
	Bio-CO_2	**NonBio-CO_2**	**CO_2**	**CH_4**	**N_2O**	**Total CO_2e**
Area Sources[1]	0.00	0.01	0.01	0.00	0.00	0.01
Energy Usage[2]	0.00	147.72	147.72	0.01	0.00	145.54
Mobile Sources[3]	0.00	2,271.83	2,271.83	0.19	0.14	2,320.61
Waste[4]	9.30	0.00	9.30	0.55	0.00	23.04
Water[5]	1.04	11.31	12.36	0.11	0.00	15.85
Construction[6]	0.00	12.53	12.53	0.00	0.00	12.66
Sequestration[7]						-4.11
Total Emissions	**10.34**	**2,443.39**	**2,453.73**	**0.85**	**0.15**	**2,516.60**
SCAQMD Draft Screening Threshold						3,000
Threshold Exceeded?						**NO**

Source: Ganddini 2022a (Appendix 2)

[1] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.

[2] Energy usage consist of GHG emissions from electricity and natural gas usage.

[3] Mobile sources consist of GHG emissions from vehicles.

[4] Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.

[5] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.

[6] Construction GHG emissions CO_2e based on a 30-year amortization rate.

[7] CO_2 sequestration from the planting of ~116 trees (82.128/20 years [trees' lifetime])

Therefore, with compliance with regulations and incorporation of sustainable design, the proposed project's GHG emissions would no longer exceed the SCAQMD threshold of 3,000 $MTCO_2e$ per year; impacts would be less than significant.

b) Less Than Significant Impact.

AB 32/SB 32 and 2008 and 2017 CARB Scoping Plans Consistency

As the proposed project's emissions, after compliance with regulations and incorporation of sustainable design measures (see **Table 8-2**), meet the threshold for compliance with Executive Order S-3-05, the project's emissions also comply with the goals of AB 32 and the CARB Scoping Plan. The proposed project's consistent with the CARB Scoping Plan is analyzed in **Table 8-3**, 2008 Scoping Plan Measures Consistency Summary, and **Table 8-4**, 2017 Scoping Plan Update Recommended Actions Consistency Summary. Additionally, with compliance with regulations and incorporation of sustainable design measures, the proposed project would also be on track to meet the reduction of 40 percent below 1990 levels by 2030 mandated by SB 32.

Table 8-3 2008 Scoping Plan Measures Consistency Summary	
2008 Scoping Plan Measures to Reduce GHGs	**Project Compliance with Measure**
California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero- emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	**No Conflict.** These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, would comply with the strategy.
Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	**No Conflict**. The project would be compliant with the current Title 24 standards.
Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	**No Conflict**. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, would comply with the strategy.
Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	**No Conflict.** These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, would comply with the strategy**.**
Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	**No Conflict**. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, would comply with the strategy.
Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**No Conflict.** The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2022 edition of the Code (or most recent version), on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The

Table 8-3 2008 Scoping Plan Measures Consistency Summary	
2008 Scoping Plan Measures to Reduce GHGs	**Project Compliance with Measure**
	project would be subject to these mandatory standards.
High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	**No Conflict.** CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures would comply with the strategy**.**
Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	**No Conflict.** The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project would be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341.
Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	**No Conflict.** The project would comply with all applicable City ordinances and CAL Green requirements.

Table 8-4 2017 Scoping Plan Update Recommended Actions Consistency Summary	
2017 Scoping Plan Recommended Actions to Reduce GHGs	**Project Compliance with Recommended Action**
Implement Mobile Source Strategy. Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	**No Conflict.** These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, would comply with the strategy.
Implement Mobile Source Strategy. At least 1.5 million zero emission and plug- in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	**No Conflict.** These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, would comply with the strategy.
Implement Mobile Source Strategy. Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent 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- NOX standard.	**No Conflict.** These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, would comply with the strategy.
Implement Mobile Source Strategy. Last Mile Delivery: New regulation that would result in the use of low NOX 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 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	**No Conflict.** These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, would comply with the strategy.
Implement SB 350 by 2030. 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.	**No Conflict.** The project would be compliant with the current Title 24 standards.

Table 8-4 2017 Scoping Plan Update Recommended Actions Consistency Summary	
2017 Scoping Plan Recommended Actions to Reduce GHGs	**Project Compliance with Recommended Action**
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	**No Conflict.** The project would be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341.

As summarized in **Table 8-3** and **Table 8-4**, the proposed project would not conflict with any of the provisions of the Scoping Plan. Therefore, impacts would be less than significant.

Consistency with Western Riverside County of Governments (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. 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. **Table 8-5,** WRCOG Subregional CAP Reduction Measure Project Consistency, shows the proposed project's compliance with the local reduction measures of the WRCOG Subregional CAP. As summarized in **Table 8-5**, the proposed project would not conflict with any of the provisions of the CAP. Therefore, impacts would be less than significant.

Table 8-5 WRCOG CAP Local Reduction Measure Project Consistency

WRCOG Local Reduction Measure	Project Compliance with Measure
E-1: Energy Action Plan. Improve municipal and community wide energy efficiency and reduce energy consumption through the adoption of local Energy Action Plans (EAP).	**Not Applicable.** This measure is not directly applicable to the project; however, the project would be compliant with the current Title 24 standards.
E-3: Shade Trees. Strategically plant trees to reduce the urban heat island effect.	**No Conflict.** The proposed project is to include the planting of approximately 116 trees.
T-2: Bicycle Parking. Provide additional options of bicycle parking.	**No Conflict.** As shown on the site plan, the project would include bicycle racks as per the City's standards.
T-8: Density. Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.	**No Conflict.** The proposed project includes the development of the site with a 16 fueling position convenience store/gas station, car wash, drive-through restaurants, and office/warehouse uses. The project site is in proximity to existing residential and commercial uses and is located as close as approximately 0.79-mile from existing transit stops.
T-10: Design/Site Planning. Design neighborhoods and sites to reduce VMT.	**No Conflict.** The proposed project includes the development of the site with a 16 fueling position convenience store/gas station, car wash, drive-through restaurants, and office/warehouse uses. The project site is in proximity to existing residential and commercial uses and is located as close as approximately 0.79-mile from existing transit stops.
T-11: Pedestrian Only Access. Encourage walking by providing only community areas.	**No Conflict.** The proposed project is a commercial use; however, it does provide pedestrian access

Table 8-5 WRCOG CAP Local Reduction Measure Project Consistency	
WRCOG Local Reduction Measure	**Project Compliance with Measure**
	with proposed sidewalks within and connecting off-site.
T-14: Voluntary Transportation Demand Management. Reduce demand for roadway travel through incentives for alternative modes of transportation and disincentives for driving.	**No Conflict.** The proposed project includes the development of the site with a 16 fueling position convenience store/gas station, car wash, drive-through restaurants, and office/warehouse uses. The proposed project would include bicycle racks per the City's standards.
T-15: Accelerated Bike Plan Implementation. Accelerate the implementation of all or specific components of a jurisdiction's adopted bike plan.	**Not Applicable.** This measure is not directly applicable to the project; however, as shown on the site plan, the project would include bicycle racks per the City's standards.
T-16: Fixed Guideway Transit. Introduce a fixed-route transit service in the jurisdiction.	**Not Applicable.** This measure is not directly applicable to the project; however, the project is located as close as approximately 0.79-mile from the existing transit stops.
T-17: Neighborhood Electric Vehicle Programs. Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure.	**Not Applicable.** This measure is not directly applicable to the project; however, as shown on the site plan, the proposed project would include electric vehicle parking spaces as per the City's standards.
T-18: Subsidized Transit. Increase access to transit by providing free or reduced passes.	**Not Applicable.** This measure is not directly applicable to the project; however, the project is located as close as approximately 0.79-mile from existing transit stops.
SW-1: Yard Waste Collection. Provide green waste collection bins community-wide.	**No Conflict.** The project would be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
SW-2: Food Scrap and Paper Division. Divert food and paper waste from landfills by implementing collection system.	**No Conflict.** The project would be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.

Summary

Compliance with regulations and incorporation of sustainable design measures would ensure the proposed project's GHG emissions are below the SCAQMD threshold of 3,000 $MTCO_2e$ per year. The project would also be in compliance with the reduction goals of the WRCOG Subregional Climate Action Plan, the CARB Scoping Plan, AB 32, and SB 32. Furthermore, the proposed project would comply with applicable Green Building Standards and the City of Wildomar's policies regarding sustainability. Therefore, impacts would be less than significant.

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 Robin Environmental Management (REM) on November 8, 2022 (REM 2022), which is included as **Appendix 6**.

DISCUSSION

a) Less Than Significant Impact. Construction activities at the project site would involve the use of hazardous materials such as fuel, 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 quantities sufficient enough 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 hazardous materials such as cleaners, solvents, paints, degreasers, pesticides, fertilizers, and other custodial products, as well as gasoline/diesel. The materials used and stored onsite would be clearly labeled and safely stored in compliance with state and federal requirements. A permit to operate an underground storage tank (UST) system is required per California Code of Regulations Title 23, Division 3, Chapter 16, California Health and Safety Code Section (25280-25299.8) and Riverside County Ordinance 617. These regulations mandate the testing and frequent inspections of the UST facilities. The project occupant(s) would be required to prepare a Spill Contingency Plan to be filed with the County of Riverside Hazardous Materials Department. All operations of the gas station and related USTs would be required to comply with all federal, state, and local laws regulating the management and use of hazardous materials. With the exercise of normal safety practices, the proposed project would not create substantial hazards to the public or the environment. Therefore, a less than significant impact would occur.

The transport, use, storage, and disposal of hazardous materials would be required 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. As described in the response to 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 most notably diesel and gasoline fuel for the gas station.

An impact could occur if construction and operation of the proposed project create conditions where hazardous materials could easily contaminate surrounding soil, water, or air.

Construction projects typically maintain supplies onsite for containing and cleaning small spills of hazardous materials. However, construction activities would not involve a significant amount of hazardous materials, and their use would be temporary. Furthermore, project construction workers would be trained on the proper use, storage, and disposal of hazardous materials.

Operation of the office/warehouse and commercial uses would not warrant use of hazardous materials in quantities that could result in hazardous conditions. However, the operation of the proposed gas station could result in hazardous materials due to the potential to have liquefied petroleum gas (LPG) tanks; operation of the gas station would require a permit. All on-site activities during construction and operation would be required to adhere to federal, state, and local regulations for the management and disposal of hazardous materials, including but not limited to California Code of Regulations Title 23, Division 3, Chapter 16, California Health and Safety Code Section (25280-25299.8) and Riverside County Ordinance 617.

Also, construction activities would be conducted in accordance with the Storm Water Pollution Prevention Plan (SWPPP) as part of the NPDES permit, as detailed in Section V.10, Hydrology and Water Quality. The primary objective of the SWPPP is to identify, construct, implement, and maintain best management practices (BMPs) to reduce eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site. BMPs for hazardous materials include, but are not limited to, off-site refueling, placement of generators on impervious surfaces, establishing clean out areas for cement, etc. 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. Therefore, transport, use, and/or disposal of hazardous materials during construction and operation of the proposed project would be properly managed, and impacts would be less than significant.

c) No Impact There are no schools within a quarter mile of the site. The nearest school to the project site is Ronald Reagan Elementary, approximately 1 mile northwest of the site. Therefore, no impact would occur.

d) No 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). According to the Phase I ESA, the project site is not listed on environmental databases for hazardous sites, and there are no Leaking Underground Storage Tank (LUST)/Spill sites on site. There is no evidence of significant environmental concern or recognized environmental conditions in connection with the project site (REM 2022). Therefore, no impact would occur.

e) No 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 5.7 miles southeast 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 would be provided via four entrances/exits: one on the northwest portion of the project site via Clinton Keith Road, and three on the eastern side of the project site via Jana Lane. Construction would 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 detour 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. Therefore, impacts would be less than significant.

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 2022 California Building Code (or the most current version) and the 2022 edition of the California Fire Code (or the most current version). The 2022 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-1** and **HAZ-2,** 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 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 2022 California Building Code (or the most recent edition) (Part 2 of Title 24 of the California Code of Regulations) and the 2022 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 2022 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-2 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 Blue Engineering and Consulting, Inc. on March 14, 2022, and is included as **Appendix 7** (Blue Engineering 2022a), and the Preliminary Hydrology Report by Blue Engineering and Consulting, Inc. dated March 2022 and included as **Appendix 8** (Blue Engineering 2022b) to 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. 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ. 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, tracking control, non-storm water management controls, and waste management controls. Implementation of BMPs and monitoring required under the SWPPP would reduce, minimize, reduce and or treat pollutants and prevent 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 offsite. Structural BMPs as stated in the Water Quality Management Plan (WQMP), included as **Appendix 7** to this IS/MND, would include, but are

not limited to, drainage stenciling and signage, avoiding the use of unprotected metals for roofing/gutters/trim, and designing landscape to minimize irritation and runoff. Operational source control BMPs include education for new site owners, maintaining inlet markings, maintaining drains to prevent blockages, maintaining landscaping using minimal or no pesticides, inspect and clean receptacles, and street and sidewalk sweeping (Blue Engineering 2022a). The BMPs would properly manage flow and prevent stormwater pollution by reducing the potential for contamination at the source, as listed in the WQMP (see **Appendix 7**). The BMPs specific to the project have been determined as part of the WQMP to be approved by the City.

Additionally, onsite landscaping would assist with minimizing the amount of runoff from the site by providing permeable areas for water infiltration and decreasing runoff volume.

The proposed project would maintain its existing drainage pattern. Runoff from the proposed project would be collected in an onsite catch basin and retained, upon implementation of a biofiltration system (Blue Engineering 2022b). Overflow from the biofiltration system would connect to an overflow storm drainpipe that would run from the southern portion of the site towards the southeastern corner. The onsite catch basin would be designed to capture drainage from the site. A pipe from the biofiltration system would direct flow to a storage tank where the water would be directed into a full-capture type catch basin filter (WetlandMOD) to reduce clogging, before going into an overflow pipe (Blue Engineering 2022b).

Moreover, the gas station would be required to have impermeable floors 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-off of stormwater to the maximum extent practicable. Additionally, the fueling areas would be covered with a canopy that is 5,971 square feet and extends past the fuel dispensing area. BMPs for the gas station and fueling area would include, but are not limited to, sweeping regularly to prevent accumulation of litter and debris.

In general, projects must control pollutants, pollutant loads, and runoff volume from the project site by controlling runoff through infiltration or bioretention. 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, no groundwater or evidence of previous groundwater was encountered during any of the exploratory borings or trenches at a maximum depth of 23 feet (NTS 2022). The proposed project lies within the Santa Margarita River Watershed, and the Murrieta Creek Sub-Watershed (Blue Engineering 2022a). Although the project site is within the Temecula Valley Groundwater Basin, it would be subject to the Elsinore Basin Groundwater Management Plan as the site would be served by the Elsinore Valley Municipal Water District (DWR 2022).

Groundwater recharge occurs when water seeps through soil to replenish underground aquifers. Groundwater recharge is a major practice in Southern California. The primary sources of groundwater recharge in basins are:

- Recharge from precipitation – Rainfall directly to the basin.
- Surface water infiltration – Recharge from infiltration of surface waters such as streams.
- 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.

The Elsinore Basin, which is a 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 proposed project would not impede sustainable groundwater management of the Basin, and impacts would be 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/developer 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 an erosion 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 the biofiltration system and landscaped areas to be used for on-site stormwater retention.

The site currently is undeveloped with exposed soils and shrubs that generally drains from north to south and east to west. The majority of the exiting topography drains into a storm drain channel on Jana Lane. The proposed drainage facilities would generally maintain the existing drainage pattern (Blue Engineering 2022b). However, the proposed project would increase the post-development flows compared to predevelopment levels. To reduce impacts of the increased flow from the proposed project, a biofiltration system with the capacity to store up to a volume of 20,125 cubic feet would be proposed. Routing of captured surface flow through the basin would reduce post-development flows to predevelopment levels for all storm events (Blue Engineering 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 a biofiltration system 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). **No Impact.** The project site is designated by the Federal Emergency Management Agency (FEMA) as not within any flood risk zone (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, no impacts would occur.

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 (NTS 2022). 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 (USACE 2022). 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, although the project site is within the Temecula Valley Groundwater Basin, it would be subject to the Elsinore Basin Groundwater Management Plan as the site would be served by the Elsinore Valley Municipal Water District (EVMWD) which gets its water from the Elsinore Basin. The proposed project would not conflict or obstruct implementation of EVMWD's Urban Water Management Plan (UWMP). 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).

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 Discharge System Protection). Therefore, the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan, and impacts would be 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) No Impact. The project site is in an urbanized area characterized by a mix of land uses. The surrounding area includes residential, commercial, and undeveloped uses. The site is vacant and zoned Manufacturing Service Commercial (M-SC) and has a land use designation of Business Park (BP). Implementation of the proposed project would be consistent with the existing uses in the surrounding area and would conform to the City's vision for development in this area. The proposed project would not disrupt or divide the physical arrangement of an established community; therefore, no impact would occur.

b) Less Than Significant Impact. The project site has a land use designation of Business Park (BP) and is zoned Manufacturing Service Commercial (M-SC). The proposed project is consistent with the policies and development standards established under these designations and ordinances. The General Plan states that the BP designation is intended to allow for employee-intensive uses. As described in Section 17.92, M-SC Manufacturing-Service Commercial Zone, of the Wildomar Municipal Code, the site's M-SC zoning designation is intended to promote and attract industrial and manufacturing activities that would provide jobs to residents and strengthen the City's economic base. The M-SC zone permits a variety of uses including gasoline and diesel service stations, car washes, restaurants, and parking lots as well as warehouses, that would provide a number of jobs for residents. Additionally, the BP designation allows for building intensities ranging from 0.25 to 0.6 floor-area ratio (FAR). The maximum FAR for the proposed project is 0.19, which is within the permitted FAR range. The development standards listed in the Section 17.92, M-SC Manufacturing-Service Commercial Zone, of the Wildomar Municipal Code, restrict structures to a maximum height of 50 feet. The tallest structure, the office/warehouse, of the proposed project is 30 feet.

The proposed project would adhere to all additional development standards listed in Section 17.92, M-SC Manufacturing-Service Commercial Zone, of the Wildomar Municipal Code, and other applicable standards of the Municipal Code, with the exception of the permitted gas station use. According to Section 17.92.020.B, Uses Permitted, of the Municipal Code, only gasoline and diesel service stations that do not include the concurrent sale of beer and wine for off-premises consumption are allowed. As the proposed

project would include a gas station that would sell alcohol, a conditional use permit is required, as indicated in Section 17.92.020.C, Uses Permitted, of the Wildomar Municipal Code.

Additionally, the City is a signatory to the MSHCP and the project site is within the Stephens' Kangaroo Rat Plan Fee Area, as discussed in Issue V.4.a, Biological Resources, of this Initial Study, and therefore, the proposed 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 3.44.060 of the Wildomar Municipal Code requires that the applicant pay appropriate development impact fees prior to issuance of a certificate of occupancy for the development project.
2. 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.
3. Section 17.248.030 of the Wildomar Municipal Code requires that the applicant apply for a conditional use permit for the concurrent sale of motor vehicle fuels and beer and wine for off-premises consumption.

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. There are no mines mapped on the project site (CDC 2016b). Additionally, the project site is 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. 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. Construction of the proposed project would not create a substantial demand of aggregate resources. As a result, no impact 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 Ganddini Group Inc. on October 28, 2022 (2022b) which is summarized herein and included as **Appendix 9**.

Ambient Noise Measurements

In order to document the existing ambient noise levels in the project area, five 15-minute daytime noise measurements were taken between 2:10 PM and 4:51 PM on May 4, 2022. In addition, one long-term 24-hour noise measurement was also taken from May 4, 2022, to May 5, 2022. As shown in Figure 5 of **Appendix 9**, the noise meter was placed at the following locations:

- STNM1: Represents the existing noise environment of the single-family residence located to the southeast of the project site boundary on the eastern side of Jana Lane (36254 Jana Lane). The noise meter was placed near the western property line of the single-family residence on the eastern side of Jana Lane (approximately 705 feet from the project site). The daytime measurement at this location was 49.5 L_{eq}.
- STNM2: Represents the existing noise environment of the single-family residential uses to the east of the project site along the eastern side of Jana Lane (36180 and 36120 Jana Lane). The noise meter was placed near the western property line of the single-family residence at 36120 Jana Lane, Wildomar on the eastern side of Jana Lane (approximately 45 feet from the project site). The daytime measurement at this location was 53.5 L_{eq}.

- STNM3: Represents the existing noise environment of the single-family residential neighborhood located to the north of the project site boundary across Clinton-Keith Road (24811 Benetta Court). The noise meter was placed along the northern sidewalk associated with Clinton Keith Road south of the residential uses (approximately 110 feet from the project site). The daytime measurement at this location was 74.5 L_{eq}.
- STNM4: Represents the existing noise environment of the single-family residential neighborhood located to the northeast of the project site boundary across Clinton Keith Road and along Mauri Court (24919 Mauri Court). The noise meter was placed along the northern property line of the single-family residence just south of the Mauri Court (approximately 325 feet from the project site). The daytime measurement at this location was 50.7 L_{eq}.
- STNM5: Represents the existing noise environment of the single-family residential neighborhood located to the east of the project site along Crimson Lasso Drive (25006 Crimson Lasso Drive). The noise meter was placed along the western property line of the single-family residence just north of Crimson Lasso Court (approximately 695 feet from the project site). The daytime measurement at this location was 56.8 L_{eq}.
- LTNM1: Represents the existing noise environment of the project site. The noise meter was placed in the northern portion of the project site just south of Clinton Keith Road (approximately 70 feet from the project site). The 24-hour ambient noise at this location was 60.6 L_{eq}.

The Noise Impact Analysis indicated that the dominant noise source in the project vicinity is vehicle traffic associated with Jana Lane, Clinton Keith Road, Smith Ranch Road, and other surrounding roadways; bird song; residential ambience; and construction earthwork type activities.

DISCUSSION

a) Less Than Significant with Mitigation Incorporated.

Significance Criteria

According to the City of Wildomar sound level standards for Business Park (BP) uses, the maximum decibel level between 7:00 AM to 10:00 PM is 65 dB L_{max} and 45 dB L_{max} between 10:00 PM and 7:00 AM.

Construction Noise (on-site)

The existing surrounding single-family residential uses to the north, east, and southwest of the project site may be affected by short-term noise impacts associated with construction. 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, unmitigated construction noise levels are expected to range from 61.5 dBA L_{eq} to 72.8 dBA L_{eq} (Ganddini 2022b). Construction activities would occur throughout the project site and would not be concentrated in one location. **Table 13-1**, Construction Noise Levels (dBA L_{eq}), shows the anticipated noise levels during each construction phase.

Table 13-1 Construction Noise Levels (dBA L_{eq})			
Phase	**Receptor Location**	**Existing Ambient Noise Levels (dBA L_{eq})**	**Unmitigated Noise Levels (dBA L_{eq})**
Site Preparation	Single-Family Residence to Northwest (24907 Mauri Ct)	74.5	62.7
	Single-Family Residence to Northeast (24811 Benetta Ct)	50.7	63.2
	Single-Family Residence to East (25006 Crimson Lasso Dr)	56.8	57.4
	Single-Family Residence to East (36035 Horseshoe Ct)	56.8	57.6
	Single-Family Residence to East (36120 Jana Ln)	53.5	67.6
	Single-Family Residence to Southeast (36254 Jana Ln)	49.5	56.3
Grading	Single-Family Residence to Northwest (24907 Mauri Ct)	74.5	67.9
	Single-Family Residence to Northeast (24811 Benetta Ct)	50.7	68.4
	Single-Family Residence to East (25006 Crimson Lasso Dr)	56.8	62.6
	Single-Family Residence to East (36035 Horseshoe Ct)	56.8	62.8
	Single-Family Residence to East (36120 Jana Ln)	53.5	72.8
	Single-Family Residence to Southeast (36254 Jana Ln)	49.5	61.5
Building Construction	Single-Family Residence to Northwest (24907 Mauri Ct)	74.5	67.8
	Single-Family Residence to Northeast (24811 Benetta Ct)	50.7	68.3
	Single-Family Residence to East (25006 Crimson Lasso Dr)	56.8	62.5
	Single-Family Residence to East (36035 Horseshoe Ct)	56.8	62.5
	Single-Family Residence to East (36120 Jana Ln)	53.5	72.7
	Single-Family Residence to Southeast (36254 Jana Ln)	49.5	61.3
Paving	Single-Family Residence to Northwest (24907 Mauri Ct)	74.5	65.1
	Single-Family Residence to Northeast (24811 Benetta Ct)	50.7	65.5
	Single-Family Residence to East (25006 Crimson Lasso Dr)	56.8	59.7
	Single-Family Residence to East (36035 Horseshoe Ct)	56.8	60.0
	Single-Family Residence to East (36120 Jana Ln)	53.5	69.9
	Single-Family Residence to Southeast (36254 Jana Ln)	49.5	58.6
Architectural Coating	Single-Family Residence to Northwest (24907 Mauri Ct)	74.5	54.6
	Single-Family Residence to Northeast (24811 Benetta Ct)	50.7	55.1
	Single-Family Residence to East (25006 Crimson Lasso Dr)	56.8	49.3
	Single-Family Residence to East (36035 Horseshoe Ct)	56.8	49.5
	Single-Family Residence to East (36120 Jana Ln)	53.5	59.5
	Single-Family Residence to Southeast (36254 Jana Ln)	49.5	48.1
Source: Ganddini 2022b (Appendix 9)			

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.

The expected duration of each phase and the loudest sound level at the nearest sensitive receptor (the single-family residence located to the east of the project site at 36120 Jana Lane), is as follows:

- Site Preparation (5 days) – 67.6 L_{eq} (maximum)
- Grading (8 days) – 72.8 L_{eq} (maximum)
- Building Construction (156 days) – 73.7 L_{eq} (maximum)
- Paving (18 days) – 69.9 L_{eq} (maximum)
- Architectural Coating (18 days) – 59.5 L_{eq} (maximum)

In addition, the City's Noise Ordinance (Section 9.48.020 of the Wildomar Municipal Code) 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. Project construction activities would comply with the above allowed hours.

In addition to adherence to the City of Wildomar Municipal Code Section 9.48.020, which limits the construction hours of operation, the following best management practices (BMPs) would be implemented to further reduce construction noise emanating from the proposed project:

1. All construction equipment, fixed or mobile, would be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.
2. All stationary construction equipment would be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.
3. As applicable, shut off all equipment when not in use.
4. Equipment staging shall be located in areas that create the greatest distance between construction-related noise/vibration sources and sensitive receptors surrounding the project site.

5. Jackhammers, pneumatic equipment, and all other portable stationary noise sources would be directed away from existing residences east of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and the nearest off-site residences. The shielding should be without holes and cracks.
6. No amplified music and/or voice would be allowed on the project site.
7. Haul truck deliveries would not occur outside of the hours presented as exempt for construction per City's Municipal Code Section 9.48.020.

Compliance with the City's Municipal Code and implementation of the BMPs would ensure construction noise impacts would be less than significant.

Construction Noise (off-site)

During construction the estimated existing average daily trips along Clinton Keith Road in the vicinity of the project site range between 18,492 and 36,108 average daily vehicle trips and vehicle trips along Jana Lane are 240 average daily vehicle trips. The greatest number of construction-related vehicle trips per day would be during building construction at up to 109 vehicle trips per day. Given the project site's proximity to I-15, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps. Therefore, the addition of project vendor/haul trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes (Ganddini 2022b). Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant.

The project site falls within the area for the City's Capital Improvement Program CIP 025 Clinton Keith Widening project, 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's CIP 025 project is completed. The project would also be responsible for implementing mitigation measure **NOI-1.**

Operations

Onsite Operations

Peak hour project operational noise levels, which are expected to occur between 7:00 AM and 10:00 PM, would range between 39 and 65 dBA L_{eq} at the nearest receptors. Nighttime noise levels at the nearest receptors would range between 35 and 60 dBA L_{eq}. **Table 13-2,** Project Operational Noise (Day/Night), shows the proposed operational noise levels.

Table 13-2 Project Operational Noise (Day/Night)				
Direction From Project Site	**Land Use Designation**	**Applicable Standards (day/night) (dBA L_{eq})**	**Modeled Noise Level (day/night) (dBA, L_{eq})**	**Exceeds Standards? (day/night)**
North	Medium Density Residential	55/45	50/47	No
South	Medium High Density Residential	55/45	39/32	No
East	Business Park	65/45	64/45	No
West	Business Park	65/45	65/59	No
Source: Ganddini 2022b (Appendix 9)				

As shown in **Table 13-2**, project operational noise would not be exceeded by more than 3 dBA. The existing traffic noise level was modeled at 49 dBA CNEL and the existing plus project noise level was modeled at 57 dBA CNEL along Jana Lane south of Clinton Keith Road. The majority of the existing land uses along this portion of Jana Lane affected by the proposed project are commercial and/or industrial uses, with the exception of one single-family residence at 36120 Jana Lane. Therefore, although the project generated vehicle trips result in an increase above 3 dBA CNEL along the segment of Jana Lane south of Clinton Keith Road, project generated vehicle traffic does not raise the ambient noise level from below the applicable standard to above the applicable standard (60 dBA CNEL for single-family residential uses). Project generated vehicle traffic along all other modeled roadway segments is anticipated to increase the noise between approximately 0.06 to 1.05 dBA CNEL. Therefore, project generated increases in ambient noise levels would result in less than 3 dBA CNEL increases along these segments. Therefore, impacts would be less than significant.

Project Generated Vehicle Traffic

During operation, the proposed project is expected to generate approximately 5,667 average daily trips with 270 trips during the AM peak hour and 264 trips during the PM peak hour. According to the noise modeling, the segment of Jana Lane south of Clinton Keith Road is anticipated have an increase in noise levels by up to approximately 8 dBA CNEL (Ganddini 2022b). The existing traffic noise level was modeled at 49 dBA CNEL and the existing plus project noise level was modeled at 57 dBA CNEL at this segment (Ganddini 2022b).

The majority of the existing land uses along this portion of Jana Lane that would be affected by the proposed project's generated vehicle trips are commercial and/or industrial uses, with the exception of one single-family residence at 36120 Jana Lane. Although the project generated vehicle trips result in an increase above 3 dBA CNEL along the segment of Jana Lane south of Clinton Keith Road, project generated vehicle traffic does not increase the ambient noise level above the applicable standard of60 dBA CNEL for single-family residential uses. Project generated vehicle traffic along all other modeled roadway segments is anticipated to increase between approximately 0.06 to 1.05 dBA CNEL. Therefore, project generated

increases in ambient noise levels would result in less than 3 dBA CNEL increases along these segments which would not result in substantial noise increases. Impacts from project generated vehicle trips would be considered less than significant.

b) Less Than Significant Impact. The estimated groundborne vibration levels at the nearest structures are presented in **Table 13-3,** Construction Vibration Levels at the Nearest Receptors.

Table 13-3 Construction Vibration Levels at the Nearest Receptors

Receptor Location	Distance from Property Line to Nearest Structure (feet)	Equipment	Vibration Level (PPV in/sec)	Threshold Exceeded?[1]	Vibration Level with BMPs[2]	Threshold Exceeded with BMPs?[1,2]
Residential to North	145	Vibratory Roller	0.015	No	-	-
	145	Large Bulldozer	0.006	No	-	-
Commercial to Eat	91	Vibratory Roller	0.030	No	-	-
	91	Large Bulldozer	0.013	No	-	-
Commercial to South	3	Vibratory Roller	5.052	**Yes**	0.452	No
	3	Large Bulldozer	2.141	**Yes**	0.492	No
Commercial to West	1	Vibratory Roller	26.250	**Yes**	0.452	No
	1	Large Bulldozer	11.125	**Yes**	0.492	No

Source: Ganddini 2022b (Appendix 9)

[1] Caltrans identifies the threshold at which there is a risk of architectural damage to older residential structures as a PPV of 0.3 in/sec to modern industrial/commercial buildings as a PPV of 0.5 in/sec (See Table 13-4).

[2] BMPs include prohibiting the use of vibratory rollers, or similar vibratory equipment, within 15 feet and large bulldozers within 8 feet of commercial structures to the south and west of the project site.

As shown in **Table 13-3**, the threshold of 0.3 in/sec PPV for older residential structures would not be exceeded at nearby residential uses; however, the commercial threshold of 0.5 in/sec PPV has the potential to be exceeded at the commercial structures located to the south and west of the project site. If a vibratory roller is used within 15 feet of an existing commercial structure or if a large bulldozer is used within 8 feet of an existing structure, there would be some potential architectural damage. BMPs to be adopted by the City to prohibit the use of vibratory rollers within 15 feet or a larger bulldozer between 8 feet of the existing commercial uses to the south and west of the site would result in vibratory levels to be under significance thresholds at all properties surrounding the project site. Therefore, impacts would be less than significant.

As shown in **Table 13-4**, Guideline Vibration Damage Potential Threshold Criteria, the threshold at which is a risk to "architectural" damage to historic and some older buildings is a peak particle velocity (PPV) of 0.25, at older residential structures a PPV of 0.3, and at new residential structures a PPV of 0.5.

Table 13-4 Guideline Vibration Damage Potential Threshold Criteria

Structure Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely Fragile Historic Buildings, Ruins, Ancient Monuments	0.12	0.08
Fragile Buildings	0.2	0.1
Historic and Some Old Buildings	0.5	0.25
Older Residential Structures	0.5	0.3
New Residential Structures	1.0	0.5
Modern Industrial/Commercial Buildings	2.0	0.5
Source: Ganddini 2022b (Appendix 9)		

Operation of a vibratory roller may result in groundborne vibration levels of up to 0.1 at a distance of 41 feet and a large bulldozer at a distance of 23 feet. Due to distance to the nearest sensitive receptors, vibration related annoyance would not occur. Furthermore, annoyance would be short-term and would occur only during site grading and site preparation activities which would be limited to daytime hours. Impacts are less than significant.

Operation of the proposed project would involve the movement of passenger vehicles and trucks. Driving surfaces associated with the project would be paved and would generally be smooth. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Ganddini 2022b). Groundborne vibration levels associated with passenger vehicles is much lower. The movement of vehicles on the project site would not result in the generation of excessive groundborne vibration or groundborne noise. Impacts would be less than significant.

c) No 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 French Valley Airport located approximately 5.7 miles southeast of the project site. The proposed project would not expose people residing or working in the area to excessive noise levels. Therefore, no impact would occur.

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:

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. Construction of the proposed project would require contractors and laborers. Because of the size of the proposed project, the City expects that the supply of general construction labor would be available from the local and regional labor pool. The unemployment rate for Riverside County region is 3.9 percent (BLS 2022). The proposed project would not result in a long-term increase in employment from short-term construction activities.

The project's commercial, office, and warehouse uses are expected to generate up to 18[1] new jobs, 15[2] jobs, and 17[3] jobs, respectively in the City with an expected total of up to 50 new jobs (Natelson 2001). The proposed project employment generation is not expected to result in a significant relocation of employees to the region due to the size of the existing labor pool in the area. Additionally, when compared to the Southern California Association of Government's (SCAG) employment 2045 projection of 11,200 workers in the City, the proposed project's contribution to overall population increases due to employment is marginal (SCAG 2020). Therefore, the proposed project would not directly nor indirectly induce substantial unplanned growth to the City's population.

[1] The project's 11,260 square feet of commercial space (7,460 sq ft convenience store and 3,800 sq ft restaurants) was 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 approximately 18 employees.

[2] The project's 7,263 square feet of office space was divided by 481 square feet/employee which represents the average square feet/employee in the "low-rise office" category for Riverside County and results in approximately 15 employees.

[3] The project's 10,049 square feet of warehouse space was divided by 581 square feet/employee which represents the average square feet/employee in the "warehouse" category for Riverside County and this calculation equals approximately 17 employees.

b) No Impact. The project site is vacant and does not contain any housing units. Therefore, the construction of the proposed project would not displace substantial numbers of existing people or housing units, which could necessitate the construction of replacement housing elsewhere. No impact would occur.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

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 75 on 38900 Clinton Keith Road in the City of Murrieta is approximately 3 miles southwest of the site and RCFD Fire Station 61 on 32637 Gruwell Street in the City of Wildomar is approximately 3 miles to the northwest 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 7.7 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; additionally, no residential uses are proposed. 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, Fees, the project applicant/developer 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 a City 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, and would not propose residential uses. 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 not projected to add new residents as the proposed project would not construct residential uses. Payment of the City's development impact fees would reduce all impacts to less than significant.

e) Less Than Significant Impact. Development of the proposed project would not significantly increase demand for other public facilities. Since any population growth associated with the proposed project would not exceed the City's growth projections, and would have been accounted for in long-range public facilities master plans. The project applicant/developer would be required to pay any applicable impact fees which would contribute to offsetting this demand on local government services. Therefore, impacts would be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. The project applicant/developer 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/developer 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/developer 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/developer 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) No Impact. See response to issue V.15.d, Public Services, above. The proposed project would not result in a direct increase in population growth as the proposed project would not construct housing. Typically, residential uses result in a higher demand for recreational facilities compared to other uses. Therefore, no impacts would occur.

b) No Impact. Implementation of the proposed project would not result in a direct increase in population growth as the proposed project would construct commercial and office/industrial uses onsite. Typically, residential uses result in a higher demand for recreational facilities compared to other uses. As the proposed project does not include new homes, the proposed project would not require the construction or expansion of recreational facilities. No impacts would occur.

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) prepared by Ganddini Group, Inc. (Ganddini 2022c) on November 30, 2022 is summarized herein and is included as **Appendix 10.**

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, based on the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) and the (Not So) Brief Guide of Vehicular Generation Rates for the San Diego Region (2002). The land use categories provided in the table are the uses that best match those of the Project and are identified in the ITE Manual.

Table 17-1 Project Trip Generation Rates

Land Use[1]	ITE LU Code	LU Variable[2]	AM Peak Hour			PM Peak Hour			Daily Rate
			%In	%Out	Rate	%In	%Out	Rate	
Convenience Store/Gas Station – GFA (5.5-10k)	945	VFP	50%	50%	31.60	50%	50%	26.90	345.75
Automated Car Wash	[a]	LFWT	58%	42%	0.66	50%	50%	1.25	11.87
Fast-Food Restaurant	934	TSF	51%	49%	44.61	52%	48%	33.03	467.48

with Drive-Through									
General Office	710	TSF	88%	12%	1,52	17%	83%	1.44	10.84

Source: Ganddini 2022c (Appendix 10)

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

All rates based on General Urban/Suburban setting unless otherwise noted.

[a] Automated car wash based on rates provided in the *Newport Pointe Traffic Impact Analysis Report* (Linscott, Law & Greenspan, Engineers), April 28, 2021 which was derived from traffic counts on February 7, 2014 at the Victorville Speedwash (12147 Industrial Boulevard).

[2] VFP = Vehicle Fueling Positions; TSF = Thousand Square Feet; LFWT = Linear Feet Wash Tunnel

The project trip generation forecast in **Table 17-2**, Project Trip Generation Summary, also includes pass-by trip adjustments. Convenience store/gas station and restaurant land uses will often locate next to busy roadways to attract motorists already on the street. Since the trip generation rates shown in **Table 17-2** represent vehicles entering and exiting at the site driveways, it is appropriate to reduce the initial trip generation forecast by the applicable pass-by trip rate when calculating net new trips that will be added to the surrounding street system. The percentages of pass by trips for each land use category are shown in the table and were approved by the City Traffic Engineer in the Traffic Impact Analysis Scoping Memorandum (included as Appendix B of Appendix 10).

Table 17-2 Project Trip Generation Summary

Land Use	Quantity	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Convenience Store/Gas Station – GFA (5.5-10k)	16 VFP	253	253	506	215	215	430	5,532
Pass By Trips (Convenience Store/Gas Station, 76% AM, 75% PM, 38% Daily)[1]		*-192*	*-192*	*-384*	*-161*	*-161*	*-322*	*-2,102*
Subtotal		61	61	122	54	54	108	3,430
Automated Car Wash	63 LFWT	24	18	42	39	40	79	748
Fast-Food Restaurant with Drive-Through	3.8 TSF	86	83	169	65	60	125	1,776
Pass By Trips (*Fast-Food, 50% AM, 55% PM, 25% Daily)[1]*		*-43*	*-42*	*-85*	*-36*	*-33*	*-69*	*-444*
Subtotal		43	41	84	29	27	56	1,332
General Office	14.5 TSF	19	3	22	4	17	21	157
Total Trip Generation		**147**	**123**	**270**	**126**	**138**	**264**	**5,667**

Source: Ganddini 2022c (Appendix 10)

[1] For time periods with no pass-by data provided in ITE *Trip Generation Manual* (e.g., daily), pass-by rates assumed as half of ITE peak hour rate.

As shown in **Table 17-2**, Project Trip Generation Summary, the proposed project is anticipated to generate a total of approximately 5,667 two-way trips per day with 270 AM peak hour trips and 264 PM peak hour trips.

a) Less Than Significant Impact. As shown in **Table 17-2**, the proposed project is anticipated to generate a net total of approximately 5,667 two-way trips per day with 270 AM peak hour trips and 264 PM peak hour trips.

Public Transit, Pedestrian, and Bicycle Plans

The project area is served by RTA bus Route 23 which provides service for the cities of Wildomar, Murrieta, and Temecula (RTA 2022a). The closest bus stop is the Prielipp-Elizabeth stop, which is approximately 0.4-mile south of the project site, at the intersection of Elizabeth Lane and Prielipp Road.

Other bus stops within the project area are the Inland Valley Medical Center bus stop and Prielipp Inland Valley bus stop, both of which are approximately 0.65-mile southwest of the project site. Since the project site is not located directly along RTA Route 23, the proposed project would not propose changes to the route or its operations.

As a result of the project site's proximity to the Prielipp-Elizabeth bus stop, the use of transit services may increase. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs 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 to employment uses 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 proposed project includes the installation of an onsite bicycle rack and onsite sidewalks access, as well as sidewalks along Clinton Keith Road and Jana Lane. The construction and operation phases of the project would be contained within the project site and subsequently would not interfere with the use of sidewalks, bike lanes, or public transit.

The proposed project would be consistent with the General Plan's goals and policies, and the proposed project is not found to result in conflicts with adopted policies, plans, or programs, nor is it expected to negatively affect the performance or safety of existing or planned pedestrian, bicycle, or transit facilities. Any additional proposed changes to bicycle and pedestrian facilities would be consistent with City development standards and would 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. 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 (see Appendix 10 for a description of the LOS Analysis).

To address the project's impacts to roadway studied in the TIA the City will require that the following roadway improvements be made as Conditions of Approval for the proposed project, and that the proposed project will either construct or pay its fair-share to implement the following improvements:

- **Intersection #4 – Inland Valley Drive at Clinton Keith Road:** This improvement involves adding pavement to the intersection within the existing right of way, and paint to delineate lanes and turning movements.
    - Construct additional westbound through lane, and
    - Construct additional eastbound through receiving lane.
- **Intersection #5 – Salida Del Sol at Clinton Keith Road:** This improvement is a sign restricting turning movements and construction within of turn lanes within the existing right of way.
    - Restrict the southbound approach to right turns only during weekday peak periods (7 AM to 9 AM, and 4 PM to 6 PM).
    - Install a traffic signal;
    - Construct northbound, southbound, and westbound left turn lanes; and
    - Restripe northbound, southbound, and westbound shared left/through/right turn lane to shared through/right turn lane.
- **Intersection #6 – Elizabeth Lane at Clinton Keith Road:** Improvements include construction of a new traffic signal in the existing right of way at the intersection. Additional pavement will be added to the existing roadway to accommodate the turning movement. Paint will be added to complete the improvements and delineate lanes and turning movements.
    - Install a traffic signal;
    - Construct northbound and southbound left turn lanes;
    - Restripe northbound and southbound shared left/through/right turn lane to shared through/right turn lane; and
    - Construct additional eastbound through lane.
- **Intersection #7 – Jana Lane at Clinton Keith Road:** The project will contribute its fair share for all improvements at this intersection. The future improvements involve construction of a new traffic signal in the existing right of way at the intersection. Additional pavement will be added to the existing roadway to accommodate the turning movement. Paint will be added to complete the improvements and delineate lanes and turning movements.
    - Install a traffic signal;
    - Construct a northbound left turn lane; and
    - Restripe northbound shared left/right turn lane to right turn lane.

All improvements are within the graded shoulder of the existing right of way which means that previous construction activity for the road has removed vegetation and excavated below the existing roadbed. While unlikely, cultural resources could be uncovered as part of the excavation for footings of the traffic signals. Mitigation measures **TRI-1** through **TRI-7** will address any finds during construction. All other impacts would be construction related and addressed by the appropriate mitigation measures in this initial study. Impacts associated with transportation 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's Vehicle Miles Travelled (VMT) CEQA Threshold Policy Guidelines allows commercial projects with locally serving retail 50,000 square feet or less and 10,000 square feet or less of office to screen from requiring a VMT analysis (Ganddini 2022c). This guideline follows the Office of Planning and Research's (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (Ganddini 2022c). In 2020, City Council also adopted a resolution that recommends that future projects demonstrate that they would reduce existing VMT by at least 3 percent (Ganddini 2022c).

The proposed development encompasses 19,021 square feet of local retail space (convenience store, gas station, car wash, and restaurants) and 17,312 square feet of office and warehouse space. The project Traffic Analysis Zone (TAZ) 2022 daily home-based work VMT per worker is 5.17 percent less than the jurisdictional average 2022 daily home-based work VMT per worker of 17.1 percent. The June 10, 2020 City Council adopted resolution recommends that future projects demonstrate that they would reduce existing VMT by at least three percent. Since the project TAZ 2022 daily home-based VMT per worker is 5.17 percent less than the jurisdictional average, the proposed project meets the requirement to reduce VMT by at least three percent.

The proposed project consists of 19,021 square feet of locally serving retail and 17,312 square feet of office/warehouse. The proposed project meets the threshold for 50,000 square feet or less of locally serving retail, but the proposed office/warehouse use exceeds the screening threshold of 10,000 square feet or less or office. However, the proposed project is screened out and exempt from a VMT analysis since the proposed project meets the screening criteria for locally serving retail 50,000 square feet or less, and the 17,312 square feet of office/warehouse would reduce the City's required VMT by at least 3 percent. Therefore, the proposed project meets the City established VMT screening criteria and impacts are less than significant.

c) Less Than Significant Impact. The project proposes four driveways: one right turn in/out only access driveway on Clinton Keith Road, and three full access driveways on Jana Lane. All four driveways would be accessible to passenger vehicles. Additionally, the driveway on Clinton Keith Road and the two northernmost driveways on Jana Lane would also be used for truck access.

The TIA indicates the following would be constructed at the project driveways to provide site access:

- **Project Driveway at Clinton Keith Road**
    - Construct one inbound lane and one outbound lane with northbound stop control

- Northbound: one right turn lane
- Eastbound: one through lane and one shared through/right turn lane
- Westbound: two through lanes

- **Jana Lane at Project Driveway – Three Driveways**
  - Construct one inbound lane and one outbound lane with eastbound stop control
  - Northbound: one shared left/through lane
  - Southbound: one shared through/right turn lane
  - Eastbound: one shared left/right turn lane

Moreover, the TIA includes a queuing study; **Table 17-3**, Queuing Analysis, summarizes the results of the analyses for turning movements conducted at the study area intersections to determine if adequate storage length is provided for individual movements that are projected to operate at unacceptable LOS.

Table 17-3 Queueing Analysis					
Study Intersection	**Turning Movement**	**Existing Plus Ambient Growth Plus Project Plus Cumulative**		**Available Storage Length (feet)**	**Adequate Storage**
		AM Peak Hour Required Storage Length (feet)	**PM Peak Hour Required Storage Length (feet)**		
1. I-215 SB Ramps at Clinton Keith Road	SB Left Turn Lane	617.09	484.57	>1,000	Yes
	SB Left/Through Lane	615.81	484.49	680	Yes
	SB Dual Right Turn Lanes	336.40	n/a[1]	600	Yes
2. I-215 NB Ramps at Clinton Keith Road	NB Left Turn Lane	n/a[1]	354.42	>1,000	Yes
	NB Left/Through/Right Turn Lane	n/a[1]	364.31	650	Yes
	NB Right Turn Lane	n/a[1]	417.44	650	Yes
	EB Dual Left turn Lanes	n/a[1]	241.04	200	No
	WB Right Turn Lane	n/a[1]	864.68	280	No
3. Wildomar Trail at Clinton Keith Road	SB Left Turn Lane	n/a[1]	247.74	95	No
5. Salida Del Sol at Clinton Keith Road	NB Left Turn Lane	62.37	95.73	150	Yes
	SB Left Turn Lane	33.05	19.10	150	Yes
	EB Left Turn Lane	15.86	11.66	150	Yes
	WB Left Turn Lane	24.22	34.01	150	Yes

Source: Ganddini 2022c (Appendix 10).

[1] n/a = not applicable. Turning movement projected to operate at an acceptable LOS.

As shown in **Table 17-3**, existing storage lengths/intersection spacing is forecast to adequately serve the turning movements except for the eastbound dual left turn lanes and westbound right turn lanes at Intersection #2 – I-215 NB Ramps at Clinton Keith Road, and the southbound left turn lane at Intersection #3 – Wildomar Trail at Clinton Keith Road.

Intersection #2 is entirely within Caltrans' jurisdiction and increasing the turn lane storage lengths is not feasible due to opposing left turn lanes for the SB ramps. Further, traffic from the proposed project is considered part of the background development growth assumed in all traffic analyses because it is consistent with the general plan and zoning for the City, and in another jurisdiction. Payment of the Transportation Uniform Mitigation Fee (TUMF) by the project as required by Wildomar Municipal Code Section 3.4, addresses the project's proportionate share of regional transportation improvements.

Deficient queuing 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 queuing operations to satisfactory operations. As a Condition of Approval, the project would be required to contribute to the ITS program. ITS uses various methods, such as intersection cameras, loop detection, and timing modifications to optimize intersection operations in real time.

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 would ensure that roadway hazards are reduced, and impacts are less than significant.

d) Less than Significant with Mitigation Incorporated. The proposed project would provide four driveways that would provide site access: one right turn in/out only access driveway on Clinton Keith Road and three full access driveways on Jana Lane. The proposed project would also include a fire lane that runs through the center of the project site with ingress at the driveway on Clinton Keith Road and egress at the other three driveways on Jana Lane. Ingress and egress for 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), as the project site falls within this improvement area. Impacts would be less than significant with mitigation incorporated.

STANDARD CONDITIONS AND REQUIREMENTS

- 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).
- 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).

- As Conditions of Approval, the City will also require the project to construct or pay its fair-share to implement the following improvements at four intersections that would experience unsatisfactory Level of Service and/or queuing impacts during the existing plus ambient growth plus project and/or cumulative scenarios:

- **Intersection #4 – Inland Valley Drive at Clinton Keith Road:** This improvement involves adding pavement to the intersection within the existing right of way, and paint to delineate lanes and turning movements.

    a. Construct additional westbound through lane, and

    b. Construct additional eastbound through receiving lane.

- **Intersection #5 – Salida Del Sol at Clinton Keith Road:** This improvement is a sign restricting turning movements and construction within of turn lanes within the existing right of way.

    a. Restrict the southbound approach to right turns only during weekday peak periods (7 AM to 9 AM, and 4 PM to 6 PM).

    b. Install a traffic signal;

    c. Construct northbound, southbound, and westbound left turn lanes; and

    d. Restripe northbound, southbound, and westbound shared left/through/right turn lane to shared through/right turn lane.

- **Intersection #6 – Elizabeth Lane at Clinton Keith Road:** Improvements include construction of a new traffic signal in the existing right of way at the intersection. Additional pavement will be added to the existing roadway to accommodate the turning movement. Paint will be added to complete the improvements and delineate lanes and turning movements.

    a. Install a traffic signal;

    b. Construct northbound and southbound left turn lanes;

    c. Restripe northbound and southbound shared left/through/right turn lane to shared through/right turn lane; and

    d. Construct additional eastbound through lane.

- **Intersection #7 – Jana Lane at Clinton Keith Road:** The project will contribute its fair share for all improvements at this intersection. The future improvements involve construction of a new traffic signal in the existing right of way at the intersection. Additional pavement will be added to the existing roadway to accommodate the turning movement. Paint will be added to complete the improvements and delineate lanes and turning movements.

    a. Install a traffic signal;

    b. Construct a northbound left turn lane; and

    c. Restripe northbound shared left/right turn lane to right turn lane.

    - The project would be required to contribute to the City's ITS program to mitigate queuing impacts.

- 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:

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).

The Sacred lands File research conducted by the Native American Heritage Commission (NAHC) for the property were positive, but this finding was in relation to the USGS topographic map and no further information specific to the subject property was provided (Keller 2022).

Assembly Bill (AB) 52 established a formal consultation process for California tribes within the CEQA process. The AB 52 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 on September 26, 2022, which included the Morongo Band of Mission Indians, Pechanga Band of Mission Indians, Rincon Band of Luiseño Indians, and Soboba Band of Mission Indians.

The Rincon Band of Luiseño Indians notified the City on October 18, 2022 that the identified location of the project site is within the Traditional Use Area of the Luiseño people. The Rincon Tribe stated that they have no information on specific Tribal Cultural Resources within the project site; the Rincon Tribe did not request consultation, however, they asked to be notified of any environmental documents available for public review.

On October 18, 2022, the City met with the Soboba Band of Mission Indians for consultation. The Soboba Band of Mission Indians concluded consultation on October 25, 2022, and stated that the City's standard mitigation measures would be an efficient approach to mitigate inadvertently discovered consultation under AB 52.

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 2016).

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 274 gallons per day (gpd)/acre for General Plan land use designation of Business Park (EVMWD 2016). As the project site covers approximately 4.35 acres, the proposed wastewater generation for the site would be 1,192 gpd.

The proposed project would connect to an existing 15-inch sewer line in Jana Lane and an existing 18-inch sewer line in Clinton Keith Road. 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 Regional WRF also has a planned capacity expansion to 4 mgd (EVMWD 2021).

The proposed project would result in an increase of approximately 0.047 percent[4] of the remaining design capacity of the Regional WRF. With the planned capacity expansion at the plant, the increase in wastewater by the proposed project is considered less than significant. The proposed project would not require or result in the construction or expansion of any new/portable water or sewage treatment facilities. 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). The imported water is a blend of Colorado River water, State Water Project water, and local Western supplies (EVMWD 2021). The water provided by WMWD is treated by EVMWD prior to it being distributed to their customers. The EVMWD water treatment facilities, their capacities, and remaining available treatment capacities are shown in **Table 19-1**, EVMWD Water Treatment Facilities.

Table 19-1 EVMWD Water Treatment Facilities

Treatment Plant	Capacity (mgd)	Maximum Flow (mgd)	Remaining Treatment Capacity (mgd)

[4] 1,191gpd / 2,540,000 gpd = 0.0004692 = 0.047 percent.

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 demand for the proposed project's uses would be 900 gpd/acre for Business Park land use designation (EVMWD 2016). The total proposed water demand for 4.35 acres of the site would be 3,915 gpd (EVMWD 2016). This is approximately 0.044 percent[5] 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 (Blue Engineering 2022b). Runoff from the proposed project would be collected in an onsite catch basin and retained, upon implementation of a biofiltration system (Blue Engineering 2022b). Overflow from the biofiltration system would connect to an overflow storm drainpipe that would run from the southern portion of the site towards the southeastern corner. The onsite catch basin would be designed to capture drainage from the site. A pipe from the biofiltration system would direct flow to a storage tank where the water would be directed into a full-capture type catch basin filter (WetlandMOD) to reduce clogging, before going into an overflow pipe (Blue Engineering 2022b). Additionally, implementation of BMPs would improve water quality and reduce runoff. Stormwater drainage improvements associated with the proposed project have been designed to not impact the local, off-site storm drain system. Therefore, impacts would be less than significant.

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 the 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 would be required. Therefore, impacts are less than significant.

b) Less Than Significant Impact. The project site is within the service boundary of the EVMWD. The EVMWD utilizes both groundwater and imported water supplies to ensure adequate water is available for

[5] 3,915 gpd / 8,800,000 gpd = 0.0004448 = 0.044 percent

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); the supply would exceed the demand by 8,286 acre-feet/year. Therefore, this impact is less than significant because there would be sufficient water supply to meet the demand of 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. Impacts would be less than significant.

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 cubic yards 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) most recent solid waste generation rates for Commercial uses is 10.53 pounds per employee per day (lb/emp/day), for Warehouse uses is 13.82 lb/emp/day, and for Office uses is 1.24 lb/employee/day (CalRecycle 2019b). The project's commercial, warehouse, and office uses are expected to generate up to 18 new jobs, 17 jobs, and 15 jobs, respectively in the City with an expected total of up to 50 new jobs (Natelson 2001). Therefore, with a total of up to 50 employees, the proposed project would generate an estimated 443.08 lb/day of solid

waste[6].This increase would be 0.0014 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.

[6] Commercial: 10.53 lb/emp/day x 18 employees = 189.54 lbs/day
Warehouse: 13.82 lb/emp/day x 17 employees = 234.94 lb/day
Office: 1.24 lb/emp/day x 15 employees = 18.6 lb/day
Total: 189.54 lb/day +234.94 lb/day + 18.6 lb/day = 443.08 lb/day

[7] 443.08 lb/day = 0.22154 ton/day
0.22154 tons/day / 16,054 tons/day = 0.00001379 or 0.001379 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 2022 CBC, or the current version of the CBC at the time of construction. 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 (2018). 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-1** and **HAZ-2** 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 vacant and contains ruderal vegetation. The topography of the site varies, and the general drainage is from north to south, and slightly from east to west (Blue Engineering 2022b). The City does not experience high-speed prevailing winds; average wind speeds are approximately 6 miles per hour during the windier part of the year, from November to June (Weather Spark 2022).

Developing the existing vacant and undeveloped site with the proposed structures would reduce the amount of exposed vegetation that could be used as fuel. 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-1** and **HAZ-2,** 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 connecting to the existing utility lines (as electricity, water, and sewer) along Clinton Keith Road and Jana Lane. The project applicant/developer is required to pay for connections and maintenance of onsite utility infrastructure. The utilities would be installed to meet service requirements. The construction of new and improved infrastructure 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, the project site is not within a flood hazard zone. There are no flooding or safety concerns caused by drainage. Additionally, as discussed in Section V.10, due to the relatively gentle sloping of the project site, there is a low risk for slope stability related hazards (NTS 2022).

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, natural drainage at the project site would generally be similar to existing conditions; no substantial changes to drainage patterns would occur. Therefore, with implementation of BMPs, impacts are less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

None Required.

MITIGATION MEASURES

Implementation of mitigation measures **HAZ-1** and **HAZ-2** 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.4, Biological Resources, implementation of mitigation measure **BIO-1** would require surveys for nesting birds, thereby 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 and human remains. 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 on tribal cultural resources. Implementation of **HAZ-1** and **HAZ-2**, as discussed in Section V.8, Hazards and Hazardous Materials, and Section V.20, Wildfire, would reduce impacts of wildfires to a less than significant impact upon conformance with building codes and City standards. As discussed in Section V.13, Noise, and Section V.17, Transportation, the project site is within the improvement area 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's CIP 025 project is completed. The project would also be responsible for implementing mitigation measures **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 emergency 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 is based on the Air Quality Management Plan forecasts for 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 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. Implementation of

the proposed project would result in less than significant impacts, and would not contribute to cumulative impacts to Air Quality.

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 are imposed on all construction projects throughout the air basin. 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 within a Criteria Cell. The project site is located within the Stephens' Kangaroo Rat Fee Plan Area and MSHCP Fee Area. No sensitive species were found on-site, nor is the project site a suitable habitat for burrowing owls, but the site could contain habitat for nesting birds. Implementation of mitigation measure **BIO-1**, would minimize potential project-

related impacts to nesting birds. The proposed project would 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 also 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. Therefore, the project would have a less than cumulatively considerable impact.

Energy

Construction and operation of the proposed project would result in an increase in energy use as the site is currently vacant. Construction energy use 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 proposed project is within a Very High Fire Hazard Severity Zone;

implementation of mitigation measures **HAZ-1** and **HAZ-2** would ensure that the proposed project complies with the California Building Code, Fire Code, and City standards in regard to fire hazards. All development within the VHFHS Zone of the City is required to comply with the California Building Code, Fire Code, and City standards 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 ensure that the quality of water discharged from the site during both construction and operational activities do not adversely affect any off-site uses or water resources. 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

The proposed project would not divide an established community. The proposed project would comply with the standards for its zoning designation as listed in the Wildomar Municipal Code. The proposed project would require a Conditional Use Permit for the sale of alcohol. As the proposed project would not change the zoning or land use designations for the site, the proposed project would be consistent with the General Plan thereby reducing physical 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 and comply with the City's noise ordinances. Any combined impacts would be temporary, constituting intermittent annoyance perhaps, but not a significant cumulative noise impact. The project site falls within the area for the City's Capital Improvement Program CIP 025 Clinton Keith Widening project, 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's CIP 025 project is completed. The project would also be responsible for implementing mitigation measure **NOI-1**, as shown in the Clinton Keith Road Widening IS/MND. Therefore, compliance with the City's noise ordinance and implementation of mitigation measure **NOI-1**, 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 construction noise.

Implementation of the proposed project, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in the immediate area, may increase operational noise levels in the project area. However, as project generated vehicle traffic does not raise the ambient noise level from below the applicable standard to above the applicable standard (60 dBA CNEL for single-family residential uses), operational noise impacts to less than cumulatively considerable. Therefore, the proposed project would have a less than cumulatively considerable impact related to operational 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 employment opportunities in the City which are expected to be filled by the local labor pool. 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 applicants/developers are required to pay development impact fees to fund the expansion of such services. Development of any future public service 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

The proposed project would have no impact related to recreational facilities and would therefore not contribute to any cumulative impacts to such facilities. Additionally, as a standard condition of approval, the project applicant/developer is required to pay development impact fees to fund the expansion of such facilities. 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 no impact on recreational facilities.

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. 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/developer would be required to participate in the funding of off-site improvements, including traffic signals that are needed to serve cumulative traffic conditions.

In addition to these fees, as conditions of approval for the proposed project, the applicant/developer would implement the recommended improvements to four of the eight study intersections, or pay its fair-share for the improvements. The project site falls within the area for the City's Capital Improvement Program CIP 025 Clinton Keith Widening project, 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's CIP 025 project is completed. The project would also be responsible for implementing mitigation measure **TRF-1**, as shown in the Clinton Keith Road Widening IS/MND.

The proposed project is screened out and exempt from a VMT analysis since the proposed project meets the screening criteria for locally serving retail 50,000 square feet or less and the 17,312 square feet of office/warehouse would reduce the City's required VMT by at least 3 percent. Therefore, the project's contribution to VMT can be considered less than significant. Implementation of the intersection 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, tribal 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, and would be required to implement mitigation measures **CUL-1** and **TRI-1** through **TRI-7**. 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, the proposed project would not result in a significant increase in utility demand and would be accounted for in long-range plans for the 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-1** and **HAZ-2** and compliance with the 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. These mitigation measures are: mitigation measures **BIO-1** to reduce impacts associated with biological resources; **CUL-1** and **TRI-1** through **TRI-7** to reduce impacts associated with cultural, archaeological, and tribal cultural resources; mitigation measure **NOI-1** to reduce impacts associated with noise; and mitigation measure **GEO-1** to reduce impacts associated with earthquake faults and soils hazards. As conditioned, the project applicant/developer 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, this document analyzes long-term and short-term impacts and mitigates all potential impacts to a less than significant level; therefore, 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.

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Appendix 1

Project Development Plans

New Commercial Development

24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

Abbreviations

&	AND
L	ANGLE
@	AT
℄	CENTERLINE
ø	DIAMETER OF ROUND
#	POUND OR NUMBER
(E)	EXISTING
(R)	RELOCATED
(N)	NEW
A.F.F.	ABOVE FINISH FLOOR
A.D.	AREA DRAIN
ADJ.	ADJUSTABLE
AGGR.	AGGREGATE
AL.	ALUMINUM
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
ASB.	ASBESTOS
ASPH.	ASPHALT
BD.	BOARD
BITUM.	BITUMINOUS
BLDG.	BUILDING
BLKG.	BLOCKING
BM.	BEAM
B.O.H.	BACK OF HOUSE
BOT.	BOTTOM
CAB.	CABINET
CEM.	CEMENT
CER.	CERAMIC
C.I.	CAST IRON
CLG.	CEILING
CLKG.	CAULKING
CLO.	CLOSET
CLR.	CLEAR
C.O.	CASED OPENING
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CTSK.	COUNTERSUNK
CNTR.	COUNTER
CTR.	CENTER
DBL.	DOUBLE
DEPT.	DEPARTMENT
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DN.	DOWN
D.O.	DOOR OPENING
DR.	DOOR
DWR.	DRAWER
D.S.	DOWNSPOUT
DWG.	DRAWING
E.	EXISTING
EA.	EACH
E.J.	EXPANSION JOINT
EL.	ELEVATION
ELEC.	ELECTRICAL
E.P.	ELECTRICAL PANELBOARD
EQ.	EQUAL
EQPT.	EQUIPMENT
EXST.	EXISTING
EXP.	EXPANSION
EXT.	EXTERIOR
F.F	FLOOR FINISH
FDN.	FOUNDATION
FIN.	FINISH
FL.	FLOOR
FLASH'G	FLASHING
FLUOR.	FLUORESCENT
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.S.	FACE OF STUDS
FPRF.	FIREPROOF
F.S.	FLOOR SINK
FT.	FOOT OR FEET
FTG.	FOOTING
FURR.	FURRING
FUT.	FUTURE
G.A.	GAUGE
GALV.	GALVANIZED
GL.	GLASS
GR.	GRADE
GSM	GALVANIZED SHEET METAL
GYP.	GYPSUM
GYP. BD.	GYPSUM BOARD
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HCP	HANDICAP
HDWD.	HARDWOOD
HDWE.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
HGT.	HEIGHT
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
JT.	JOINT
KIT.	KITCHEN
LAMINATE	LAM.
LAV.	LAVATORY
LT.	LIGHT
MANU.	MANUFACTURER
MAX.	MAXIMUM
M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MEMB.	MEMBRANE
MET.	METAL
MFR.	MANUFACTURER
MIN.	MINIMUM
PL.	PLATE
P.LAM.	PLASTIC LAMINATE
PLAS.	PLASTER
PLYWD.	PLYWOOD
PR.	PAIR
PROV'D	PROVIDED
PT.	POINT
PTN.	PARTITION
Q.T.	QUARRY TILE
QSR	QUICK SERVE RESTAURANT
R/RAD.	RADIUS
R.D.	ROOF DRAIN
REF.	REFERENCE
REFR.	REFRIGERATOR
RGTR.	REGISTER
REINF.	REINFORCED
REQ'D	REQUIRED
RESIL.	RESILIENT
RM.	ROOM
R.O.	ROUGH OPENING
RWD.	REDWOOD
R.W.L.	RAIN WATER LEADER
S.C	SOLID CORE
SCHED.	SCHEDULE
S.D.	SOAP DISPENSER
SECT.	SECTION
SH.	SHELF
SHR.	SHOWER
SHT.	SHEET
SIM.	SIMILAR
SL.	SLOPE
SPEC.	SPECIFICATION
SQ.	SQUARE
S.ST.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STOR.	STORAGE
STRL.	STRUCTURAL
SYM.	SYMMETRICAL
T.B.S.	TO BE SPECIFIED
TRD.	TREAD
T.B.	TOWEL BAR
T.C.	TOP OF CURB
TEL.	TELEPHONE
TER.	TERRAZZO
T.& G.	TONGUE & GROOVE
THK.	THICK
T.P.	TOP OF PAVEMENT
MIR.	MIRROR
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTD.	MOUNTED
MUL.	MULLION
N.	NEW
N.I.C.	NOT IN CONTRACT
NO./#	NUMBER
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O.A.	OVERALL
OBS.	OBSCURE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OFF.	OFFICE
OPNG.	OPENING
OPP.	OPPOSITE
PLBG.	PLUMBING
T.P.D.	TOILET PAPER DISPENSER
T.V.	TELEVISION
T.W.	TOP OF WALL
TYP.	TYPICAL
UNF.	UNFINISHED
U.O.N.	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W.	WEST
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W/O	WITHOUT
WP.	WATERPROOF
WSCT.	WAINSCOT
WT.	WEIGHT

Symbols

- 6 / A8 — TYPICAL REFERENCE DETAIL IDENTIFICATION; SHEET WHERE DETAIL IS DRAWN
- 3 / A3 — SECTION (BUILDING)
- 4 / A3 — SECTION (WALL / DETAIL)
- 5 / A3 — ELEVATION
- 9 — REFERENCE NOTE
- 1 — INTERIOR ELEVATIONS
- 5 / A3 — 2 — 3 — ELEVATION IDENTIFICATION; SHEET WHERE ELEVATION IS DRAWN
- # — WINDOW SYMBOL
- D# — DOOR SYMBOL
- 2 — REVISION, CLOUD
- MATCH LINE, SHADED PORTION IS THE SIDE CONSIDERED
- DATUM POINT

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

NOTES:
1. ALL DIMENSIONS ARE TO THE FACE OF STUD, U.O.N.
2. ALL RACKS HEIGHT TO BE LESS THAN 5'-9".

Project Directory

OWNER:
PARADISE LAKE, LLC.
4300 EDISON AVE.,
CHINO, CA 91710

ARCHITECT:
C.F. LAU, A.I.A.
PEGASUS ARCHITECTS
4300 EDISON AVE.,
CHINO, CA 91710
TEL: (909) 465.4101

CIVIL:
BLUE ENGINEERING & CONSULTANTS
MARTIN GONZALEZ
9320 BASELINE RD., SUITE D
RANCHO CUCAMONGA, CA 91710
TEL: (909) 970-5654

LANDSCAPE ARCHITECT:
PHILMAY LANDSCAPE ARCHITECT
ROSALIO SERNA
2532 WALLACE AVENUE
FULLERTON, CA 92831
TEL: (909) 373-1959

Planning Notes

1) LIQUEFACTION:
BASED ON RECORDS, THIS PROJECT APPEARS TO BE LOCATED IN AN AREA WITH POTENTIAL FOR SOIL LIQUEFACTION. PER CBC SECTION 1803.5, A GEOTECHNICAL ASSESSMENT OF THIS CONDITION IS REQUIRED AND, ACCORDING TO SECTION 1803, THE ASSESSMENT MUST BE CONDUCTED BY A LICENSED DESIGN PROFESSIONAL. IF THE ASSESSMENT INDICATED THAT THE CONDITION, IF NOT CORRECTED, WOULD LEAD TO STRUCTURAL DEFECTS, THE ASSESSMENT SHALL RECOMMEND CORRECTIVE ACTION WHICH IS LIKELY TO PREVENT STRUCTURAL DAMAGE.

Building Notes:

1) CODE/ORDINANCE REQUIREMENTS:
THE APPLICANT SHALL OBTAIN THE REQUIRED BUILDING PERMIT(S) FROM THE BUILDING DEPARTMENT PRIOR TO ANY CONSTRUCTION ON THE PROPERTY. ALL BUILDING PLANS AND SUPPORTING DOCUMENTATION SHALL COMPLY WITH CURRENT ADOPTED CALIFORNIA BUILDING CODES, WILDOMAR ORDINANCES REGULATIONS IN EFFECT AT THE TIME OF BUILDING PLAN SUBMITTAL AND FEE PAYMENT TO THE BUILDING DEPARTMENT. ALL BUILDING DEPARTMENT PLAN SUBMITTAL AND FEE REQUIREMENTS SHALL APPLY.
NOTE: THE NEW UPDATED 2022 CALIFORNIA BUILDING CODES WILL BE IN EFFECT AS OF JANUARY 1ST, 2023, AS MANDATED BY THE STATE OF CALIFORNIA. ANY BUILDING PLAN AND FEE PAYMENT SUBMITTED TO THE BUILDING DEPARTMENT ON OR AFTER JANUARY 1ST, 2023 WILL BE SUBJECT TO THE NEW UPDATED CALIFORNIA BUILDING CODE(S).
2) PERMIT ISSUANCE:
PER SECTION 105.1 (2019 CALIFORNIA BUILDING CODE, CBC): WHERE ANY OWNER OR AUTHORIZED AGENT INTENDS TO CONSTRUCT, ENLARGE, ALTER, REPAIR, MOVE, DEMOLISH, OR CHANGE THE OCCUPANCY OF A BUILDING OR STRUCTURE, OR TO ERECT, INSTALL, ENLARGE, ALTER, REPAIR, REMOVE, CONVERT, OR REPLACE ANY ELECTRICAL, GAS, MECHANICAL, OR PLUMBING SYSTEM, THE REGULATION OF WHICH IS GOVERNED BY THIS CODE, OR TO CAUSE ANY SUCH WORK TO BE DONE, SHALL FIRST MAKE APPLILCATION TO THE BUILDING OFFICIAL AND OBTAIN THE REQUIRED PERMIT.
FURTHER, THE APPLICANT SHALL OBTAIN THE REQUIRED BUILDING PERMIT(S) FROM THE BUILDING DEPARTMENT PRIOR TO ANY CONSTRUCTION OR PLACEMENT OF ANY BUILDING, STRUCTURE OR EQUIPMENT ON THE PROPERTY. THE APPLICANT SHALL OBTAIN AN APPROVAL FINAL BUILDING INSPECTION AND CERTIFICATE OF OCCUPANCY FROM THE BUILDING DEPARTMENT PRIOR TO ANY USE OR OCCUPANCY OF THE BUILDING, OR STRUCTURE. AT NO TIME SHALL THE APPROVAL OF THE PLANNING CASE EXHIBIT ALLOW FOR THE CONSTRUCTION OR USE OF ANY BUILDING, STRUCTURE, OR EQUIPMENT. IN RESIDENTIAL APPLICATIONS, EACH SEPARATE STRUCTURE WILL REQUIRE A SEPARATE BUILDING PERMIT.
3) GREEN BUILDING CODE/ WASTE REDUCTION (NON-RESIDENTIAL):
INCLUDED WITHIN THE BUILDING PLAN SUBMITTAL DOCUMENTS TO THE BUILDING DEPARTMENT FOR PLAN REVIEW, THE APPLICANT SHALL PROVIDE A COPY OF THE APPROVED CONSTRUCTION WASTE MANAGEMENT PLAN BY THE WASTE MANAGEMENT DEPARTMENT THAT:
A) IDENTIFIES THE MATERIALS TO BE DIVERTED FROM DISPOSAL BY EFFICIENT USAGE, REUSE ON THE PROJECT, OR SALVAGE FOR FUTURE USE OR SALES.
B) DETERMINES IF MATERIALS WILL BE SORTED ON SITE OR MIXED.
C) IDENTIFIES DIVERSION FACILITIES WHERE MATERIAL COLLECTED WILL BE TAKEN.
D) SPECIFIES THE AMOUNT OF MATERIALS DIVERTED SHALL BE CALCULATED BY WEIGHT OR VOLUME, BUT NOT BOTH.

Legal Description

4.35 ACRES IN POR PAR 2 RS 025/062 ACRES 004.35 LOT TYPE PARCEL PARCEL 2 RECMAP TYPE RECORD OF SURVEY MAP PLAT B 025 MAP PLAT P 062 PORTION LOT PORTION

Sheet Index:

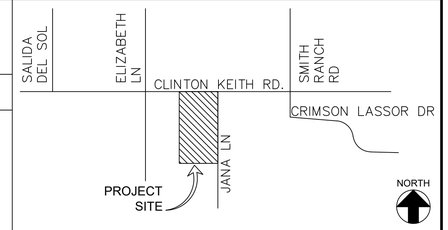
ARCHITECTURAL
SHT T — PROJECT DIRECTORY & DATA LEGAL DESCRIPTION, SHEET INDEX, VICINITY MAP, NOTES & SCOPE OF WORK
A1.01 — SITE PLAN & REFERENCE NOTES
A1.02 — SITE PLAN ACCESSIBLE TRAVEL OF PATH
A1.03 — TRUCK LANE
A1.10 — CANOPY PLAN & ELEVATIONS
A1.11 — TRASH ENCLOSURE FLOOR PLAN & ELEVATIONS
A2.01 — C-STORE FLOOR PLAN
A2.02 — CARWASH FLOOR PLAN & ELEVATIONS
A2.03 — QSR #1 FLOOR PLAN & ELEVATIONS
A2.04 — QSR #2 FLOOR PLAN & ELEVATIONS
A2.05 — OFFICE/WAREHOUSE FLOOR PLAN
A2.06 — OFFICE/WAREHOUSE MEZZANINE FLOOR PLAN
A3.01 — C-STORE ELEVATIONS
A3.02 — OFFICE/WAREHOUSE ELEVATIONS
A3.03 — CARWASH ELEVATIONS

CIVIL
C-1 — TITLE SHEET
C-2 — CONCEPTUAL GRADING PLAN
C-3 — CONCEPTUAL GRADING PLAN
C-4 — SECTIONS
C-5 — CONCEPTUAL UTILITY PLAN
C-6 — PRE-DEVELOPMENT HYDROLOGY EXHIBIT
C-7 — POST-DEVELOPMENT HYDROLOGY EXHIBIT

LANDSCAPE
L-1 — COVER SHEET
L-2 — PRELIMINARY FUEL MODIFICATION PLAN
L-3 — PRELIMINARY LANDSCAPE PLAN -1
L-4 — PRELIMINARY LANDSCAPE PLAN -2

Vicinity Map

N. T. S.



Scope Of Work

NEW CONSTRUCTION OF A SERVICE STATION WITH C-STORE W/ DRIVE-THRU, CARWASH FACILITY, TRASH ENCLOSURE, AND 2 QSR AND AN OFFICE/WAREHOUSE BUILDING.
SIGNAGE, FUEL PUMP CANOPY, UNDERGROUND STORAGE TANKS ARE UNDER SEPARATED PERMIT BY OTHERS.

Project Data

PROJECT ADDRESS:	24831 CLINTON KEITH RD., WILDOMAR, CA 92595
APN#:	380-290-002
GENERAL PLAN LAND USE:	BUSINESS PARK
ZONING:	M-SC
CONSTRUCTION TYPE:	VB
APPLICABLE CODES:	2019 CBC, CEC, CFC, CMC, CPC, CALGREEN, CAL ENERGY CODE
FIRE SPRINKLER:	YES (NFPA 72)
FIRE ALARM:	YES
OCCUPANCY:	M & B, S-1
LOT SIZE (GROSS):	±189,486 S.F. (±4.35 ACRES)
LOT SIZE (NET):	

DEVELOPMENT REQUIREMENTS: SETBACK REQUIREMENTS:	REQUIRED	PROVIDED
FRONT	0'-0"	27'-0"
STREET SIDE	0'-0"	48'-10"
REAR YARD	0'-0"	6'-5"
SIDE	0'-0"	41'-6"
LOT COVERAGE	MAX. 50%	(34,020 S.F.) 34,020/189,486 S.F.=18%
F.A.R.		
BUILDING HEIGHT	MAX. 50'	29'-0" (MARKET) 19'-6" (CANOPY) 20'-0" (QSR#1 & QSR#2) 30'-0" (OFFICE/ WAREHOUSE)

BUILDING AREA:
A) BUILDINGS
BEYOND C-STORE MARKET = 7,460 S.F.
CARWASH BUILDING = 1,790 S.F. (INCL. ELEC/EQUIP RM.)
TOTAL AREA: = 9,250 S.F.
B) CANOPY:
(47'-3"X128'-0"): = 5,971 S.F.
C) QSR #1 = 2,000 S.F.
D) QSR #2 = 1,800 S.F.
E) OFFICE = 4,203 S.F. (1/F) + 3,060 S.F. (MEZZANINE)
WAREHOUSE = 10,049 S.F.

PARKING	REQUIRED:	PARKING PROVIDED:
A) BEYOND MARKET 7460/200 1 SPACE /200 SQFT. G.F.A.	38	38 (INCL. 2 HCP)
B) CANOPY		
C) QSR #1 2,000/2/45 1 SPACE / 45 SQFT. OF SERVING AREA 1 SPACE / 2 EMPLOYEES	23	23 (INCL. 2 HCP)
D) QSR #2 1,800/2/45 1 SPACE / 45 SQFT. OF SERVING AREA 1 SPACE / 2 EMPLOYEES	20	20 (INCL. 2 HCP)
E) OFFICE 1 SPACE / 200 SQFT. G.F.A WAREHOUSE 1 SPACE / 2,000 SQFT. G.F.A	36 5	36 (INC. 1 HCP 8 (INCL. 1 HCP)
TOTAL	122	125 (INCL. 8 HCP)
LOADING/UNLOADING (10' x 20'):	4	4
CAR WASH STACKING	12 STACK	12 STACK
DRIVE-THRU	12 STACK	12 STACK

EV PARKING PROVIDED: 6 (EXCLUDED FROM PARKING COUNT)
STANDARD PARKING 9' X 18'

CV PARKING REQUIREMENTS (OVERALL SITE PLAN)
2019 CAL GREEN TABLE 5.106.5.2
REQUIRED: 10 PARKING SPACES
PROVIDED: 10 PARKING SPACES

BICYCLE PARKING REQUIREMENTS (OVERALL SITE PLAN)
CITY OF WILDOMAR CODE SECTION 11.188.060
REQUIRED: 10 BICYCLE SPACES
PROVIDED: 10 BICYCLE SPACES

PEGASUS ARCHITECTS
4300 EDISON AVE.,
CHINO, CA 91710
TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: 24831 CLINTON KEITH RD., WILDOMAR, CA 92595
CLIENT: PARADISE LAKE LLC., 4300 EDISON AVE., CHINO, CA 91710

ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THESE DRAWINGS ARE OWNED BY, AND THE PROPERTY OF PEGASUS ARCHITECTS AND PROTECTED BY THE CURRENT ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT, AND OTHER APPLICABLE LAWS. THESE DRAWINGS WERE CREATED, EVOLVED AND DEVELOPED FOR USE ON AND IN CONNECTION WITH THE SPECIFIED PROJECT. NONE OF SUCH IDEAS, DESIGN ARRANGEMENTS OR PLANS SHALL BE USED OR DISCLOSED TO ANY PERSON, FIRM OR CORPORATION FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF PEGASUS ARCHITECTS. THESE DRAWINGS ARE NOT VALID FOR CONSTRUCTION PURPOSES UNLESS EXPRESSED CERTIFIED BY PEGASUS ARCHITECTURE FOR CONSTRUCTION ONLY
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SHEET TITLE: PROJECT DIRECTORY & DATA LEGAL DESCRIPTION, SHEET INDEX, VICINITY MAP, NOTES & SCOPE OF WORK

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

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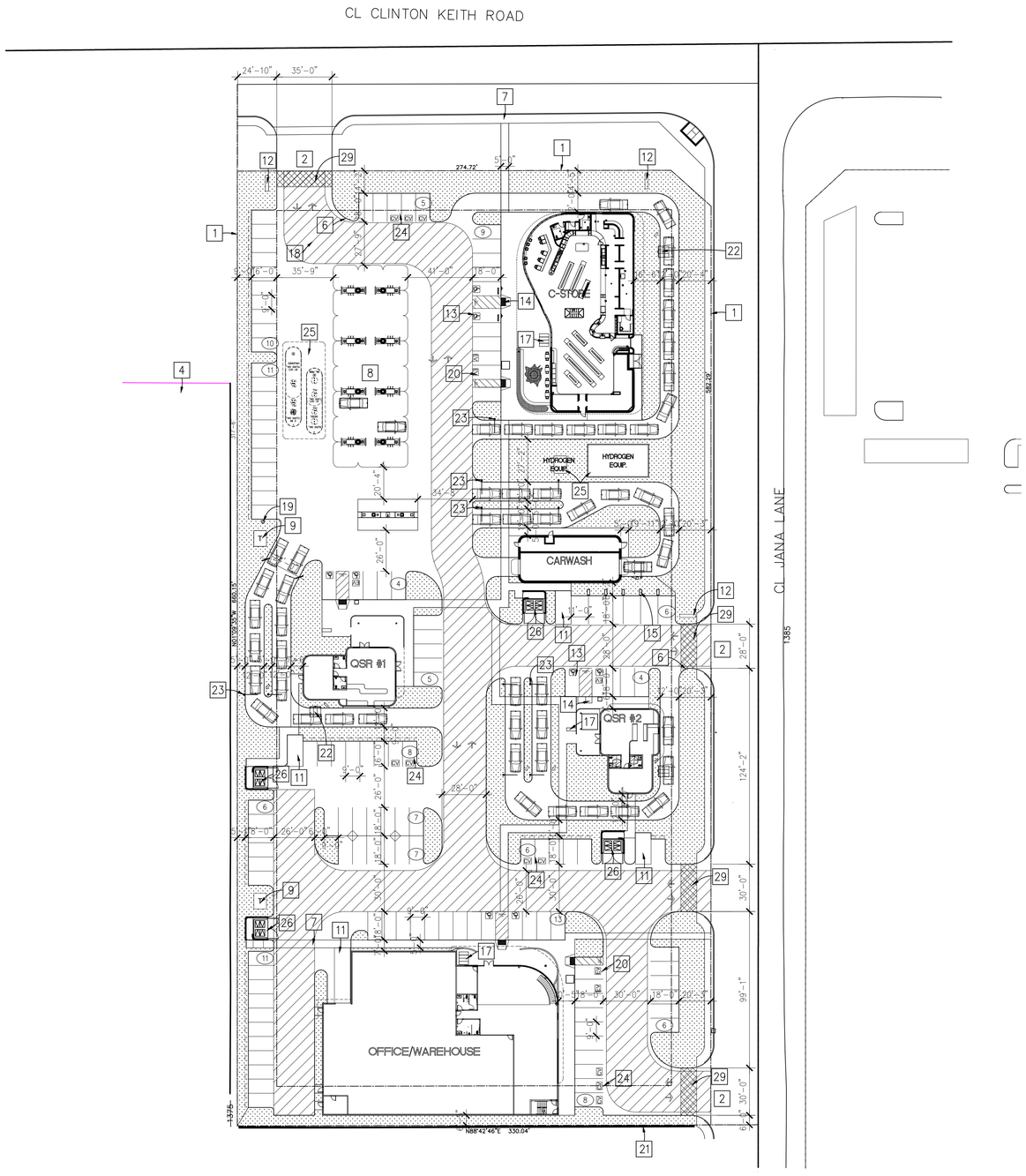
OF SHEETS

SHEET



NORTH

1 Proposed Site Plan

SCALE: 1"=40'-0"

Reference Notes

1. (E) PROPERTY LINES
2. (N) CURB AND GUTTER/DRIVEWAY (RIGHT IN & OUT)
3. (N) LANDSCAPE
4. ADJACENT BUILDING
5. (N) HEALY TANK
6. (N) CONCRETE CURB
7. (N) CONCRETE SIDEWALK
8. (N) CANOPY 47'-0"x128'-0" (UNDER SEPARATED PERMIT)
9. (N) TRANSFORMER PAD
10. (N) TRASH/RECYCLE ENCLOSURE
11. (N) LOADING/UNLOADING (10'-0" x 20'-0")
12. (N) CORNER MONUMENT, SIGN BY OTHERS, UNDER SEPARATE PERMIT.
13. (N) HCP PARKING
14. (N) HCP RAMP
15. (N) VACUUM @ 7 LOCS
16. (N) 5'-0" WIDE HCP PATH OF TRAVEL PER CODE STD.
17. BIKE RACK PER CITY'S STANDARD.
18. (N) 26' WIDE FIRE LANE
19. (N) AIR/WATER TOWER
20. EVCS PARKING PER CITY'S STD. PROVIDE MIN. 1" CONDUIT TERMINATING IN LISTED ENCLOSURE FOR FUTURE CHARGER.
21. (N) 6' HT. SPLITFACE CMU FENCE WALL
22. (N) MENU BOARD
23. (N) HEIGHT BAR
24. (N) CLEAN AIR VEHICLE
25. (N) UNDERGROUND TANK STORAGE
26. (N) TRASH ENCLOSURE
27. (N) HYDROGEN EQUIPMENT (UNDER SEPARATE PERMIT)
28. (N) HYDROGEN CANOPY (UNDER SEPARATE PERMIT)
29. (N) ENTRY DECORATIVE PAVED DRIVEWAY

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

PEGASUS ARCHITECTS

4300 EDISON AVE., CHINO, CA 91710

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FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD., WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC, 4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: PROPOSED SITE PLAN

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
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SHEET NO: A1.01

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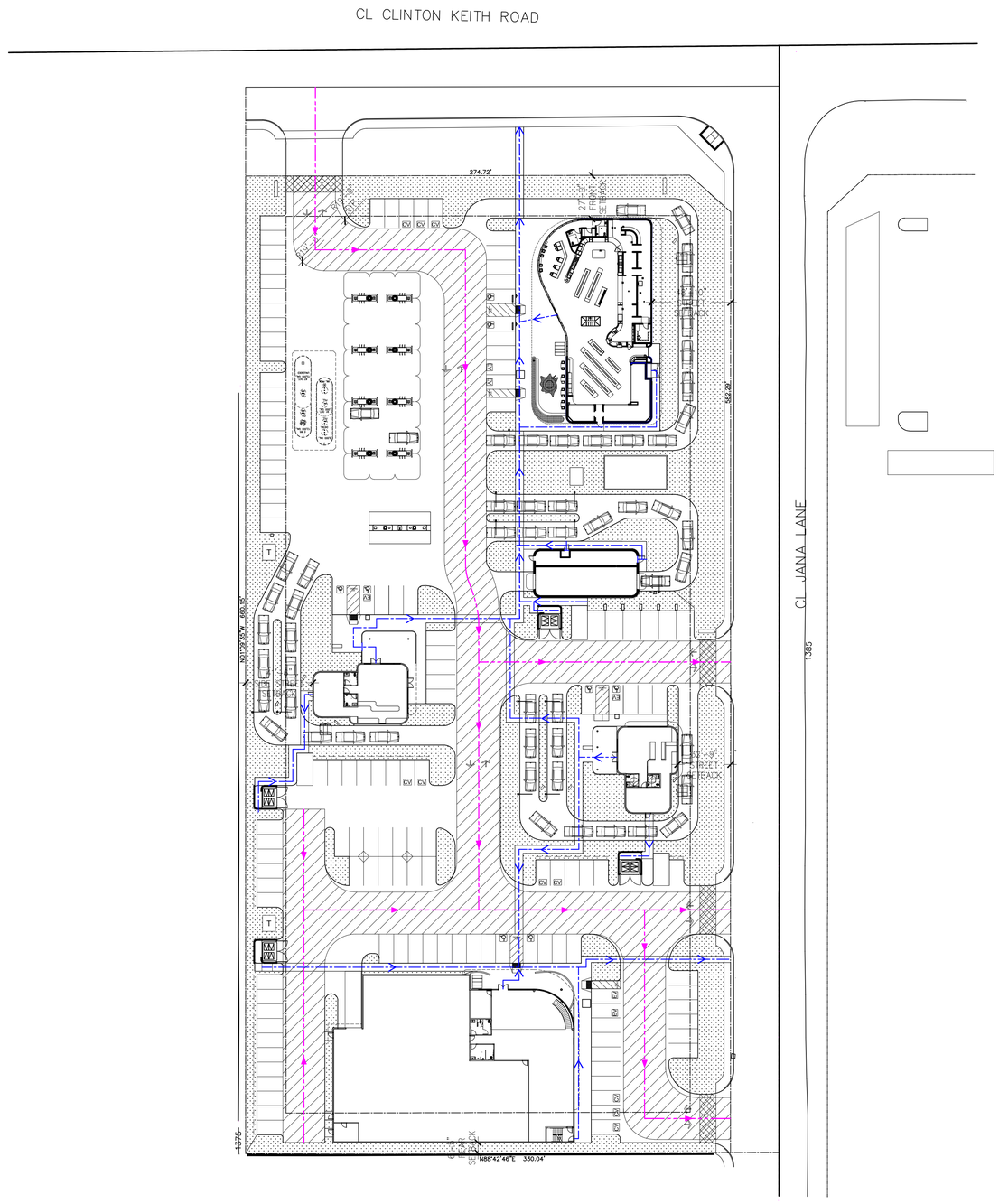

NORTH

Reference Notes

Symbol

ACCESSIBLE PATH OF TRAVEL

EMERGENCY RESPONSES ACCESS PATH

1 Site Plan w/ Accessible Path of Travel

SCALE: 1"=40'-0"

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

PEGASUS ARCHITECTS

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PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: SITE PLAN W/ ACCESSIBLE PATH OF TRAVEL

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
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SHEET NO: A1.02

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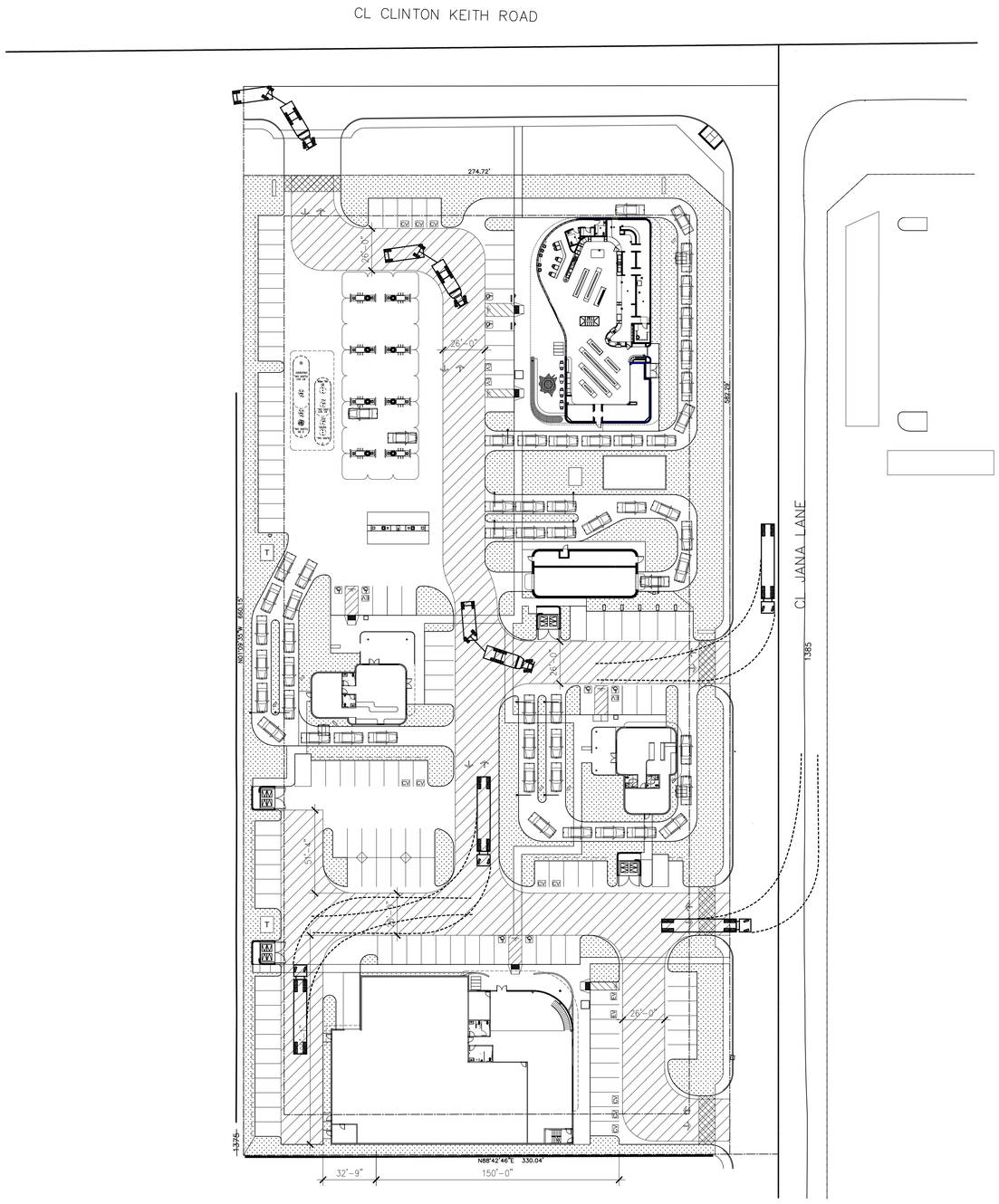

NORTH

Reference Notes

Symbol

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

1 TRUCK LANE SCALE: 1"=40'-0"

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PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595
CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: TRUCK LANE

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

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SHEET NO: A1.03

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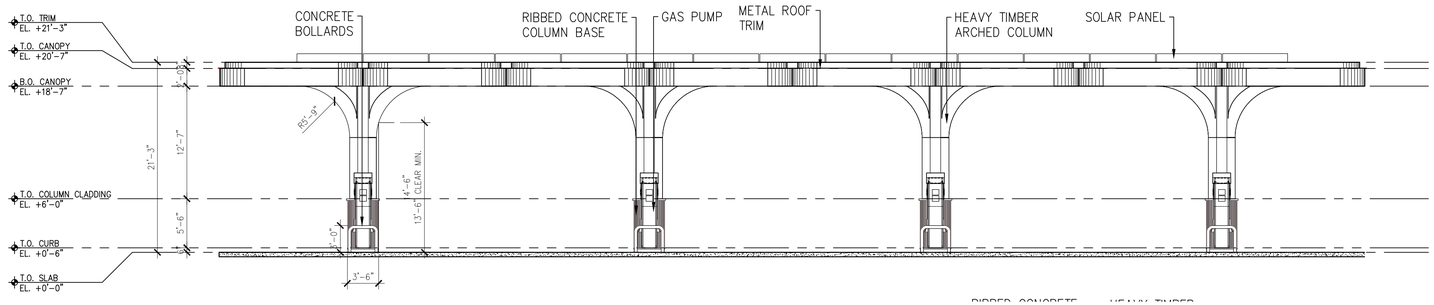
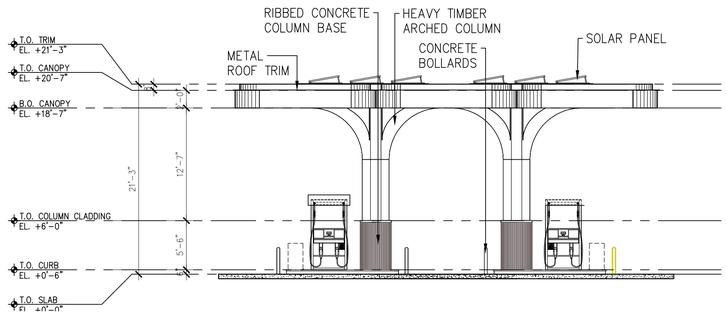
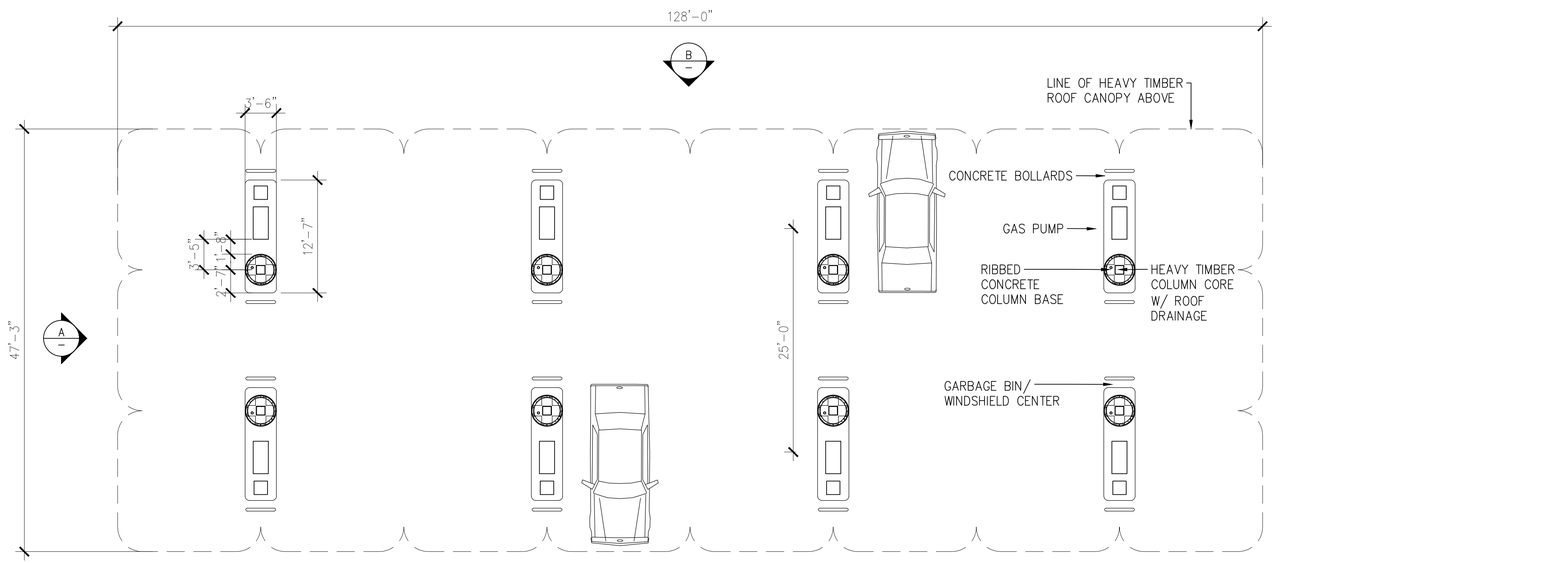


B — East / West Elevations — SCALE: 1/8"=1'-0"



A — North / South Elevations — SCALE: 1/8"=1'-0"



1 — Canopy Floor Plan — SCALE: 1/8" = 1'-0"

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

PEGASUS ARCHITECTS

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CHINO, CA 91710

TEL: 909.465.4101
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PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: PROPOSED CANOPY FLOOR PLAN & ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

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SHEET NO: A1.10

OF SHEETS

SHEET

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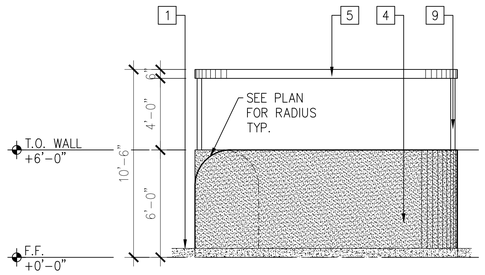
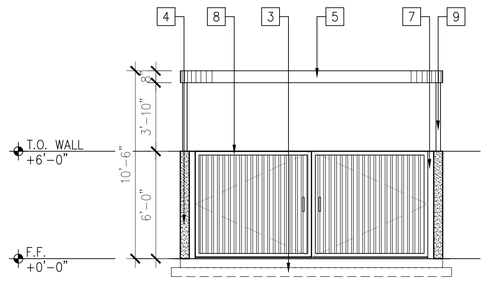
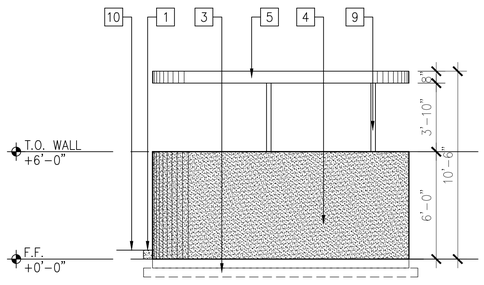


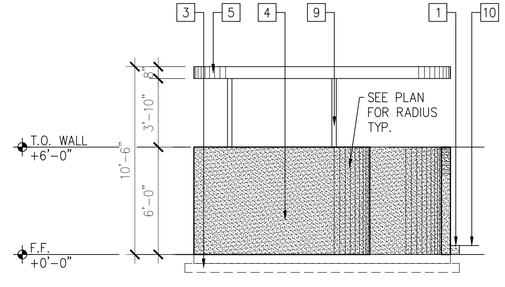
5 Trash Enclosure Elevation SCALE: ¼"=1'-0"



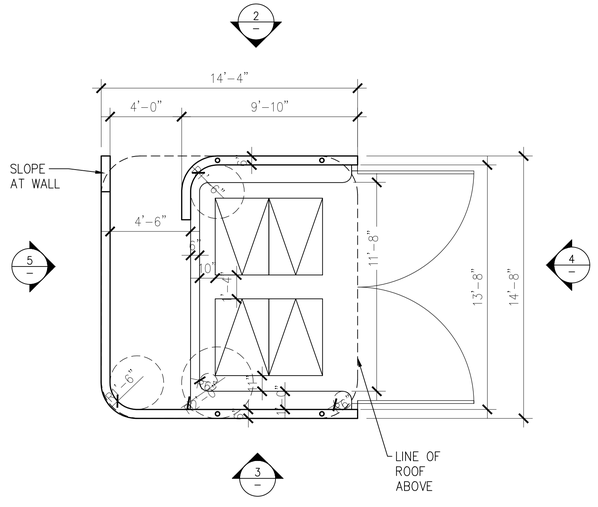
4 Trash Enclosure Elevation SCALE: ¼"=1'-0"



3 Trash Enclosure Elevation SCALE: ¼"=1'-0"



2 Trash Enclosure Elevation SCALE: ¼"=1'-0"



1 Trash Enclosure Floor Plan SCALE: 1/4" = 1'-0"

Reference Notes

1. CONCRETE CURB AND/OR SIDEWALK
2. TRASH RECEPTACLE
3. TRASH ENCLOSURE FOUNDATION
4. CMU WALL. FULLY GROUTED WITH REBAR, PAINTED STUCCO FINISH. PROVIDE PAINT AT ALL STUCCO WALLS. PROVIDE 3 COATS PREMIUM EXTERIOR LATEX PAINT WITH A 24 MIL. "WET" DEPTH.
5. PAINTED ALUMINUM TRIM
6. STEEL ROOF DECKING
7. 2.5" X 2.5" X 3/16" HSS DOOR FRAME PAINTED TO MATCH DOOR.
8. MORIN MATRIX 1.0 METAL ALL PANEL SYSTEM. GAUGE TBD. PRIMED AND PAINTED RED FASTENERS TO MATCH. ALL DOOR OPENING SIZES ARE TO BE MEASURED AND VERIFIED BY CONTRACTOR PRIOR TO ORDERING FROM SUPPLIER. DOOR MANUFACTURER PER SCHEDULE OR EQ. ALL SUBSTITUTIONS OR EQ. TO BE APPROVED BY ARCHITECT. DOOR HARDWARE AND FINISH PER SCHEDULE. DOOR SHALL BE FULLY WEATHER STRIPPED AND ACCESSIBLE.
9. 3" DIAMETER X 1/8" HSS STEEL TUBE PER STRUCTURAL.
10. LANDSCAPE, IRRIGATION AND PLANT MATERIAL

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PEGASUS ARCHITECTS

4300 EDISON AVE.,
CHINO, CA 91710

TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE:
TRASH ENCLOSURE FLOOR PLAN & ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
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SUPERVISED BY:	TL
CHECKED BY:	TL
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A1.11

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Reference Notes

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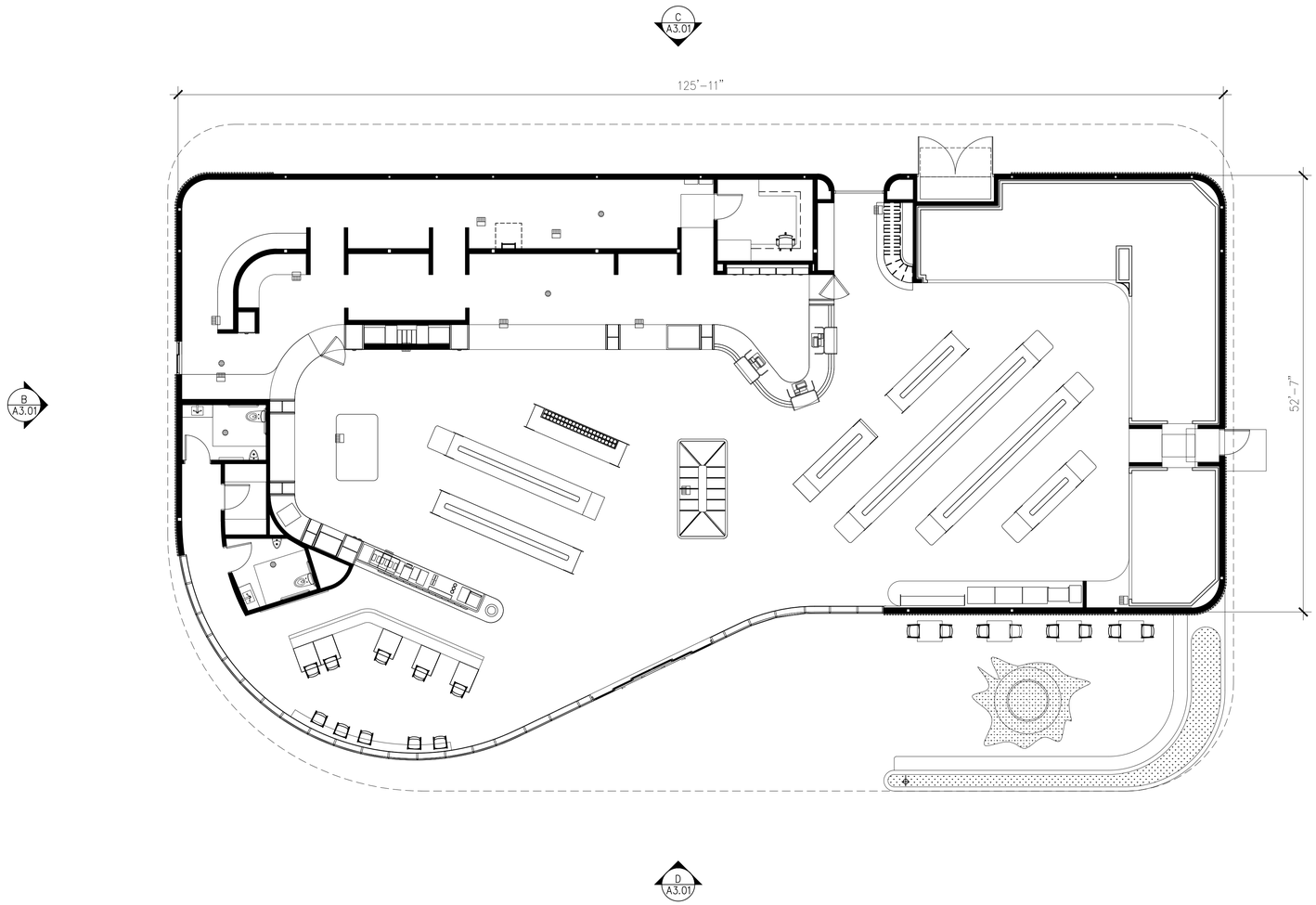

NORTH

1 C-Store Floor Plan SCALE: 1/8" = 1'-0"

PEGASUS ARCHITECTS

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CHINO, CA 91710

TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: C-STORE FLOOR PLAN

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
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SHEET NO: A2.01

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Reference Notes

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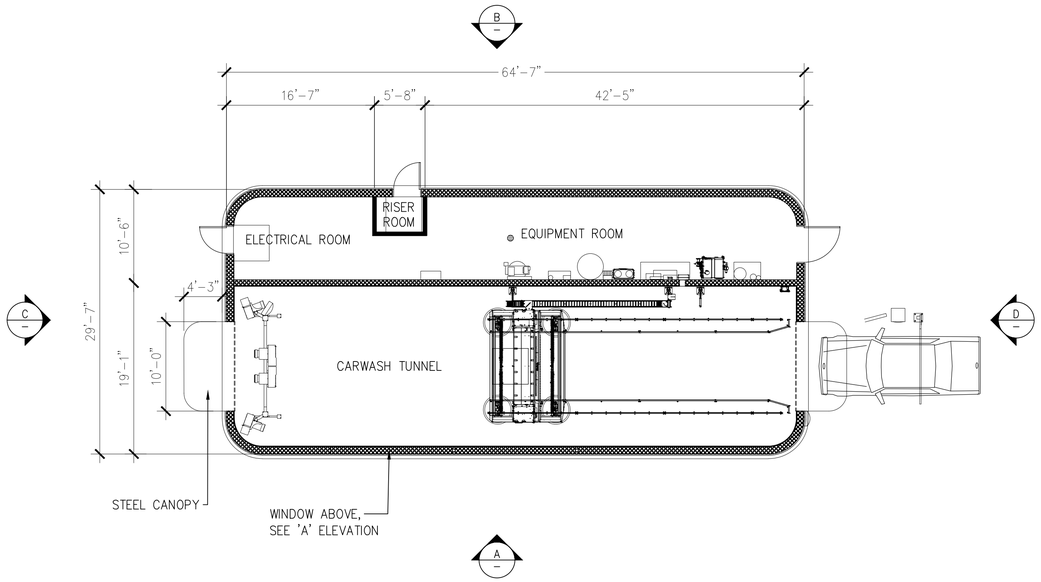

NORTH

1 Carwash Floor Plan

SCALE: 1/8" = 1'-0"

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ADDRESS: 24831 CLINTON KEITH RD.,
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CLIENT: PARADISE LAKE LLC.,
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SHEET TITLE:
CARWASH
FLOOR PLAN

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
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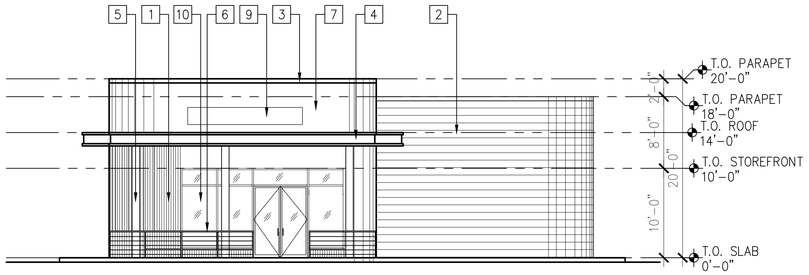
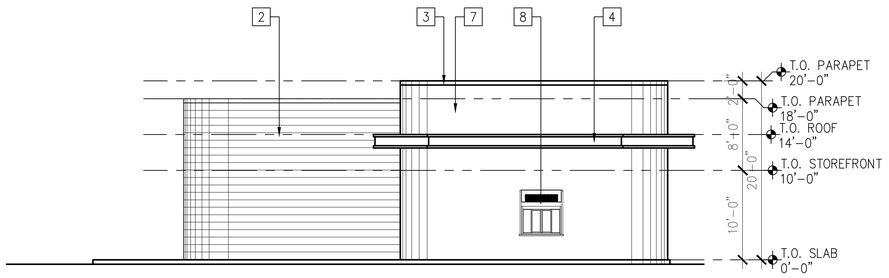
OF SHEETS

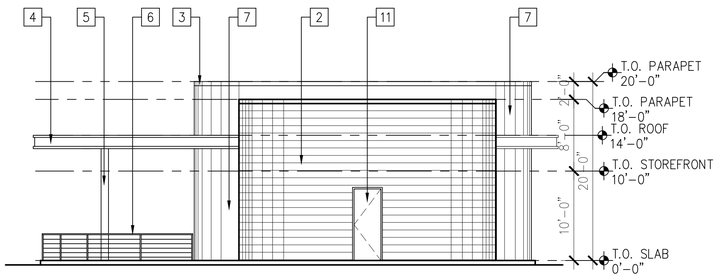
SHEET



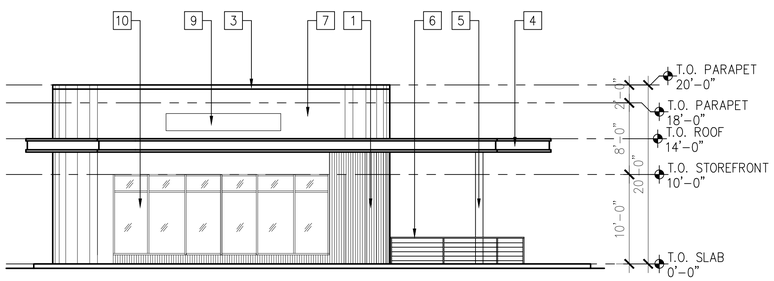
D West Elevation SCALE: 1/8"=1'-0"



C East Elevation SCALE: 1/8"=1'-0"



B South Elevation SCALE: 1/8"=1'-0"



A North Elevation SCALE: 1/8"=1'-0"

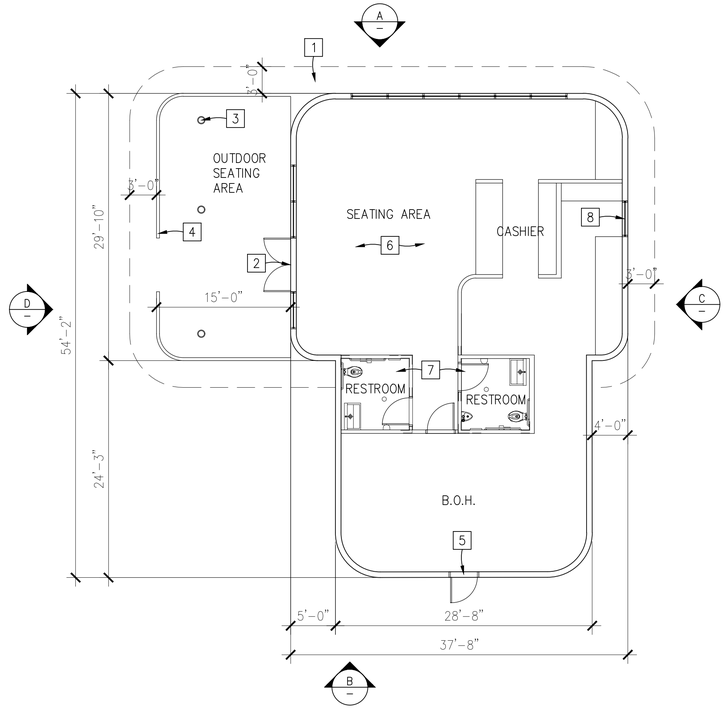
Reference Notes (Elevations)

1. STANDING SEAM METAL
2. CEMENT BOARD SIDING W/ PAINT FINISH
3. METAL COPING
4. C-CHANNEL METAL TO MATCH ADJ. WALL
5. METAL COLUMN
6. METAL RAILING
7. SMOOTH STUCCO W/ PAINT FINISH
8. DRIVE-THRU WINDOW
9. SIGNAGE
10. GLASS / ALUMN. STOREFRONT
11. METAL DOOR AND FRAME W/ PAINT FINISH TO MATCH ADJ. WALL

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

Reference Notes (Floor Plan)

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. METAL HANDRAIL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. SEATING AREA
7. RESTROOMS
8. DRIVE-THRU WINDOW



1 QSR #2 Floor Plan SCALE: 1/8" = 1'-0"

NORTH

PEGASUS ARCHITECTS
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TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: QSR #2 FLOOR PLAN & ELEVATIONS

KEY MAP

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CHAK FAI LAU
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SHEET NO: A2.04

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SHEET

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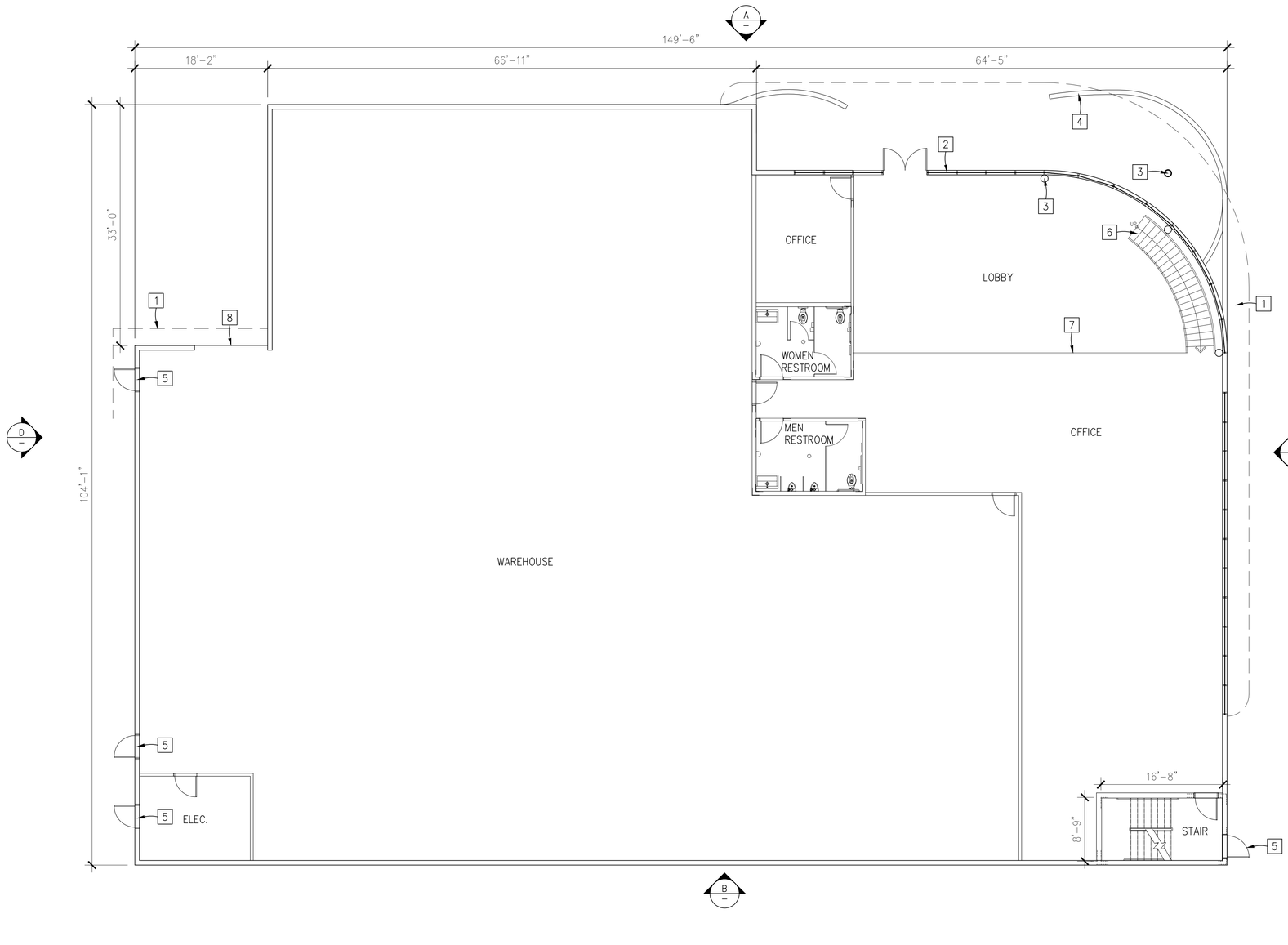

Reference Notes

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. STUCCO LOW WALL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. STAIRS
7. HANDRAIL
8. METAL ROL-UP DOOR

1 Office / Warehouse Floor Plan

SCALE: 1/8" = 1'-0"

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ADDRESS: 24831 CLINTON KEITH RD.,
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CLIENT: PARADISE LAKE LLC.,
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SHEET TITLE: OFFICE/WAREHOUSE FLOOR PLAN

KEY MAP

SEAL/STAMP

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C27750
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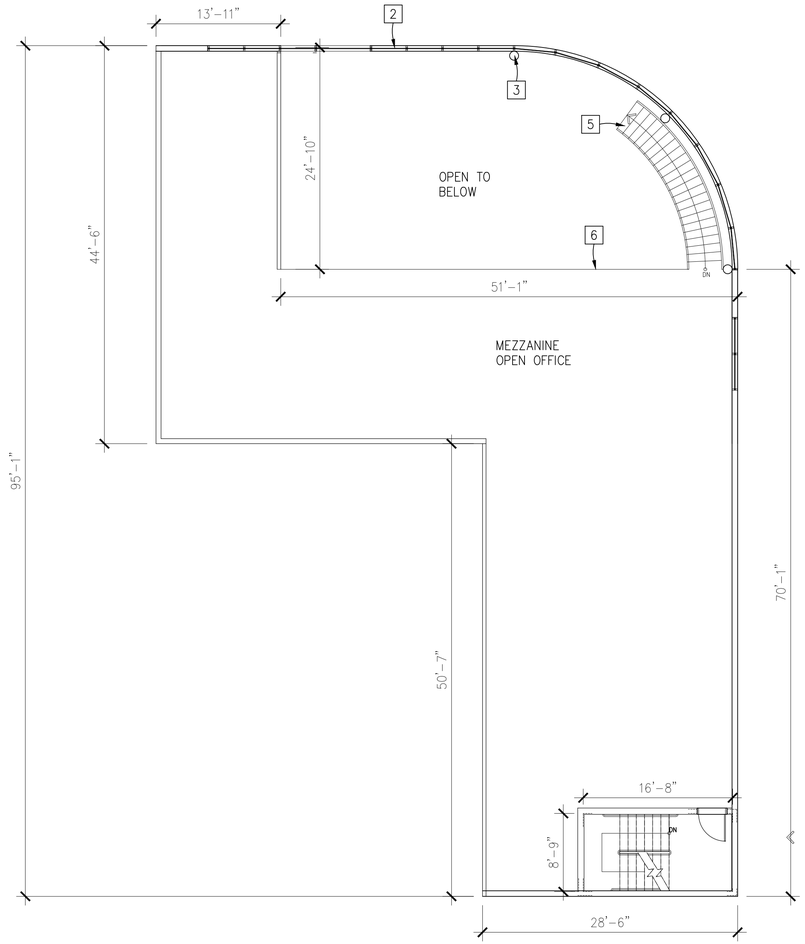

Reference Notes

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. STUCCO LOW WALL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. STAIRS
7. HANDRAIL
8. METAL ROL-UP DOOR

NORTH

1 Office / Warehouse Mezzanine Floor Plan

SCALE: 1/8" = 1'-0"

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FAX: 909.606.6839

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ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE:
OFFICE/WAREHOUSE
MEZZANINE
FLOOR PLAN

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KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
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SHEET NO:

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OF SHEETS

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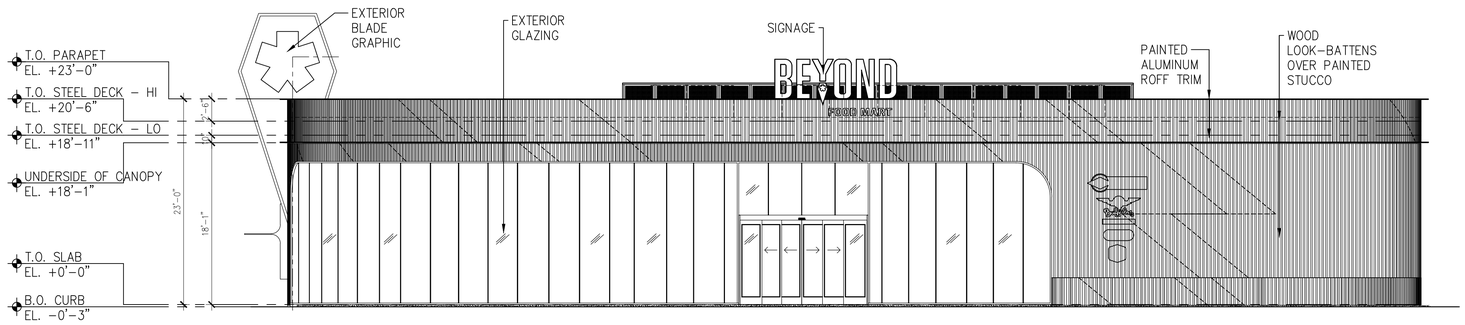
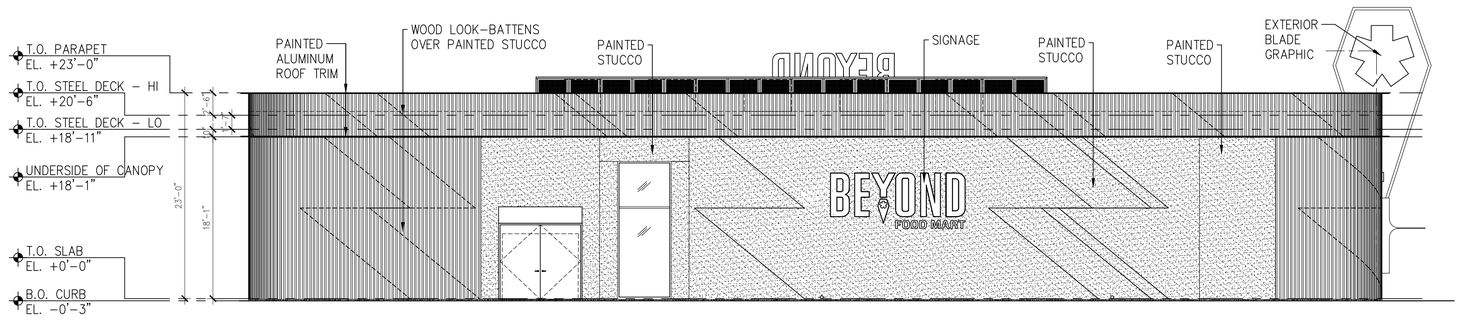
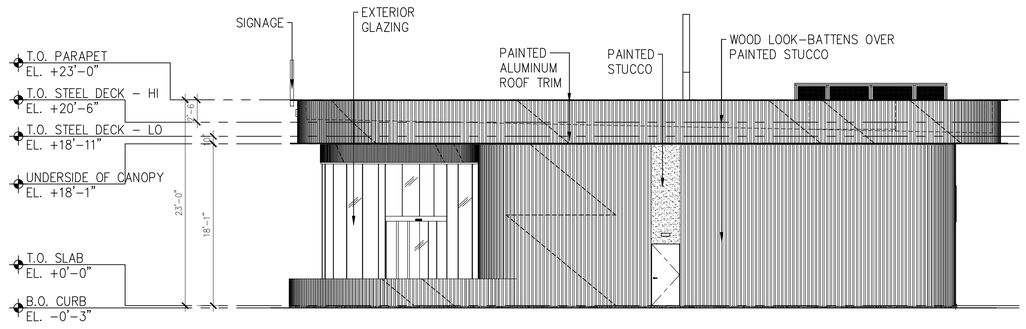


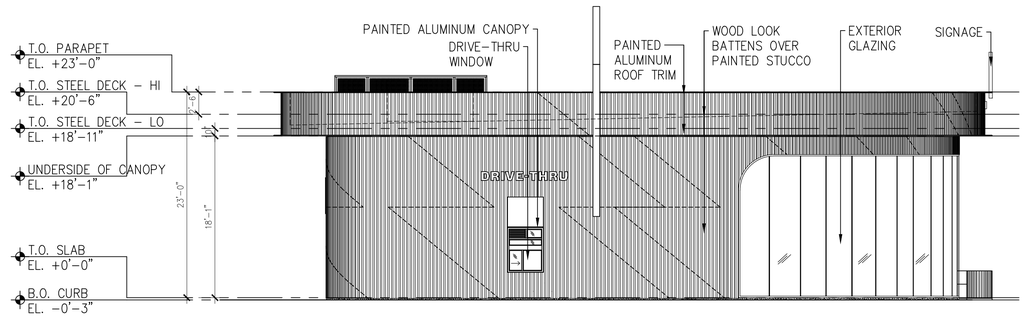
D — West Elevation — SCALE: 1/8"=1'-0"



C — East Elevation — SCALE: 1/8"=1'-0"



B — South Elevation — SCALE: 1/8"=1'-0"



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A — North Elevation — SCALE: 1/8"=1'-0"

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ARCHITECTS

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CHINO, CA 91710

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FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: C-STORE ELEVATIONS

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KEY MAP

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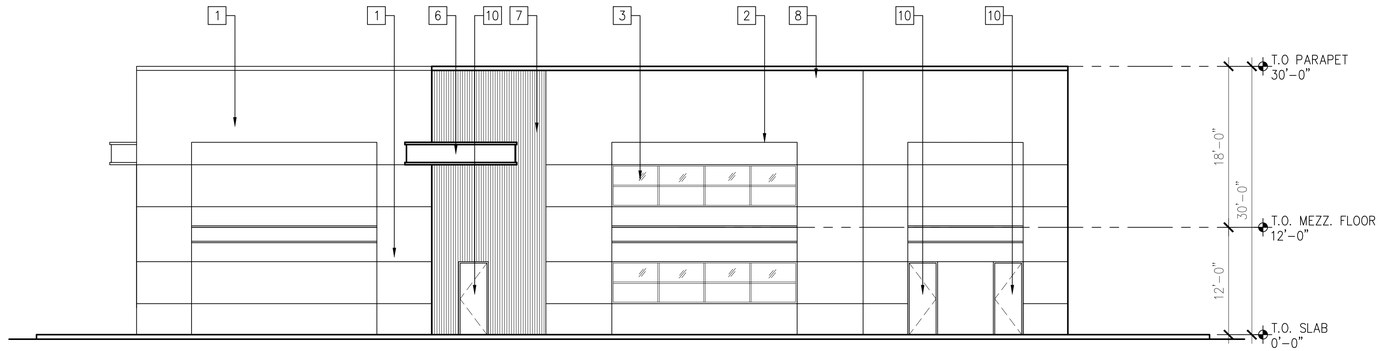
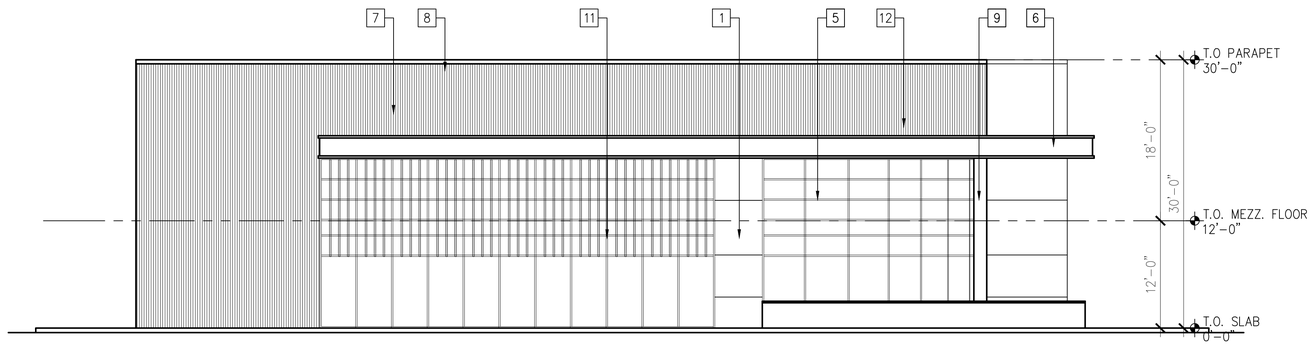
OF SHEETS

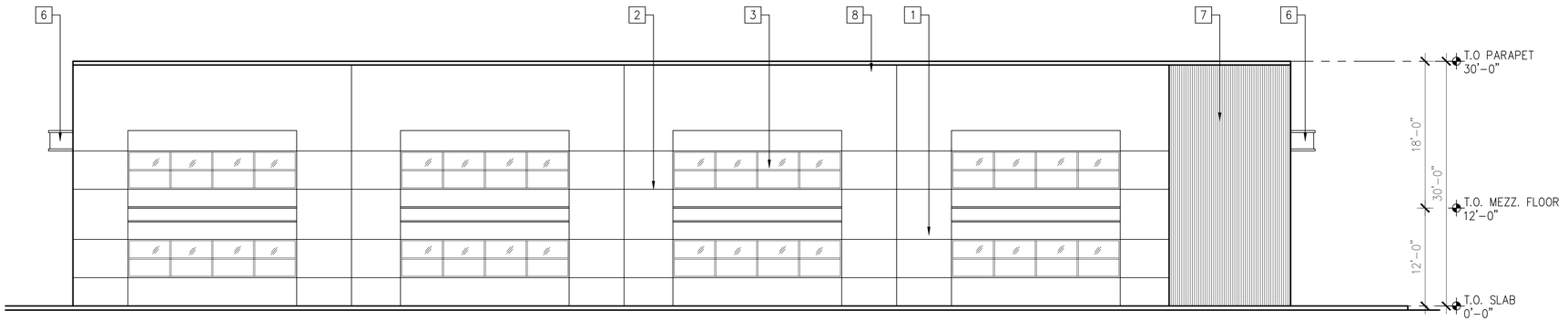
SHEET



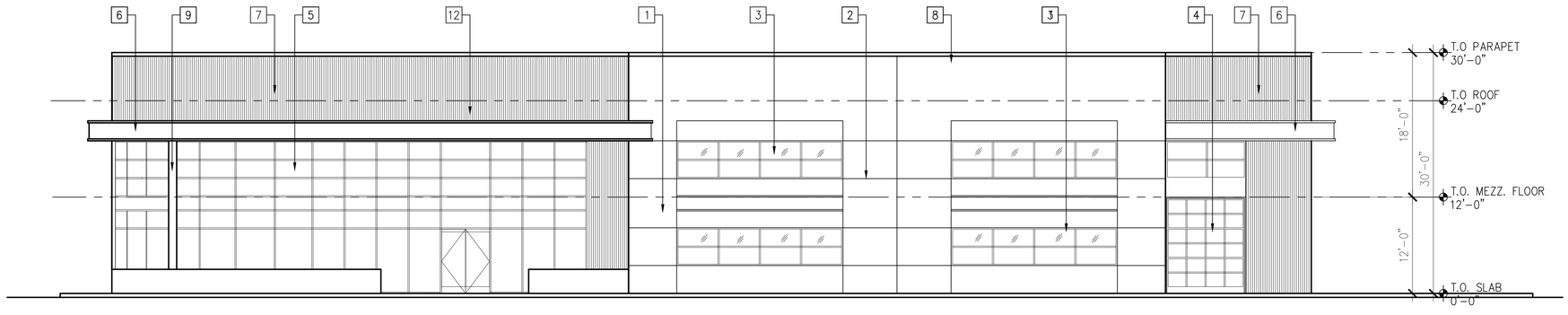
D West Elevation SCALE: 1/8"=1'-0"



C East Elevation SCALE: 1/8"=1'-0"



B South Elevation SCALE: 1/8"=1'-0"



A North Elevation SCALE: 1/8"=1'-0"

Reference Notes

1. TILT-UP CONCRETE W/ PAINTED FINISH
2. 2" REVEAL
3. ALUMN. WINDOW
4. METAL ROLL-UP DOOR
5. ALUMN. STOREFRONT
6. C-CHANNEL METAL
7. STANDING SEAM METAL
8. METAL COPING
9. COLUMN
10. METAL FRAME DOOR
11. ALUMINUM VERTICAL SHADING DEVICE
12. SIGNAGE

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

PEGASUS ARCHITECTS

4300 EDISON AVE.,
CHINO, CA 91710

TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: OFFICE/WAREHOUSE ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
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REVISIONS

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SHEET NO: A3.02

OF SHEETS

SHEET

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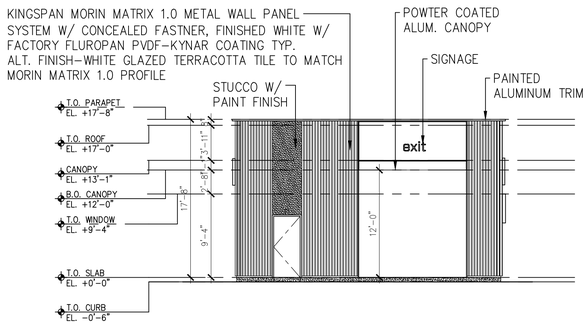
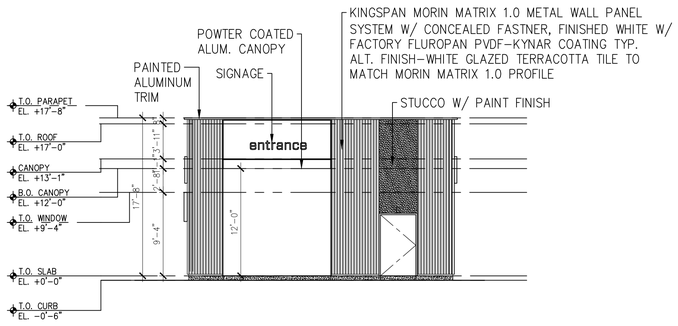
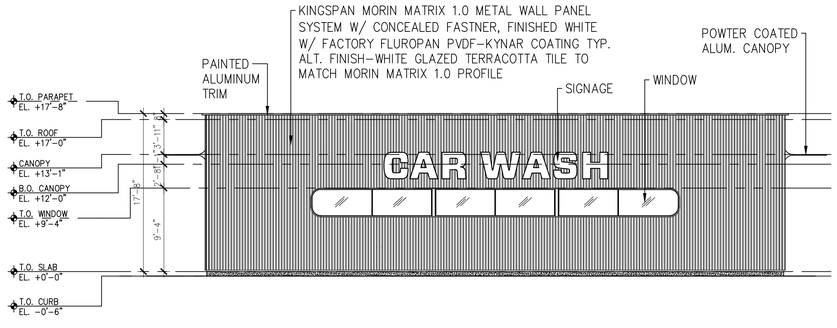


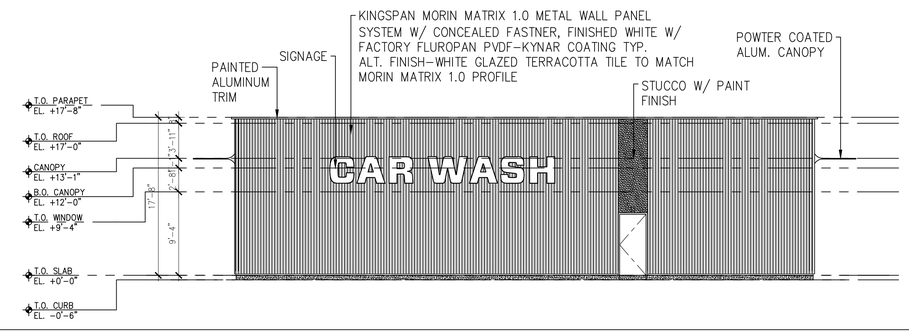
D — West Elevation — SCALE: 1/8"=1'-0"



C — East Elevation — SCALE: 1/8"=1'-0"



B — South Elevation — SCALE: 1/8"=1'-0"



A — North Elevation — SCALE: 1/8"=1'-0"

Reference Notes

1 -

2 -

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

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CHINO, CA 91710
TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: CARWASH ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
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SHEET NO: A3.03

OF SHEETS

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ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THESE DRAWINGS ARE OWNED BY, AND THE PROPERTY OF PEGASUS ARCHITECTS AND PROTECTED BY THE CURRENT ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT, AND OTHER APPLICABLE LAWS. THESE DRAWINGS WERE CREATED, EVOLVED AND DEVELOPED FOR USE ON AND IN CONNECTION WITH THE SPECIFIED PROJECT. NONE OF SUCH IDEAS, DESIGN ARRANGEMENTS OR PLANS SHALL BE USED OR DISCLOSED TO ANY PERSON, FIRM OR CORPORATION FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF PEGASUS ARCHITECTS. THESE DRAWINGS ARE NOT VALID FOR CONSTRUCTION PURPOSES UNLESS EXPRESSED CERTIFIED BY PEGASUS ARCHITECTURE FOR CONSTRUCTION ONLY
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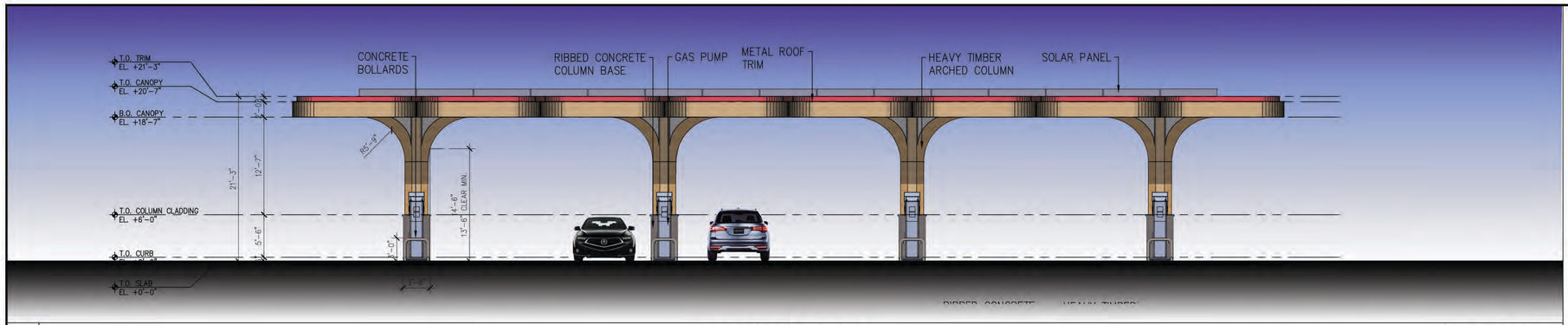
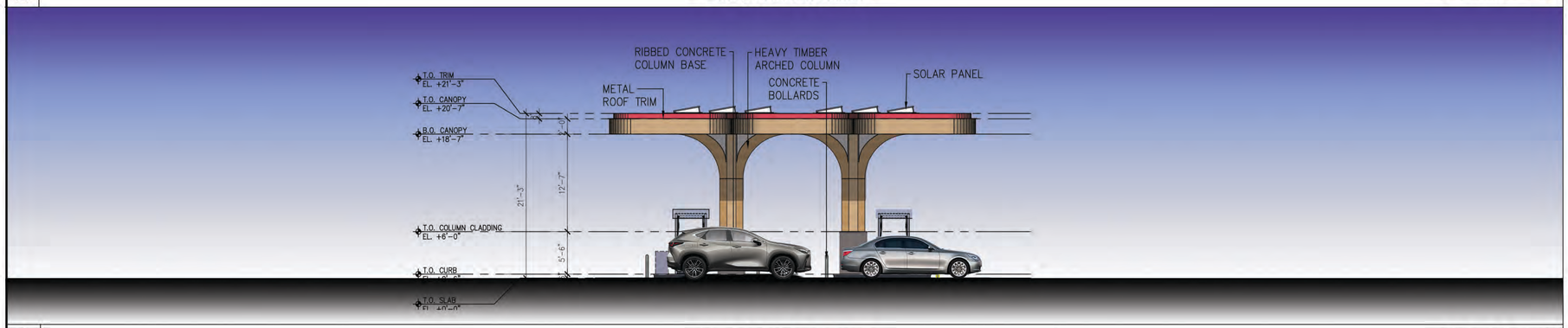
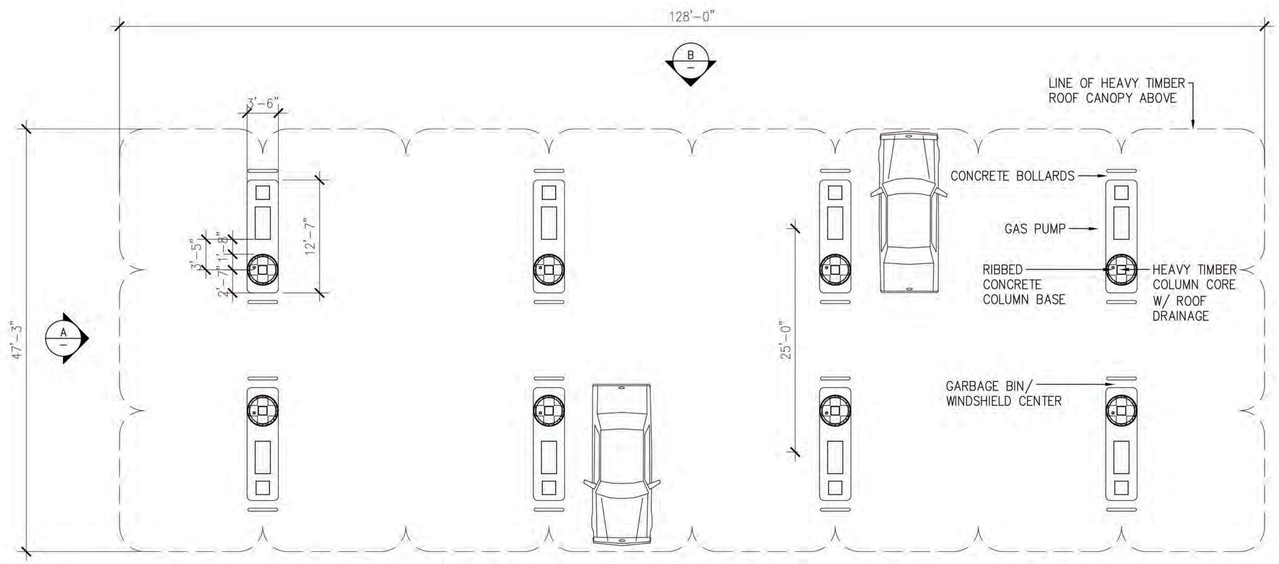


B — East / West Elevations — SCALE: 1/8"=1'-0"



A — North / South Elevations — SCALE: 1/8"=1'-0"



NORTH

1 — Canopy Floor Plan — SCALE: 1/8" = 1'-0"

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

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ADDRESS: 24831 CLINTON KEITH RD.,
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CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: PROPOSED CANOPY FLOOR PLAN & ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
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SHEET NO: A1.10

OF SHEETS

SHEET

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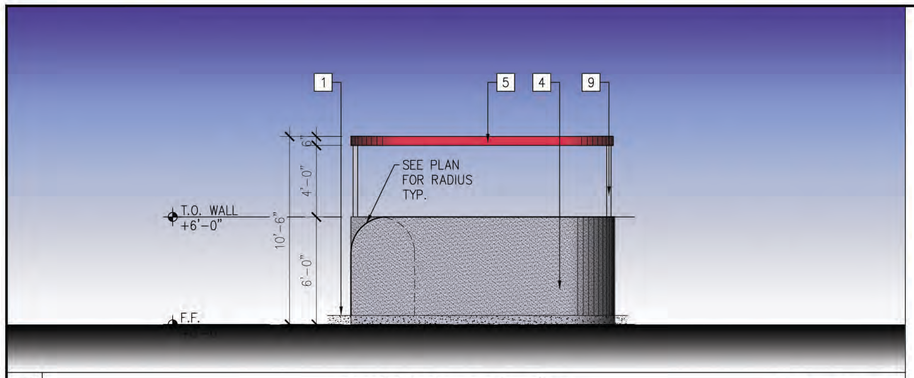
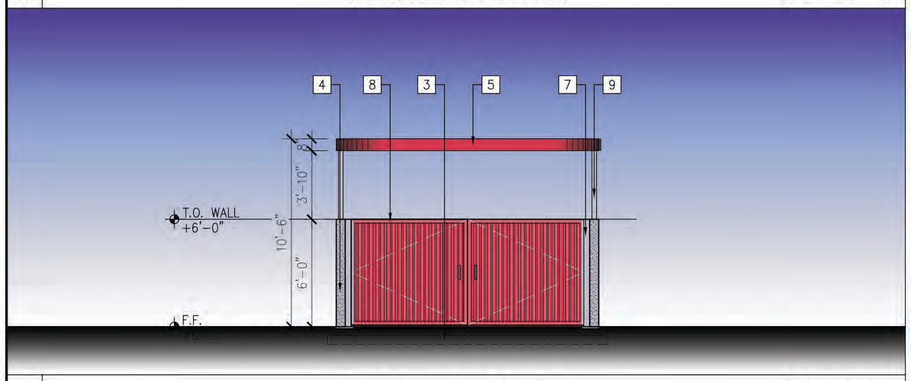
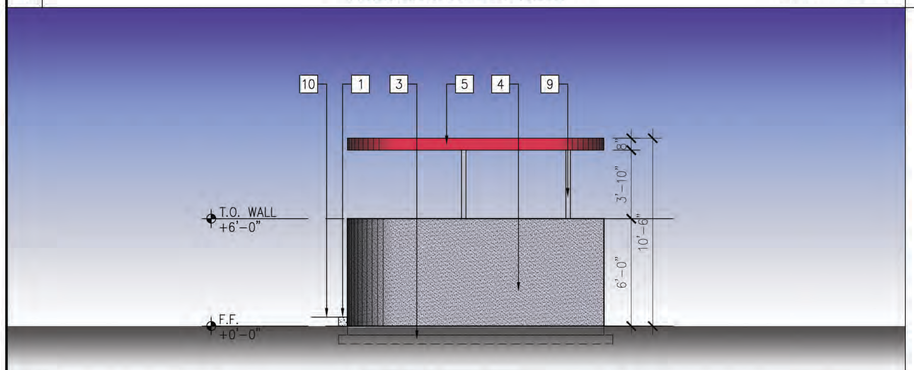


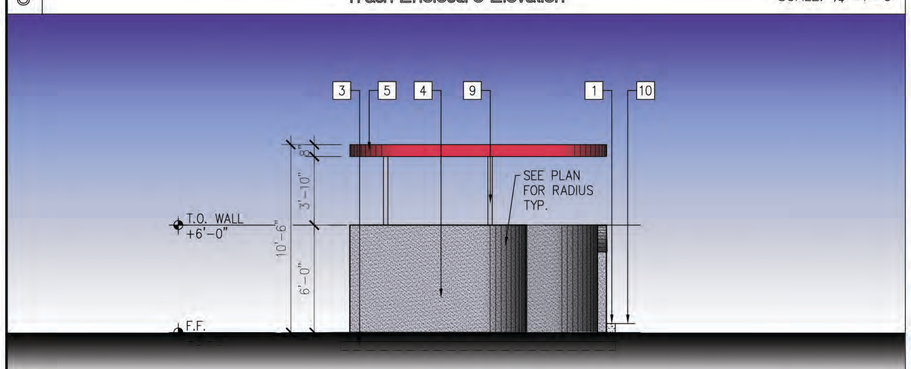
5 Trash Enclosure Elevation SCALE: ¼"=1'-0"



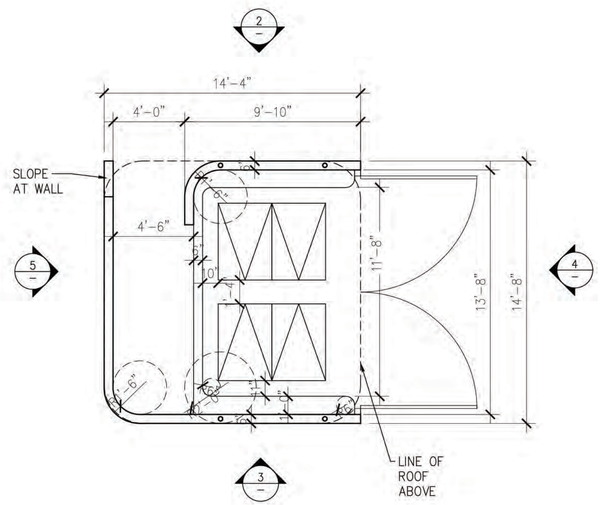
4 Trash Enclosure Elevation SCALE: ¼"=1'-0"



3 Trash Enclosure Elevation SCALE: ¼"=1'-0"



2 Trash Enclosure Elevation SCALE: ¼"=1'-0"



NORTH

1 Trash Enclosure Floor Plan SCALE: 1/4" = 1'-0"

Reference Notes

1. CONCRETE CURB AND/OR SIDEWALK
2. TRASH RECEPTACLE
3. TRASH ENCLOSURE FOUNDATION
4. CMU WALL. FULLY GROUTED WITH REBAR, PAINTED STUCCO FINISH. PROVIDE PAINT AT ALL STUCCO WALLS. PROVIDE 3 COATS PREMIUM EXTERIOR LATEX PAINT WITH A 24 MIL. "WET" DEPTH.
5. PAINTED ALUMINUM TRIM
6. STEEL ROOF DECKING
7. 2.5" X 2.5" X 3/16" HSS DOOR FRAME PAINTED TO MATCH DOOR.
8. MORIN MATRIX 1.0 METAL ALL PANEL SYSTEM. GAUGE TBD. PRIMED AND PAINTED RED FASTENERS TO MATCH. ALL DOOR OPENING SIZES ARE TO BE MEASURED AND VERIFIED BY CONTRACTOR PRIOR TO ORDERING FROM SUPPLIER. DOOR MANUFACTURER PER SCHEDULE OR EQ. ALL SUBSTITUTIONS OR EQ. TO BE APPROVED BY ARCHITECT. DOOR HARDWARE AND FINISH PER SCHEDULE. DOOR SHALL BE FULLY WEATHER STRIPPED AND ACCESSIBLE.
9. 3" DIAMETER X 1/8" HSS STEEL TUBE PER STRUCTURAL.
10. LANDSCAPE, IRRIGATION AND PLANT MATERIAL

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WILDOMAR, CA 92595
CLIENT: PARADISE LAKE, LLC.
4300 EDISON AVE., CHINO, CA 91710
TEL: (909) 465-4101

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SHEET TITLE: TRASH ENCLOSURE FLOOR PLAN & ELEVATIONS

KEY MAP SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
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REVISIONS

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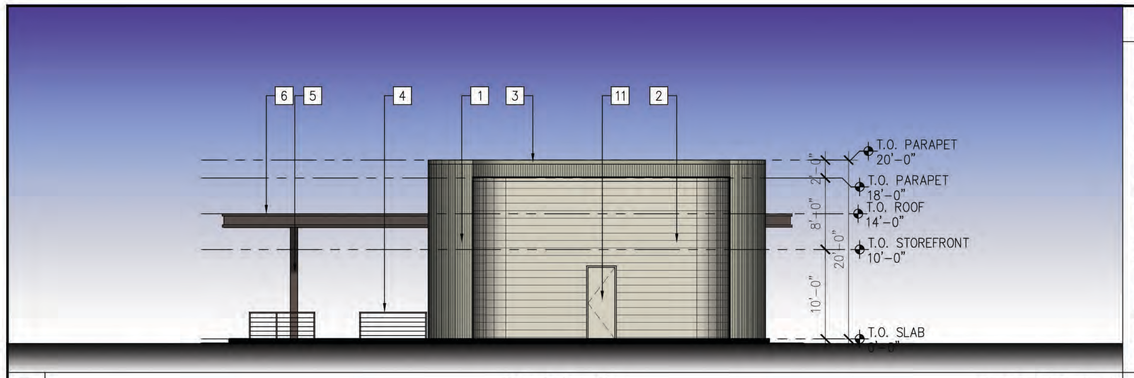
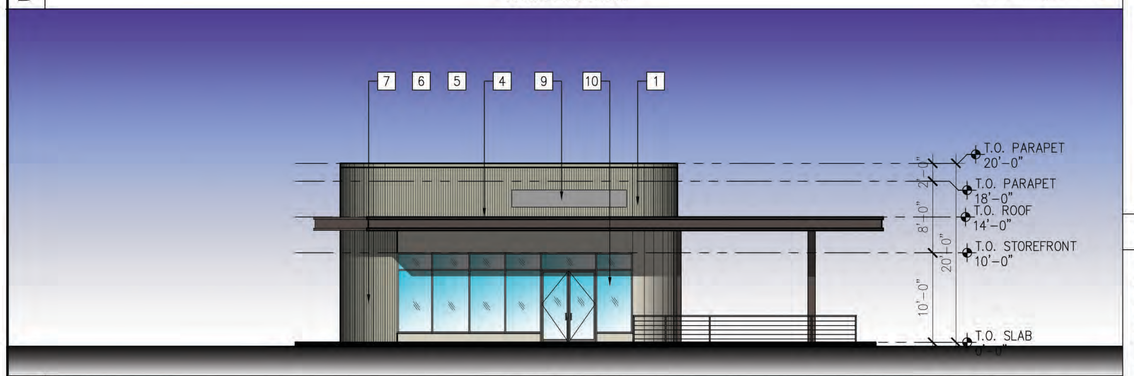
SHEET NO: A1.11 OF SHEETS

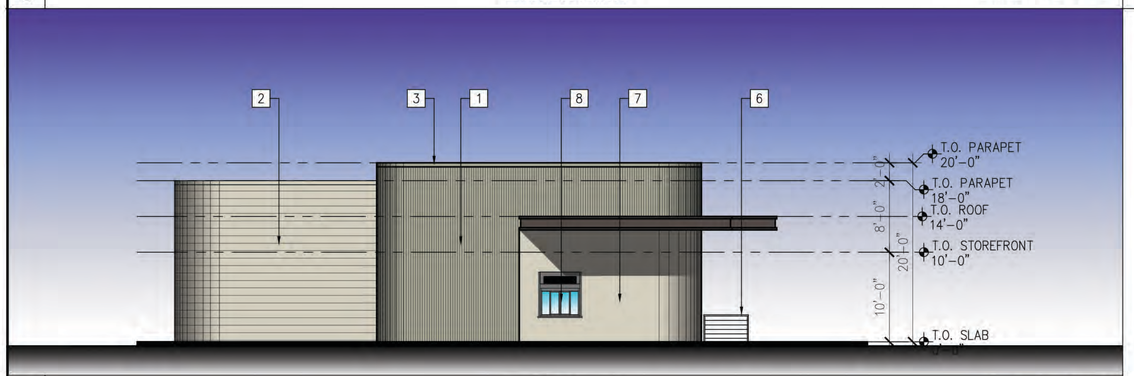
SHEET



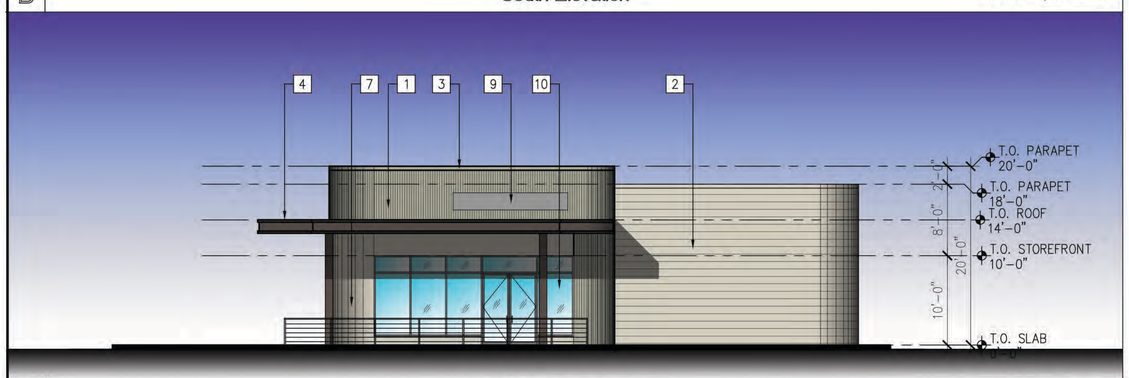
D West Elevation SCALE: 1/8"=1'-0"



C East Elevation SCALE: 1/8"=1'-0"



B South Elevation SCALE: 1/8"=1'-0"



A North Elevation SCALE: 1/8"=1'-0"

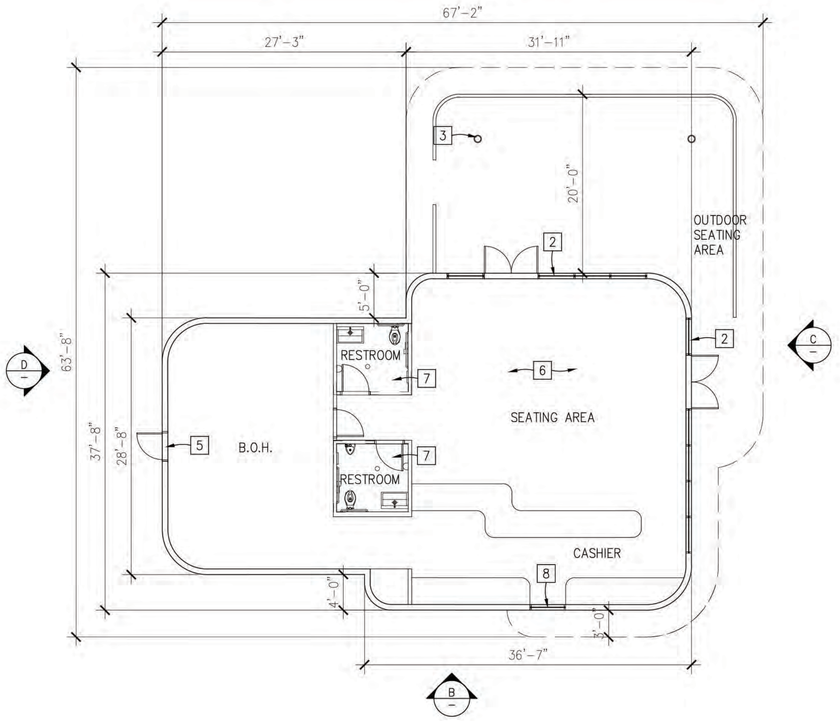
Reference Notes (Elevations)

1. STANDING SEAM METAL
2. CEMENT BOARD SIDING W/ PAINT FINISH
3. METAL COPING
4. C-CHANNEL METAL TO MATCH ADJ. WALL
5. METAL COLUMN
6. METAL RAILING
7. SMOOTH STUCCO W/ PAINT FINISH
8. DRIVE-THRU WINDOW
9. SIGNAGE
10. GLASS / ALUMN. STOREFRONT
11. METAL DOOR AND FRAME W/ PAINT FINISH TO MATCH ADJ. WALL

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

Reference Notes (Floor Plan)

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. METAL HANDRAIL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. SEATING AREA
7. RESTROOMS
8. DRIVE-THRU WINDOW



1 QSR #1 Floor Plan SCALE: 1/8" = 1'-0"

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PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595
CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE:
QSR #1
FLOOR PLAN
& ELEVATIONS

KEY MAP SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
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PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

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SHEET NO:
A2.03
OF SHEETS
SHEET

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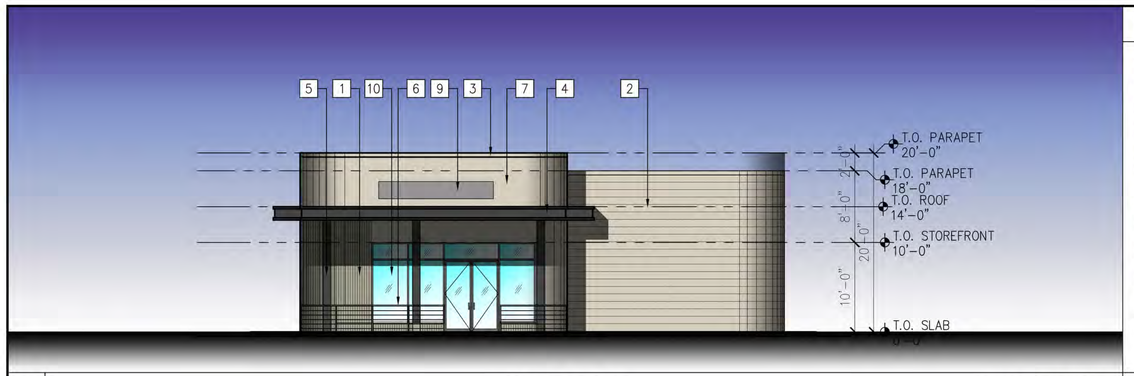
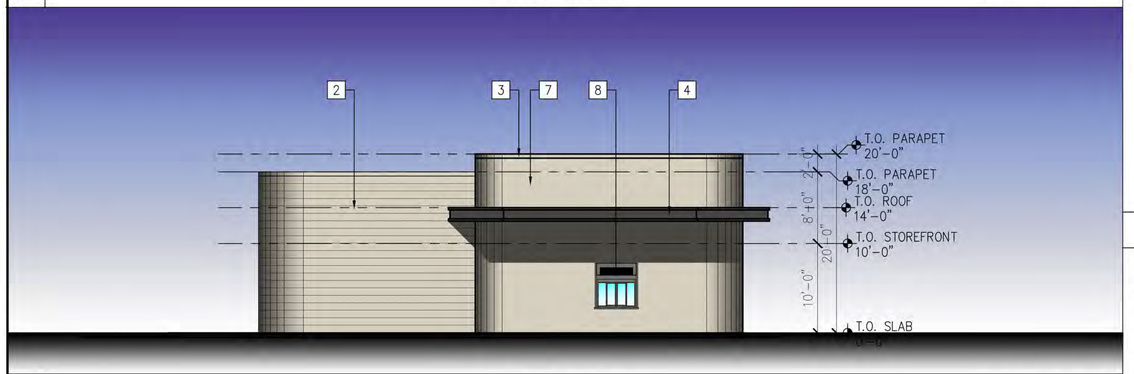
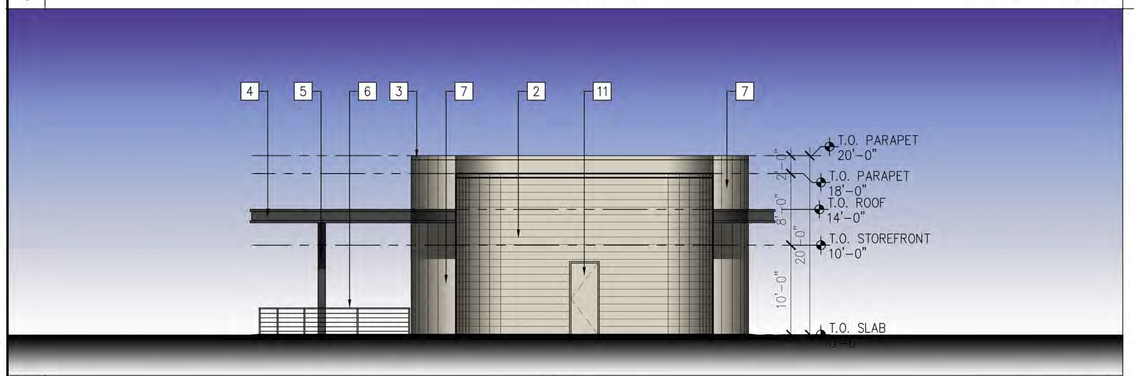


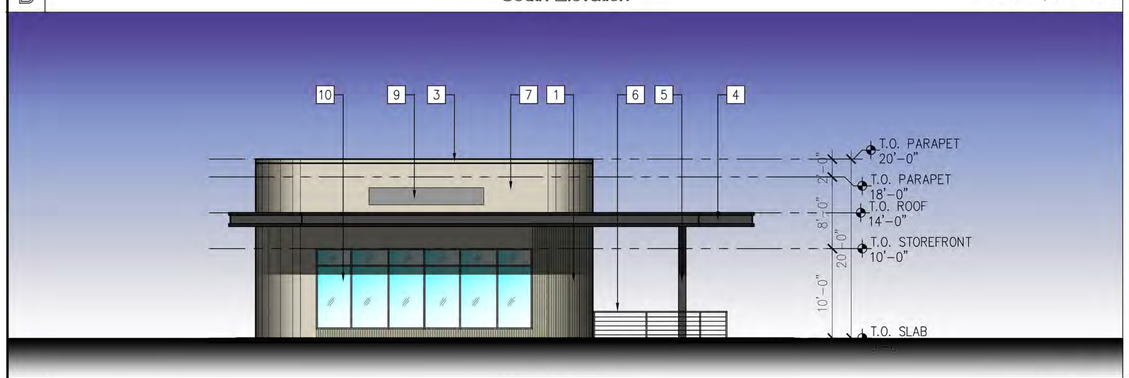
D West Elevation SCALE: 1/8"=1'-0"



C East Elevation SCALE: 1/8"=1'-0"



B South Elevation SCALE: 1/8"=1'-0"



A North Elevation SCALE: 1/8"=1'-0"

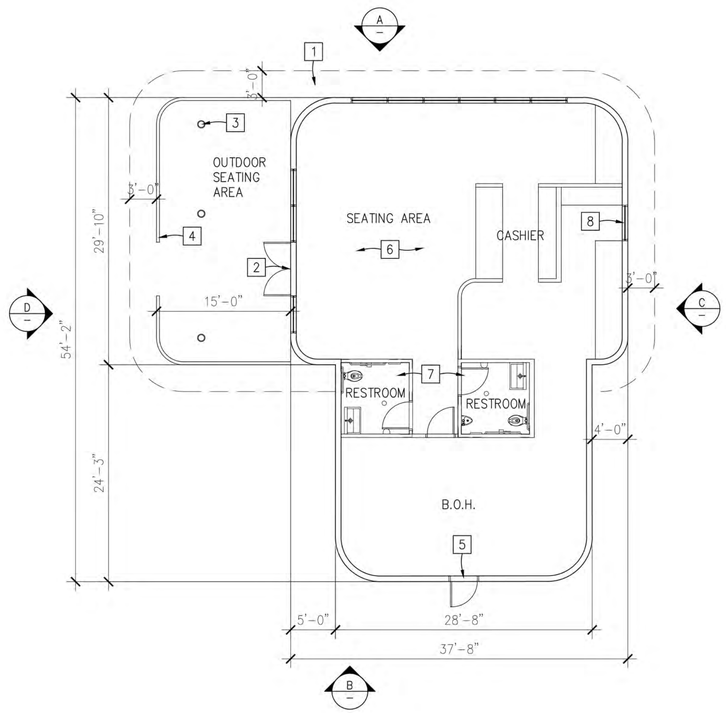
Reference Notes (Elevations)

1. STANDING SEAM METAL
2. CEMENT BOARD SIDING W/ PAINT FINISH
3. METAL COPING
4. C-CHANNEL METAL TO MATCH ADJ. WALL
5. METAL COLUMN
6. METAL RAILING
7. SMOOTH STUCCO W/ PAINT FINISH
8. DRIVE-THRU WINDOW
9. SIGNAGE
10. GLASS / ALUMN. STOREFRONT
11. METAL DOOR AND FRAME W/ PAINT FINISH TO MATCH ADJ. WALL

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

Reference Notes (Floor Plan)

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. METAL HANDRAIL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. SEATING AREA
7. RESTROOMS
8. DRIVE-THRU WINDOW



1 QSR #2 Floor Plan SCALE: 1/8" = 1'-0"

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D

West Elevation

SCALE: 1/8"=1'-0"

C

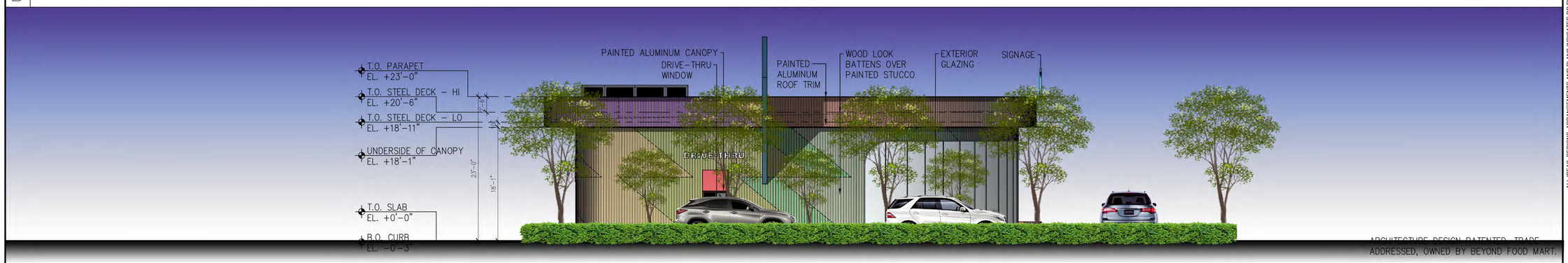
East Elevation

SCALE: 1/8"=1'-0"

B

South Elevation

SCALE: 1/8"=1'-0"



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A

North Elevation

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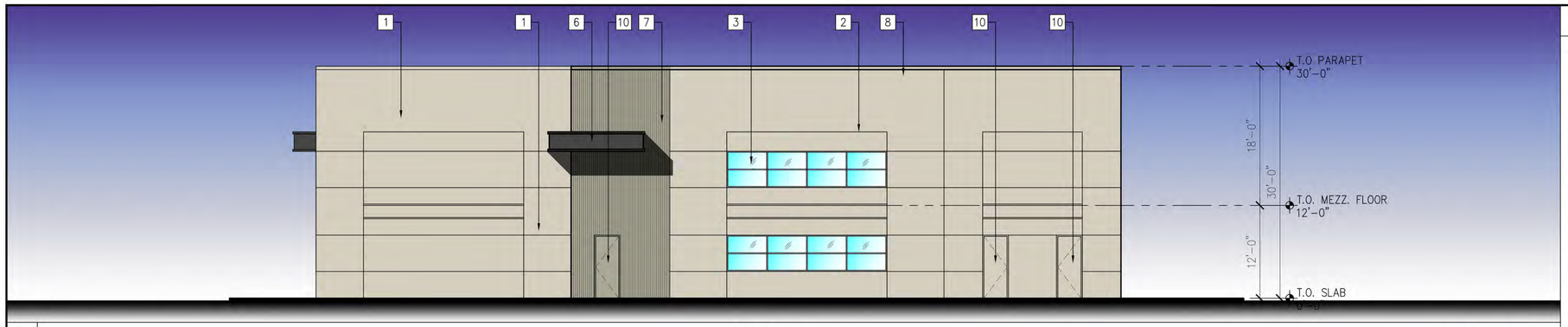

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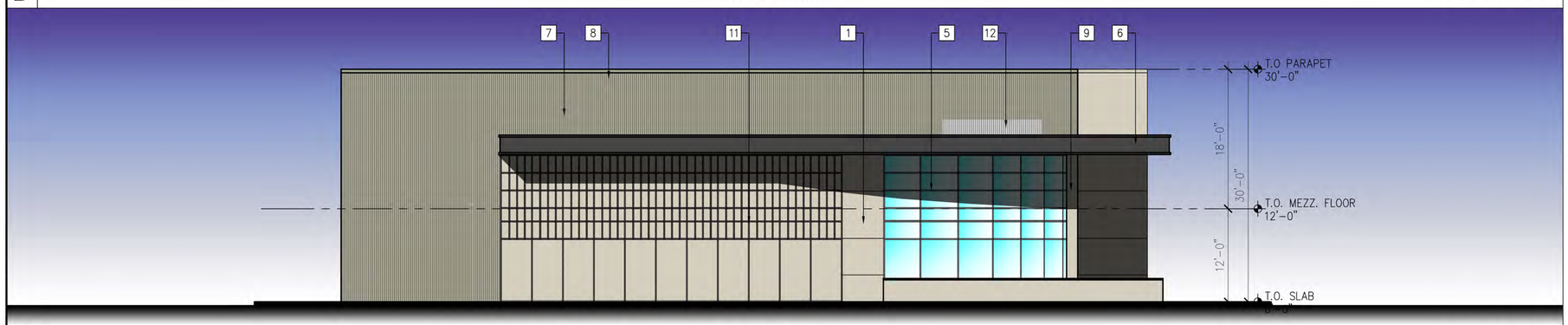

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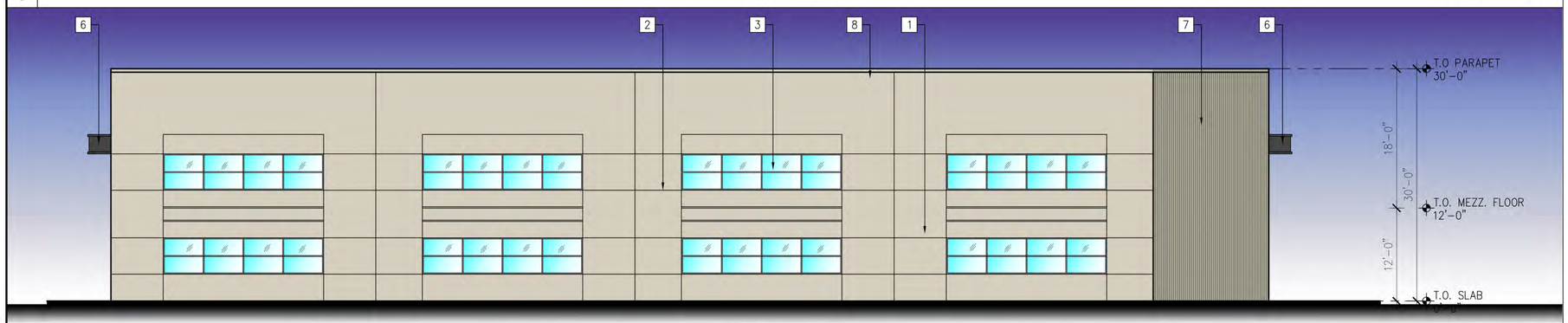
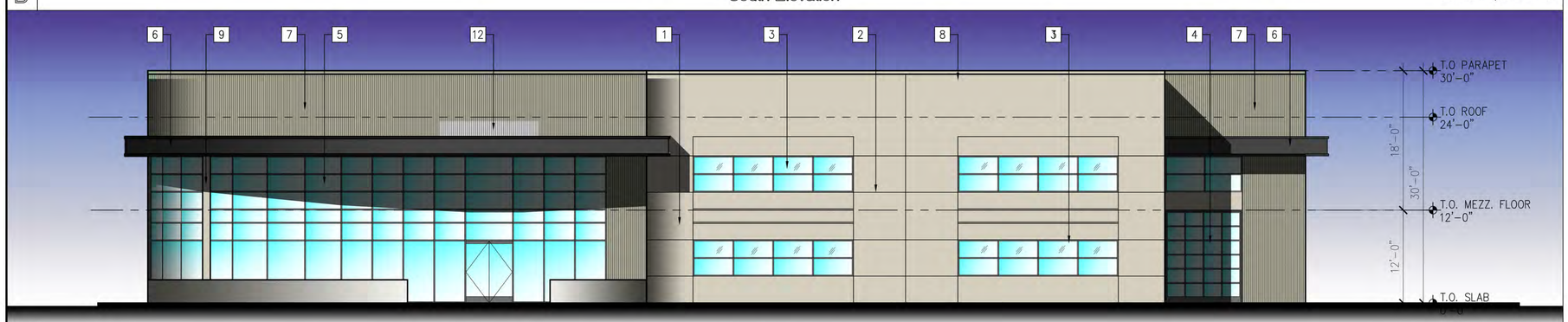


B South Elevation SCALE: 1/8"=1'-0"



A North Elevation SCALE: 1/8"=1'-0"

Reference Notes

1. TILT-UP CONCRETE W/ PAINTED FINISH
2. 2" REVEAL
3. ALUMN. WINDOW
4. METAL ROLL-UP DOOR
5. ALUMN. STOREFRONT
6. C-CHANNEL METAL
7. STANDING SEAM METAL
8. METAL COPING
9. COLUMN
10. METAL FRAME DOOR
11. ALUMINUM VERTICAL SHADING DEVICE
12. SIGNAGE

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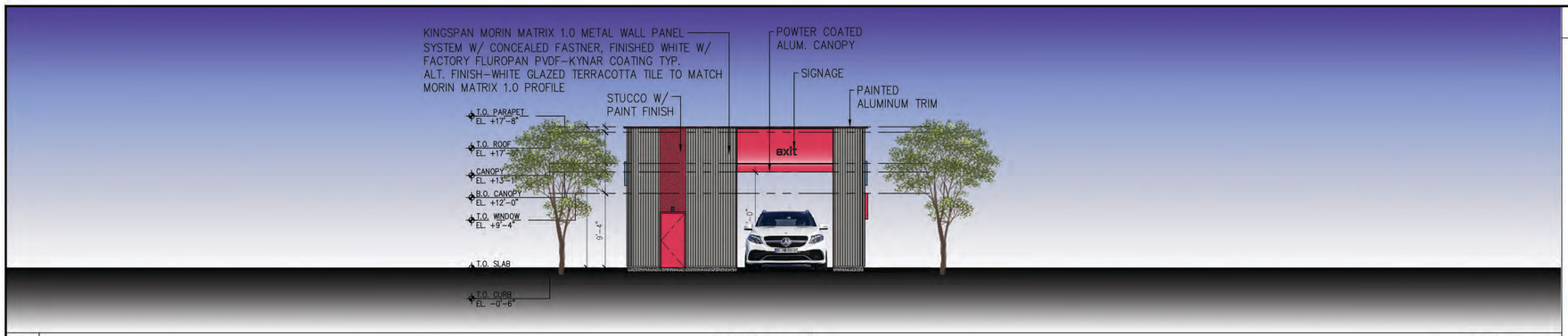

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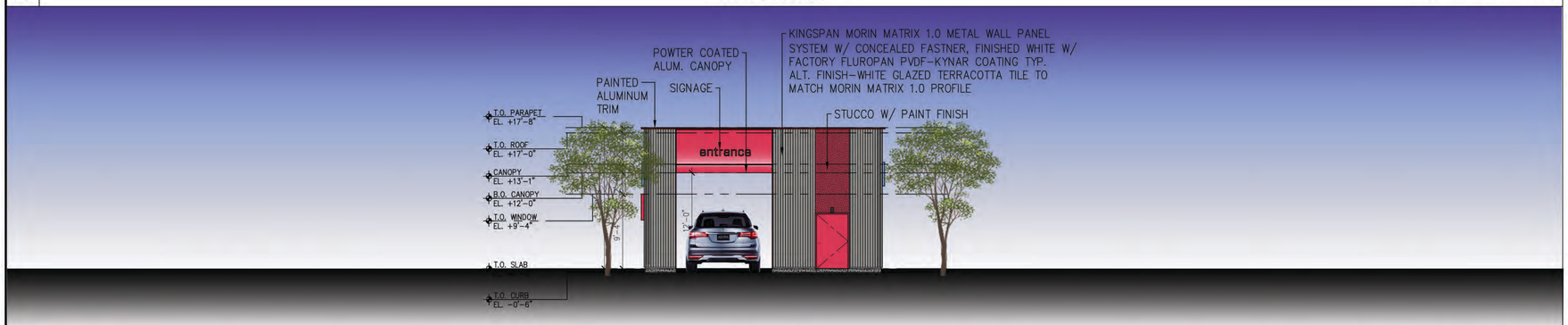

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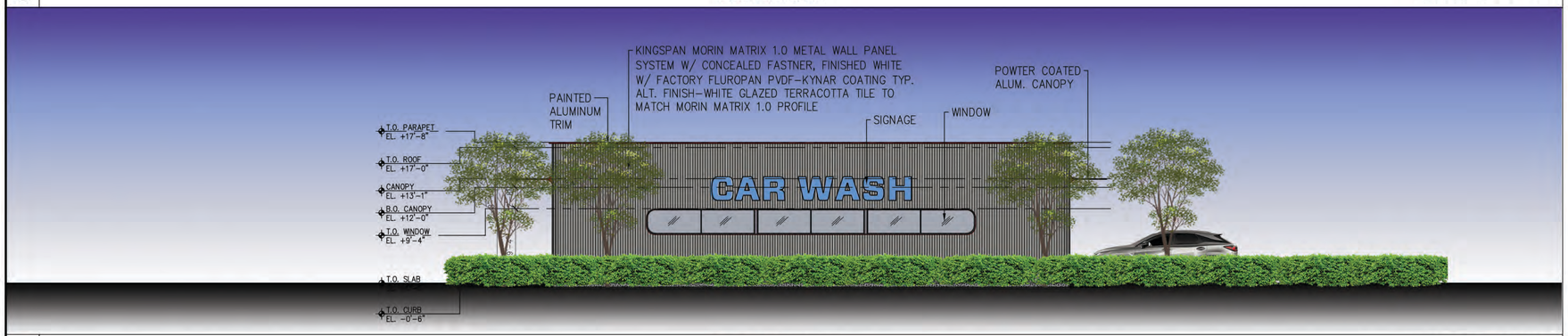
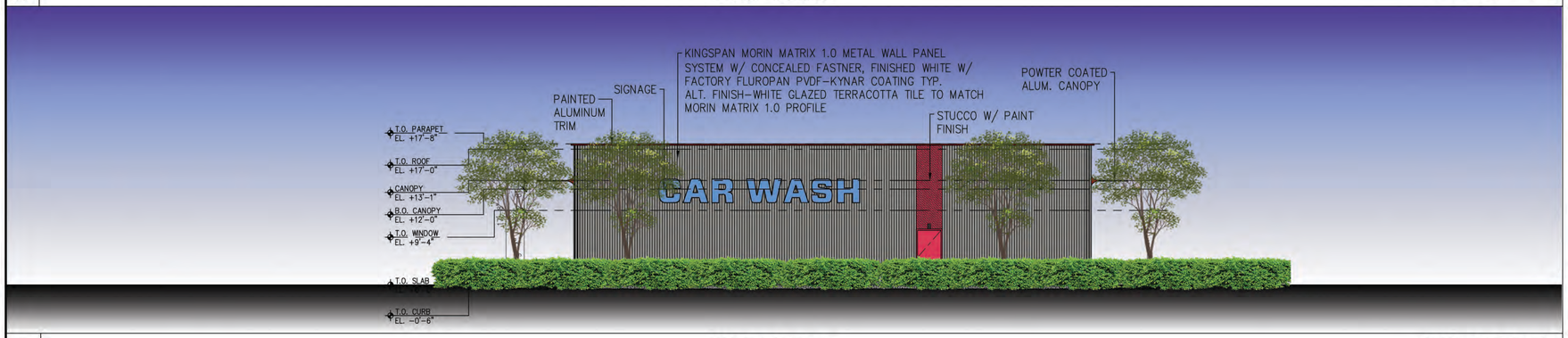


B South Elevation SCALE: 1/8"=1'-0"



A North Elevation SCALE: 1/8"=1'-0"

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Appendix 2

Air Quality, Global Climate Change, TAC, and Energy Impact Analysis

BEYOND FOOD MART (CLINTON KEITH ROAD & JANA LANE) AIR QUALITY, GLOBAL CLIMATE CHANGE, TAC, AND ENERGY IMPACT ANALYSIS

City of Wildomar

August 8, 2022 (Revised November 14, 2022)

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

BEYOND FOOD MART (CLINTON KEITH ROAD & JANA LANE) AIR QUALITY, GLOBAL CLIMATE CHANGE, TAC, AND ENERGY IMPACT ANALYSIS

City of Wildomar

August 8, 2022 (Revised November 14, 2022)

prepared by
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Project No. 19510

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EXECUTIVE SUMMARY

The purpose of this air quality, global climate change, toxic air contaminant (TAC), and energy impact analysis is to provide an assessment of the impacts resulting from development of the proposed Beyond Food Mart (Clinton Keith Road & Jana Lane) project and to identify measures that may be necessary to reduce potentially significant impacts.

Construction-Source Emissions

Project construction-source emissions would not exceed applicable regional thresholds of significance established by the South Coast Air Quality Management District (SCAQMD). For localized emissions, the project will not exceed applicable Localized Significance Thresholds (LSTs) established by the SCAQMD.

Project construction-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). As discussed herein, the project will comply with all applicable SCAQMD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Given the temporary and short-term construction schedule, the project would not result in a long-term (i.e., lifetime or 30-year) exposure to TACs as a result of project construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds and the nearest sensitive receptors to the project site are located approximately 50 feet (~15 meters) east and 115 feet (~35 meters) north of the project site. Therefore, impacts from TACs during construction would be less than significant.

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less than significant.

Operational-Source Emissions

Project operational-sourced emissions would not exceed applicable regional thresholds of significance established by the SCAQMD. Project operational-source emissions would not result in or cause a significant localized air quality or toxic air contaminant (TAC) impacts as discussed in the Operations-Related Local Air Quality Impacts section of this report. Additionally, project-related trips will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO "hotspots). Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

Project operational-source emissions would not conflict with the Basin AQMP. The project's emissions meet SCAQMD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less than significant.

Greenhouse Gases

With incorporation of sustainable design and compliance with regulation, regulatory compliance and credit for reductions due to CAPCOA location-based efficiency measures, project-related GHG emissions would not exceed the SCAQMD draft screening threshold of 3,000 metric tons of carbon dioxide equivalents (MTCO2e) per year for al land uses.

Furthermore, as the proposed project (with incorporation of sustainable design, regulatory compliance, and credit for reductions due to CAPCOA location-based efficiency measures) would not exceed the draft screening threshold of 3,000 metric tons of carbon dioxide equivalents (MTCO2e) per year, the project would not conflict with the goals of AB-32, SB-32, or the WRCOG Subregional Climate Action Plan. Therefore, with incorporation of sustainable design and compliance with regulation, the project would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases and impacts are considered to be less than significant.

Energy

For new development such as that proposed by the Beyond Food Mart (Clinton Keith Road & Jana Lane) project, compliance with California Building Standards Code Title 24 energy efficiency requirements (CALGreen), are considered demonstrable evidence of efficient use of energy. As discussed below, the project would provide for, and promote, energy efficiencies required under other applicable federal and State of California standards and regulations, and in so doing would meet or exceed all California Building Standards Code Title 24 standards. Moreover, energy consumed by the project's operation is calculated to be comparable to, or less than, energy consumed by other commercial uses of similar scale and intensity that are constructed and operating in California. On this basis, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Impacts are considered to be less than significant.

1. INTRODUCTION

This section describes the purpose of this air quality, global climate change, TAC, and energy impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

This study was performed to address the possibility of regional/local air quality impacts and global climate change impacts, from project related air emissions. The objectives of the study include:

- documentation of the atmospheric setting
- discussion of criteria pollutants and greenhouse gases
- discussion of the air quality and global climate change regulatory framework
- analysis of the construction related air quality and greenhouse gas emissions
- analysis of the operations related air quality and greenhouse gas emissions
- analysis of the conformity of the proposed project with the SCAQMD AQMP
- discussion of the project's TAC impacts
- analysis of the project's energy use during construction and operation
- recommendations for mitigation measures

The City of Wildomar is the lead agency for this air quality, global climate change, TAC, and energy analysis, in accordance with the CEQA authorizing legislation. Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with technical terms related to air quality and global climate change.

PROJECT LOCATION

The approximately 4.35-acre project site is located at the southwest corner of the intersection of Clinton Keith Road and Jana Lane in the City of Wildomar. The project site is currently vacant. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project includes a 16 fueling position convenience store/gas station and automated car wash, 3,800 square feet of fast-food restaurant with drive-through, and 14,500 square feet of warehouse use (composed of 11,230 SF of warehouse space and 3,270 SF of office space)[1]. The project site proposes one access driveway to Clinton Keith Road and three access driveways to Jana Lane. Figure 2 illustrates the proposed site plan.

PHASING AND TIMING

The proposed project is anticipated to be operational in 2024. The project is anticipated to be built in one phase with project construction to start no sooner than the beginning of January 2023 and be completed by September 2023. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario

[1] As the project-specific traffic study used 14,500 SF of general office space for the calculation of project-related traffic trips (as office uses generate more traffic than warehouse uses), this analysis also used 14,500 SF of office use for the emissions calculations.

even if construction was to 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]

Sensitive Receptors in Project Vicinity

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities (South Coast Air Quality Management District 2008). Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours.

The nearest sensitive receptors to the project site include the existing single-family detached residential dwelling units located approximately 50 feet (~15 meters) east, 115 feet (~35 meters) north, and 665 feet (~203 meters) to the southeast of the project site. Other air quality sensitive land uses are located further from the project site and would experience lower impacts.

[2] As shown in the California Emissions Estimator Model (CalEEMod) User's Guide Version 2020.4.0, Section 4.3.2 "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.

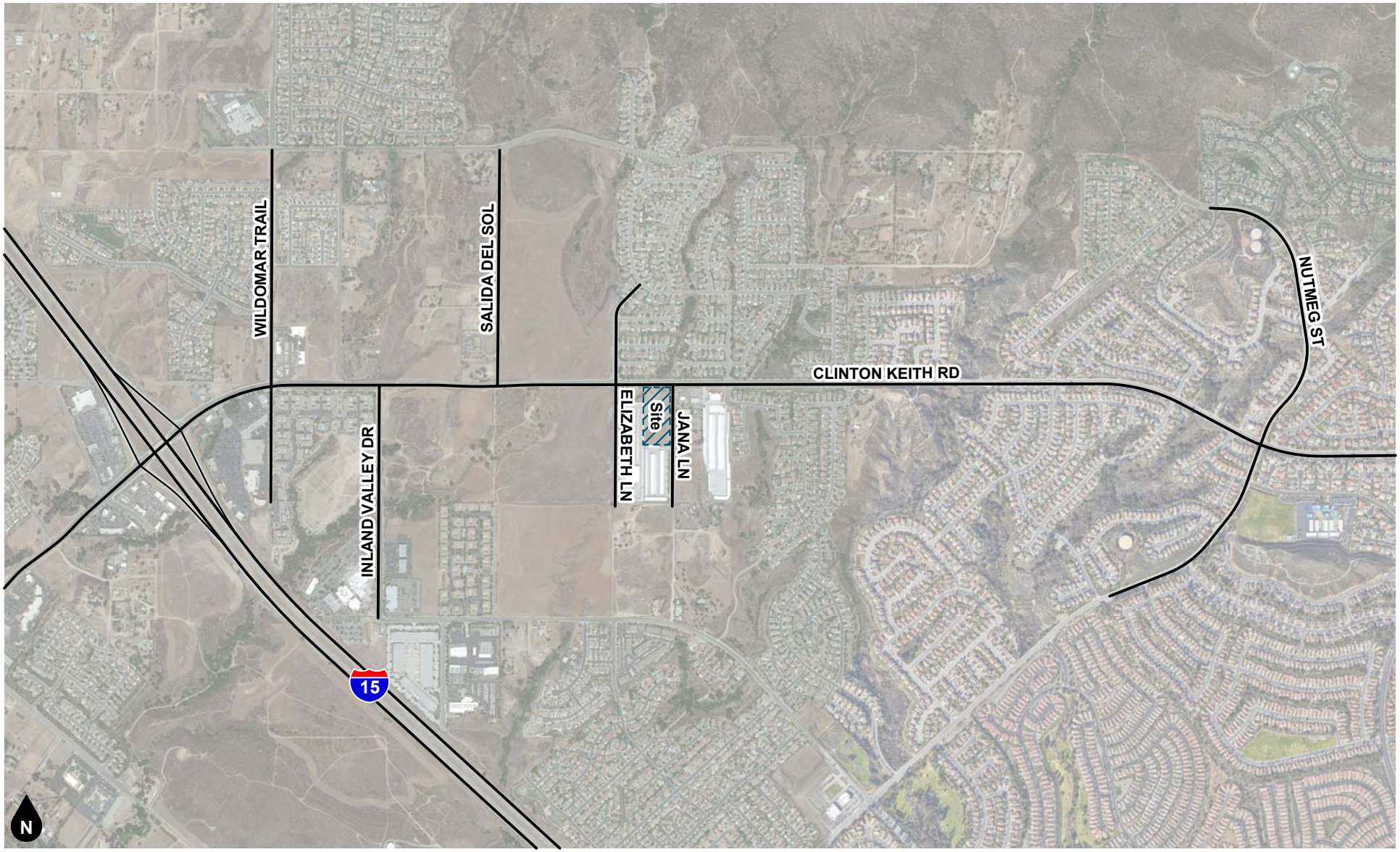

Figure 1
Project Location Map

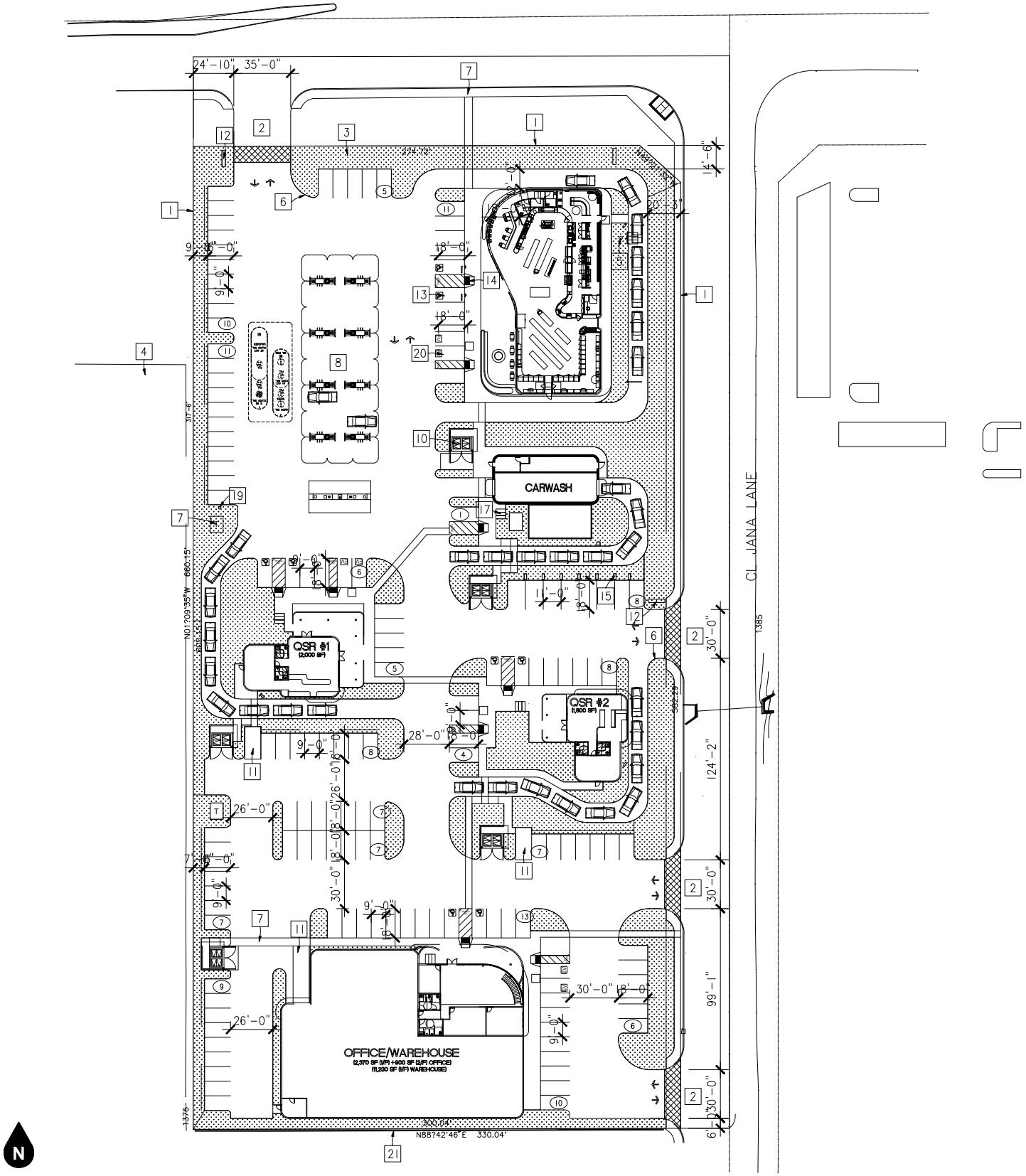

Figure 2
Site Plan

2. AIR QUALITY ANALYSIS

EXISTING AIR QUALITY CONDITIONS

Local Air Quality

The project site is located within the western portion of Riverside County, which is part of the South Coast Air Basin (Basin) that includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The South Coast Air Basin is located on a coastal plain with connecting broad valleys and low hills to the east. Regionally, the South Coast Air Basin is bounded by the Pacific Ocean to the southwest and high mountains to the east forming the inland perimeter. The project site is located toward the northeast portion of the South Coast Air Basin near the foot of the San Bernardino Mountains, which define the eastern boundary of the South Coast Air Basin.

The climate of western Riverside County, technically called an interior valley subclimate of the Southern California's Mediterranean-type climate, is characterized by hot dry summers, mild moist winters with infrequent rainfall, moderate afternoon breezes, and generally fair weather. Occasional periods of strong Santa Ana winds and winter storms interrupt the otherwise mild weather pattern. The clouds and fog that form along the area's coastline rarely extend as far inland as western Riverside County. When morning clouds and fog form, they typically burn off quickly after sunrise. The most important weather pattern from an air quality perspective is associated with the warm season airflow across the populated areas of the Los Angeles Basin. This airflow brings polluted air into western Riverside County late in the afternoon. This transport pattern creates unhealthful air quality that may extend to the project site particularly during the summer months.

Winds are an important parameter in characterizing the air quality environment of a project site because they both determine the regional pattern of air pollution transport and control the rate of dispersion near a source. Daytime winds in western Riverside County are usually light breezes from off the coast as air moves regionally onshore from the cool Pacific Ocean to the warm Mojave Desert interior of Southern California. These winds allow for good local mixing, but as discussed above, these coastal winds carry significant amounts of industrial and automobile air pollutants from the densely urbanized western portion of the South Coast Air Basin into the interior valleys which become trapped by the mountains that border the eastern edge of the South Coast Air Basin.

In the summer, strong temperature inversions may occur that limit the vertical depth through which air pollution can be dispersed. Air pollutants concentrate because they cannot rise through the inversion layer and disperse. These inversions are more common and persistent during the summer months. Over time, sunlight produces photochemical reactions within this inversion layer that creates ozone, a particularly harmful air pollutant. Occasionally, strong thermal convections occur which allows the air pollutants to rise high enough to pass over the mountains and ultimately dilute the smog cloud.

In the winter, light nocturnal winds result mainly from the drainage of cool air off of the mountains toward the valley floor while the air aloft over the valley remains warm. This forms a type of inversion known as a radiation inversion. Such winds are characterized by stagnation and poor local mixing and trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the basin, there is not enough vehicular volumes in inland valleys to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the project vicinity.

The temperature and precipitation levels for the Elsinore area (closest area with data in proximity to the site) are shown below in Table 1. Table 1 shows that August is typically the warmest month and December is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table 1
Local Monthly Climate Data

Descriptor	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Max. Temperature	66.0	67.7	72.3	77.7	83.8	91.0	97.7	98.6	93.4	83.4	70.4	65.8
Avg. Min. Temperature	38.9	40.9	43.4	47.0	52.5	56.5	61.0	62.5	58.9	52.0	42.1	38.5
Avg. Total Precipitation (in.)	2.56	2.68	1.77	0.67	0.2	0.05	0.16	0.05	0.17	0.59	0.9	2.11

Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2805
Data from the Elsinore, CA station (042805).

Pollutants

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

Criteria Pollutants

The criteria pollutants consist of: ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter. These pollutants can harm your health and the environment, and cause property damage. The Environmental Protection Agency (EPA) calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria for setting permissible levels. The following provides descriptions of each of the criteria pollutants.

Nitrogen Dioxides

Nitrogen Oxides (NOx) is the generic term for a group of highly reactive gases which contain nitrogen and oxygen. While most NOx are colorless and odorless, concentrations of nitrogen dioxide (NO_2) can often be seen as a reddish-brown layer over many urban areas. NOx form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOx are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. NOx reacts with other pollutants to form, ground-level ozone, nitrate particles, acid aerosols, as well as NO_2, which cause respiratory problems. NOx and the pollutants formed from NOx can be transported over long distances, following the patterns of prevailing winds. Therefore, controlling NOx is often most effective if done from a regional perspective, rather than focusing on the nearest sources.

Ozone

Ozone (O_3) is not usually emitted directly into the air but at ground-level is created by a chemical reaction between NOx and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents as well as natural sources emit NOx and VOC that help form O_3. Ground-level O_3 is the primary constituent of smog. Sunlight and hot weather cause ground-level O_3 to form with the greatest concentrations usually occurring downwind from urban areas. O_3 is subsequently considered a regional pollutant. Ground-level O_3 is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Because NOx and VOC are O_3 precursors, the health effects associated with O_3 are also indirect health effects associated with significant levels of NOx and VOC emissions.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are indoor sources of CO. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air. CO is described as having only a local influence because it dissipates quickly. Since CO concentrations are strongly associated with motor vehicle emissions, high CO concentrations generally occur in the immediate vicinity of roadways with high

traffic volumes and traffic congestion, active parking lots, and in automobile tunnels. Areas adjacent to heavily traveled and congested intersections are particularly susceptible to high CO concentrations.

CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. The health threat from lower levels of CO is most serious for those who suffer from heart disease such as angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Sulfur Dioxide

Sulfur Oxide (SOx) gases (including sulfur dioxide [SO_2]) are formed when fuel containing sulfur, such as coal and oil is burned, and from the refining of gasoline. SOx dissolves easily in water vapor to form acid and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and the environment.

Lead

Lead (Pb) is a metal found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase out of leaded gasoline, metal processing is now the primary source of lead emissions to the air. High levels of lead in the air are typically only found near lead smelters, waste incinerators, utilities, and lead-acid battery manufacturers. Exposure of fetuses, infants and children to low levels of lead 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 lead levels are associated with increased blood pressure.

Particulate Matter

Particulate matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. Particulate matter is made up of a number of components including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. Particles that are less than 10 micrometers in diameter (PM10) are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles that are less than 2.5 micrometers in diameter (PM2.5) have been designated as a subset of PM10 due to their increased negative health impacts and its ability to remain suspended in the air longer and travel further.

Reactive Organic Gases (ROG)

Although not a criteria pollutant, reactive organic gases (ROGs), or volatile organic compounds (VOCs), are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably. Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of O_3. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM10 and lower visibility.

Other Pollutants of Concern

Toxic Air Contaminants (TACs)

In addition to the above-listed criteria pollutants, TACs are another group of pollutants of concern. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different TACs. The most important of these TACs, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to TACs can result from emissions from normal operations as well as from accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death.

TACs are less pervasive in the urban atmosphere than criteria air pollutants, however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of TACs with varying degrees of toxicity. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to the 2013 California Almanac of Emissions and Air Quality, the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). Diesel particulate matter is a subset of PM2.5 because the size of diesel particles are typically 2.5 microns and smaller. The identification of diesel particulate matter as a TAC in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in diesel particulate matter by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot". Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of diesel particulate matter as a TAC was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to diesel particulate matter is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources.

Asbestos

Asbestos is listed as a TAC by the ARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. The nearest likely locations of naturally occurring asbestos, as identified in the General Location Guide for Ultramafic Rocks in California prepared by the California Division of Mines and Geology, is located at Asbestos Mountain in the San Jacinto Valley; approximately 44 miles east of the site. Due to the distance to the nearest natural occurrences of asbestos, the project site is not likely to contain asbestos.

Regulatory Setting

The proposed project is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

Federal – United States Environmental Protection Agency

The United States Environmental Protection Agency (USEPA) is responsible for setting and enforcing the NAAQS for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The NAAQS pollutants were identified using medical evidence and are shown below in Table 2.

The EPA and the California Air Resource Board (CARB) designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the Federal annual PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. Attainment status is shown in Table 3.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The State Implementation Plan (SIP) must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the State Implementation Plan (SIP).

As indicated below in Table 3, the Basin has been designated by the EPA as a non-attainment area for ozone (O_3) and suspended particulates (PM10 and PM2.5). Currently, the Basin is in attainment with the ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide (SO_2), suspended particulate matter (PM-2.5), and nitrogen dioxide (NO_2).

State – California Air Resources Board

The California Air Resources Board (CARB), which is a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the State Implementation Plan (SIP). The CAAQS for criteria pollutants are shown in Table 2. In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. Furthermore, the motor vehicle emission standards established by CARB include compliance with the Safer Affordable Fuel-Efficient Vehicles (SAFE) Rule, issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020). The SAFE Rule sets fuel economy and carbon dioxide standards that increase 1.5 percent in stringency each year from model years 2021 through 2026, and apply to both passenger cars and light trucks. CARB also sets fuel specifications to further reduce vehicular emissions.

The South Coast Air Basin has been designated by the CARB as a nonattainment area for ozone, PM10 and PM2.5. Currently, the South Coast Air Basin is in attainment with the ambient air quality standards for CO, lead, SO2, NO2, and sulfates and is unclassified for visibility reducing particles and Hydrogen Sulfide.

On June 20, 2002, the CARB revised the PM10 annual average standard to 20 µg/m3 and established an annual average standard for PM2.5 of 12 µg/m3. These standards were approved by the Office of Administrative Law in June 2003 and are now effective. On September 27, 2007 CARB approved the South Coast Air Basin and the Coachella Valley 2007 Air Quality Management Plan for Attaining the Federal 8-hour Ozone and PM2.5 Standards. The plan projected attainment for the 8-hour Ozone standard by 2024 and the PM2.5 standard by 2015.

On December 12, 2008 the CARB adopted Resolution 08-43, which limits NOx, PM10 and PM2.5 emissions from on-road diesel truck fleets that operate in California. On October 12, 2009 Executive Order R-09-010 was adopted that codified Resolution 08-43 into Section 2025, Title 13 of the California Code of Regulations. This regulation requires that by the year 2023 all commercial diesel trucks that operate in California shall meet model year 2010 (Tier 4) or latter emission standards. In the interim period, this regulation provides annual interim targets for fleet owners to meet. This regulation also provides a few exemptions including a onetime per year 3-day pass for trucks registered outside of California.

The CARB is also responsible for regulations pertaining to TACs. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into the South Coast Air Basin. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

AB 617 Nonvehicular air pollution: criteria air pollutants and toxic air contaminants

This bill requires the state board to develop a uniform statewide system of annual reporting of emissions of criteria air pollutants and TACs for use by certain categories of stationary sources. The bill requires those stationary sources to report their annual emissions of criteria air pollutants and TACs, as specified. This bill required the state board, by October 1, 2018, to prepare a monitoring plan regarding technologies for monitoring criteria air pollutants and TACs and the need for and benefits of additional community air monitoring systems, as defined. The bill requires the state board to select, based on the monitoring plan, the highest priority locations in the state for the deployment of community air monitoring systems. The bill requires an air district containing a selected location, by July 1, 2019, to deploy a system in the selected location. The bill would authorize the air district to require a stationary source that emits air pollutants in, or that materially affect, the selected location to deploy a fence-line monitoring system, as defined, or other specified real-time, on-site monitoring. The bill authorizes the state board, by January 1, 2020, and annually thereafter, to select additional locations for the deployment of the systems. The bill would require air districts that have deployed a system to provide to the state board air quality data produced by the system. By increasing the duties of air districts, this bill would impose a state-mandated local program. The bill requires the state board to publish the data on its Internet Web site.

Regional

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin. To that end, as a regional agency, the SCAQMD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies.

South Coast Air Quality Management District

The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. It has responded to this requirement by preparing a sequence of AQMPs. On June 30, 2016, the SCAQMD released its Draft 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air.

Air Quality Management Plan

The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the

region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NOx) emissions sufficiently to meet the upcoming ozone standard deadlines. On March 23, 2017 the CARB approved the 2016 AQMP. The primary goal of this AQMP is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the Plan has been approved by the CARB, it has been forwarded to the U.S. EPA for its review. The Plan was approved by the EPA on June 15, 2017.

South Coast AQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and Coachella Valley. To support the development of mobile source strategies for the 2022 AQMP, South Coast AQMD, in conjunction with California Air Resources Board, has established Mobile Source Working Groups which are open to all interested parties.

SCAQMD Rules and Regulations

During construction and operation, the project must comply with applicable rules and regulations. The following are rules that the project may be required to comply with, either directly, or indirectly:

SCAQMD Rule 402

Prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403

Governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors. Rule 403 measures may include but are not limited to the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.

- Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replanting disturbed areas as soon as practical.
- During all construction activities, construction contractors shall sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

SCAQMD Rule 445

Prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or any similarly enclosed, permanently installed, indoor or outdoor device burning any solid fuel for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour.

SCAQMD Rule 481

Applies to all spray painting and spray coating operations and equipment. The rule states that a person shall not use or operate any spray painting or spray coating equipment unless one of the following conditions is met:

(1) The spray coating equipment is operated inside a control enclosure, which is approved by the Executive Officer. Any control enclosure for which an application for permit for new construction, alteration, or change of ownership or location is submitted after the date of adoption of this rule shall be exhausted only through filters at a design face velocity not less than 100 feet per minute nor greater than 300 feet per minute, or through a water wash system designed to be equally effective for the purpose of air pollution control.
(2) Coatings are applied with high-volume low-pressure, electrostatic and/or airless spray equipment.
(3) An alternative method of coating application or control is used which has effectiveness equal to or greater than the equipment specified in the rule.

SCAQMD Rule 1108

Governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the South Coast Air Basin. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rule 1108.

SCAQMD Rule 1113

Governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.

SCAQMD Rule 1143

Governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

SCAQMD Rule 1186

Limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, state, county, agency or special district such as water, air, sanitation, transit, or school district.

SCAQMD Rule 1303

Governs the permitting of re-located or new major emission sources, requiring Best Available Control Measures and setting significance limits for PM_{10} among other pollutants.

SCAQMD Rule 1401

New Source Review of Toxic Air Contaminants, specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units, which emit toxic air contaminants.

SCAQMD Rule 1403

Asbestos Emissions from Demolition/Renovation Activities, specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM).

SCAQMD Rule 2202

On-Road Motor Vehicle Mitigation Options, is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. It applies to any employer who employs 250 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average.

SCAQMD Rule 2305

The Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program aims to reduce nitrogen oxide and diesel emissions associated with warehouses, help meet federal standards and improve public health. The WAIRE Program is an indirect source rule that regulates warehouse facilities to reduce emissions from the goods movement industry. Owners and operators of warehouses that have 100,000 square feet or more of indoor floor space in a single building must comply with the WAIRE Program. WAIRE is a menu-based point system in which warehouse operators are required to earn a specific number of points every year. The yearly number of points required is based on the number of trucks trips made to and from the warehouse each year, with larger trucks such as tractors or tractor-trailers multiplied by 2.5. Warehouse operators may be exempt from parts of the rule if they operate less than 50,000 square feet of warehousing activities, if the number of points required is less than 10, or if the WAIRE menu action chosen under performs due to circumstances beyond the operator's control, such as a manufacturer defect. SCAQMD Rule 316 establishes fees to fund Rule 2305 compliance activities.

Air Quality Guidance Documents

SCAQMD CEQA Handbook

Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate air quality issues associated with plans and new development projects throughout the South Coast Air Basin. Instead, this is controlled through local jurisdictions in accordance with the CEQA. In

order to assist local jurisdictions with air quality compliance issues the CEQA Air Quality Handbook (SCAQMD CEQA Handbook) prepared by the SCAQMD (1993) with the most current updates found at http://www.aqmd.gov/ceqa/hdbk.html, was developed in accordance with the projections and programs of the AQMP. The purpose of the SCAQMD CEQA Handbook is to assist Lead Agencies, as well as consultants, project proponents, and other interested parties in evaluating a proposed project's potential air quality impacts. Specifically, the SCAQMD CEQA Handbook explains the procedures that the SCAQMD recommends be followed for the environmental review process required by CEQA. The SCAQMD CEQA Handbook provides direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. SCAQMD is in the process of developing an "Air Quality Analysis Guidance Handbook" to replace the CEQA Air Quality Handbook approved by the AQMD Governing Board in 1993. The 1993 CEQA Air Quality Handbook is still available but not online. In addition, there are sections of the 1993 Handbook that are obsolete. In order to assist the CEQA practitioner in conducting an air quality analysis while the new Handbook is being prepared, supplemental information regarding: significance thresholds and analysis, emissions factors, cumulative impacts emissions analysis, and other useful subjects, are available at the SCAQMD website[3]. The SCAQMD CEQA Handbook and supplemental information is used in this analysis.

Southern California Association of Governments

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the Federally designated MPO for the majority of the southern California region and is the largest MPO in the nation. With respect to air quality planning, SCAG has prepared the Regional Transportation Plan and Regional Transportation Improvement Plan (RTIP), which addresses regional development and growth forecasts. These plans form the basis for the land use and transportation components of the AQMP, which are utilized in the preparation of air quality forecasts and in the consistency analysis included in the AQMP. The Regional Transportation Plan, Regional Transportation Improvement Plan, and AQMP are based on projections originating within the City and County General Plans.

On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS or Plan). The Plan is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The Plan charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It outlines more than $556.5 billion in transportation system investments through 2040. The Plan was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. In June 2016, SCAG received its conformity determination from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 FTIP Consistency Amendment through Amendment 15-12 have been met.

On May 7, 2020, SCAG's Regional Council adopted Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy) for federal transportation conformity purposes only. In light of the COVID-19 pandemic, the Regional Council will consider approval of Connect SoCal in its entirety and for all other purposes within 120 days from May 7, 2020. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. Connect SoCal outlines more than $638 billion in transportation system investments through 2045. It was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura.

[3] http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

Local – City of Wildomar

Local jurisdictions, such as the City of Wildomar, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City is also responsible for the implementation of transportation control measures as outlined in the 2016 AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

In accordance with the CEQA requirements, the City does not, however, have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the City and region will meet federal and state standards. Instead, the City relies on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

The City of Wildomar uses the County of Riverside's 2003 General Plan. The Air Quality Element of the County of Riverside General Plan (October 2003) summarizes air quality issues in the Basin, air quality-related plans and programs administered by federal, state, and special purpose agencies, and establishes goals and policies to improve air quality. These goals and policies in the Air Quality Element include:

AQ 1.1 Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.

AQ 1.2 Support the Southern California Association of Government's (SCAG) Regional Growth Management Plan by developing intergovernmental agreements with appropriate governmental entities such as the Western Riverside Council of Governments (WRCOG), the Coachella Valley Association of Governments (CVAG), sanitation districts, water districts, and those subregional entities identified in the Regional Growth Management Plan.

AQ 1.3 Participate in the development and update of those regional air quality management plans required under federal and state law, and meet all standards established for clean air in these plans. (AI 110)

AQ 1.4 Coordinate with the SCAQMD and MDAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.

AQ 1.5 Establish and implement air quality, land use and circulation measures that improve not only the County's environment but the entire regions.

AQ 1.6 Establish a level playing field by working with local jurisdictions to simultaneously adopt policies similar to those in this Air Quality Element.

AQ 1.7 Support legislation which promotes cleaner industry, clean fuel vehicles and more efficient burning engines and fuels.

AQ 1.8 Support the introduction of federal, state or regional enabling legislation to permit the County to promote inventive air quality programs, which otherwise could not be implemented.

AQ 1.9 Encourage, publicly recognize and reward innovative approaches that improve air quality.

AQ 1.10 Work with regional and local agencies to evaluate the feasibility of implementing a system of charges (e.g., pollution charges, user fees, congestion pricing and toll roads) that requires

individuals who undertake polluting activities to bear the economic cost of their actions where possible.

AQ 1.11 Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that effectively reduce airborne pollutants.

AQ 2.2 Require site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible.

AQ 4.1 Encourage the use of building materials/methods which reduce emissions.

AQ 4.2 Encourage the use of efficient heating equipment and other appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces and boiler units.

AQ 4.4 Require residential building construction to comply with energy use guidelines detailed in Title 24 of the California Administrative Code.

AQ 4.5 Require stationary pollutions sources to minimize the release of toxic pollutants through: design features, operating procedures, preventative maintenance, operator training, and emergency response planning.

AQ 4.6 Require stationary air pollution sources to comply with applicable air district rules and control measures.

AQ 4.7 To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, MDAQMD, SOCAB, the Environmental Protection Agency and the California Air Resources Board.

AQ 4.8 Expand, as appropriate, measures contained in the County's Fugitive Dust Reduction Program for the Coachella Valley to the entire County.

AQ 4.9 Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.

AQ 4.10 Coordinate with the SCAQMD and MDAQMD to create a communications plan to alert those conducting grading operations in the County of first, second, and third stage smog alerts, and when wind speeds exceed 25 miles per hour. During these instances all grading operations should be suspended.

AQ 5.4 Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

AQ 12.5 Encourage business owners to schedule deliveries at off-peak traffic periods.

AQ 15.1 Identify and monitor sources, enforce existing regulations, and promote stronger controls to reduce particulate matter.

AQ 16.1 Cooperate with local, regional, state and federal jurisdictions to better control particulate matter.

AQ 17.1 Reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way, and off-road vehicles to the extent possible.

AQ 17.3 Identify and create a control plan for areas within the County prone to wind erosion of soil.

AQ 17.4 Adopt incentives, regulations and/or procedures to manage paved and unpaved roads and parking lots so they produce the minimum practicable level of particulates.

AQ 17.5 Adopt incentives and/or procedures to limit dust from agricultural lands and operations, where applicable.

AQ 17.6 Reduce emissions from building materials and methods that generate excessive pollutants, through incentives and/or regulations.

Table 2
State and Federal Criteria Pollutant Standards

Air Pollutant	Concentration / Averaging Time		Most Relevant Effects
	California Standards	Federal Primary Standards	
Ozone (O_3)	0.09 ppm/1-hour 0.07 ppm/8-hour	0.070 ppm/8-hour	(a) Decline in pulmonary function and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage.
Carbon Monoxide (CO)	20.0 ppm/1-hour 9.0 ppm/8-hour	35.0 ppm/1-hour 9.0 ppm/8-hour	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses.
Nitrogen Dioxide (NO_2)	0.18 ppm/1-hour 0.03 ppm/annual	100 ppb/1-hour 0.053 ppm/annual	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO_2)	0.25 ppm/1-hour 0.04 ppm/24-hour	75 ppb/1-hour 0.14 ppm/annual	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM_{10})	50 µg/m^3/24-hour 20 µg/m^3/annual	150 µg/m^3/24-hour	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; (c) Increased risk of premature death from heart or lung diseases in elderly.
Suspended Particulate Matter ($PM_{2.5}$)	12 µg/m^3 / annual	35 µg/m^3/24-hour 12 µg/m^3/annual	
Sulfates	25 µg/m^3/24-hour	No Federal Standards	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) property damage.
Lead	1.5 µg/m^3/30-day	0.15 µg/m^3/3-month rolling	(a) Learning disabilities; (b) Impairment of blood formation and nerve conduction.
Visibility Reducing Particles	Extinction coefficient of 0.23 per kilometer-visibility of 10 miles or more due to particles when humidity is less than 70 percent.	No Federal Standards	Visibility impairment on days when relative humidity is less than 70 percent.

Source: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf

Table 3
South Coast Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment (Extreme)
Carbon monoxide	Attainment	Maintenance (Serious)
Nitrogen dioxide	Attainment	Maintenance (Primary)
Sulfur dioxide	Attainment	Attainment/Unclassified
PM10	Nonattainment	Maintenance (Serious)
PM2.5	Nonattainment	Nonattainment (Moderate)

Source (Federal and State Status): California Air Resources Board (2020) https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations & US EPA (2020) https://www.epa.gov/green-book.

MONITORED AIR QUALITY

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates of the existing emissions in the Basin provided in the Final 2016 AQMP prepared by SCAQMD (March 2017) indicate that collectively, mobile sources account for 60 percent of the VOC, 90 percent of the NOx emissions, 95 percent of the CO emissions and 34 percent of directly emitted PM2.5, with another 13 percent of PM2.5 from road dust.

The SCAQMD has divided the South Coast Air Basin into 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The project site is located in both the Temecula Valley Air Monitoring Area (Area 26). Data was taken from the Lake Elsinore – W Flint Street monitoring station (Lake Elsinore Station). The Lake Elsinore Station is located approximately 8.04 miles northwest of the project site at 506 W Flint Street, Lake Elsinore. Table 4 presents the monitored pollutant levels from the Lake Elsinore Station. . However, it should be noted that due to the air monitoring stations distances from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

Table 4 summarizes 2018 through 2020 published monitoring data, which is the most recent 3-year period available. The data shows that during the past few years, the project area has exceeded the ozone standards.

Ozone

During the 2018 to 2020 monitoring period, the State 1-hour concentration standard for ozone was exceeded between four and 18 days each year at the Lake Elsinore Station. The State 8-hour ozone standard has been exceeded between 31 and 55 days each year over the past three years at the Lake Elsinore Station. The Federal 8-hour ozone standard was exceeded between 28 and 54 days each year over the past three years at the Lake Elsinore Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The Lake Elsinore Station did not record an exceedance of the state or federal 8-hour CO standard for the last three years.

Nitrogen Dioxide

The Lake Elsinore Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Particulate Matter

There was insufficient data for the State 24-hour concentration standards for PM10 over the last three years at the Lake Elsinore Station. Over the past three years, of the Federal 24-hour standards for PM10 were exceeded for only one day in 2020 at the Lake Elsinore Station.

During the 2018 to 2020 monitoring period, there was insufficient data for the Federal 24-hour standard for PM2.5 at the Lake Elsinore Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

Table 4
Air Quality Monitoring Summary

Pollutant (Standard)[1]		Year		
		2018	2019	2020
Ozone:	Maximum 1-Hour Concentration (ppm)	0.116	0.108	0.130
	Days > CAAQS (0.09 ppm)	16	4	18
	Maximum 8-Hour Concentration (ppm)	0.096	0.089	0.100
	Days > NAAQS (0.070 ppm)	30	28	54
	Days > CAAQS (0.070 ppm)	31	31	55
Carbon Monoxide:	Maximum 8-Hour Concentration (ppm)	*	*	*
	Days > CAAQS (9 ppm)	0	0	0
	Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide:	Maximum 1-Hour Concentration (ppm)	0.041	0.038	0.044
	Days > CAAQS (0.18 ppm)	0	0	0
Inhalable Particulates (PM10):	Maximum 24-Hour Concentration (µg/m^3)	105.3	93.8	192.4
	Days > NAAQS (150 µg/m3)	0	0	1
	Days > CAAQS (50 µg/m3)	*	*	*
	Annual Average (µg/m3)	23.3	19.7	23.7
Ultra-Fine Particulates (PM2.5):	Maximum 24-Hour Concentration (µg/m3)	31.3	17.6	41.6
	Days > NAAQS (35 µg/m3)	*	*	*
	Annual Average (µg/m3)	6.7	*	7.2

Notes:

Source: http://www.arb.ca.gov/adam/topfour/topfour1.php. Data from the Lake Elsinore - W Flint Street Monitoring Station, unless otherwise noted.

(1) CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million

(2) Data taken from the Azusa monitoring station.

* Means there was insufficient data available to determine value.

AIR QUALITY STANDARDS

Significance Thresholds

Appendix G of the State CEQA Guidelines

Appendix G of the State CEQA Guidelines states that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make a significance determination. Pursuant to Appendix G, the project would result in a significant impact related to air quality if it would:

- Conflict with or obstruct the implementation of the applicable air quality plan;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The CEQA Guidelines Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the project are, therefore, evaluated according to thresholds developed by SCAQMD in their CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook, and subsequent guidance, which are listed below.[4] Therefore, the project would result in a potentially significant impact to air quality if it would:

AIR-1: Conflict with or obstruct the implementation of the applicable air quality plan;

AIR-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation as a result of:

- Criteria pollutant emissions during construction (direct and indirect) in excess of the SCAQMD's regional significance thresholds,
- Criteria pollutant emissions during operation (direct and indirect) in excess of the SCAQMD's regional significance thresholds.

AIR-3: 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors);

AIR-4: Expose sensitive receptors to substantial pollutant concentrations that would:

- Exceed SCAQMD's localized significance thresholds,
- Cause or contribute to the formation of CO hotspots.
- Cause the emission of TACs

AIR-5: Create objectionable odors affecting a substantial number of people.

[4] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from industrial land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

The SCAQMD is in the process of developing an Air Quality Analysis Guidance Handbook to replace the CEQA Air Quality Handbook. In the interim, supplemental guidance has been adopted by the SCAQMD. The potential air quality impacts of the project are, therefore, evaluated according to numeric indicators developed by the SCAQMD in the CEQA Air Quality Handbook and supplemental guidance from the SCAQMD.[5]

Regional Air Quality

Many air quality impacts that derive from dispersed mobile sources, which are the dominate pollution generators in the basin, often occurs hours later and miles away after photochemical processes have converted primary exhaust pollutants into secondary contaminants such as ozone. The incremental regional air quality impact of an individual project is generally very small and difficult to measure. Therefore, the SCAQMD has developed significance thresholds based on the volume of pollution emitted rather than on actual ambient air quality because the direct air quality impact of a project is not quantifiable on a regional scale. The SCAQMD CEQA Handbook states that any project in the South Coast Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 5.

Local Air Quality

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significance Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. The SCAQMD has also provided Final Localized Significance Threshold Methodology (LST Methodology), June 2003 (revised July 2008), which details the methodology to analyze local air emission impacts. The Localized Significance Threshold Methodology found that the primary emissions of concern are NO_2, CO, PM10, and PM2.5.

The significance thresholds for the local emissions of NO_2 and CO are determined by subtracting the highest background concentration from the last three years of these pollutants from Table 4 above, from the most restrictive ambient air quality standards for these pollutants that are outlined in the Localized Significance Thresholds. Table 5 shows the ambient air quality standards for NO_2, CO, and PM10 and PM2.5.

Toxic Air Contaminants

Construction

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during the construction phase of the Project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[6] and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[7] health effects from TACs are described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 30-year lifetime will contract cancer based on the use of standard risk-

[5] While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, Project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from residential land use projects such as the Project. As a result, lead emissions are not further evaluated herein.

[6] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[7] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003,http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2.

assessment methodology. Additionally, the SCAQMD CEQA guidance does not require a HRA for short-term construction emissions. Construction activities associated with the project would be sporadic, transitory, and short-term in nature (approximately 8 months). Thus, construction of the project would not result in a substantial, long-term (i.e., 30-year) source of TAC emissions. Nonetheless, a qualitative assessment of TAC emissions associated with short-term construction TAC emissions is provided in the analysis section below.

Operation

The project proposes to develop the site with commercial land uses. The site is proposed to be developed with a 7,460 square foot convenience store with 8 fuel pumps (16 vehicle fueling positions), a 1,790 square foot automated car wash tunnel, a 2,000 square foot fast-food restaurant with drive-through, an 1,800 square foot fast-food restaurant with drive-through, and a 14,500 square foot office building. The gas-station portion of the project will be permitted by SCAQMD and fuel-related emissions will be regulated by the SCAQMD Rule 461 and be required to obtain a Permit To Operate. Gasoline dispensing facilities are required to use Phase I/II EVR (enhanced vapor recovery) systems. Phase II EVR have an average efficiency of 95.1 percent and Phase I EVR have an average efficiency of 98 percent[8]. Therefore, potential for fugitive VOC or TAC emissions from the gasoline pumps is negligible. As such, the project will not be a significant source of toxic air contaminants and sensitive receptors (as close as approximately 215 feet [~66 meters] from the closest portion of the gasoline fueling canopy) would not be exposed to toxic sources of air pollution. However, a more-detailed analysis of the project's TAC emissions is provided in the analysis section below.

Odor Impacts

The SCAQMD CEQA Handbook states that an odor impact would occur if the proposed project creates an odor nuisance pursuant to SCAQMD Rule 402, which states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

If the proposed project results in a violation of Rule 402 with regards to odor impacts, then the proposed project would create a significant odor impact.

[8] Source: ARB's: Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities (12/23/2013), ARB's Attachment 1: Revised Emission Factors for Phase II Vehicle Fueling at California Gasoline Dispensing Facilities (12/23/2013)

Table 5
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction (lbs/day)	Operation (lbs/day)
NOx	100	55
VOC	75	55
PM10	150	150
PM2.5	55	55
SOx	150	150
CO	550	550
Lead	3	3

Toxic Air Contaminants, Odor and GHG Thresholds	
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index > 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
GHG	10,000 MT/yr CO2e for industrial projects

Ambient Air Quality Standards	
Pollutant	SCAQMD Standards
NO2 -1-hour average	0.18 ppm (338 µg/m^3)
PM10 -24-hour average Construction Operations	 10.4 µg/m^3 2.5 ug/m^3
PM2.5 -24-hour average Construction Operations	 10.4 µg/m^3 2.5 µg/m^3
SO2 1-hour average 24-hour average	 0.25 ppm 0.04 ppm
CO 1-hour average 8-hour average	 20 ppm (23,000 µg/m^3) 9 ppm (10,000 µg/m^3)
Lead 30-day average Rolling 3-month average Quarterly average	 1.5 µg/m^3 0.15 µg/m^3 1.5 µg/m^3

Source: http://www.aqmd.gov/ceqa/handbook/signthres.pdf

SHORT-TERM CONSTRUCTION EMISSIONS

Construction activities associated with the proposed project would have the potential to generate air emissions, TAC emissions, and odor impacts. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. The construction activities for the proposed project are anticipated to include: grading of approximately 4.35 acres; construction of a 7,460 square foot convenience store with 8 fuel pumps (16 vehicle fueling positions), a 1,790 square foot automated car wash tunnel, a 2,000 square foot fast-food restaurant with drive-through, a 1,800 square foot fast-food restaurant with drive-through, and a 14,500 square foot office building; paving of a parking lot with 182 parking spaces (includes 131 automobile spaces, 8 electric vehicle (EV) spaces, 4 loading/unloading spaces, and 39 drive through/car wash stacking spaces); and application of architectural coatings. Grading of the proposed project is anticipated to balance. See Appendix B for more details.

The Traffic Impact Analysis prepared for the project (Ganddini 2022) utilized the land use of Convenience Store/Gas Station – GFA (5.5-10k) (ITE 945) for the proposed convenience store with gasoline service station. As this land use is not available in CalEEMod's database, the next closest land use of Gasoline/Service Station (ITE 944) was utilized for the proposed convenience store with gasoline service station.

CalEEMod does not have a car wash land use available in its database. Therefore, the next closest land use available, Automobile Care center (ITE 942), was utilized for modeling purposes.

The proposed project is anticipated to start construction no sooner than the beginning of January 2023 and being completed by September 2023. The project is anticipated to be operational in 2024.

Methodology

The following provides a discussion of the methodology used to calculate regional construction air emissions and an analysis of the proposed project's short-term construction emissions for the criteria pollutants. The construction-related regional air quality impacts have been analyzed for both criteria pollutants and GHGs.

Emissions are estimated using the CalEEMod (Version 2020.40) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California and is recommended by the SCAQMD.[9]

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The input values used in this analysis were adjusted to be project-specific for the construction schedule and the equipment used was based on CalEEMod defaults. The CalEEMod program uses the EMFAC2017 computer program to calculate the emission rates specific for the western portion of Riverside County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck operations. EMFAC2017 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Daily truck trips and CalEEMod default trip length data were used to assess roadway emissions from truck exhaust. The maximum daily emissions are estimated values for the worst-case day and do not represent the emissions that would occur for every day of project construction. The maximum daily emissions are compared to the

[9] South Coast Air Quality Management District, California Emissions Estimator Model, http://www.aqmd.gov/caleemod/.

SCAQMD daily regional numeric indicators. Detailed construction equipment lists, construction scheduling, and emission calculations are provided in Appendix B.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project area (approximately 4.35 acres) a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD's Rule 403 minimum requirements require that the application of the best available dust control measures is used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rule 403 would require the use of water trucks during all phases where earth moving operations would occur. Compliance with Rule 403 has been included in the CalEEMod modeling for the proposed project.

Per SCAQMD Rule 1113 as amended on February 5, 2016, the architectural coatings that would be applied after January 1, 2014 will be limited to an average of 50 grams per liter or less of VOCs for building coatings and 100 grams per liter or less of VOCs for traffic coatings.

The phases of the construction activities which have been analyzed below for each phase are: (1) grading, (2) building construction, (3) paving, and (4) application of architectural coatings. Details pertaining to the project's construction timing and the type of equipment modeled for each construction phase are available in the CalEEMod output in Appendix B.

Construction-Related Regional Impacts

The construction-related criteria pollutant emissions for each phase are shown below in Table 6. Table 6 shows that none of the project's emissions will exceed regional thresholds. Therefore, a less than significant regional air quality impact would occur from construction of the proposed project.

Construction-Related Local Impacts

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The proposed project has been analyzed for the potential local air quality impacts created from: construction-related fugitive dust and diesel emissions; from TACs; and from construction-related odor impacts.

Local Air Quality Impacts from Construction

CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. The Appendix A Calculation Details for CalEEMod prepared by CAPCOA (October 2017) provides equipment-specific grading rates. . In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain the following parameters:

(1) The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.

(2) The maximum number of acres disturbed on the peak day.
(3) Any emission control devices added onto off-road equipment.
(4) Specific dust suppression techniques used on the day of construction activity with maximum emissions.

The CalEEMod output in Appendix B show the equipment used for this analysis.

As shown in Table 7, the maximum number of acres disturbed in a day would be 2.5 acres during grading. The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology prepared by SCAQMD (revised July 2008). The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. The emission thresholds were calculated based on the most conservative threshold from either the Temecula Valley source receptor area (SRA) 26 and a disturbance value of two acres per day, to be conservative. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. The nearest sensitive receptors to the project site are the existing single-family detached residential dwelling units located approximately 50 feet (~15 meters) to the east, 115 feet (~35 meters) to the north, and 665 feet (~203 meters) to the southeast of the project site; therefore, to be conservative, the SCAQMD Look-up Tables for 25 meters was used. Table 8 shows the on-site emissions from the CalEEMod model for the different construction phases and the LST emissions thresholds.

The data provided in Table 8 shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed project.

Construction-Related Human Health Impacts

Regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential effects of the pollutant. Because regional and local emissions of criteria pollutants during construction of the project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of project construction are not anticipated.

Construction-Related Toxic Air Contaminant Impacts

The greatest potential for TAC emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. According to the Office of Environmental Health Hazard Assessment (OEHHA)[10] and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[11] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 30-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 8 months), the project would not result in a long-term (i.e., lifetime or 30-year) exposure as a result of project construction. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds and the nearest sensitive receptors to the project site are located approximately 50 feet (~15 meters) to the east, 115 feet (~35 meters) to the north, and 665 feet (~203 meters) to the southeast of the project site.

[10] Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessment, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[11] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003,http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2.

The project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. The project would also comply with the requirements of SCAQMD Rule 1403 if asbestos is found during the renovation and construction activities. Therefore, impacts from TACs during construction would be less than significant.

Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected to cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors.

Table 6
Construction-Related Regional Pollutant Emissions

Activity		Pollutant Emissions (pounds/day)					
		ROG	NOx	CO	SO_2	PM10	PM2.5
Site Preparation	On-Site[1]	0.84	8.66	5.34	0.01	2.95	1.68
	Off-Site[2]	0.02	0.01	0.18	0.00	0.06	0.02
	Subtotal	0.85	8.67	5.52	0.01	3.01	1.69
Grading	On-Site[1]	1.71	17.94	14.75	0.03	3.54	2.05
	Off-Site[2]	0.05	0.04	0.55	0.00	0.17	0.05
	Subtotal	1.77	17.97	15.30	0.03	3.71	2.09
Building Construction	On-Site[1]	2.27	20.49	21.48	0.04	0.96	0.90
	Off-Site[2]	0.32	1.26	3.27	0.01	1.08	0.30
	Subtotal	2.59	21.74	24.75	0.05	2.04	1.20
Paving	On-Site[1]	1.16	8.79	12.19	0.02	0.44	0.40
	Off-Site[2]	0.07	0.05	0.73	0.00	0.22	0.06
	Subtotal	1.23	8.84	12.92	0.02	0.66	0.46
Architectural Coating	On-Site[1]	16.90	1.30	1.81	0.00	0.07	0.07
	Off-Site[2]	0.06	0.04	0.59	0.00	0.18	0.05
	Subtotal	16.96	1.34	2.40	0.00	0.25	0.12
Total for overlapping phases[3]		20.78	31.92	40.07	0.08	2.95	1.79
SCAQMD Thresholds		75	100	550	150	150	55
Exceeds Thresholds?		No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2020.4.0

(1) On-site emissions from equipment operated on-site that is not operated on public roads. On-site grading PM-10 and PM-2.5 emissions show mitigated values for fugitive dust for compliance with SCAQMD Rule 403.

(2) Off-site emissions from equipment operated on public roads.

(3) Construction, painting and paving phases may overlap.

Table 7
Maximum Number of Acres Disturbed Per Day

Activity	Equipment	Number	Acres/8hr-day	Total Acres
Site Preparation	Rubber Tired Dozers	1	0.5	0.5
	Crawler Tractors[1]	1	0.5	0.5
Total for phase		-	-	1
Grading	Rubber Tired Dozers	1	0.5	0.5
	Graders	1	0.5	0.5
	Crawler Tractors[1]	3	0.5	1.5
Total for phase		-	-	2.5

Notes:

Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2011b.

(1) Tractor/loader/backhoe is a suitable surrogate for a crawler tractor per SCAQMD staff.

Table 8
Local Construction Emissions at the Nearest Receptors

Activity	On-Site Pollutant Emissions (pounds/day)			
	NOx	CO	PM10	PM2.5
Site Preparation	8.66	5.34	2.95	1.68
Grading	17.94	14.75	3.54	2.05
Building Construction	20.49	21.48	0.96	0.90
Paving	8.79	12.19	0.44	0.40
Architectural Coating	1.30	1.81	0.07	0.07
SCAQMD Thresholds[1]	234	1,100	7	4
Exceeds Threshold?	No	No	No	No

Notes:

Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 2 acres, to be conservative, at a distance of 25 meters in SRA 26 Temecula Valley.

(1) The nearest sensitive receptors to the project include the existing single-family detached residential dwelling units located approximately 50 feet (~15 meters) to the east, 115 feet (~35 meters) to the north, and 665 feet (~203 meters) to the southeast of the project site; therefore, the 25 meter threshold was used.

Note: The project will disturb up to a maximum of 2.5 acres a day during grading (see Table 7).

LONG-TERM OPERATIONAL EMISSIONS

The on-going operation of the proposed project would result in a long-term increase in air quality emissions. This increase would be due to emissions from the project-generated vehicle trips and through operational emissions from the on-going use of the proposed project. The following section provides an analysis of potential long-term air quality impacts due to: regional air quality and local air quality impacts with the on-going operations of the proposed project.

Operations-Related Regional Air Quality Impacts

The potential operations-related air emissions have been analyzed below for the criteria pollutants and cumulative impacts.

Operations-Related Criteria Pollutants Analysis

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of the CalEEMod model. The operating emissions were based on the year 2024, which is the anticipated opening year for the proposed project. The operations daily emissions printouts from the CalEEMod model are provided in Appendix B. The CalEEMod analyzes operational emissions from area sources, energy usage, and mobile sources, which are discussed below.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips from the Beyond Food Mart (Clinton Keith Road & Jana Lane) Traffic Impact Analysis (TIA) prepared by Ganddini Group, Inc. (July 20, 2022) into the CalEEMod Model. The TIA found that the proposed project would create approximately 5,667 vehicle trips per day (includes incorporation of pass-by trip reductions) with trip generation rates of 214.38 trips per fuel pump per day (includes the 38 percent daily pass-by reduction) for the gasoline station with convenience store, 417.88 trips per thousand square foot per day for the car wash, 350.53 trips per thousand square foot per day for the fast-food restaurants with drive through (includes the 25 percent daily pass-by trip reduction), and 10.84 trips per thousand square foot per day for the office use. As the trip generation rates provided in the TIA were weekday rates, the Saturday and Sunday trip generation rates for the office and fast-food restaurant uses were taken from the Institute of Transportation Engineers (ITE) 11th Edition Manual (2021). However, as the car wash land use does not have a correlating ITE code and as the gasoline station with convenience store use utilized in the TIA does not have Saturday and Sunday trip rates available in the ITE manual, the weekday rates provided in the TIA were utilized for Saturday/Sunday for these land uses. The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions.

Area Sources

Per the CAPCOA Appendix A Calculation Details for CalEEMod, area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment. Per SCAQMD Rule 1113 will be limited to an average of 50 grams per liter or less of VOCs for building coatings and 100 grams per liter or less of VOCs for traffic coatings. No changes were made to the default area source parameters.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Project Impacts

The worst-case summer or winter criteria pollutant emissions created from the proposed project's long-term operations have been calculated and are shown below in Table 9. The results show that none of the SCAQMD regional thresholds would be exceeded. Therefore, a less than significant regional air quality impact would occur from operation of the proposed project.

Operations-Related Local Air Quality Impacts

Project-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The proposed project has been analyzed for the potential local CO emission impacts from the project-generated vehicular trips and from the potential local air quality impacts from on-site operations. The following analysis analyzes the vehicular CO emissions, local impacts from on-site operations per SCAQMD LST methodology, and odor impacts.

Local CO Emission Impacts from Project-Generated Vehicular Trips

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards which were presented above.

To determine if the proposed project could cause emission levels in excess of the CO standards discussed above, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general project vicinity. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse.

The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for CO exceedances in the South Coast Air Basin. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan). As discussed in the 1992 CO Plan, peak CO concentrations in the South Coast Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of particular intersections. Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of 1992 CO Plan and subsequent plan updates and air quality management plans. In the 1992 CO Plan, a CO hot spot analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: South Long Beach Boulevard and Imperial Highway (Lynwood); Wilshire Boulevard and Veteran Avenue (Westwood); Sunset Boulevard and Highland Avenue (Hollywood); and La Cienega Boulevard and Century Boulevard (Inglewood). These analyses did not predict a violation of CO standards. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the Level of Service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be Level of Service E during the morning peak hour and Level of Service F during the afternoon peak hour.

The TIA showed that the proposed project would generate a maximum of approximately 5,667 daily vehicle trips. The intersection with the highest traffic volume is located at I-15 Northbound Ramps and Clinton Keith

Road and has an Existing Plus Ambient Growth Plus Project Plus Cumulative Weekday PM peak hour volume of 1,718 vehicles. The 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) showed that an intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. Therefore, as the volume falls far short of 100,000 vehicles per day, no CO "hot spot" modeling was performed and no significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed project.

Local Air Quality Impacts from On-Site Operations

Project-related air emissions from on-site sources such as architectural coatings, landscaping equipment, on-site usage of natural gas appliances as well as the operation of vehicles on-site may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The nearest sensitive receptors that may be impacted by the proposed project are the existing single-family detached residential dwelling units located approximately 50 feet (~15 meters) to the east, 115 feet (~35 meters) to the north, and 665 feet (~203 meters) to the southeast of the project site.

The local air quality emissions from on-site operations were analyzed according to the methodology described in Localized Significance Threshold Methodology, prepared by SCAQMD, revised July 2008. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. Per SCAQMD staff, the 5-acre Look-up Table, which is the largest site available, can be used as a conservative screening analysis for on-site operational emissions to determine whether more-detailed dispersion modeling would be necessary. The proposed project was analyzed based on the Temecula Valley source receptor area (SRA) 26 and as the site is 4.35 acres, used an interpolated threshold for a 4-acre project site.[12]

Table 10 shows the on-site emissions from the CalEEMod model that includes natural gas usage, landscape maintenance equipment, and vehicles operating on-site and the calculated emissions thresholds. Per LST methodology, mobile emissions include only on-site sources which equate to approximately 10 percent of the project-related new mobile sources.[13] The data provided in Table 10 shows that the on-going operations of the proposed project would not exceed SCAQMD local operational thresholds of significance discussed above. Therefore, the on-going operations of the proposed project would create a less than significant operations-related impact to local air quality due to on-site emissions and no mitigation would be required.

Operations-Related Human Health Impacts

Regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential effects of the pollutant. Because regional and local emissions of criteria pollutants during operation of the project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of project operation are not anticipated.

[12] The project site is approximately 4.35 acres; therefore, the 4-acre thresholds were interpolated from the 2-acre and 5-acre thresholds in the SCAQMD's Mass Rate Look-up Tables.

[13] The project site is approximately 0.13 miles in length at its longest point; therefore the on-site mobile source emissions represent approximately 1/53th of the shortest CalEEMod default distance of 6.9 miles. Therefore, to be conservative, 1/10th the distance (dividing the mobile source emissions by 10) was used to represent the portion of the overall mobile source emissions that would occur on-site.

Operations-Related Toxic Air Contaminant Impacts

The CARB Air Quality and Land Use Handbook (CARB Handbook) provides an advisory recommendation that a 50-foot separation be provided between sensitive receptors and typical gasoline dispensing facilities. The project includes the construction and operation of an 8 fuel pumps (16 vehicle fueling positions) gas station which, per the project applicant, is anticipated to have up to approximately 750,000 gallons of throughput annually. The closest sensitive receptors to the proposed service station are located approximately 215 feet (~66 meters) from the closest portion of the gasoline fueling canopy and 260 feet (~79 meters) from the underground storage tanks.

The fuel pump-portion of the project will be permitted by SCAQMD and fuel-related emissions will be regulated by the SCAQMD Rule 461 and be required to obtain a Permit To Operate. Gasoline dispensing facilities are required to use Phase I/II EVR (enhanced vapor recovery) systems. Phase II EVR have an average efficiency of 95.1 percent and Phase I EVR have an average efficiency of 98 percent. Therefore, the potential for fugitive VOC or TAC emissions from the gasoline pumps is negligible.

Assuming 750,000 gallons per year of throughput for this gasoline-dispensing facility, using the SCAQMD Risk Assessment Procedures for Rules 1401, 1401.1 and 212[14] and the SCAQMD Permit Application Package "N"[15] and a downwind distance of 50 meters from the Lake Elsinore station[16], the residential cancer risk for the closest residential receptors is approximately 0.8063 in a million, which would not exceed the SCAQMD 10 in a million Maximum Incremental Cancer Risk (MICR) threshold.

As such, the project will not be a significant source of toxic air contaminants, or fugitive VOC emissions, and sensitive receptors would not be exposed to toxic sources of air pollution. Therefore, the project will not result in significant Localized Operational emissions-related impacts.

Operations-Related Odor Impacts

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from the intermittent diesel delivery truck emissions and trash storage areas. Due to the distance of the nearest receptors from the project site and through compliance with SCAQMD's Rule 402 no significant impact related to odors would occur during the on-going operations of the proposed project.

[14] http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12

[15] http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/attachmentn-v8-1.pdf?sfvrsn=4

[16] Closest station to the site with available data.

Table 9
Regional Operational Pollutant Emissions

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5
Area Sources[1]	0.69	0.00	0.02	0.00	0.00	0.00
Energy Usage[2]	0.04	0.37	0.31	0.00	0.03	0.03
Mobile Sources[3]	16.07	16.40	110.16	0.22	22.15	6.03
Total Emissions	16.80	16.77	110.49	0.22	22.18	6.06
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2020.4.0; the higher of either summer or winter emissions.

(1) Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

(2) Energy usage consists of emissions from generation of electricity and on-site natural gas usage.

(3) Mobile sources consist of emissions from vehicles and road dust.

Table 10
Local Operational Emissions at the Nearest Receptors

	On-Site Pollutant Emissions (pounds/day)[1]			
On-Site Emission Source	NOx	CO	PM10	PM2.5
Area Sources[2]	0.00	0.02	0.00	0.00
Energy Usage[3]	0.37	0.31	0.03	0.03
Vehicle Emissions[4]	1.64	11.02	2.21	0.60
Total Emissions	2.01	11.35	2.24	0.63
SCAQMD Thresholds[5,6]	325	1,677	3	2
Exceeds Threshold?	No	No	No	No

Notes:

(1) Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 4 acres in SRA 26.

(2) Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.

(3) Energy usage consists of emissions from on-site natural gas usage.

(4) On-site vehicular emissions based on 1/10 of the gross vehicular emissions and road dust.

(5) The nearest sensitive receptors to the project include the existing single-family detached residential dwelling units located approximately 50 feet (~15 meters) to the east, 115 feet (~35 meters) to the north, and 665 feet (~203 meters) to the southeast of the project site; therefore, the 25 meter threshold was used.

(6) The project site is approximately 4.35 acres; therefore, the 4-acre thresholds were interpolated from the 2-acre and 5-acre thresholds in the SCAQMD's Mass Rate Look-up Tables.

CUMULATIVE AIR QUALITY IMPACTS

There are a number of cumulative projects in the project area that have not yet been built or are currently under construction. Since the timing or sequencing of the cumulative projects is unknown, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be speculative. Further, cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered would cover an even larger area. The SCAQMD recommends using two different methodologies: (1) that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality;[17] and (2) that a project's consistency with the current AQMP be used to determine its potential cumulative impacts.

Project Specific Impacts

The project area is out of attainment for ozone, PM10, and PM2.5. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the South Coast Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic volumes from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant.

Project operations would generate emissions of NOx, ROG, CO, PM10, and PM2.5, which would not exceed the SCAQMD regional or local thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. Since the project would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. As indicated earlier, no violations of the state and federal CO standards are projected to occur for the project, based on the magnitude of traffic the project is anticipated to create. Therefore, operation of the project would not result in a cumulatively considerable net increase for non-attainment of criteria pollutants or ozone precursors. As a result, the project would result in a less than significant cumulative impact for operational emissions.

Air Quality Compliance

The CEQA requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD AQMP. Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency

[17] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution White Paper, 1993, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

with the AQMP". Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
(2) Whether the project will exceed the assumptions in the AQMP in 2016 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criteria 1 – Increase in the Frequency or Severity of Violations

Based on the air quality modeling analysis contained in this Air Analysis, short-term construction impacts will not result in significant impacts based on the SCAQMD regional and local thresholds of significance. This Air Analysis also found that, long-term operations impacts will not result in significant impacts based on the SCAQMD local and regional thresholds of significance.

Therefore, the proposed project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

Criteria 2 – Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The 2020-2045 Regional Transportation/Sustainable Communities Strategy prepared by SCAG (2020) includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this project, the City of Wildomar Land Use Plan defines the assumptions that are represented in the AQMP.

The project site has an existing land use designation of Business Park on the City of Wildomar General Plan Land Use Map and is zoned as Manufacturing Service Commercial (M-SC) on the City of Wildomar Zoning Map. As stated in the General Plan, the Business Park land use designation includes “employee intensive uses, including research & development, technology centers, corporate offices, “clean” industry and supporting retail uses.” The project proposes to develop the site with a 7,460 square foot convenience store with 8 fuel pumps (16 vehicle fueling positions), a 1,790 square foot automated car wash tunnel, a 2,000 square foot fast-food restaurant with drive-through, an 1,800 square foot fast-food restaurant with drive-through, and a 14,500 square feet of warehouse use (composed of 11,230 SF of warehouse space and 3,270 SF of office space). As the warehouse use would not attract a significant amount of truck traffic and is more like a manufacturing/R&D type “clean” industrial use, it is considered to be a compatible land use. Therefore, the proposed project would be consistent with the City’s existing land use designations. The proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMP for the second criterion.

Based on the above, the proposed project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur.

3. GLOBAL CLIMATE CHANGE ANALYSIS

EXISTING GREENHOUSE GAS ENVIRONMENT

Constituent gases of the Earth's atmosphere, called atmospheric GHGs, play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent GHGs contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone, water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these GHGs in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's GHG emissions, followed by electricity generation. Emissions of CO_2 and nitrous oxide (NOx) are byproducts of fossil fuel combustion. Methane, a potent GHG, results from off-gassing associated with agricultural practices and landfills. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. The following provides a description of each of the GHGs and their global warming potential.

Water Vapor

Water vapor 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 a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. 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 will continue is unknown as there is also dynamics that put the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also 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).

Carbon Dioxide (CO_2)

The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s. Each of these activities has increased in scale and distribution. CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change (IPCC Fifth Assessment Report, 2014) Emissions of CO_2 from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010. Globally, economic and population growth continued to be the most important drivers of increases in CO_2 emissions from fossil fuel combustion. The contribution of population growth between 2000 and 2010 remained roughly identical to the previous three decades, while the contribution of economic growth has risen sharply.

Methane (CH_4)

CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Its lifetime in the atmosphere is brief (10 to 12 years), compared to some other GHGs (such as CO_2, N_2O, and Chlorofluorocarbons (CFCs). 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 methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N_2O)

Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 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 also commonly used as an aerosol spray propellant, (i.e., in whipped cream bottles, in potato chip bags to keep chips fresh, and in rocket engines and in race cars).

Chlorofluorocarbons (CFC)

CFCs are gases formed synthetically by replacing all hydrogen atoms in methane 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. It was 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 in 1989 the European Community agreed to ban CFCs by 2000 and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now remaining level or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFC)

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. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFC)

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride (SF_6)

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated; 23,900 times that of CO_2. Concentrations in the 1990s were about 4 ppt. Sulfur hexafluoride 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.

Aerosols

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning due to the incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Global Warming Potential

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2). The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases. A summary of the atmospheric lifetime and the global warming potential of selected gases are summarized in Table 11. As shown in Table 11, the global warming potential of GHGs ranges from 1 to 22,800.

Table 11
Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime	Global Warming Potential[1] (100 Year Horizon)
Carbon Dioxide (CO_2)	–[2]	1
Methane (CH_4)	12	28-36
Nitrous Oxide (NO)	114	298
Hydrofluorocarbons (HFCs)	1-270	12-14,800
Perfluorocarbons (PFCs)	2,600-50,000	7,390-12,200
Nitrogen trifluoride (NF_3)	740	17,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Notes:

Source: http://www3.epa.gov/climatechange/ghgemissions/gases.html

(1) Compared to the same quantity of CO_2 emissions.

(2) Carbon dioxide's lifetime is poorly defined because the gas is not destroyed over time, but instead moves among different parts of the ocean–atmosphere–land system. Some of the excess carbon dioxide will be absorbed quickly (for example, by the ocean surface), but some will remain in the atmosphere for thousands of years, due in part to the very slow process by which carbon is transferred to ocean sediments.

GREENHOUSE GAS STANDARDS AND REGULATION

International

Montreal Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global climate change and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs.

Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete ozone in the stratosphere—CFCs, halons, carbon tetrachloride, and methyl chloroform—were to be phased out, with the first three by the year 2000 and methyl chloroform by 2005.

The Paris Agreement

The Paris Agreement became effective on November 4, 2016. Thirty days after this date at least 55 Parties to the United Nations Framework Convention on Climate Change (Convention), accounting in total for at least an estimated 55 % of the total global GHG emissions, had deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

The Paris Agreement built upon the Convention and – for the first time – attempted to bring all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

Federal

The USEPA is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate GHGs, but the EPA's reasons for not regulating this area did not fit the statutory requirements. As such, the

U.S. Supreme Court ruled that the EPA should be required to regulate CO_2 and other GHGs as pollutants under the federal Clean Air Act (CAA).

In response to the FY2008 Consolidations Appropriations Act (H.R. 2764; Public Law 110-161), EPA proposed a rule on March 10, 2009 that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of GHG Rule was signed and published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to EPA.

On December 7, 2009, the EPA Administrator signed two distinct findings under section 202(a) of the Clean Air Act. One is an endangerment finding that finds concentrations of the six GHGs in the atmosphere threaten the public health and welfare of current and future generations. The other is a cause or contribute finding, that finds emissions from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare. These actions will not themselves impose any requirements on industry or other entities. However, it is a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the EPA and Department of Transportation on September 15, 2009.

Clean Air Act

In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO2, CH4, N2O, HFCs, PFCs, and SF6) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Energy Independence Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[18]

Executive Order 13432

In response to the Massachusetts v. Environmental Protection Agency ruling, the President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. Light-Duty Vehicle GHG and Corporate Average Fuel Economy Standards.

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards (CAFE)[19] and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[20] In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025.

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[21]

On May 12, 2021, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking in the Federal Register, proposing to repeal "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program," published Sept. 27, 2019 (SAFE I Rule), in which NHTSA codified regulatory text and made additional pronouncements regarding the preemption of state and local laws related to fuel economy standards. Specifically, this document proposes to fully repeal the regulatory text and appendices promulgated in the SAFE I Rule. In addition, this document proposes to repeal and withdraw the interpretative statements made by the Agency in the SAFE I Rule preamble, including those

[18] A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

[19] The Corporate Average Fuel Economy standards are regulations in the United States, first enacted by Congress in 1975, to improve the average fuel economy of cars and light trucks. The U.S Department of Transportation has delegated the National Highway Traffic Safety Administration as the regulatory agency for the Corporate Average Fuel Economy standards.

[20] United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012, https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF.

[21] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

regarding the preemption of particular state Greenhouse Gas (GHG) Emissions standards or Zero Emissions Vehicle (ZEV) mandates. As such, this document proposes to establish a clean slate with respect to NHTSA's regulations and interpretations concerning preemption under the Energy Policy and Conservation Act (EPCA).[22]

State of California

California Air Resources Board

CARB, a part of the CalEPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (CAAQS), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, the California Air Resources Board (CARB) adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other TACs (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation, adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. Refer to Section IV.B, *Air Quality*, of this Draft EIR for additional details regarding these regulations. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

The State currently has no regulations that establish ambient air quality standards for GHGs. However, the State has passed laws directing CARB to develop actions to reduce GHG emissions, which are listed below.

Assembly Bill 1493

California Assembly Bill 1493 enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

[22] https://www.federalregister.gov/documents/2021/05/12/2021-08758/corporate-average-fuel-economy-cafe-preemption

Executive Order S-3-05

The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the CalEPA to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

Assembly Bill 32 (California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006)

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO2, CH4, N2O, HFCs, PFCs, and SF6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

Senate Bill 32 and Assembly Bill 197

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Climate Change Scoping Plan (2008)

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (Health and Safety Code section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap. The initial Scoping Plan was approved in 2008, and contains a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 MMTCO2e using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under no-action-taken (NAT) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 MMTCO2e (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 NAT emissions by 28.4 percent in order to meet the 1990 target of 427 MMTCO2e.

First Update to the Climate Change Scoping Plan (2014)

The First Update to the Scoping Plan was approved by CARB in May 2014 and builds upon the initial Scoping Plan with new strategies and recommendations. In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 MMTCO2e. CARB also updated the State's 2020 NAT emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 MMTCO2e.

2017 Climate Change Scoping Plan

In response to the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan at a public meeting held in December 2017. The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered the Scoping Plan Scenario and four alternatives for achieving the required GHG reductions but ultimately selected the Scoping Plan Scenario.

CARB states that the Scoping Plan Scenario "is the best choice to achieve the State's climate and clean air goals."[23] Under the Scoping Plan Scenario, the majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (i.e., utility providers to supply at least 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives were designed to consider various combinations of these programs, as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030. Implementing this Scoping Plan will ensure that California's climate actions continue to promote innovation, drive the generation of new jobs, and achieve continued reductions of smog and air toxics. The ambitious approach draws on a decade of successful programs that address the major sources of climate-changing gases in every sector of the economy:

- More Clean Cars and Trucks: The plan sets out far-reaching programs to incentivize the sale of millions of zero-emission vehicles, drive the deployment of zero-emission trucks, and shift to a cleaner system of handling freight statewide.
- Increased Renewable Energy: California's electric utilities are ahead of schedule meeting the requirement that 33 percent of electricity come from renewable sources by 2020. The Scoping Plan guides utilities to 50 percent renewables, as required under SB 350.
- Slashing Super-Pollutants: The plan calls for a significant cut in super-pollutants such as methane and HFC refrigerants, which are responsible for as much as 40 percent of global warming.
- Cleaner Industry and Electricity: California's renewed cap-and-trade program extends the declining cap on emissions from utilities and industries and the carbon allowance auctions. The auctions will continue to fund investments in clean energy and efficiency, particularly in disadvantaged communities.
- Cleaner Fuels: The Low Carbon Fuel Standard will drive further development of cleaner, renewable transportation fuels to replace fossil fuels.
- Smart Community Planning: Local communities will continue developing plans which will further link transportation and housing policies to create sustainable communities.
- Improved Agriculture and Forests: The Scoping Plan also outlines innovative programs to account for and reduce emissions from agriculture, as well as forests and other natural lands.

[23] California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

The 2017 Scoping Plan also evaluates reductions of smog-causing pollutants through California's climate programs.

SB 32, Pavley. California Global Warming Solutions Act of 2006

(1) The California Global Warming Solutions Act of 2006 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of greenhouse gases. The state board is required to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective greenhouse gas emissions reductions. This bill would require the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.
(2) This bill would become operative only if AB 197 of the 2015–16 Regular Session is enacted and becomes effective on or before January 1, 2017. AB 197 requires that the California Air Resources Board, which directs implementation of emission-reduction programs, should target direct reductions at both stationary and mobile sources. AB 197 of the 2015-2016 Regular Session was approved on September 8, 2016.

Executive Order S-1-07

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs the CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. . CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new 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.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. . Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

Senate Bill 97

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to the CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009, the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation".
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 375

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). The CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. The CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the SCAG jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by the CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

Senate Bill X7-7

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. In addition, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

Assembly Bill 939 and Senate Bill 1374

Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004, suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

California Code of Regulations (CCR) Title 24, Part 6

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established 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 efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. CalEEMod modeling defaults to 2008 standards. 2013 Standards were approved and have been effective since July 1, 2014. 2016 Standards were adopted January 1, 2017. 2019 standards were published July 1, 2019 and became effective January 1, 2020. All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.

Per Section 100 Scope, the 2019 Title 24, Part 6 Building Code now requires healthcare facilities, such as assisted living facilities, hospitals, and nursing homes, to meet documentation requirements of Title 24, Part 1 Chapter 7 – Safety Standards for Health Facilities. A healthcare facility is defined as any building or portion thereof licensed pursuant to California Health and Safety Code Division 2, Chapter 1, Section 1204 or Chapter 2, Section 1250.

Section 120.1 Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times. The 2019 version of the Code also completely revised the minimum ventilation requirements including DVC airflow rates within Section 120.1 Table 120.1–A. Table 120.1-A now includes air classification and recirculation limitations, these are based on either the number of occupants or the CFM/ft^2 (cubic feet per minute per square foot), whichever is greater.

Section 120.1 Ventilation and Indoor Air Quality also included additions for high-rise residential buildings. Requirements include that mechanical systems must provide air filters that and that air filters must be MERV 13 or use a particle size efficiency rating specified in the Energy Code. Window operation is no longer a method allowed to meet ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1.

Per Section 120.1(a) healthcare facilities must be ventilated in accordance with Chapter 4 of the California Mechanical Code and are NOT required to meet the ventilations requirements of Title 24, Part 6.

Section 140.4 Space Conditioning Systems included both additions and revisions within the 2019 Code. The changes provided new requirements for cooling tower efficiency, new chilled water-cooling system requirements, as well as new formulas for calculating allowed fan power. Section 140.4(n) also provide a new exception for mechanical system shut-offs for high-rise multifamily dwelling units, while Section 140.4(o) added new requirements for conditioned supply air being delivered to space with mechanical exhaust.

Section 120.6 Covered Processes added information in regards to adiabatic chiller requirements that included that all condenser fans for air-cooled converseness, evaporative-cooled condensers, adiabatic condensers, gas coolers, air or water fluid coolers or cooling towers must be continuously variable speed, with the speed of all fans serving a common condenser high side controlled in unison .Further, the mid-condensing setpoint must be 70 degrees Fahrenheit for all of the above mentioned systems.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

Section 130.2 Outdoor Lighting Controls and Equipment added automatic scheduling controls which included that outdoor lighting power must be reduced by 50 to 90 percent, turn the lighting off during unoccupied times and have at least two scheduling options for each luminaire independent from each other and with a 2-hour override function. Furthermore, motion sensing controls must have the ability to reduce power within 15 minutes of area being vacant and be able to come back on again when occupied. An exception allows for lighting subject to a health or life safety statute, ordinance, or regulation may have a minimum time-out period

longer than 15 minutes or a minimum dimming level above 50% when necessary to comply with the applicable law.

California Code of Regulations (CCR) Title 24, Part 11 (California Green Building Standards)

On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011.

2016 CALGreen Code: The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. During the 2016-2017 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle.

HCD also increased the required construction waste reduction from 50 percent to 65 percent of the total building site waste. This increase aids in meeting CalRecycle's statewide solid waste recycling goal of 75 percent for 2020 as stated in Chapter 476, Statutes of 2011 (AB 341). HCD adopted new regulations requiring recycling areas for multifamily projects of five or more dwelling units. This regulation requires developers to provide readily accessible areas adequate in size to accommodate containers for depositing, storage and collection of non-hazardous materials (including organic waste) for recycling. This requirement assists businesses that were required as of April 1, 2016, to meet the requirements of Chapter 727, Statutes of 2014 (AB 1826).

HCD adopted new regulations to require information on photovoltaic systems and electric vehicle chargers to be included in operation and maintenance manuals. Currently, CALGreen section 4.410.1 Item 2(a) requires operation and maintenance instructions for equipment and appliances. Photovoltaic systems and electric vehicle chargers are systems that play an important role in many households in California, and their importance is increasing every day. HCD incorporated these two terms in the existing language in order to provide clarity to code users as to additional systems requiring operation and maintenance instructions.

HCD updated the reference to Clean Air Standards of the USEPA applicable to woodstoves and pellet stoves. HCD also adopted a new requirement for woodstoves and pellet stoves to have a permanent label indicating they are certified to meet the emission limits. This requirement provides clarity to the code user and is consistent with the USEPA's New Source Performance Standards. HCD updated the list of standards which can be used for verification of compliance for exterior grade composite wood products. This list now includes four standards from the Canadian Standards Association (CSA): CSA O121, CSA O151, CSA O153 and CSA O325. HCD updated heating and air-conditioning system design references to the ANSI/ACCA 2 Manual J, ANSI/ACCA 1 Manual D, and ANSI/ACCA 3 Manual S to the most recent versions approved by ANSI. HCD adopted a new elective measure for hot water recirculation systems for water conservation. The United States Department of Energy estimates that 3,600 to 12,000 gallons of water per year can be saved by the typical household (with four points of hot water use) if a hot water recirculation system is installed.

2019 CALGreen Code: During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle.

HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of postconstruction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Executive Order B-29-15

Executive Order B-29-15, mandates a statewide 25 percent reduction in potable water usage. EO B-29-15 signed into law on April 1, 2015.

Executive Order B-37-16

Executive Order B-37-16, continuing the State's adopted water reductions, was signed into law on May 9, 2016. The water reductions build off the mandatory 25 percent reduction called for in EO B-29-15.

Executive Order N-79-20

Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for

drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

SBX1 2

Signed into law in April 2011, SBX1 2, requires one-third of the State's electricity to come from renewable sources. The legislation increases California's current 20 percent renewables portfolio standard target in 2010 to a 33 percent renewables portfolio standard by December 31, 2020.

Senate Bill 350

Signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Energy Sector and CEQA Guidelines Appendix F

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. The 2016 update to the Energy Efficiency Standards for Residential and Nonresidential Buildings focuses on several key areas to improve the energy efficiency of renovations and addition to existing buildings as well as newly constructed buildings and renovations and additions to existing buildings. The major efficiency improvements to the residential Standards involve improvements for attics, walls, water heating, and lighting, whereas the major efficiency improvements to the nonresidential Standards include alignment with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013 national standards. Furthermore, the 2016 update required that enforcement agencies determine compliance with CCR, Title 24, Part 6 before issuing building permits for any construction.[24]

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[25] As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2019 to include new mandatory measures for residential and nonresidential uses; the new measures took effect on January 1, 2020.

[24] California Energy Commission, 2016 Building Energy Efficiency Standards, June 2015, http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf

[25] California Building Standards Commission, 2010 California Green Building Standards Code, (2010).

Regional – South Coast Air Quality Management District

The project is within the South Coast Air Basin, which is under the jurisdiction of SCAQMD.

SCAQMD Regulation XXVII, Climate Change

SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for GHG emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

A variety of agencies have developed GHG emission thresholds and/or have made recommendations for how to identify a threshold. However, the thresholds for projects in the jurisdiction of the SCAQMD remain in flux. The CAPCOA explored a variety of threshold approaches but did not recommend one approach (2008). The ARB recommended approaches for setting interim significance thresholds (California Air Resources Board 2008b), in which a draft industrial project threshold suggests that non-transportation related emissions under 7,000 MTCO2e per year would be less than significant; however, the ARB has not approved those thresholds and has not published anything since then. The SCAQMD is in the process of developing thresholds, as discussed below.

SCAQMD Threshold Development

On December 5, 2008, the SCAQMD Governing Board adopted an interim GHG significance threshold for stationary sources, rules, and plans where the SCAQMD is lead agency (SCAQMD permit threshold). The SCAQMD permit threshold consists of five tiers. However, the SCAQMD is not the lead agency for this project. Therefore, the five permit threshold tiers do not apply to the proposed project.

The SCAQMD is in the process of preparing recommended significance thresholds for GHGs for local lead agency consideration ("SCAQMD draft local agency threshold"); however, the SCAQMD Board has not approved the thresholds as of the date of the Notice of Preparation. The current draft 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 a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:
  - All land use types: 3,000 MTCO2e per year
  - Based on land use type: residential: 3,500 MTCO2e per year; commercial: 1,400 MTCO2e per year; or mixed use: 3,000 MTCO2e per year.
  - Based on land type: Industrial (where SCAQMD is the lead agency), 10,000 MTCO2e per year.
- Tier 4 has the following options:
  - Option 1: Reduce emissions from business as usual (BAU) 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 MTCO2e/SP/year for projects and 6.6 MTCO2e/SP/year for plans;
- Option 3, 2035 target: 3.0 MTCO2e/SP/year for projects and 4.1 MTCO2e/SP/year for plans.

- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's draft threshold uses the Executive Order S-3-05 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap carbon dioxide concentrations at 450 ppm, thus stabilizing global climate. Specifically, the Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to a CEQA analysis, including a negative declaration, a mitigated negative declaration, or an environmental impact report, which includes analyzing feasible alternatives and imposing feasible mitigation measures. A GHG significance threshold based on a 90 percent 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 percent 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 staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 MMTCO2eq/year). 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 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.

SCAQMD Working Group

Since neither the CARB nor the OPR has developed GHG emissions threshold, the SCAQMD formed a Working Group to develop significance thresholds related to GHG emissions. At the September 28, 2010 Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that provides a quantitative annual threshold of 10,000 MTCO2e for industrial uses.

In order to assist local agencies with direction on GHG emissions, the SCAQMD adopted Rules 2700, 2701, 2702, and 3002 which are described below.

SCAQMD Rules 2700 and 2701

The SCAQMD adopted Rules 2700 and 2701 on December 5, 2008, which establishes the administrative structure for a voluntary program designed to quantify GHG emission reductions. Rule 2700 establishes definitions for the various terms used in Regulation XXVII – Global Climate Change. Rule 2701 provides specific protocols for private parties to follow to generate certified GHG emission reductions for projects within the district. Approved protocols include forest projects, urban tree planting, and manure management. The SCAQMD is currently developing additional protocols for other reduction measures. For a GHG emission reduction project to qualify, it must be verified and certified by the SCAQMD Executive Officer, who has 60 days to approve or deny the Plan to reduce GHG emissions. Upon approval of the Plan, the Executive Officer issues required to issue a certified receipt of the GHG emission reductions within 90 days.

SCAQMD Rule 2702

The SCAQMD adopted Rule 2702 on February 6, 2009, which establishes a voluntary air quality investment program from which SCAQMD can collect funds from parties that desire certified GHG emission reductions, pool those funds, and use them to purchase or fund GHG emission reduction projects within two years, unless extended by the Governing Board. Priority will be given to projects that result in co-benefit emission reductions of GHG emissions and criteria or toxic air pollutants within environmental justice areas. Further, this voluntary program may compete with the cap-and-trade program identified for implementation in CARB's Scoping Plan, or a Federal cap and trade program.

SCAQMD Rule 3002

The SCAQMD amended Rule 3002 on November 5, 2010 to include facilities that emit greater than 100,000 tons per year of CO_2e are required to apply for a Title V permit by July 1, 2011. A Title V permit is for facilities that are considered major sources of emissions.

Local – City of Wildomar

The City of Wildomar is a member of Western Riverside Council of Governments (WRCOG). Western Riverside County is establishing itself as a leader in energy efficiency and sustainability efforts and each of WRCOG's member jurisdictions are addressing climate change through different local programs. Twelve cities in Western Riverside County have joined efforts to develop a Subregional Climate Action Plan (CAP), which sets forth a subregional emissions reduction target, emissions reduction measures, and action steps to assist each community to demonstrate consistency with California's Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). In May of 2014, the WRGOG produced a Final Draft of their Subregional Climate Action Plan (CAP). WRCOG's subregional emissions reduction targets are 15% below 2010 levels by 2020, and 49% below 2010 levels by 2035. WRCOG is currently in the process of updating the Subregional CAP. The City of Wildomar is participating in the Subregional CAP.

SIGNIFICANCE THRESHOLDS

Appendix G of State CEQA Guidelines

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
- The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions[26].

Thresholds of Significance for this Project

To determine whether the project's GHG emissions are significant, this analysis uses the SCAQMD screening threshold of 3,000 MTCO2e per year for all land uses.

[26] The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

METHODOLOGY

The proposed project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste, water, and construction equipment. The following provides the methodology used to calculate the project-related GHG emissions and the project impacts.

CalEEMod Version 2020.4.0 was used to calculate the GHG emissions from the proposed project. The CalEEMod Annual Output for year 2024 is available in Appendix C. Each source of GHG emissions is described in greater detail below.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. No changes were made to the default area source emissions.

Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. No changes were made to the default energy usage parameters.

Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project have been analyzed by inputting the project-generated vehicular trips from the TIA into the CalEEMod Model. The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions. See Section 2 for details.

Waste

Waste includes the GHG emissions generated from the processing of waste from the proposed project as well as the GHG emissions from the waste once it is interred into a landfill. AB 341 requires that 75 percent of waste be diverted from landfills by 2020, reductions for this are shown in the mitigated CalEEMod output values. No other changes were made to the default waste parameters.

Water

Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. CALGreen required a 20 percent reduction in indoor water usage, reductions for this are shown in the mitigated CalEEMod output values. No other changes were made to the default water usage parameters.

Construction

The construction-related GHG emissions were also included in the analysis and were based on a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The construction-related GHG emissions were calculated by CalEEMod and in the manner detailed above in Section 2.

Sequestration

The analysis includes reduction of GHG emissions from the project design feature calling for the planting of approximately 116 new trees. The California Air Pollution Control Officers Association (CAPCOA) states that trees sequester carbon dioxide over 20 years of their life, after that, sequestration is nominal and outweighed

by tree maintenance-related emissions. The total sequestration value given in the Annual CalEEMod output (see Appendix C) was divided by 20 years to yield an annual value, which was then subtracted from the project's emissions.

PROJECT GREENHOUSE GAS EMISSIONS

The GHG emissions have been calculated based on the parameters described above. A summary of the results is shown below in Table 12 and the CalEEMod Model run for the proposed project is provided in Appendix C. Table 12 shows that the total for the proposed project's emissions (without credit for any reductions from sustainable design and/or regulatory requirements) would be 3,474.25 MTCO2e per year. According to the thresholds of significance established above, a cumulative global climate change impact would occur if the GHG emissions created from the on-going operations of the proposed project would exceed the SCAQMD draft threshold of 3,000 $MTCO_2e$ per year for all land uses. Therefore, as the total emissions for the proposed project would exceed the screening threshold of 3,000 MTCO2e per year, emissions reductions are required (see Section 5, Emissions Reduction Measures for details).

The data provided in Table 13 shows that with compliance with regulation and incorporation of sustainable design (compliance with regulation is shown as "mitigation" in the CalEEMod output), the proposed project's emissions would be reduced to 2,516.60 $MTCO_2e$ per year. The reduction comes from incorporation of the following CAPCOA-based reduction measures and regulatory compliance: utilizing low-flow fixtures that would reduce indoor water demand by 20% per CALGreen Standards, recycling programs that reduces waste to landfills by a minimum of 37 percent (per AB 341), utilizing Energy Star appliances, and utilizing water-efficient irrigation systems; and incorporation of the CAPCOA-based land use and site enhancement reduction measures: LUT-1 Increased Density, LUT-5 Increase Transit Accessibility, and SDT-1 Improve Pedestrian Network (see CalEEMod Annual Output in Appendix C for details).

Therefore, with compliance with regulation and incorporation of sustainable design, the proposed project's GHG emissions would no longer exceed the SCAQMD draft threshold of 3,000 $MTCO_2e$ per year for all land uses. Therefore, operation of the proposed project would not create a significant cumulative impact to global climate change.

Table 12
Project-Related Greenhouse Gas Emissions

Category	Greenhouse Gas Emissions (Metric Tons/Year)					
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Area Sources[1]	0.00	0.01	0.01	0.00	0.00	0.01
Energy Usage[2]	0.00	149.44	149.44	0.01	0.00	150.26
Mobile Sources[3]	0.00	3,194.81	3,194.81	0.22	0.19	3,255.85
Waste[4]	14.76	0.00	14.76	0.87	0.00	36.57
Water[5]	1.30	13.21	14.52	0.14	0.00	18.88
Construction[6]	0.00	12.55	12.55	0.00	0.00	12.69
Total Emissions	16.07	3,370.01	3,386.08	1.24	0.19	3,474.25
SCAQMD Draft Screening Threshold						3,000
Exceeds Threshold?						**Yes**

Notes:

Source: CalEEMod Version 2020.4.0 for Opening Year 2024.

(1) Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.

(2) Energy usage consist of GHG emissions from electricity and natural gas usage.

(3) Mobile sources consist of GHG emissions from vehicles.

(4) Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.

(5) Water includes GHG emissions from electricity used for transport of water and processing of wastewater.

(6) Construction GHG emissions CO2e based on a 30 year amortization rate.

Table 13
Project-Related Greenhouse Gas Emissions With Incorporation of Sustainable Design/Regulation

Category	Greenhouse Gas Emissions (Metric Tons/Year)					
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Area Sources[1]	0.00	0.01	0.01	0.00	0.00	0.01
Energy Usage[2]	0.00	147.72	147.72	0.01	0.00	148.54
Mobile Sources[3]	0.00	2,271.83	2,271.83	0.19	0.14	2,320.61
Waste[4]	9.30	0.00	9.30	0.55	0.00	23.04
Water[5]	1.04	11.31	12.36	0.11	0.00	15.85
Construction[6]	0.00	12.53	12.53	0.00	0.00	12.66
Sequestration[7]						-4.11
Total Emissions	10.34	2,443.39	2,453.73	0.85	0.15	2,516.60
SCAQMD Draft Screening Threshold						3,000
Exceeds Threshold?						No

Notes:

Source: CalEEMod Version 2020.4.0 for Opening Year 2024.

(1) Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.
(2) Energy usage consist of GHG emissions from electricity and natural gas usage.
(3) Mobile sources consist of GHG emissions from vehicles.
(4) Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
(5) Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
(6) Construction GHG emissions CO2e based on a 30 year amortization rate.
(7) CO2 sequestration from the planting of ~116 trees (82.128/20 years [trees' lifetime])

Consistency With Applicable Greenhouse Gas Reduction Plans and Policies

The proposed 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 greenhouse gases. The applicable plan for the proposed project is the WRCOG Subregional Climate Action Plan, which includes goals and policies such as those pertaining to energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled that are applicable to the proposed project.

As stated previously, the SCAQMD's tier 3 thresholds used Executive Order S-3-05 goal as the basis for deriving the screening level. The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels
- 2020: Reduce greenhouse gas emissions to 1990 levels
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012.

Therefore, as the project's emissions, with compliance with regulation and incorporation of sustainable design, meet the threshold for compliance with Executive Order S-3-05, the project's emissions also comply with the goals of AB 32 and the CARB Scoping Plan. The project's consistency with the CARB Scoping Plan is analyzed in Table 13a of this report. Additionally, with compliance with regulation and incorporation of sustainable design, as the project meets the current interim emissions targets/thresholds established by SCAQMD, the project would also be on track to meet the reduction target of 40 percent below 1990 levels by 2030 mandated by SB 32. Furthermore, many of the post 2020 reductions in GHG emissions are addressed via regulatory requirements at the State level and the project will be required to comply with these regulations as they come into effect. The project's consistency with the WRCOG Subregional CAP Local Reductions Measures is also analyzed in Table 23 of this report.

At a level of 2,516.60 $MTCO_2e$ per year, with compliance with regulation and incorporation of sustainable design, the project's GHG emissions fall below the SCAQMD draft threshold of 3,000 $MTCO_2e$ per year for all land use types and is in compliance with the reduction goals of the WRCOG Subregional Climate Action Plan, the CARB Scoping Plan, AB 32 and SB 32. Furthermore, the project will comply with applicable Green Building Standards and City of Wildomar's policies regarding sustainability (as dictated by the City's General Plan); impacts are considered to be less than significant.

Cumulative Greenhouse Gas Impacts

Although the project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[27] The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

[27] Source: California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).

The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Consistent with CEQA Guidelines Section 15064h(3),[28] the City, as lead agency, has determined that the project's contribution to cumulative GHG emissions and global climate change would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions.

As discussed in the Consistency With Applicable Greenhouse Gas Reduction Plans and Policies section above, with compliance with regulation and incorporation of sustainable design, the project is consistent with the goals and objectives of the CARB Scoping Plan and the WRCOG Subregional Climate Action Plan.

Thus, given the project's consistency with the WRCOG Subregional Climate Action Plan and SCAQMD's 3000 MTCO2e per year threshold for all land uses, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Given this consistency, it is concluded that the project's incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable.

[28] The State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."

Table 13a
Project Consistency with CARB Scoping Plan Policies and Measures[1]

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	No conflict. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, will comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	No conflict. The project will be compliant with the current Title 24 standards.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	No conflict. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, will comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	No conflict. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, will comply with the strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	No conflict. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, will comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	No conflict. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	No conflict. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	No conflict. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	No conflict. The project will comply with all applicable City ordinances and CAL Green requirements.

2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	No conflict. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	No conflict. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, will comply with the strategy.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent 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-NOX standard.	No conflict. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, will comply with the strategy.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX 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 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	No conflict. These are CARB enforced standards; vehicles that access the project, that are required to comply with the standards, will comply with the strategy.
Implement SB 350 by 2030: 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.	No conflict. The project will be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	No conflict. The project will be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341.

Notes:

(1) Source: CARB Scoping Plan (2008 and 2017)

4. ENERGY ANALYSIS

EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the project area and region.

Overview

California's estimated annual energy use as of 2020 included:

- Approximately 272,576 gigawatt hours of electricity;[29]
- Approximately 2,074,302 million cubic feet of natural gas per year;[30] and
- Approximately 23.2 billion gallons of transportation fuel (for the year 2015).[31]

As of 2019, the year of most recent data currently available by the United States Energy Information Administration (EIA), energy use in California by demand sector was:

- Approximately 39.3 percent transportation;
- Approximately 23.2 percent industrial;
- Approximately 18.7 percent residential; and
- Approximately 18.9 percent commercial.[32]

California's electricity in-state generation system generates approximately 190,913 gigawatt-hours each year. In 2020, California produced approximately 70 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 15 percent) and the U.S. Southwest (approximately 15 percent). Natural gas is the main source for electricity generation at approximately 48.34 percent of the total in-state electric generation system power as shown in Table 14.

A summary of and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2018.
- California's total energy consumption is the second-highest in the nation, but, in 2018, the State's per capita energy consumption ranked the fourth-lowest, due in part to its mild climate and its energy efficiency programs.
- In 2018, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.

[29] California Energy Commission. Energy Almanac. Total Electric Generation. [Online] 2021. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation.

[30] Natural Gas Consumption by End Use. U.S. Energy Information Administration. [Online] 2021. https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.

[31] California Energy Commission. Revised Transportation Energy Demand Forecast 2018-2030. [Online] 2021. https://www.energy.ca.gov/data-reports/planning-and-forecasting

[32] U.S. Energy Information Administration. California Energy Consumption by End-Use Sector. California State Profile and Energy Estimates.[Online] January 16, 2020 https://www.eia.gov/state/?sid=CA#tabs-2

- In 2018, large- and small-scale solar PV and solar thermal installations provided 19% of California's net electricity generation[33].

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity and natural gas for building uses, and transportation fuel for vehicle trips associated with the proposed project.

Electricity

Electricity would be provided to the project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons, within a service area encompassing approximately 50,000 square miles.[34] SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.[35]

Table 15 identifies SCE's specific proportional shares of electricity sources in 2020. As shown in Table 15, the 2020 SCE Power Mix has renewable energy at 30.9 percent of the overall energy resources, of which biomass and waste is at 0.1 percent, geothermal is at 5.5 percent, eligible hydroelectric is at 0.8 percent, solar energy is at 15.1 percent, and wind power is at 9.4 percent; other energy sources include large hydroelectric at 3.3 percent, natural gas at 15.2 percent, nuclear at 8.4 percent, other at 0.3 percent, and unspecified sources at 42 percent.

Natural Gas

Natural gas would be provided to the project by Southern California Gas (SoCalGas). The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

The CPUC regulates natural gas utility service for approximately 11 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

[33] State Profile and Energy Estimates. Independent Statistics and Analysis. [Online] [Cited: January 16, 2020.] http://www.eia.gov/state/?sid=CA#tabs2.

[34] https://www.sce.com/about-us/who-we-are/leadership/our-service-territory

[35] California Energy Commission. Utility Energy Supply plans from 2015. . https://www.energy.ca.gov/almanac/electricity_data/supply_forms.html

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California."[36]

Transportation Energy Resources

The project would attract additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the project patrons and employees via commercial outlets.

The most recent data available shows the transportation sector emits 40 percent of the total greenhouse gases in the state and about 84 percent of smog-forming oxides of nitrogen (NOx).[37,38] About 28 percent of total United States energy consumption in 2019 was for transporting people and goods from one place to another. In 2019, petroleum comprised about 91 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels.[39] In 2020, about 123.49 billion gallons (or about 2.94 billion barrels) of finished motor gasoline were consumed in the United States, an average of about 337 million gallons (or about 8.03 million barrels) per day.[40]

REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

Federal Regulations

Corporate Average Fuel Economy (CAFE) Standards

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.[41]

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of

[36] California Public Utilities Commission. Natural Gas and California. http://www.cpuc.ca.gov/natural_gas/

[37] CARB. California Greenhouse Gas Emissions Inventory – 2020 Edition. https://www.arb.ca.gov/cc/inventory/data/data.htm

[38] CARB. 2016 SIP Emission Projection Data. https://www.arb.ca.gov/app/emsinv/2017/emseic1_query.php?F_DIV=-4&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA

[39] US Energy Information Administration. Use of Energy in the United States Explained: Energy Use for Transportation. https://www.eia.gov/energyexplained/?page=us_energy_transportation

[40] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10

[41] https://www.nhtsa.gov/lawsregulations/corporate-average-fuel-economy.

CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012.[42]

Intermodal Surface transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

The Transportation Equity Act of the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

State Regulations

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 Integrated Energy Policy Report (2019 IEPR) was adopted February 20, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast.[43]

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce

[42] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-final-rule.

[43] California Energy Commission. Final 2019 Integrated Energy Policy Report. February 20, 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report

congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

California Building Standards Code (Title 24)

The California Building Standards Code Title 24 was previously discussed in Section 3 of this report.

California Building Energy Efficiency Standards (Title 24, Part 6)

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2019 Title 24 standards, which became effective on January 1, 2020. The 2019 Title 24 standards include efficiency improvements to the lighting and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers. For example, window operation is no longer a method allowed to meet ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1. Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Building Energy Efficiency Standards (Title 24, Part 11)

The 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2020. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality.

As previously discussed in Section 3 of this report, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb

one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of postconstruction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13. MERV 13 filters are to be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

Senate Bill 350

As previously discussed in Section 3 of this report, Senate Bill 350 (SB 350) was signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the

greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Assembly Bill 32

As discussed in Section 3 of this report, in 2006 the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and best management practices that are technologically feasible and cost effective. Please see Section 3 for further detail on AB 32.

Assembly Bill 1493/Pavley Regulations

As discussed in Section 3 of this report, California Assembly Bill 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

Executive Order S-1-07/Low Carbon Fuel Standard

As discussed in Section 3 of this report, Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

California Air Resources Board

CARB's Advanced Clean Cars Program

Closely associated with the Pavley regulations, the Advanced Clean Cars emissions control program was approved by CARB in 2012. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025.15 The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[44]

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants, form In-Use Heavy-Duty Diesel-Fueled Vehicles

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NOX) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission-controlled models would use petroleum-based fuel in a more efficient manner.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or Senate Bill 375 (SB 375), coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32.

As previously stated in Section 3 of this report, Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

[44] California Air Resources Board, California's Advanced Clean Cars Program, January 18, 2017. www.arb.ca.gov/msprog/acc/acc.htm.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. These reduction targets became effective October 2018.

PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

Evaluation Criteria

In compliance with Appendix G of the State CEQA Guidelines, this report analyzes the project's anticipated energy use to determine if the project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Methodology

Information from the CalEEMod 2020.4.0 Daily and Annual Outputs contained in Appendix B and C, utilized for air quality and greenhouse gas analyses in Sections 2 and 3 of this report, were also utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

Construction Energy Demands

The construction schedule is anticipated to occur no sooner than the beginning of January 2023 to early September 2023 and be completed in one phase. Staging of construction vehicles and equipment will occur on-site. The approximately 8-month schedule is relatively short and the project site is approximately 4.35 acres.

Construction Equipment Electricity Usage Estimates

As stated previously, Electrical service will be provided by SCE. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed project. Based on the 2021 National Construction Estimator, Richard Pray (2021)[45],, the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.37. The project plans to develop the site with a 7,460 square foot convenience store with 8 fuel pumps (16 vehicle fueling positions), a 1,790 square foot automated car wash tunnel, a 2,000 square foot fast-food restaurant with drive-through, an 1,800 square foot fast-food restaurant with drive-through, and a 14,500 square foot office building. Therefore, the total power cost of on-site electricity usage during construction of the proposed project has been calculated based on the total building square footage to be constructed of 27, 550 square feet, the typical power cost per 1,000 square feet of building construction per month of $2.37, and a construction time frame of 8 months. As shown in Table 16, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately

[45] Pray, Richard. 2021 National Construction Estimator. Carlsbad : Craftsman Book Company, 2021.

$522.35. Therefore, at a total project construction power cost of $522.35, and assuming the project is under the SCE General Service rate (GS-1), the total electricity usage from project construction related activities is estimated to be approximately 4,018 kWh.[46]

Construction Equipment Fuel Estimates

Fuel consumed by construction equipment would be the primary energy resource expended over the course of project construction. Fuel consumed by construction equipment was evaluated with the following assumptions:

- Construction schedule of 8 months
- All construction equipment was assumed to run on diesel fuel
- Typical daily use of 8 hours, with some equipment operating from ~6-7 hours
- Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/gallon (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).
- Diesel fuel would be the responsibility of the equipment operators/contractors and would be sources within the region.
- Project construction represents a "single-event" for diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources during long term operation.

Using the CalEEMod data input for the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal. Table 17 shows the results of the analysis of construction equipment.

As presented in Table 17, project construction activities would consume an estimated 30,060 gallons of diesel fuel. As stated previously, project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

Construction Worker Fuel Estimates

It is assumed that construction worker trips are from light duty autos (LDA), light duty truck 1 (LDT1), and light duty truck 2 (LDT2) at a mix of 50 percent/25 percent/25 percent, respectively, along area roadways.[47]. With respect to estimated VMT, the construction worker trips would generate an estimated 191,673 VMT. Data regarding project related construction worker trips were based on CalEEMod 2020.4.0 model defaults.

Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) using information generated using CARB's 2021 EMFAC model (see Appendix C for details). An aggregate fuel efficiency of 27.07 miles per gallon (mpg) was used to calculate vehicle miles traveled for construction worker trips. Table 18 shows that an estimated 7,081 gallons of fuel would be consumed for construction worker trips.

Construction Vendor/Hauling Fuel Estimates

Tables 19 and 20 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an

[46] Assumes the project will be under the GS-1 General Service rate under SCE. https://www.sce.com/regulatory/tariff-books/rates-pricing-choices

[47] CalEEMod User's Guide (May 2021) states that the CalEEMod default fleet mix for worker trips includes light duty autos and light duty trucks, LDA, LDT1, LDT2, at a mix of 50%/25%/25%, respectively.

estimated 33,582 VMT. Data regarding project related construction worker trips were based on CalEEMod 2020.4.0 model defaults.

For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles. Therefore, vendors delivering construction material or hauling debris from the site during building construction would use medium to heavy duty vehicles with an average fuel consumption of 7.66 mpg for medium heavy duty trucks and 6.29 mpg for heavy heavy duty trucks (see Appendix C for details). [48] Tables 19 and 20 show that an estimated 4,815 gallons of fuel would be consumed for vendor and hauling trips.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately 8-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Operational Energy Demands

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Fuel Consumption

Using the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report), it is assumed that an average trip for autos and light trucks was assumed to be 6.9 miles and 3- 4-axle trucks were assumed to travel an average of 16.6 miles.[49] In order to present a worst-case scenario, it was assumed that vehicles would operate 365 days per year. Table 21 shows the estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.[50]

[48] CalEEMod User's Guide (May 2021) states that the CalEEMod default fleet mix for vendor trips includes medium-heavy duty and heavy-heavy duty trucks, MHDT and HHDT, at a mix of 50%/50%.

[49] CalEEMod default distance for H-W (home-work) or C-W (commercial-work) is 16.6 miles; 6.9 miles for H-O (home-other) or C-O (commercial-other).

[50] Average fuel economy based on aggregate mileage calculated in EMFAC 2021 for opening year (2024). See Appendix C for EMFAC output.

The proposed project would generate 5,667 trips per day. The vehicle fleet mix was used from the CalEEMod output. Table 21 shows that an estimated 669,587 gallons of fuel would be consumed per year for the operation of the proposed project. Trip generation and VMT generated by the proposed project are consistent with other similar commercial uses of similar scale and configuration as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021). That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Furthermore, the state of California consumed approximately 3.1 billion gallons of diesel and 13.1 billion gallons of gasoline in 2021.[51,52] As of July 2021, the state of California had a population of approximately 39,237,836 people resulting in a consumption of approximately 413 gallons of fuel per person per year.[53] The project is anticipated to have approximately 56 employees and 2,834 patrons resulting in a consumption of approximately 232 gallons of fuel per person per year.[54] Therefore, the increase in fuel consumption from the proposed project is insignificant in comparison to the State's demand and the proposed project would be anticipated to reduce per service population fuel consumption.

In addition, the proposed project is located as close as approximately 0.79 miles east of the Riverside Transit Agency (RTA) bus stop located at Clinton Keith and Wildomar trail and, as shown on the project site plan, includes the development of sidewalks and bicycle racks. Therefore, based on the location of the site and project design features, the proposed project would be anticipated to result in a decrease in transportation energy consumption.

Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands (Electricity and Natural Gas)

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity (provided by SCE) and natural gas (provided by Southern California Gas Company). The annual natural gas and electricity demands were provided per the CalEEMod output from the air quality and greenhouse gas analyses (Sections 2 and 3 of this report) and are provided in Table 22.

As shown in Table 22, the estimated electricity demand for the proposed project is approximately 416,223 kWh per year. In 2020, the non-residential sector of the County of Riverside consumed approximately 8,015 million kWh of electricity.[55] In addition, the estimated natural gas consumption for the proposed project is approximately 1,384,898 kBTU per year. In 2020, the non-residential sector of the County of Riverside consumed approximately 135 million therms of gas.[56] The proposed project is anticipated to have approximately 56 employees and 2,834 patrons resulting in an estimated electricity consumption of approximately 144 kWh per service population per year and an estimated natural gas consumption of approximately 479 kBTU per service population per year.[57] The County of Riverside had a population of approximately 2,418,185 people in 2020 resulting in an estimated electricity consumption of approximately 3,314 kWh per service population per year and an estimated natural gas consumption of approximately 5,583 kBTU per service population per year. Therefore, the increase in both electricity and natural gas demand from

[51] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics

[52] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics

[53] California sate population for 2021 obtained at https://www.census.gov/quickfacts/fact/table/CA/PST045221.

[54] Per the project applicant, the project is anticipated to generate up to approximately 56 employees. In addition, in order to estimate the approximate number of patrons traveling to the project site per day the trip generation provide in the TIA (Ganddini 2022) of 5,667 daily trips was divided by two. Therefore, the total estimated service population for the project site is 2,890 employees and patrons.

[55] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx

[56] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx

[57] Per the project applicant, the project is anticipated to generate up to approximately 56 employees. In addition, in order to estimate the approximate number of patrons traveling to the project site per day the trip generation provide in the TIA (Ganddini 2022) of 5,667 daily trips was divided by two. Therefore, the total estimated service population for the project site is 2,890 employees and patrons.

the proposed project is insignificant compared to the County's 2020 non-residential sector demand and the proposed project would be anticipated to reduce per service population energy consumption.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.). The proposed project would be required to comply with the current CALGreen and Building Energy Efficiency standards with respect to building energy efficiency design, supply of EV charging stations, and supply of preferential parking for clean air and high occupancy vehicles, which would accelerate the region's and proposed project's adoption of EVs and allow the future transportation energy supply necessary for residents, employees, and visitors to be substituted with renewable energy sources. In addition, as shown in Section 5, Emission Reduction Measures, the proposed project will utilize ENERGY STAR-compliant appliances on-site.

Conclusions

Based on the above, the proposed project would not conflict with the CEQA energy goals of decreasing reliance on fossil fuels, increasing reliance on renewable energy sources, and decreasing overall per capita energy consumption. Furthermore, the proposed project energy demands in total would be comparable to other non-residential projects of similar scale and configuration. Therefore, the project facilities' energy demands and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by Southern California Edison and Southern California Gas Company.

Regarding Pavley (AB 1493) regulations, an individual project does not have the ability to comply or conflict with these regulations because they are intended for agencies and their adoption of procedures and protocols for reporting and certifying GHG emission reductions from mobile sources.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CALGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

As shown in Section 3 above, with compliance with regulation and incorporation of sustainable design, the proposed project would be consistent with the goals of the WRCOG Subregional CAP and the CARB Scoping Plan. In addition, project consistency with applicable WRCOG Subregional CAP local reduction measures have also been assessed in Table 23. As shown in Table 23, the project is consistent with the applicable WRCOG Subregional CAP local reduction measures.

CONCLUSIONS

As supported by the preceding analyses, project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. The proposed project does not include any unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities and is a commercial project that is not proposing any additional features that would require a larger energy demand than other commercial projects of similar scale and configuration. The energy demands of the project are anticipated to be accommodated within the context of available resources and energy delivery systems. The project would therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California. Notwithstanding, the project proposes commercial uses and will not have any long-term effects on an energy provider's future energy development or future energy conservation strategies.

Table 14
Total Electricity System Power (California 2020)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	Total California Energy Mix (GWh)	Total California Power Mix
Coal	317	0.17%	194	6,963	7,157	8.76%	7,474	2.74%
Natural Gas	92,298	48.35%	70	8,654	8,724	10.68%	101,022	37.06%
Nuclear	16,280	8.53%	672	8,481	9,154	11.21%	25,434	9.33%
Oil	30	0.02%	-	-	0	0.00%	30	0.01%
Other (Petroleum Coke/Waste Heat)	384	0.20%	125	9	134	0.16%	518	0.19%
Large Hydro	17,938	9.40%	14,078	1,259	15,337	18.78%	33,275	12.21%
Unspecified Sources of Power	-	0.00%	12,870	1,745	14,615	17.90%	14,615	5.36%
Renewables	63,665	33.35%	13,184	13,359	26,543	32.50%	90,208	33.09%
Biomass	5,680	2.97%	975	25	1,000	1.22%	6,679	2.45%
Geothermal	11,345	5.94%	166	1,825	1,991	2.44%	13,336	4.89%
Small Hydro	3,476	1.82%	320	2	322	0.39%	3,798	1.39%
Solar	29,456	15.43%	284	6,312	6,596	8.08%	36,052	13.23%
Wind	13,708	7.18%	11,438	5,197	16,635	20.37%	30,343	11.13%
Total	190,913	100%	41,193	40,471	81,663	100%	272,576	100%

Notes:

(1) Source: California Energy Commission. 2020 Total System electric Generation. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation

Table 16
Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot)	Construction Duration (months)	Total Project Construction Power Cost
$2.37	27.550	8	$522.35

Cost per kWh	Total Project Construction Electricity Usage (kWh)
$0.13	4,018

*Assumes the project will be under the GS-1 General Service rate under SCE.
https://www.sce.com/regulatory/tariff-books/rates-pricing-choices

Table 17
Construction Equipment Fuel Consumption Estimates

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel)[1]
Site Preparation	5	Rubber Tired Dozers	1	8	247	0.4	790	214
	5	Tractors/Loaders/Backhoes	1	8	97	0.37	287	78
Grading	8	Excavators	1	8	158	0.38	480	208
	8	Rubber Tired Dozers	1	8	247	0.4	790	342
	8	Tractors/Loaders/Backhoes	3	8	97	0.37	861	372
	8	Graders	1	8	187	0.41	613	265
Building Construction	157	Generator Sets	1	8	84	0.74	497	4220
	157	Cranes	2	7	231	0.29	938	7959
	157	Forklifts	3	7	89	0.2	374	3172
	157	Tractors/Loaders/Backhoes	4	7	97	0.37	1005	8528
	157	Welders	2	8	46	0.45	331	2811
Paving	18	Cement and Mortar Mixers	2	6	9	0.56	60	59
	18	Pavers	1	8	130	0.42	437	425
	18	Rollers	2	6	80	0.38	365	355
	18	Tractors/Loaders/Backhoes	1	8	97	0.37	287	279
	18	Paving Equipment	2	6	132	0.36	570	555
Architectural Coating	18	Air Compressors	1	6	78	0.48	225	219
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								30,060

Notes:

(1) Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp. (Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

Table 18
Construction Worker Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	5	5	14.7	368	27.07	14
Grading	8	15	14.7	1,764	27.07	65
Building Construction	157	78	14.7	180,016	27.07	6,650
Paving	18	20	14.7	5,292	27.07	195
Architectural Coating	18	16	14.7	4,234	27.07	156
Total Construction Worker Fuel Consumption						7,081

Notes:

(1) Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

(2) CalEEMod worker vehicle class is based on an LD_Mix, which, per CalEEMod User's Guide (May 2021), inlcudes LDA, LDT1, and LDT2 at a mix of 50%/25%/25%, respectively.

Table 19
Construction Vendor Fuel Consumption Estimates (MHD & HHD Trucks)[1]

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	5	0	6.9	0	6.98	0
Grading	8	0	6.9	0	6.98	0
Building Construction	157	31	6.9	33,582	6.98	4,815
Paving	18	0	6.9	0	6.98	0
Architectural Coating	18	0	6.9	0	6.98	0
Total Construction Vendor Fuel Consumption						4,815

Notes:

(1) Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

(2) CalEEMod vendor vehicle class is based on an HDT_Mix, which, per CalEEMod User's Guide (May 2021), inlcudes HHDT and MHDT at a mix of 50%/50%.

Table 20
Construction Hauling Fuel Consumption Estimates (HHD Trucks)[1]

Phase	Number of Days	Total Hauling Trips	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	5	0	20	0	6.29	0
Grading	8	0	20	0	6.29	0
Building Construction	157	0	20	0	6.29	0
Paving	18	0	20	0	6.29	0
Architectural Coating	18	0	20	0	6.29	0
Total Construction Hauling Fuel Consumption						0

Notes:

(1) Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

Table 21
Estimated Vehicle Operations Fuel Consumption

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles)[1]	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	3,048	6.9	21,031	31.35	670.85	244,861
Light Truck	Automobile	317	6.9	2,187	24.4	89.64	32,720
Light Truck	Automobile	982	6.9	6,776	23.91	283.39	103,437
Medium Truck	Automobile	785	6.9	5,417	19.6	276.35	100,868
Light Heavy Truck	2-Axle Truck	147	6.9	1,014	15.57	65.14	23,778
Light Heavy Truck 10,000 lbs +	2-Axle Truck	41	6.9	283	14.86	19.04	6,949
Medium Heavy Truck	3-Axle Truck	65	16.6	1,079	7.75	139.23	50,817
Heavy Heavy Truck	4-Axle Truck	106	16.6	1,760	6.05	290.84	106,158
Total		5,667	--	39,547	-	1,834.49	--
Total Annual Fuel Consumption							669,587

Notes:

(1) Based on the size of the site and relative location, trips were assumed to be local rather than regional.

Table 22
Project Annual Operational Energy Demand Summary

Natural Gas Demand	kBTU/year[1]
Automobile Care Center[2]	57,871
Fast Food Restaurant with Drive Through	1,036,110
Gasoline/Service Station	241,182
General Office Building	49,735
Total	1,384,898

Electricity Demand	kWh/year[1]
Automobile Care Center[2]	17,757
Fast Food Restaurant with Drive Through	168,089
Gasoline/Service Station	72,795
General Office Building	132,102
Parking Lot	25,480
Total	416,223

Notes:

(1) Taken from the CalEEMod 2020.4.0 mitigated annual output (Appendix C of this report).

(2) CalEEMod does not have a car wash land use in its database; therefore, the next closest land use available, Automobile Care Center, was utilized for modeling purposes.

Table 23
WRCOG Subregional CAP Local Reduction Measure Project Consistency

WRCOG Local Reduction Measure	Measure Description	Project Compliance with Measure
E-1: Energy Action Plan	Improve municipal and community wide energy efficiency and reduce energy consumption through the adoption of local Energy Action Plans (EAP).	Not Applicable. This measure is not directly applicable to the project; however, the project will be compliant with the current Title 24 standards.
E-3: Shade Trees	Strategically plant trees to reduce the urban heat island effect.	No Conflict. The proposed project is to include the planting of approximately 116 trees.
T-2: Bicycle Parking	Provide additional options for bicycle parking.	No Conflict. As shown on the project site plan, the project is to include bicycle racks as per City standards.
T-8: Density	Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.	No Conflict. The proposed project includes the development of the site with a 16 fueling position convenience store/gas station and automated car wash, 3,800 square feet of fast-food restaurant with drive-through, and 14,500 square feet of general office. Furthermore, the project is in proximity to existing residential and commercial uses and is located as close as approximately 0.79 miles from existing transit stops.
T-10: Design/Site Planning	Design neighborhoods and sites to reduce VMT.	No Conflict. The proposed project includes the development of the site with a 16 fueling position convenience store/gas station and automated car wash, 3,800 square feet of fast-food restaurant with drive-through, and 14,500 square feet of general office. Furthermore, the project is in proximity to existing residential and commercial uses and is located as close as approximatley 0.79 miles from exisitng transit stops.The proposed project also has sidewalks within and connecting off-site.
T-11: Pedestrian Only Access	Encourage walking by providing pedestrian-only community areas.	No Conflict. The proposed project is a commercial use; however, it does provide pedestrian access with proposed sidewalks within and connecting off-site.
T-14: Voluntary Transportation Demand Management	Reduce demand for roadway travel through incentives for alternative modes of transportation and disincentives for driving	No Conflict. The proposed project includes the development of the site with a 16 fueling position convenience store/gas station and automated car wash, 3,800 square feet of fast-food restaurant with drive-through, and 14,500 square feet of general office; however, as shown on the project site plan, the project is to include bicycle racks as per City standards.
T-15: Accelerated Bike Plan Implementation	Accelerate the implementation of all or specified components of a jurisdiction's adopted bike plan.	Not Applicable.This measure is not directly applicable to the project; however, as shown onthe project site plan, the project is to include bicycle racks as per City standards.
T-16: Fixed Guideway Transit	Introduce a fixed-route transit service in the jurisdiction.	Not Applicable. This measure is not directly applicable to the project; however, the project is located as close as approximately 0.79 miles from existing transit stops.
T-17: Neighborhood Electric Vehicle Programs	Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure.	Not Applicable. This measure is not direclty applicbale othe project; however, as shown on the project site plan, the project is to include electric vehicle parking spaces as per City standards.
T-18: Subsidized Transit	Increase access to transit by providing free or reduced passes.	Not Applicable. This measure is not directly applicable to the project; however, the project is located as close as approximately 0.79 miles from existing transit stops.
SW-1: Yard Waste Collection	Provide green waste collection bins community-wide.	No Conflict. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
SW-2: Food Scrap and Paper Division	Divert food and paper waste from landfills by implementing collection system.	No Conflict. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.

Source: WRCOG Subregional Climate Action Plan (2014).

Table 23
WRCOG Subregional CAP Local Reduction Measure Project Consistency

WRCOG Local Reduction Measure	Measure Description	Project Compliance with Measure
E-1: Energy Action Plan	Improve municipal and community wide energy efficiency and reduce energy consumption through the adoption of local Energy Action Plans (EAP).	Not Applicable. This measure is not directly applicable to the project; however, the project will be compliant with the current Title 24 standards.
E-3: Shade Trees	Strategically plant trees to reduce the urban heat island effect.	No Conflict. The proposed project is to include the planting of approximately 116 trees.
T-2: Bicycle Parking	Provide additional options for bicycle parking.	No Conflict. As shown on the project site plan, the project is to include bicycle racks as per City standards.
T-8: Density	Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.	No Conflict. The proposed project includes the development of the site with a 16 fueling position convenience store/gas station and automated car wash, 3,800 square feet of fast-food restaurant with drive-through, and 14,500 square feet of general office. Furthermore, the project is in proximity to existing residential and commercial uses and is located as close as approximately 0.79 miles from existing transit stops.
T-10: Design/Site Planning	Design neighborhoods and sites to reduce VMT.	No Conflict. The proposed project includes the development of the site with a 16 fueling position convenience store/gas station and automated car wash, 3,800 square feet of fast-food restaurant with drive-through, and 14,500 square feet of general office. Furthermore, the project is in proximity to existing residential and commercial uses and is located as close as approximatley 0.79 miles from exisitng transit stops.The proposed project also has sidewalks within and connecting off-site.
T-11: Pedestrian Only Access	Encourage walking by providing pedestrian-only community areas.	No Conflict. The proposed project is a commercial use; however, it does provide pedestrian access with proposed sidewalks within and connecting off-site.
T-14: Voluntary Transportation Demand Management	Reduce demand for roadway travel through incentives for alternative modes of transportation and disincentives for driving	No Conflict. The proposed project includes the development of the site with a 16 fueling position convenience store/gas station and automated car wash, 3,800 square feet of fast-food restaurant with drive-through, and 14,500 square feet of general office; however, as shown on the project site plan, the project is to include bicycle racks as per City standards.
T-15: Accelerated Bike Plan Implementation	Accelerate the implementation of all or specified components of a jurisdiction's adopted bike plan.	Not Applicable.This measure is not directly applicable to the project; however, as shown onthe project site plan, the project is to include bicycle racks as per City standards.
T-16: Fixed Guideway Transit	Introduce a fixed-route transit service in the jurisdiction.	Not Applicable. This measure is not directly applicable to the project; however, the project is located as close as approximately 0.79 miles from existing transit stops.
T-17: Neighborhood Electric Vehicle Programs	Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure.	Not Applicable. This measure is not direclty applicbale othe project; however, as shown on the project site plan, the project is to include electric vehicle parking spaces as per City standards.
T-18: Subsidized Transit	Increase access to transit by providing free or reduced passes.	Not Applicable. This measure is not directly applicable to the project; however, the project is located as close as approximately 0.79 miles from existing transit stops.
SW-1: Yard Waste Collection	Provide green waste collection bins community-wide.	No Conflict. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
SW-2: Food Scrap and Paper Division	Divert food and paper waste from landfills by implementing collection system.	No Conflict. The project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.

Source: WRCOG Subregional Climate Action Plan (2014).

5. EMISSIONS REDUCTION MEASURES

CONSTRUCTION MEASURES

Adherence to SCAQMD Rule 403 is required.

No construction mitigation is required.

OPERATIONAL MEASURES

The measures listed below are either required through regulation (compliance with Title 24 and CALGreen, for example) and/or part of the project's sustainable design.

Measure 1. The project applicant shall require that all faucets, toilets and showers installed in the proposed structures utilize low-flow fixtures that would reduce indoor water demand by 20% per CALGreen Standards.

Measure 2. The project applicant shall require recycling programs that reduces waste to landfills by a minimum 75 percent per AB 341.

Measure 3. The project applicant shall provide sidewalks on-site and connecting off-site.

Measure 4. The project applicant shall require that ENERGY STAR-compliant appliances are installed wherever appliances are required on-site.

Measure 5. The project applicant shall require water-efficient irrigation systems be installed on-site.

6. REFERENCES

California Air Resources Board

2008 Resolution 08-43

2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

2008 Climate Change Scoping Plan, a framework for change.

2011 Supplement to the AB 32 Scoping Plan Functional Equivalent Document

2013 Almanac of Emissions and Air Quality.
Source: https://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm

2014 First Update to the Climate Change Scoping Plan, Building on the Framework Pursuant to AB32, the California Global Warming Solutions Act of 2006. May.

2017 California's 2017 Climate Change Scoping Plan. November.

2022 Historical Air Quality, Top 4 Summary

City of Wildomar

2022 City of Wildomar General Plan Land Use Map. March 9.

County of Riverside

2003 County of Riverside General Plan. October.

Ganddini Group, Inc.

2022 Beyond food Mart (Clinton Keith Road & Jana Lane) Traffic Impact Analysis. July 20.

Governor's Office of Planning and Research

2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review

2018 CEQA Guideline Sections to be Added or Amended

Intergovernmental Panel on Climate Change (IPCC)

2014 IPCC Fifth Assessment Report, Climate Change 2014: Synthesis Report

South Coast Air Quality Management District

1993 CEQA Air Quality Handbook

2003 Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis

2005 Rule 403 Fugitive Dust

2007 2007 Air Quality Management Plan

2008 Final Localized Significance Threshold Methodology, Revised

2012 Final 2012 Air Quality Management Plan

2016 2016 Air Quality Management Plan

2022 Historical Data by Year. 2013, 2014 and 2015 Air Quality Data Tables.
Source: http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year

Southern California Association of Governments

2020 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

U.S. Environmental Protection Agency (EPA)

2017 Understanding Global Warming Potentials
(Source: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials)

U.S. Geological Survey

2011 Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California

Western Riverside Council of Governments (WRCOG)

2014 Subregional Climate Action Plan. September.

APPENDICES

Appendix A Glossary of Terms

Appendix B CalEEMod Model Daily Emissions Printouts

Appendix C CalEEMod Model Annual Emissions Printouts & EMFAC Data

APPENDIX A

GLOSSARY

AQMP	Air Quality Management Plan
BACT	Best Available Control Technologies
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse gas
GWP	Global warming potential
HIDPM	Hazard Index Diesel Particulate Matter
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LST	Localized Significant Thresholds
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
OPR	Governor's Office of Planning and Research
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SANBAG	San Bernardino Association of Governments
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SSAB	Salton Sea Air Basin
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
TAC	Toxic air contaminants
VOC	Volatile organic compounds

APPENDIX B

CALEEMOD MODEL DAILY EMISSIONS PRINTOUTS

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

19510 Beyond Food Mart (Clinton Keith & Jana Ln)

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	14.50	1000sqft	0.33	14,500.00	0
Other Non-Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	182.00	Space	1.64	72,800.00	0
Fast Food Restaurant with Drive Thru	3.80	1000sqft	0.09	3,800.00	0
Automobile Care Center	1.79	1000sqft	0.04	1,790.00	0
Gasoline/Service Station	16.00	Pump	0.17	7,460.00	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 - 4.35 ac: 16FP gas w/ 7.46TSF mrkt, 1.79TSF car wash, 3.8TSF FF w/DT, 14.5TSF office, 182 spc prkng lot (w/ 131 auto, 8EV, 4 loading, 39 DT/wash stacking spcs), & rmndr lndscp/hrdscp (~2.08 ac).

Construction Phase - Site is vacant, no demo. Construction to start January 2023 and be completed by September 2023.

Off-road Equipment - CalEEMod default construction timing for building construction reduced by ~32%; therefore, ~32% more equipment added to CalEEMod default list.

Off-road Equipment - Site preparation to remove existing vegetation/rocks etc. over only ~20% of site area; therefore, CalEEMod default equipment reduced.

Grading - Site anticipated to balance.

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - TIA: 214.38trips/FP (w/ 38% passby) gas, 417.88trips/TSF wash, 350.53trips/TSF (w/ 25% passby) FF, & 10.84trips/TSF office. Wash/Gas weekday rate used for sat/sun. Other sat/sun rates ITE 11th Ed. Wash/Gas pass-by to 0 & split prim/div.

Sequestration - 116 new trees to be planted.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Sidewalks on/off. 56 emp/0.63jb ac (jb ac bldgs only)=88 jobs/jb ac. ~0.79 miles E of bus stop Clinton Keith/Wildomar Trl.

Energy Mitigation - Energy STAR appliances to be used.

Water Mitigation - 20% indoor water reduction per CalGreen Standards. Water-efficient irrigation systems.

Waste Mitigation - Per AB 341 project is anticipated to divert at least 37% of their waste away from landfills.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	157.00
tblLandUse	LandUseSquareFeet	2,258.80	7,460.00
tblLandUse	LotAcreage	0.05	0.17
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	116.00
tblVehicleTrips	DV_TP	51.00	65.00
tblVehicleTrips	DV_TP	27.00	57.00
tblVehicleTrips	PB_TP	28.00	0.00
tblVehicleTrips	PB_TP	59.00	0.00
tblVehicleTrips	PR_TP	21.00	35.00
tblVehicleTrips	PR_TP	14.00	43.00
tblVehicleTrips	ST_TR	23.72	417.88
tblVehicleTrips	ST_TR	182.17	214.38
tblVehicleTrips	SU_TR	11.88	417.88
tblVehicleTrips	SU_TR	166.88	214.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	WD_TR	23.72	417.88
tblVehicleTrips	WD_TR	470.95	350.53
tblVehicleTrips	WD_TR	172.01	214.38
tblVehicleTrips	WD_TR	9.74	10.84

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
2023	20.7796	31.8510	40.0690	0.0758	7.2503	1.4819	8.0260	3.4692	1.3901	4.1829	0.0000	7,309.6165	7,309.6165	1.4901	0.1116	7,380.1307
Maximum	**20.7796**	**31.8510**	**40.0690**	**0.0758**	**7.2503**	**1.4819**	**8.0260**	**3.4692**	**1.3901**	**4.1829**	**0.0000**	**7,309.6165**	**7,309.6165**	**1.4901**	**0.1116**	**7,380.1307**

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					
2023	20.7796	31.8510	40.0690	0.0758	2.9299	1.4819	3.7056	1.3801	1.3901	2.0938	0.0000	7,309.6165	7,309.6165	1.4901	0.1116	7,380.1307
Maximum	**20.7796**	**31.8510**	**40.0690**	**0.0758**	**2.9299**	**1.4819**	**3.7056**	**1.3801**	**1.3901**	**2.0938**	**0.0000**	**7,309.6165**	**7,309.6165**	**1.4901**	**0.1116**	**7,380.1307**

	ROG	NOx	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**	**59.59**	**0.00**	**53.83**	**60.22**	**0.00**	**49.94**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.6879	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Energy	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283		446.3805	446.3805	8.5600e-003	8.1800e-003	449.0331
Mobile	16.0667	15.4693	110.1591	0.2219	21.9696	0.1782	22.1478	5.8611	0.1668	6.0280		22,610.0625	22,610.0625	1.4211	1.2293	23,011.9269
Total	**16.7955**	**15.8415**	**110.4940**	**0.2241**	**21.9696**	**0.2065**	**22.1761**	**5.8611**	**0.1952**	**6.0563**		**23,056.4912**	**23,056.4912**	**1.4298**	**1.2375**	**23,461.0113**

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	0.6879	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Energy	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283		446.3805	446.3805	8.5600e-003	8.1800e-003	449.0331
Mobile	14.8604	12.4787	86.1710	0.1577	15.2602	0.1316	15.3918	4.0712	0.1231	4.1943		16,066.8080	16,066.8080	1.1962	0.9801	16,388.7905
Total	**15.5892**	**12.8509**	**86.5059**	**0.1599**	**15.2602**	**0.1600**	**15.4202**	**4.0712**	**0.1514**	**4.2226**		**16,513.2366**	**16,513.2366**	**1.2049**	**0.9883**	**16,837.8750**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	**7.18**	**18.88**	**21.71**	**28.66**	**30.54**	**22.56**	**30.47**	**30.54**	**22.41**	**30.28**	**0.00**	**28.38**	**28.38**	**15.73**	**20.14**	**28.23**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/6/2023	5	5	
2	Grading	Grading	1/7/2023	1/18/2023	5	8	
3	Building Construction	Building Construction	1/19/2023	8/25/2023	5	157	
4	Paving	Paving	8/8/2023	8/31/2023	5	18	
5	Architectural Coating	Architectural Coating	8/8/2023	8/31/2023	5	18	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 3.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 41,325; Non-Residential Outdoor: 13,775; Striped Parking Area: 9,804 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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	3	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Cranes	2	7.00	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	4	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	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
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	78.00	31.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650		1,128.5772	1,128.5772	0.3650		1,137.7023
Total	**0.8360**	**8.6628**	**5.3377**	**0.0117**	**6.5523**	**0.3967**	**6.9491**	**3.3675**	**0.3650**	**3.7325**		**1,128.5772**	**1,128.5772**	**0.3650**		**1,137.7023**

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	0.0000	0.0000	0.0000	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	0.0183	0.0113	0.1829	4.9000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		49.6870	49.6870	1.1500e-003	1.1700e-003	50.0653
Total	**0.0183**	**0.0113**	**0.1829**	**4.9000e-004**	**0.0559**	**2.6000e-004**	**0.0562**	**0.0148**	**2.4000e-004**	**0.0151**		**49.6870**	**49.6870**	**1.1500e-003**	**1.1700e-003**	**50.0653**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 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					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023
Total	**0.8360**	**8.6628**	**5.3377**	**0.0117**	**2.5554**	**0.3967**	**2.9522**	**1.3133**	**0.3650**	**1.6783**	**0.0000**	**1,128.5772**	**1,128.5772**	**0.3650**		**1,137.7023**

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	0.0000	0.0000	0.0000	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	0.0183	0.0113	0.1829	4.9000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		49.6870	49.6870	1.1500e-003	1.1700e-003	50.0653
Total	**0.0183**	**0.0113**	**0.1829**	**4.9000e-004**	**0.0559**	**2.6000e-004**	**0.0562**	**0.0148**	**2.4000e-004**	**0.0151**		**49.6870**	**49.6870**	**1.1500e-003**	**1.1700e-003**	**50.0653**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**7.0826**	**0.7749**	**7.8575**	**3.4247**	**0.7129**	**4.1377**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

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	0.0000	0.0000	0.0000	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	0.0548	0.0338	0.5488	1.4700e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		149.0611	149.0611	3.4500e-003	3.5200e-003	150.1959
Total	**0.0548**	**0.0338**	**0.5488**	**1.4700e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**149.0611**	**149.0611**	**3.4500e-003**	**3.5200e-003**	**150.1959**

3.3 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					2.7622	0.0000	2.7622	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**2.7622**	**0.7749**	**3.5371**	**1.3357**	**0.7129**	**2.0486**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

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	0.0000	0.0000	0.0000	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	0.0548	0.0338	0.5488	1.4700e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		149.0611	149.0611	3.4500e-003	3.5200e-003	150.1959
Total	**0.0548**	**0.0338**	**0.5488**	**1.4700e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**149.0611**	**149.0611**	**3.4500e-003**	**3.5200e-003**	**150.1959**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 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	2.2672	20.4877	21.4795	0.0373		0.9606	0.9606		0.9029	0.9029		3,515.5339	3,515.5339	0.8740		3,537.3831
Total	**2.2672**	**20.4877**	**21.4795**	**0.0373**		**0.9606**	**0.9606**		**0.9029**	**0.9029**		**3,515.5339**	**3,515.5339**	**0.8740**		**3,537.3831**

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	0.0349	1.0128	0.4170	5.4200e-003	0.1986	8.8200e-003	0.2074	0.0572	8.4400e-003	0.0656		574.3401	574.3401	5.8600e-003	0.0849	599.7779
Worker	0.2848	0.1760	2.8538	7.6700e-003	0.8719	4.0800e-003	0.8759	0.2312	3.7500e-003	0.2350		775.1175	775.1175	0.0179	0.0183	781.0185
Total	**0.3197**	**1.1888**	**3.2708**	**0.0131**	**1.0704**	**0.0129**	**1.0833**	**0.2884**	**0.0122**	**0.3006**		**1,349.4576**	**1,349.4576**	**0.0238**	**0.1032**	**1,380.7963**

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 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	2.2672	20.4877	21.4795	0.0373		0.9606	0.9606		0.9029	0.9029	0.0000	3,515.5339	3,515.5339	0.8740		3,537.3831
Total	**2.2672**	**20.4877**	**21.4795**	**0.0373**		**0.9606**	**0.9606**		**0.9029**	**0.9029**	**0.0000**	**3,515.5339**	**3,515.5339**	**0.8740**		**3,537.3831**

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	0.0349	1.0128	0.4170	5.4200e-003	0.1986	8.8200e-003	0.2074	0.0572	8.4400e-003	0.0656		574.3401	574.3401	5.8600e-003	0.0849	599.7779
Worker	0.2848	0.1760	2.8538	7.6700e-003	0.8719	4.0800e-003	0.8759	0.2312	3.7500e-003	0.2350		775.1175	775.1175	0.0179	0.0183	781.0185
Total	**0.3197**	**1.1888**	**3.2708**	**0.0131**	**1.0704**	**0.0129**	**1.0833**	**0.2884**	**0.0122**	**0.3006**		**1,349.4576**	**1,349.4576**	**0.0238**	**0.1032**	**1,380.7963**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.2387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1568**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

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	0.0000	0.0000	0.0000	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	0.0730	0.0451	0.7317	1.9700e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		198.7481	198.7481	4.5900e-003	4.6900e-003	200.2612
Total	**0.0730**	**0.0451**	**0.7317**	**1.9700e-003**	**0.2236**	**1.0500e-003**	**0.2246**	**0.0593**	**9.6000e-004**	**0.0603**		**198.7481**	**198.7481**	**4.5900e-003**	**4.6900e-003**	**200.2612**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.2387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1568**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

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	0.0000	0.0000	0.0000	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	0.0730	0.0451	0.7317	1.9700e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		198.7481	198.7481	4.5900e-003	4.6900e-003	200.2612
Total	**0.0730**	**0.0451**	**0.7317**	**1.9700e-003**	**0.2236**	**1.0500e-003**	**0.2246**	**0.0593**	**9.6000e-004**	**0.0603**		**198.7481**	**198.7481**	**4.5900e-003**	**4.6900e-003**	**200.2612**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 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					
Archit. Coating	16.7128					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**16.9044**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.0000	0.0000	0.0000	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	0.0584	0.0361	0.5854	1.5700e-003	0.1788	8.4000e-004	0.1797	0.0474	7.7000e-004	0.0482		158.9985	158.9985	3.6800e-003	3.7500e-003	160.2089
Total	**0.0584**	**0.0361**	**0.5854**	**1.5700e-003**	**0.1788**	**8.4000e-004**	**0.1797**	**0.0474**	**7.7000e-004**	**0.0482**		**158.9985**	**158.9985**	**3.6800e-003**	**3.7500e-003**	**160.2089**

3.6 Architectural Coating - 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					
Archit. Coating	16.7128					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**16.9044**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.0000	0.0000	0.0000	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	0.0584	0.0361	0.5854	1.5700e-003	0.1788	8.4000e-004	0.1797	0.0474	7.7000e-004	0.0482		158.9985	158.9985	3.6800e-003	3.7500e-003	160.2089
Total	**0.0584**	**0.0361**	**0.5854**	**1.5700e-003**	**0.1788**	**8.4000e-004**	**0.1797**	**0.0474**	**7.7000e-004**	**0.0482**		**158.9985**	**158.9985**	**3.6800e-003**	**3.7500e-003**	**160.2089**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	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	14.8604	12.4787	86.1710	0.1577	15.2602	0.1316	15.3918	4.0712	0.1231	4.1943		16,066.8080	16,066.8080	1.1962	0.9801	16,388.7905
Unmitigated	16.0667	15.4693	110.1591	0.2219	21.9696	0.1782	22.1478	5.8611	0.1668	6.0280		22,610.0625	22,610.0625	1.4211	1.2293	23,011.9269

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	748.01	748.01	748.01	1,509,966	1,048,831
Fast Food Restaurant with Drive Thru	1,332.01	2,341.26	1795.80	1,623,252	1,127,520
Gasoline/Service Station	3,430.08	3,430.08	3430.08	5,917,783	4,110,525
General Office Building	157.18	32.05	10.15	381,097	264,712
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,667.28	6,551.39	5,984.04	9,432,098	6,551,589

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	35	65	0
Fast Food Restaurant with Drive Th	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	43	57	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	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
Automobile Care Center	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
Gasoline/Service Station	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
General Office Building	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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283		446.3805	446.3805	8.5600e-003	8.1800e-003	449.0331
NaturalGas Unmitigated	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283		446.3805	446.3805	8.5600e-003	8.1800e-003	449.0331

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Automobile Care Center	158.55	1.7100e-003	0.0155	0.0131	9.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003		18.6529	18.6529	3.6000e-004	3.4000e-004	18.7638
Fast Food Restaurant with Drive Thru	2838.65	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212		333.9591	333.9591	6.4000e-003	6.1200e-003	335.9436
Gasoline/Service Station	660.772	7.1300e-003	0.0648	0.0544	3.9000e-004		4.9200e-003	4.9200e-003		4.9200e-003	4.9200e-003		77.7379	77.7379	1.4900e-003	1.4300e-003	78.1999
General Office Building	136.26	1.4700e-003	0.0134	0.0112	8.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003		16.0306	16.0306	3.1000e-004	2.9000e-004	16.1259
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
Total		**0.0409**	**0.3720**	**0.3125**	**2.2300e-003**		**0.0283**	**0.0283**		**0.0283**	**0.0283**		**446.3805**	**446.3805**	**8.5600e-003**	**8.1800e-003**	**449.0331**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Automobile Care Center	0.15855	1.7100e-003	0.0155	0.0131	9.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003		18.6529	18.6529	3.6000e-004	3.4000e-004	18.7638
Fast Food Restaurant with Drive Thru	2.83865	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212		333.9591	333.9591	6.4000e-003	6.1200e-003	335.9436
Gasoline/Service Station	0.660772	7.1300e-003	0.0648	0.0544	3.9000e-004		4.9200e-003	4.9200e-003		4.9200e-003	4.9200e-003		77.7379	77.7379	1.4900e-003	1.4300e-003	78.1999
General Office Building	0.13626	1.4700e-003	0.0134	0.0112	8.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003		16.0306	16.0306	3.1000e-004	2.9000e-004	16.1259
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
Total		**0.0409**	**0.3720**	**0.3125**	**2.2300e-003**		**0.0283**	**0.0283**		**0.0283**	**0.0283**		**446.3805**	**446.3805**	**8.5600e-003**	**8.1800e-003**	**449.0331**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.6879	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Unmitigated	0.6879	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513

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	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6034					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Total	**0.6879**	**2.0000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0482**	**0.0482**	**1.3000e-004**		**0.0513**

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	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6034					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Total	**0.6879**	**2.0000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0482**	**0.0482**	**1.3000e-004**		**0.0513**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

19510 Beyond Food Mart (Clinton Keith & Jana Ln)

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	14.50	1000sqft	0.33	14,500.00	0
Other Non-Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	182.00	Space	1.64	72,800.00	0
Fast Food Restaurant with Drive Thru	3.80	1000sqft	0.09	3,800.00	0
Automobile Care Center	1.79	1000sqft	0.04	1,790.00	0
Gasoline/Service Station	16.00	Pump	0.17	7,460.00	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 - 4.35 ac: 16FP gas w/ 7.46TSF mrkt, 1.79TSF car wash, 3.8TSF FF w/DT, 14.5TSF office, 182 spc prkng lot (w/ 131 auto, 8EV, 4 loading, 39 DT/wash stacking spcs), & rmndr lndscp/hrdscp (~2.08 ac).

Construction Phase - Site is vacant, no demo. Construction to start January 2023 and be completed by September 2023.

Off-road Equipment - CalEEMod default construction timing for building construction reduced by ~32%; therefore, ~32% more equipment added to CalEEMod default list.

Off-road Equipment - Site preparation to remove existing vegetation/rocks etc. over only ~20% of site area; therefore, CalEEMod default equipment reduced.

Grading - Site anticipated to balance.

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - TIA: 214.38trips/FP (w/ 38% passby) gas, 417.88trips/TSF wash, 350.53trips/TSF (w/ 25% passby) FF, & 10.84trips/TSF office. Wash/Gas weekday rate used for sat/sun. Other sat/sun rates ITE 11th Ed. Wash/Gas pass-by to 0 & split prim/div.

Sequestration - 116 new trees to be planted.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Sidewalks on/off. 56 emp/0.63jb ac (jb ac bldgs only)=88 jobs/jb ac. ~0.79 miles E of bus stop Clinton Keith/Wildomar Trl.

Energy Mitigation - Energy STAR appliances to be used.

Water Mitigation - 20% indoor water reduction per CalGreen Standards. Water-efficient irrigation systems.

Waste Mitigation - Per AB 341 project is anticipated to divert at least 37% of their waste away from landfills.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	157.00
tblLandUse	LandUseSquareFeet	2,258.80	7,460.00
tblLandUse	LotAcreage	0.05	0.17
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	116.00
tblVehicleTrips	DV_TP	51.00	65.00
tblVehicleTrips	DV_TP	27.00	57.00
tblVehicleTrips	PB_TP	28.00	0.00
tblVehicleTrips	PB_TP	59.00	0.00
tblVehicleTrips	PR_TP	21.00	35.00
tblVehicleTrips	PR_TP	14.00	43.00
tblVehicleTrips	ST_TR	23.72	417.88
tblVehicleTrips	ST_TR	182.17	214.38
tblVehicleTrips	SU_TR	11.88	417.88
tblVehicleTrips	SU_TR	166.88	214.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	WD_TR	23.72	417.88
tblVehicleTrips	WD_TR	470.95	350.53
tblVehicleTrips	WD_TR	172.01	214.38
tblVehicleTrips	WD_TR	9.74	10.84

2.0 Emissions Summary

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
2023	20.7509	31.9220	39.2990	0.0748	7.2503	1.4819	8.0260	3.4692	1.3901	4.1829	0.0000	7,204.6606	7,204.6606	1.4899	0.1125	7,275.4409
Maximum	**20.7509**	**31.9220**	**39.2990**	**0.0748**	**7.2503**	**1.4819**	**8.0260**	**3.4692**	**1.3901**	**4.1829**	**0.0000**	**7,204.6606**	**7,204.6606**	**1.4899**	**0.1125**	**7,275.4409**

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					
2023	20.7509	31.9220	39.2990	0.0748	2.9299	1.4819	3.7056	1.3801	1.3901	2.0938	0.0000	7,204.6606	7,204.6606	1.4899	0.1125	7,275.4409
Maximum	**20.7509**	**31.9220**	**39.2990**	**0.0748**	**2.9299**	**1.4819**	**3.7056**	**1.3801**	**1.3901**	**2.0938**	**0.0000**	**7,204.6606**	**7,204.6606**	**1.4899**	**0.1125**	**7,275.4409**

	ROG	NOx	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**	**59.59**	**0.00**	**53.83**	**60.22**	**0.00**	**49.94**	**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 Not 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	0.6879	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Energy	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283		446.3805	446.3805	8.5600e-003	8.1800e-003	449.0331
Mobile	13.0938	16.3999	101.6790	0.2066	21.9696	0.1784	22.1480	5.8611	0.1670	6.0282		21,056.6384	21,056.6384	1.5009	1.2570	21,468.7352
Total	**13.8226**	**16.7721**	**102.0139**	**0.2088**	**21.9696**	**0.2068**	**22.1764**	**5.8611**	**0.1954**	**6.0565**		**21,503.0671**	**21,503.0671**	**1.5096**	**1.2651**	**21,917.8197**

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	0.6879	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Energy	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283		446.3805	446.3805	8.5600e-003	8.1800e-003	449.0331
Mobile	11.9106	13.2263	81.6054	0.1471	15.2602	0.1319	15.3921	4.0712	0.1233	4.1945		14,993.7668	14,993.7668	1.2835	1.0031	15,324.7634
Total	**12.6394**	**13.5985**	**81.9403**	**0.1493**	**15.2602**	**0.1602**	**15.4204**	**4.0712**	**0.1517**	**4.2229**		**15,440.1955**	**15,440.1955**	**1.2922**	**1.0112**	**15,773.8478**

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	**8.56**	**18.92**	**19.68**	**28.50**	**30.54**	**22.53**	**30.46**	**30.54**	**22.38**	**30.28**	**0.00**	**28.20**	**28.20**	**14.40**	**20.07**	**28.03**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/6/2023	5	5	
2	Grading	Grading	1/7/2023	1/18/2023	5	8	
3	Building Construction	Building Construction	1/19/2023	8/25/2023	5	157	
4	Paving	Paving	8/8/2023	8/31/2023	5	18	
5	Architectural Coating	Architectural Coating	8/8/2023	8/31/2023	5	18	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 3.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 41,325; Non-Residential Outdoor: 13,775; Striped Parking Area: 9,804 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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	3	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Cranes	2	7.00	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	4	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	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
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	78.00	31.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650		1,128.5772	1,128.5772	0.3650		1,137.7023
Total	**0.8360**	**8.6628**	**5.3377**	**0.0117**	**6.5523**	**0.3967**	**6.9491**	**3.3675**	**0.3650**	**3.7325**		**1,128.5772**	**1,128.5772**	**0.3650**		**1,137.7023**

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	0.0000	0.0000	0.0000	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	0.0171	0.0117	0.1486	4.5000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		45.0212	45.0212	1.1400e-003	1.2000e-003	45.4075
Total	**0.0171**	**0.0117**	**0.1486**	**4.5000e-004**	**0.0559**	**2.6000e-004**	**0.0562**	**0.0148**	**2.4000e-004**	**0.0151**		**45.0212**	**45.0212**	**1.1400e-003**	**1.2000e-003**	**45.4075**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 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					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	0.8360	8.6628	5.3377	0.0117		0.3967	0.3967		0.3650	0.3650	0.0000	1,128.5772	1,128.5772	0.3650		1,137.7023
Total	**0.8360**	**8.6628**	**5.3377**	**0.0117**	**2.5554**	**0.3967**	**2.9522**	**1.3133**	**0.3650**	**1.6783**	**0.0000**	**1,128.5772**	**1,128.5772**	**0.3650**		**1,137.7023**

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	0.0000	0.0000	0.0000	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	0.0171	0.0117	0.1486	4.5000e-004	0.0559	2.6000e-004	0.0562	0.0148	2.4000e-004	0.0151		45.0212	45.0212	1.1400e-003	1.2000e-003	45.4075
Total	**0.0171**	**0.0117**	**0.1486**	**4.5000e-004**	**0.0559**	**2.6000e-004**	**0.0562**	**0.0148**	**2.4000e-004**	**0.0151**		**45.0212**	**45.0212**	**1.1400e-003**	**1.2000e-003**	**45.4075**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**7.0826**	**0.7749**	**7.8575**	**3.4247**	**0.7129**	**4.1377**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

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	0.0000	0.0000	0.0000	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	0.0513	0.0351	0.4456	1.3400e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		135.0635	135.0635	3.4300e-003	3.6000e-003	136.2226
Total	**0.0513**	**0.0351**	**0.4456**	**1.3400e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**135.0635**	**135.0635**	**3.4300e-003**	**3.6000e-003**	**136.2226**

3.3 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					2.7622	0.0000	2.7622	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**2.7622**	**0.7749**	**3.5371**	**1.3357**	**0.7129**	**2.0486**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

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	0.0000	0.0000	0.0000	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	0.0513	0.0351	0.4456	1.3400e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		135.0635	135.0635	3.4300e-003	3.6000e-003	136.2226
Total	**0.0513**	**0.0351**	**0.4456**	**1.3400e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**135.0635**	**135.0635**	**3.4300e-003**	**3.6000e-003**	**136.2226**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 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	2.2672	20.4877	21.4795	0.0373		0.9606	0.9606		0.9029	0.9029		3,515.5339	3,515.5339	0.8740		3,537.3831
Total	**2.2672**	**20.4877**	**21.4795**	**0.0373**		**0.9606**	**0.9606**		**0.9029**	**0.9029**		**3,515.5339**	**3,515.5339**	**0.8740**		**3,537.3831**

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	0.0324	1.0741	0.4311	5.4300e-003	0.1986	8.8500e-003	0.2074	0.0572	8.4700e-003	0.0656		575.7655	575.7655	5.7400e-003	0.0852	601.2846
Worker	0.2669	0.1826	2.3173	6.9500e-003	0.8719	4.0800e-003	0.8759	0.2312	3.7500e-003	0.2350		702.3303	702.3303	0.0179	0.0187	708.3577
Total	**0.2993**	**1.2567**	**2.7484**	**0.0124**	**1.0704**	**0.0129**	**1.0833**	**0.2884**	**0.0122**	**0.3006**		**1,278.0958**	**1,278.0958**	**0.0236**	**0.1039**	**1,309.6423**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 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	2.2672	20.4877	21.4795	0.0373		0.9606	0.9606		0.9029	0.9029	0.0000	3,515.5339	3,515.5339	0.8740		3,537.3831
Total	**2.2672**	**20.4877**	**21.4795**	**0.0373**		**0.9606**	**0.9606**		**0.9029**	**0.9029**	**0.0000**	**3,515.5339**	**3,515.5339**	**0.8740**		**3,537.3831**

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	0.0324	1.0741	0.4311	5.4300e-003	0.1986	8.8500e-003	0.2074	0.0572	8.4700e-003	0.0656		575.7655	575.7655	5.7400e-003	0.0852	601.2846
Worker	0.2669	0.1826	2.3173	6.9500e-003	0.8719	4.0800e-003	0.8759	0.2312	3.7500e-003	0.2350		702.3303	702.3303	0.0179	0.0187	708.3577
Total	**0.2993**	**1.2567**	**2.7484**	**0.0124**	**1.0704**	**0.0129**	**1.0833**	**0.2884**	**0.0122**	**0.3006**		**1,278.0958**	**1,278.0958**	**0.0236**	**0.1039**	**1,309.6423**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.2387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1568**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

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	0.0000	0.0000	0.0000	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	0.0684	0.0468	0.5942	1.7800e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		180.0847	180.0847	4.5800e-003	4.8000e-003	181.6302
Total	**0.0684**	**0.0468**	**0.5942**	**1.7800e-003**	**0.2236**	**1.0500e-003**	**0.2246**	**0.0593**	**9.6000e-004**	**0.0603**		**180.0847**	**180.0847**	**4.5800e-003**	**4.8000e-003**	**181.6302**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.2387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1568**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

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	0.0000	0.0000	0.0000	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	0.0684	0.0468	0.5942	1.7800e-003	0.2236	1.0500e-003	0.2246	0.0593	9.6000e-004	0.0603		180.0847	180.0847	4.5800e-003	4.8000e-003	181.6302
Total	**0.0684**	**0.0468**	**0.5942**	**1.7800e-003**	**0.2236**	**1.0500e-003**	**0.2246**	**0.0593**	**9.6000e-004**	**0.0603**		**180.0847**	**180.0847**	**4.5800e-003**	**4.8000e-003**	**181.6302**

3.6 Architectural Coating - 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					
Archit. Coating	16.7128					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**16.9044**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.0000	0.0000	0.0000	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	0.0548	0.0375	0.4754	1.4300e-003	0.1788	8.4000e-004	0.1797	0.0474	7.7000e-004	0.0482		144.0678	144.0678	3.6600e-003	3.8400e-003	145.3041
Total	**0.0548**	**0.0375**	**0.4754**	**1.4300e-003**	**0.1788**	**8.4000e-004**	**0.1797**	**0.0474**	**7.7000e-004**	**0.0482**		**144.0678**	**144.0678**	**3.6600e-003**	**3.8400e-003**	**145.3041**

3.6 Architectural Coating - 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					
Archit. Coating	16.7128					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**16.9044**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.0000	0.0000	0.0000	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	0.0548	0.0375	0.4754	1.4300e-003	0.1788	8.4000e-004	0.1797	0.0474	7.7000e-004	0.0482		144.0678	144.0678	3.6600e-003	3.8400e-003	145.3041
Total	**0.0548**	**0.0375**	**0.4754**	**1.4300e-003**	**0.1788**	**8.4000e-004**	**0.1797**	**0.0474**	**7.7000e-004**	**0.0482**		**144.0678**	**144.0678**	**3.6600e-003**	**3.8400e-003**	**145.3041**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	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	11.9106	13.2263	81.6054	0.1471	15.2602	0.1319	15.3921	4.0712	0.1233	4.1945		14,993.7668	14,993.7668	1.2835	1.0031	15,324.7634
Unmitigated	13.0938	16.3999	101.6790	0.2066	21.9696	0.1784	22.1480	5.8611	0.1670	6.0282		21,056.6384	21,056.6384	1.5009	1.2570	21,468.7352

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	748.01	748.01	748.01	1,509,966	1,048,831
Fast Food Restaurant with Drive Thru	1,332.01	2,341.26	1795.80	1,623,252	1,127,520
Gasoline/Service Station	3,430.08	3,430.08	3430.08	5,917,783	4,110,525
General Office Building	157.18	32.05	10.15	381,097	264,712
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,667.28	6,551.39	5,984.04	9,432,098	6,551,589

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	35	65	0
Fast Food Restaurant with Drive Th	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	43	57	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	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
Automobile Care Center	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
Gasoline/Service Station	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
General Office Building	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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283		446.3805	446.3805	8.5600e-003	8.1800e-003	449.0331
NaturalGas Unmitigated	0.0409	0.3720	0.3125	2.2300e-003		0.0283	0.0283		0.0283	0.0283		446.3805	446.3805	8.5600e-003	8.1800e-003	449.0331

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Automobile Care Center	158.55	1.7100e-003	0.0155	0.0131	9.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003		18.6529	18.6529	3.6000e-004	3.4000e-004	18.7638
Fast Food Restaurant with Drive Thru	2838.65	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212		333.9591	333.9591	6.4000e-003	6.1200e-003	335.9436
Gasoline/Service Station	660.772	7.1300e-003	0.0648	0.0544	3.9000e-004		4.9200e-003	4.9200e-003		4.9200e-003	4.9200e-003		77.7379	77.7379	1.4900e-003	1.4300e-003	78.1999
General Office Building	136.26	1.4700e-003	0.0134	0.0112	8.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003		16.0306	16.0306	3.1000e-004	2.9000e-004	16.1259
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
Total		**0.0409**	**0.3720**	**0.3125**	**2.2300e-003**		**0.0283**	**0.0283**		**0.0283**	**0.0283**		**446.3805**	**446.3805**	**8.5600e-003**	**8.1800e-003**	**449.0331**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Automobile Care Center	0.15855	1.7100e-003	0.0155	0.0131	9.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003		18.6529	18.6529	3.6000e-004	3.4000e-004	18.7638
Fast Food Restaurant with Drive Thru	2.83865	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212		333.9591	333.9591	6.4000e-003	6.1200e-003	335.9436
Gasoline/Service Station	0.660772	7.1300e-003	0.0648	0.0544	3.9000e-004		4.9200e-003	4.9200e-003		4.9200e-003	4.9200e-003		77.7379	77.7379	1.4900e-003	1.4300e-003	78.1999
General Office Building	0.13626	1.4700e-003	0.0134	0.0112	8.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003		16.0306	16.0306	3.1000e-004	2.9000e-004	16.1259
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
Total		**0.0409**	**0.3720**	**0.3125**	**2.2300e-003**		**0.0283**	**0.0283**		**0.0283**	**0.0283**		**446.3805**	**446.3805**	**8.5600e-003**	**8.1800e-003**	**449.0331**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.6879	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Unmitigated	0.6879	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513

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	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6034					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Total	**0.6879**	**2.0000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0482**	**0.0482**	**1.3000e-004**		**0.0513**

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	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6034					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0224	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0482	0.0482	1.3000e-004		0.0513
Total	**0.6879**	**2.0000e-004**	**0.0224**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0482**	**0.0482**	**1.3000e-004**		**0.0513**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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

APPENDIX C

CALEEMOD MODEL ANNUAL EMISSIONS PRINTOUTS AND EMFAC DATA

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

19510 Beyond Food Mart (Clinton Keith & Jana Ln)

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	14.50	1000sqft	0.33	14,500.00	0
Other Non-Asphalt Surfaces	2.08	Acre	2.08	90,604.80	0
Parking Lot	182.00	Space	1.64	72,800.00	0
Fast Food Restaurant with Drive Thru	3.80	1000sqft	0.09	3,800.00	0
Automobile Care Center	1.79	1000sqft	0.04	1,790.00	0
Gasoline/Service Station	16.00	Pump	0.17	7,460.00	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 - 4.35 ac: 16FP gas w/ 7.46TSF mrkt, 1.79TSF car wash, 3.8TSF FF w/DT, 14.5TSF office, 182 spc prkng lot (w/ 131 auto, 8EV, 4 loading, 39 DT/wash stacking spcs), & rmndr lndscp/hrdscp (~2.08 ac).

Construction Phase - Site is vacant, no demo. Construction to start January 2023 and be completed by September 2023.

Off-road Equipment - CalEEMod default construction timing for building construction reduced by ~32%; therefore, ~32% more equipment added to CalEEMod default list.

Off-road Equipment - Site preparation to remove existing vegetation/rocks etc. over only ~20% of site area; therefore, CalEEMod default equipment reduced.

Grading - Site anticipated to balance.

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - TIA: 214.38trips/FP (w/ 38% passby) gas, 417.88trips/TSF wash, 350.53trips/TSF (w/ 25% passby) FF, & 10.84trips/TSF office. Wash/Gas weekday rate used for sat/sun. Other sat/sun rates ITE 11th Ed. Wash/Gas pass-by to 0 & split prim/div.

Sequestration - 116 new trees to be planted.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Sidewalks on/off. 56 emp/0.63jb ac (jb ac bldgs only)=88 jobs/jb ac. ~0.79 miles E of bus stop Clinton Keith/Wildomar Trl.

Energy Mitigation - Energy STAR appliances to be used.

Water Mitigation - 20% indoor water reduction per CalGreen Standards. Water-efficient irrigation systems.

Waste Mitigation - Per AB 341 project is anticipated to divert at least 37% of their waste away from landfills.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	157.00
tblLandUse	LandUseSquareFeet	2,258.80	7,460.00
tblLandUse	LotAcreage	0.05	0.17
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblSequestration	NumberOfNewTrees	0.00	116.00
tblVehicleTrips	DV_TP	51.00	65.00
tblVehicleTrips	DV_TP	27.00	57.00
tblVehicleTrips	PB_TP	28.00	0.00
tblVehicleTrips	PB_TP	59.00	0.00
tblVehicleTrips	PR_TP	21.00	35.00
tblVehicleTrips	PR_TP	14.00	43.00
tblVehicleTrips	ST_TR	23.72	417.88
tblVehicleTrips	ST_TR	182.17	214.38
tblVehicleTrips	SU_TR	11.88	417.88
tblVehicleTrips	SU_TR	166.88	214.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	WD_TR	23.72	417.88
tblVehicleTrips	WD_TR	470.95	350.53
tblVehicleTrips	WD_TR	172.01	214.38
tblVehicleTrips	WD_TR	9.74	10.84

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
2023	0.3732	1.8916	2.1219	4.2900e-003	0.1317	0.0851	0.2168	0.0456	0.0799	0.1255	0.0000	375.8149	375.8149	0.0730	7.5000e-003	379.8748
Maximum	**0.3732**	**1.8916**	**2.1219**	**4.2900e-003**	**0.1317**	**0.0851**	**0.2168**	**0.0456**	**0.0799**	**0.1255**	**0.0000**	**375.8149**	**375.8149**	**0.0730**	**7.5000e-003**	**379.8748**

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					
2023	0.3732	1.8916	2.1219	4.2900e-003	0.1045	0.0851	0.1896	0.0321	0.0799	0.1120	0.0000	375.8146	375.8146	0.0730	7.5000e-003	379.8744
Maximum	**0.3732**	**1.8916**	**2.1219**	**4.2900e-003**	**0.1045**	**0.0851**	**0.1896**	**0.0321**	**0.0799**	**0.1120**	**0.0000**	**375.8146**	**375.8146**	**0.0730**	**7.5000e-003**	**379.8744**

	ROG	NOx	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**	**20.70**	**0.00**	**12.58**	**29.60**	**0.00**	**10.76**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	11-10-2022	2-9-2023	0.2960	0.2960
2	2-10-2023	5-9-2023	0.7721	0.7721
3	5-10-2023	8-9-2023	0.8175	0.8175
4	8-10-2023	9-30-2023	0.3615	0.3615
		Highest	0.8175	0.8175

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	0.1254	3.0000e-005	2.8100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4600e-003	5.4600e-003	1.0000e-005	0.0000	5.8200e-003
Energy	7.4700e-003	0.0679	0.0570	4.1000e-004		5.1600e-003	5.1600e-003		5.1600e-003	5.1600e-003	0.0000	149.4353	149.4353	7.7900e-003	2.1300e-003	150.2641
Mobile	2.1335	2.6730	16.9678	0.0346	3.5672	0.0293	3.5965	0.9530	0.0274	0.9803	0.0000	3,194.8112	3,194.8112	0.2189	0.1865	3,255.8500
Waste						0.0000	0.0000		0.0000	0.0000	14.7615	0.0000	14.7615	0.8724	0.0000	36.5710
Water						0.0000	0.0000		0.0000	0.0000	1.3044	13.2115	14.5159	0.1351	3.3000e-003	18.8761
Total	**2.2663**	**2.7409**	**17.0276**	**0.0350**	**3.5672**	**0.0344**	**3.6017**	**0.9530**	**0.0326**	**0.9855**	**16.0659**	**3,357.4635**	**3,373.5293**	**1.2342**	**0.1919**	**3,461.5670**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.1254	3.0000e-005	2.8100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4600e-003	5.4600e-003	1.0000e-005	0.0000	5.8200e-003
Energy	7.4700e-003	0.0679	0.0570	4.1000e-004		5.1600e-003	5.1600e-003		5.1600e-003	5.1600e-003	0.0000	147.7186	147.7186	7.6500e-003	2.1100e-003	148.5386
Mobile	1.9365	2.1420	13.4990	0.0246	2.4778	0.0216	2.4994	0.6619	0.0202	0.6821	0.0000	2,271.8272	2,271.8272	0.1861	0.1481	2,320.6132
Waste						0.0000	0.0000		0.0000	0.0000	9.2998	0.0000	9.2998	0.5496	0.0000	23.0397
Water						0.0000	0.0000		0.0000	0.0000	1.0435	11.3127	12.3562	0.1081	2.6500e-003	15.8482
Total	**2.0694**	**2.2099**	**13.5589**	**0.0250**	**2.4778**	**0.0267**	**2.5046**	**0.6619**	**0.0253**	**0.6873**	**10.3433**	**2,430.8639**	**2,441.2072**	**0.8515**	**0.1529**	**2,508.0455**

	ROG	NOx	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	**8.69**	**19.37**	**20.37**	**28.58**	**30.54**	**22.31**	**30.46**	**30.54**	**22.15**	**30.26**	**35.62**	**27.60**	**27.64**	**31.01**	**20.34**	**27.55**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	82.1280
Total	**82.1280**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/6/2023	5	5	
2	Grading	Grading	1/7/2023	1/18/2023	5	8	
3	Building Construction	Building Construction	1/19/2023	8/25/2023	5	157	
4	Paving	Paving	8/8/2023	8/31/2023	5	18	
5	Architectural Coating	Architectural Coating	8/8/2023	8/31/2023	5	18	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 3.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 41,325; Non-Residential Outdoor: 13,775; Striped Parking Area: 9,804 (Architectural Coating – sqft)

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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	3	8.00	97	0.37
Building Construction	Cranes	2	7.00	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	4	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	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
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	78.00	31.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 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					0.0164	0.0000	0.0164	8.4200e-003	0.0000	8.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0900e-003	0.0217	0.0133	3.0000e-005		9.9000e-004	9.9000e-004		9.1000e-004	9.1000e-004	0.0000	2.5596	2.5596	8.3000e-004	0.0000	2.5803
Total	**2.0900e-003**	**0.0217**	**0.0133**	**3.0000e-005**	**0.0164**	**9.9000e-004**	**0.0174**	**8.4200e-003**	**9.1000e-004**	**9.3300e-003**	**0.0000**	**2.5596**	**2.5596**	**8.3000e-004**	**0.0000**	**2.5803**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 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	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	4.0000e-005	3.0000e-005	3.9000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1045	0.1045	0.0000	0.0000	0.1054
Total	**4.0000e-005**	**3.0000e-005**	**3.9000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1045**	**0.1045**	**0.0000**	**0.0000**	**0.1054**

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					6.3900e-003	0.0000	6.3900e-003	3.2800e-003	0.0000	3.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0900e-003	0.0217	0.0133	3.0000e-005		9.9000e-004	9.9000e-004		9.1000e-004	9.1000e-004	0.0000	2.5596	2.5596	8.3000e-004	0.0000	2.5803
Total	**2.0900e-003**	**0.0217**	**0.0133**	**3.0000e-005**	**6.3900e-003**	**9.9000e-004**	**7.3800e-003**	**3.2800e-003**	**9.1000e-004**	**4.1900e-003**	**0.0000**	**2.5596**	**2.5596**	**8.3000e-004**	**0.0000**	**2.5803**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 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	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	4.0000e-005	3.0000e-005	3.9000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1045	0.1045	0.0000	0.0000	0.1054
Total	**4.0000e-005**	**3.0000e-005**	**3.9000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1045**	**0.1045**	**0.0000**	**0.0000**	**0.1054**

3.3 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					0.0283	0.0000	0.0283	0.0137	0.0000	0.0137	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8400e-003	0.0717	0.0590	1.2000e-004		3.1000e-003	3.1000e-003		2.8500e-003	2.8500e-003	0.0000	10.4243	10.4243	3.3700e-003	0.0000	10.5085
Total	**6.8400e-003**	**0.0717**	**0.0590**	**1.2000e-004**	**0.0283**	**3.1000e-003**	**0.0314**	**0.0137**	**2.8500e-003**	**0.0166**	**0.0000**	**10.4243**	**10.4243**	**3.3700e-003**	**0.0000**	**10.5085**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 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	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	1.9000e-004	1.4000e-004	1.8800e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5015	0.5015	1.0000e-005	1.0000e-005	0.5058
Total	**1.9000e-004**	**1.4000e-004**	**1.8800e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5015**	**0.5015**	**1.0000e-005**	**1.0000e-005**	**0.5058**

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					0.0111	0.0000	0.0111	5.3400e-003	0.0000	5.3400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8400e-003	0.0717	0.0590	1.2000e-004		3.1000e-003	3.1000e-003		2.8500e-003	2.8500e-003	0.0000	10.4242	10.4242	3.3700e-003	0.0000	10.5085
Total	**6.8400e-003**	**0.0717**	**0.0590**	**1.2000e-004**	**0.0111**	**3.1000e-003**	**0.0142**	**5.3400e-003**	**2.8500e-003**	**8.1900e-003**	**0.0000**	**10.4242**	**10.4242**	**3.3700e-003**	**0.0000**	**10.5085**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 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	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	1.9000e-004	1.4000e-004	1.8800e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5015	0.5015	1.0000e-005	1.0000e-005	0.5058
Total	**1.9000e-004**	**1.4000e-004**	**1.8800e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5015**	**0.5015**	**1.0000e-005**	**1.0000e-005**	**0.5058**

3.4 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	0.1780	1.6083	1.6861	2.9300e-003		0.0754	0.0754		0.0709	0.0709	0.0000	250.3552	250.3552	0.0622	0.0000	251.9112
Total	**0.1780**	**1.6083**	**1.6861**	**2.9300e-003**		**0.0754**	**0.0754**		**0.0709**	**0.0709**	**0.0000**	**250.3552**	**250.3552**	**0.0622**	**0.0000**	**251.9112**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 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	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	2.6400e-003	0.0834	0.0332	4.3000e-004	0.0154	6.9000e-004	0.0161	4.4400e-003	6.6000e-004	5.1000e-003	0.0000	40.9438	40.9438	4.1000e-004	6.0500e-003	42.7583
Worker	0.0199	0.0147	0.1917	5.6000e-004	0.0673	3.2000e-004	0.0676	0.0179	2.9000e-004	0.0182	0.0000	51.1793	51.1793	1.2800e-003	1.3600e-003	51.6162
Total	**0.0225**	**0.0981**	**0.2249**	**9.9000e-004**	**0.0827**	**1.0100e-003**	**0.0837**	**0.0223**	**9.5000e-004**	**0.0233**	**0.0000**	**92.1230**	**92.1230**	**1.6900e-003**	**7.4100e-003**	**94.3744**

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	0.1780	1.6083	1.6861	2.9300e-003		0.0754	0.0754		0.0709	0.0709	0.0000	250.3549	250.3549	0.0622	0.0000	251.9109
Total	**0.1780**	**1.6083**	**1.6861**	**2.9300e-003**		**0.0754**	**0.0754**		**0.0709**	**0.0709**	**0.0000**	**250.3549**	**250.3549**	**0.0622**	**0.0000**	**251.9109**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 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	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	2.6400e-003	0.0834	0.0332	4.3000e-004	0.0154	6.9000e-004	0.0161	4.4400e-003	6.6000e-004	5.1000e-003	0.0000	40.9438	40.9438	4.1000e-004	6.0500e-003	42.7583
Worker	0.0199	0.0147	0.1917	5.6000e-004	0.0673	3.2000e-004	0.0676	0.0179	2.9000e-004	0.0182	0.0000	51.1793	51.1793	1.2800e-003	1.3600e-003	51.6162
Total	**0.0225**	**0.0981**	**0.2249**	**9.9000e-004**	**0.0827**	**1.0100e-003**	**0.0837**	**0.0223**	**9.5000e-004**	**0.0233**	**0.0000**	**92.1230**	**92.1230**	**1.6900e-003**	**7.4100e-003**	**94.3744**

3.5 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	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565
Paving	2.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0104**	**0.0791**	**0.1097**	**1.7000e-004**		**3.9200e-003**	**3.9200e-003**		**3.6200e-003**	**3.6200e-003**	**0.0000**	**14.7407**	**14.7407**	**4.6300e-003**	**0.0000**	**14.8565**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 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	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	5.8000e-004	4.3000e-004	5.6400e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.3000e-004	0.0000	1.5045	1.5045	4.0000e-005	4.0000e-005	1.5174
Total	**5.8000e-004**	**4.3000e-004**	**5.6400e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.5045**	**1.5045**	**4.0000e-005**	**4.0000e-005**	**1.5174**

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	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565
Paving	2.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0104**	**0.0791**	**0.1097**	**1.7000e-004**		**3.9200e-003**	**3.9200e-003**		**3.6200e-003**	**3.6200e-003**	**0.0000**	**14.7407**	**14.7407**	**4.6300e-003**	**0.0000**	**14.8565**

3.5 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	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	5.8000e-004	4.3000e-004	5.6400e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.3000e-004	0.0000	1.5045	1.5045	4.0000e-005	4.0000e-005	1.5174
Total	**5.8000e-004**	**4.3000e-004**	**5.6400e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.5045**	**1.5045**	**4.0000e-005**	**4.0000e-005**	**1.5174**

3.6 Architectural Coating - 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					
Archit. Coating	0.1504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7200e-003	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	**0.1521**	**0.0117**	**0.0163**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.4000e-004**	**0.0000**	**2.3014**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 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	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	4.7000e-004	3.5000e-004	4.5100e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2036	1.2036	3.0000e-005	3.0000e-005	1.2139
Total	**4.7000e-004**	**3.5000e-004**	**4.5100e-003**	**1.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2036**	**1.2036**	**3.0000e-005**	**3.0000e-005**	**1.2139**

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	0.1504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7200e-003	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	**0.1521**	**0.0117**	**0.0163**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.4000e-004**	**0.0000**	**2.3014**

3.6 Architectural Coating - 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	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	4.7000e-004	3.5000e-004	4.5100e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2036	1.2036	3.0000e-005	3.0000e-005	1.2139
Total	**4.7000e-004**	**3.5000e-004**	**4.5100e-003**	**1.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2036**	**1.2036**	**3.0000e-005**	**3.0000e-005**	**1.2139**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Improve Pedestrian Network

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	1.9365	2.1420	13.4990	0.0246	2.4778	0.0216	2.4994	0.6619	0.0202	0.6821	0.0000	2,271.8272	2,271.8272	0.1861	0.1481	2,320.6132
Unmitigated	2.1335	2.6730	16.9678	0.0346	3.5672	0.0293	3.5965	0.9530	0.0274	0.9803	0.0000	3,194.8112	3,194.8112	0.2189	0.1865	3,255.8500

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	748.01	748.01	748.01	1,509,966	1,048,831
Fast Food Restaurant with Drive Thru	1,332.01	2,341.26	1795.80	1,623,252	1,127,520
Gasoline/Service Station	3,430.08	3,430.08	3430.08	5,917,783	4,110,525
General Office Building	157.18	32.05	10.15	381,097	264,712
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,667.28	6,551.39	5,984.04	9,432,098	6,551,589

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
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	35	65	0
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	43	57	0
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	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
Gasoline/Service Station	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
General Office Building	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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	73.8153	73.8153	6.2300e-003	7.6000e-004	74.1961
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	75.5320	75.5320	6.3800e-003	7.7000e-004	75.9217
NaturalGas Mitigated	7.4700e-003	0.0679	0.0570	4.1000e-004		5.1600e-003	5.1600e-003		5.1600e-003	5.1600e-003	0.0000	73.9033	73.9033	1.4200e-003	1.3500e-003	74.3425
NaturalGas Unmitigated	7.4700e-003	0.0679	0.0570	4.1000e-004		5.1600e-003	5.1600e-003		5.1600e-003	5.1600e-003	0.0000	73.9033	73.9033	1.4200e-003	1.3500e-003	74.3425

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Automobile Care Center	57870.7	3.1000e-004	2.8400e-003	2.3800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.0882	3.0882	6.0000e-005	6.0000e-005	3.1066
Fast Food Restaurant with Drive Thru	1.03611e+006	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	55.2907	55.2907	1.0600e-003	1.0100e-003	55.6192
Gasoline/Service Station	241182	1.3000e-003	0.0118	9.9300e-003	7.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	12.8704	12.8704	2.5000e-004	2.4000e-004	12.9469
General Office Building	49735	2.7000e-004	2.4400e-003	2.0500e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.6541	2.6541	5.0000e-005	5.0000e-005	2.6698
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
Total		**7.4700e-003**	**0.0679**	**0.0570**	**4.0000e-004**		**5.1700e-003**	**5.1700e-003**		**5.1700e-003**	**5.1700e-003**	**0.0000**	**73.9033**	**73.9033**	**1.4200e-003**	**1.3600e-003**	**74.3425**

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Automobile Care Center	57870.7	3.1000e-004	2.8400e-003	2.3800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.0882	3.0882	6.0000e-005	6.0000e-005	3.1066
Fast Food Restaurant with Drive Thru	1.03611e+006	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	55.2907	55.2907	1.0600e-003	1.0100e-003	55.6192
Gasoline/Service Station	241182	1.3000e-003	0.0118	9.9300e-003	7.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	12.8704	12.8704	2.5000e-004	2.4000e-004	12.9469
General Office Building	49735	2.7000e-004	2.4400e-003	2.0500e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.6541	2.6541	5.0000e-005	5.0000e-005	2.6698
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
Total		**7.4700e-003**	**0.0679**	**0.0570**	**4.0000e-004**		**5.1700e-003**	**5.1700e-003**		**5.1700e-003**	**5.1700e-003**	**0.0000**	**73.9033**	**73.9033**	**1.4200e-003**	**1.3600e-003**	**74.3425**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	17756.8	3.1491	2.7000e-004	3.0000e-005	3.1653
Fast Food Restaurant with Drive Thru	175408	31.1078	2.6300e-003	3.2000e-004	31.2683
Gasoline/Service Station	74003.2	13.1241	1.1100e-003	1.3000e-004	13.1918
General Office Building	133255	23.6322	1.9900e-003	2.4000e-004	23.7541
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	25480	4.5188	3.8000e-004	5.0000e-005	4.5421
Total		**75.5320**	**6.3800e-003**	**7.7000e-004**	**75.9217**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	17756.8	3.1491	2.7000e-004	3.0000e-005	3.1653
Fast Food Restaurant with Drive Thru	168089	29.8099	2.5200e-003	3.0000e-004	29.9637
Gasoline/Service Station	72794.7	12.9098	1.0900e-003	1.3000e-004	12.9764
General Office Building	132102	23.4278	1.9800e-003	2.4000e-004	23.5486
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	25480	4.5188	3.8000e-004	5.0000e-005	4.5421
Total		**73.8153**	**6.2400e-003**	**7.5000e-004**	**74.1961**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	0.1254	3.0000e-005	2.8100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4600e-003	5.4600e-003	1.0000e-005	0.0000	5.8200e-003
Unmitigated	0.1254	3.0000e-005	2.8100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4600e-003	5.4600e-003	1.0000e-005	0.0000	5.8200e-003

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	0.0150					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.8100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4600e-003	5.4600e-003	1.0000e-005	0.0000	5.8200e-003
Total	**0.1254**	**3.0000e-005**	**2.8100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.4600e-003**	**5.4600e-003**	**1.0000e-005**	**0.0000**	**5.8200e-003**

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	0.0150					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.8100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4600e-003	5.4600e-003	1.0000e-005	0.0000	5.8200e-003
Total	**0.1254**	**3.0000e-005**	**2.8100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.4600e-003**	**5.4600e-003**	**1.0000e-005**	**0.0000**	**5.8200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.3562	0.1081	2.6500e-003	15.8482
Unmitigated	14.5159	0.1351	3.3000e-003	18.8761

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.168405 / 0.103216	0.6457	5.5400e-003	1.4000e-004	0.8245
Fast Food Restaurant with Drive Thru	1.15343 / 0.0736231	3.1745	0.0378	9.2000e-004	4.3931
Gasoline/Service Station	0.21251 / 0.130248	0.8148	6.9900e-003	1.7000e-004	1.0405
General Office Building	2.57714 / 1.57954	9.8810	0.0847	2.0800e-003	12.6180
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
Total		**14.5159**	**0.1351**	**3.3100e-003**	**18.8761**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.134724 / 0.103216	0.5572	4.4300e-003	1.1000e-004	0.7005
Fast Food Restaurant with Drive Thru	0.922742 / 0.0736231	2.5686	0.0303	7.3000e-004	3.5436
Gasoline/Service Station	0.170008 / 0.130248	0.7032	5.5900e-003	1.4000e-004	0.8840
General Office Building	2.06171 / 1.57954	8.5272	0.0679	1.6700e-003	10.7201
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
Total		**12.3562**	**0.1081**	**2.6500e-003**	**15.8481**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

19510 Beyond Food Mart (Clinton Keith & Jana Ln) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.2998	0.5496	0.0000	23.0397
Unmitigated	14.7615	0.8724	0.0000	36.5710

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	6.84	1.3885	0.0821	0.0000	3.4399
Fast Food Restaurant with Drive Thru	43.77	8.8849	0.5251	0.0000	22.0120
Gasoline/Service Station	8.62	1.7498	0.1034	0.0000	4.3350
General Office Building	13.49	2.7384	0.1618	0.0000	6.7841
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**14.7615**	**0.8724**	**0.0000**	**36.5710**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	4.3092	0.8747	0.0517	0.0000	2.1671
Fast Food Restaurant with Drive Thru	27.5751	5.5975	0.3308	0.0000	13.8676
Gasoline/Service Station	5.4306	1.1024	0.0652	0.0000	2.7311
General Office Building	8.4987	1.7252	0.1020	0.0000	4.2740
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**9.2998**	**0.5496**	**0.0000**	**23.0397**

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	82.1280	0.0000	0.0000	82.1280

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	116	82.1280	0.0000	0.0000	82.1280
Total		**82.1280**	**0.0000**	**0.0000**	**82.1280**

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Trips	Energy Consumption	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	Total VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coast	2023	HHDT	Aggregate	Aggregate	Gasoline	77.76705152	1555.963167	0	1.13577086	1135.77086	1904593.073	4463.059823	11986522.09	**6.29**	**HHDT**
South Coast	2023	HHDT	Aggregate	Aggregate	Diesel	88939.48335	1354183.938	0	1901.434302	1901434.302		11341687.62			
South Coast	2023	HHDT	Aggregate	Aggregate	Electricity	69.55210742	1090.269168	7969.44745	0	0		4465.990707			
South Coast	2023	HHDT	Aggregate	Aggregate	Natural Gas	9734.51825	62334.09461	0	108.4243363	108424.3363		635905.4264			
South Coast	2023	LDA	Aggregate	Aggregate	Gasoline	5370115.979	25014254.84	0	7560.140191	7560140.191	7688683.513	216250190.4	234402460.7	**30.49**	**LDA**
South Coast	2023	LDA	Aggregate	Aggregate	Diesel	15648.45784	65526.69936	0	11.94439033	11944.39033		486634.8854			
South Coast	2023	LDA	Aggregate	Aggregate	Electricity	241152.5368	1208859.723	4312325.17	0	0		11169438.62			
South Coast	2023	LDA	Aggregate	Aggregate	Plug-in Hybrid	136333.5236	563739.1202	971420.6342	116.5989322	116598.9322		6496196.814			
South Coast	2023	LDT1	Aggregate	Aggregate	Gasoline	499113.9009	2195668.394	0	753.4930394	753493.0394	754054.6567	18009866.74	18076073.23	**23.97**	**LDT1**
South Coast	2023	LDT1	Aggregate	Aggregate	Diesel	197.6298759	575.4909742	0	0.161278255	161.278255		3756.265001			
South Coast	2023	LDT1	Aggregate	Aggregate	Electricity	1012.723437	4715.252993	14723.34847	0	0		38135.23576			
South Coast	2023	LDT1	Aggregate	Aggregate	Plug-in Hybrid	463.9603347	1918.475984	3964.563568	0.400339089	400.3390888		24314.99018			
South Coast	2023	LDT2	Aggregate	Aggregate	Gasoline	2429950.117	11422828.59	0	4340.074795	4340074.795	4365928.785	100292660.9	101911704.2	**23.34**	**LDT2**
South Coast	2023	LDT2	Aggregate	Aggregate	Diesel	7734.815855	37335.71589	0	10.96643985	10966.43985		337920.5463			
South Coast	2023	LDT2	Aggregate	Aggregate	Electricity	11160.73812	57317.98395	159502.5609	0	0		413130.7341			
South Coast	2023	LDT2	Aggregate	Aggregate	Plug-in Hybrid	17128.65814	70827.00142	136848.0138	14.88755019	14887.55019		867992.1123			
South Coast	2023	LHDT1	Aggregate	Aggregate	Gasoline	200398.3929	2985637.46	0	589.944376	589944.376	795980.0519	7820670.654	12015327.21	**15.10**	**LHDT1**
South Coast	2023	LHDT1	Aggregate	Aggregate	Diesel	99896.36028	1256570.543	0	206.0356758	206035.6758		4194656.56			
South Coast	2023	LHDT2	Aggregate	Aggregate	Gasoline	31213.47663	465034.2937	0	99.14469838	99144.69838	206307.908	1156671.072	2985280.201	**14.47**	**LHDT2**
South Coast	2023	LHDT2	Aggregate	Aggregate	Diesel	43691.53059	549584.4908	0	107.1632097	107163.2097		1828609.129			
South Coast	2023	MCY	Aggregate	Aggregate	Gasoline	237586.076	475172.1521	0	36.88140998	36881.40998	36881.40998	1522726.619	1522726.619	**41.29**	**MCY**
South Coast	2023	MDV	Aggregate	Aggregate	Gasoline	1559902.035	7210563.701	0	3188.051046	3188051.046	3230287.568	60070040.07	61764195.73	**19.12**	**MDV**
South Coast	2023	MDV	Aggregate	Aggregate	Diesel	19613.50466	92462.53217	0	33.91368569	33913.68569		784655.9403			
South Coast	2023	MDV	Aggregate	Aggregate	Electricity	12017.75416	61732.39119	171855.0799	0	0		445125.2375			
South Coast	2023	MDV	Aggregate	Aggregate	Plug-in Hybrid	10053.44096	41570.97836	70940.44124	8.322835871	8322.835871		464374.4805			
South Coast	2023	MH	Aggregate	Aggregate	Gasoline	30468.55432	3048.074174	0	59.14587153	59145.87153	70446.99764	287687.7216	401829.5371	**5.70**	**MH**
South Coast	2023	MH	Aggregate	Aggregate	Diesel	11533.11741	1153.311741	0	11.30112611	11301.12611		114141.8155			
South Coast	2023	MHDT	Aggregate	Aggregate	Gasoline	25436.77287	508938.9517	0	266.1846594	266184.6594	808347.4856	1361855.942	6189907.424	**7.66**	**MHDT**
South Coast	2023	MHDT	Aggregate	Aggregate	Diesel	112753.1691	1384256.954	0	542.1628262	542162.8262		4826755.64			
South Coast	2023	MHDT	Aggregate	Aggregate	Electricity	60.14211345	769.7741807	1354.591964	0	0		1295.841104			
South Coast	2023	MHDT	Aggregate	Aggregate	Natural Gas	1405.746156	12603.45034	0	8.268140472	8268.140472		68507.0989			
South Coast	2023	OBUS	Aggregate	Aggregate	Gasoline	5457.340752	109190.4738	0	43.78040647	43780.40647	77110.24352	220170.8028	453397.9409	**5.88**	**OBUS**
South Coast	2023	OBUS	Aggregate	Aggregate	Diesel	2949.128306	37294.91051	0	33.32983706	33329.83706		233227.1381			
South Coast	2023	OBUS	Aggregate	Aggregate	Natural Gas	467.0036657	4156.332625	0	3.280062265	3280.062265		28665.48863			
South Coast	2023	SBUS	Aggregate	Aggregate	Gasoline	2711.533402	10846.13361	0	13.42826072	13428.26072	22892.86276	119164.9071	188479.341	**8.23**	**SBUS**
South Coast	2023	SBUS	Aggregate	Aggregate	Diesel	3377.128927	48900.82686	0	9.464602039	9464.602039		69271.73995			
South Coast	2023	SBUS	Aggregate	Aggregate	Electricity	3.674682915	53.20940862	49.36713892	0	0		42.69400814			
South Coast	2023	SBUS	Aggregate	Aggregate	Natural Gas	2976.329163	43097.24627	0	17.80624767	17806.24767		74753.64709			
South Coast	2023	UBUS	Aggregate	Aggregate	Gasoline	894.3697717	3577.479087	0	14.17067148	14170.67148	204710.9133	96960.55907	694841.5831	**3.39**	**UBUS**
South Coast	2023	UBUS	Aggregate	Aggregate	Diesel	14.61165815	58.44663261	0	0.262644403	262.644403		1749.021883			
South Coast	2023	UBUS	Aggregate	Aggregate	Electricity	58.03212573	232.1285029	5326.224873	0	0		2539.586791			
South Coast	2023	UBUS	Aggregate	Aggregate	Natural Gas	4957.576963	19830.30785	0	190.2775974	190277.5974		593592.4153			

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Appendix 3

Biological Resources Assessment, Jurisdictional Delineation, and MSHCP Consistency Analysis

BIOLOGICAL RESOURCES ASSESSMENT, JURISDICTIONAL DELINEATION, AND MSHCP CONSISTENCY ANALYSIS FOR THE BEYOND FOOD MART DEVELOPMENT PROJECT ON THE SOUTHWEST CORNER OF JANA LN. AND CLINTON KEITH RD. WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

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4300 Edison Ave.
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Prepared by:

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April 2022
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SECTION 1.0 - INTRODUCTION

Jennings Environmental, LLC (Jennings) was retained by Beyond Food Mart (Owner) to conduct a literature review and site survey for the proposed Beyond Food Mart Development Project (Project) in Wildomar, California. The survey identified vegetation communities, the potential for the occurrence of special status species, or habitats that could support special status wildlife species, and recorded all plants and animals observed or detected within the Project boundary. This biological resources assessment is designed to address potential effects of the proposed Project to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW) or the California Native Plant Society (CNPS).

Information contained in this document is in accordance with accepted scientific and technical standards that are consistent with the requirements of the United States Fish and Wildlife Service (USFWS) and CDFW. Additionally, the site was surveyed for any drainage features that would meet the definition of the Waters of the US (WOUS), Waters of the State (WOS), or CDFW jurisdiction. Additionally, the Project is located within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP), more specifically within the survey area for burrowing owl (BUOW). As such, this report also contains the results of the consistency analysis performed for the Project.

1.1 PROJECT LOCATION

The Project is generally located in the northwest corner of Section 6, Township 2 South, Range 3 West, and is depicted on the *Murrieta* U.S. Geological Survey's (USGS) 7.5-minute topographic map. More specifically the Project is located within Assor Parcel Number (APN) 380-290-002, within the City of Wildomar, Riverside County, California. The Project site is located at the southwest corner of the intersection of Jana Lane. and Clinton Keith Road. The site is surrounded by residential development to the north and east, with vacant land to the east, and commercial development to the south and west. (Figures 1 and 2 in Appendix A).

1.2 PROJECT DESCRIPTION

Beyond Food Mart is proposing to develop a commercial/retail center with a gas station and convenience store, express carwash, and retail multi-tenant building. The convenience store will occupy approximately 7,460 square feet (sq. ft.) of the site with a fuel station and canopy occupying approximately 5,971 sq. ft. The remainder of the site will be occupied by the approximately 14,500 sq. ft. office/warehouse building, the approximately 1,790 sq. ft. carwash, and two drive-thru restaurants of approximately 1,800 sq. ft and 2,000 sq. ft.

2.0 – METHODOLOGY

2.1 LITERATURE REVIEW

Prior to performing the field survey, existing documentation relevant to the Project site was reviewed. The most recent records of the California Natural Diversity Database (CNDDB) managed by CDFW (CDFW 2022), the USFWS Critical Habitat Mapper (USFWS 2022), and the California Native Plant Society's

Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPS 2022) were reviewed for the following quadrangles containing and surrounding the Project site: *Murrieta*, *Romoland*, *Lake Elsinore, and Wildomar* USGS 7.5-minute quadrangles. The *Romoland*, *Lake Elsinore, and Wildomar* quads were included in this search due to the site's proximity to their boarders. Additionally, the CNPS' California Rare Plant Ranks (CRPR) were also reviewed for any plants receiving a Rank of 1 (Seriously Threatened0 or 2 (Moderately Threatened). These databases contain records of reported occurrences of federal- or state-listed endangered or threatened species, California Species of Concern (SSC), or otherwise special status species or habitats that may occur within or in the immediate vicinity of the Project site.

burrowing owl

Prior to performing the field surveys, available databases and documentation, such as the USFWS threatened and endangered species occurrence data overlay as well as the most recent versions of the CNDDB – Biogeographic Information and Observation System (BIOS), were reviewed for documented occurrences of BUOW in the local vicinity within the *Murrieta*, *Romoland*, *Lake Elsinore, and Wildomar* USGS 7.5-minute series quadrangles. Surveys conducted during the breeding season March 1 - August 31 are required to describe if, when, and how the site is used by burrowing owls. Surveys should be conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl signs. Surveys will not be accepted if they are conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. Surveys should be conducted in the morning one hour before sunrise to two hours after sunrise or in the early evening two hours before sunset to one hour after sunset.

2.2 SOILS

Before conducting the surveys, soil maps for Riverside County were referenced online to determine the types of soil found within the Project site. Soils were determined in accordance with categories set forth by the United States Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2022).

2.3 BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY

Jennings biologist, Gene Jennings, conducted the general reconnaissance survey within the Project site and a 200 foot buffer area, where feasible, to identify the potential for the occurrence of special status species, vegetation communities, or habitats that could support special status wildlife species. The surveys were conducted on foot, throughout the Project site between 0824 and 0930 hours on April 11, 2022. Weather conditions during the survey included temperatures ranging from 62.9 to 64.1 degrees Fahrenheit, with cloudy skies, no precipitation, 1.4 to 3.3 mile per hour winds. Photographs of the Project site were taken to document existing conditions (Appendix B).

2.4 JURISDICTIONAL FEATURES

A general assessment of jurisdictional waters regulated by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW was conducted for the proposed Project area. Pursuant to Section 404 of the Clean Water Act, USACE regulates the discharge of dredged and/or fill material into waters of the United States. The State of California (State) regulates the discharge of material into waters of the State pursuant to Section 401 of the Clean Water Act and the California

Porter- Cologne Water Quality Control Act (California Water Code, Division 7, §13000 et seq.). Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, CDFW regulates all substantial diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. The initial assessment was conducted by a desktop survey through the USGS National Hydrography Dataset for hydrological connectivity. Additional assessment findings are discussed in Sections 3.1.2 and 3.2.4. A discussion of the regulatory framework is provided in Appendix C.

2.5 WESTERN RIVERSIDE MULTIPLE SPECIES HABITAT CONSERVATION PLAN

The MSHCP is intended to balance the demands of the growth of western Riverside County with the need to preserve open space and protect species of plants and animals that are threatened with extinction. The MSHCP addresses incidental take of "covered" species. Of the 146 species addressed in the Western Riverside County MSHCP, 118 are adequately conserved simply by implementing the conservation program. Incidental take of these 118 species is permitted by the Western Riverside County MSHCP. The remaining 28 species are partially conserved. They would be adequately conserved when certain additional conservation requirements are implemented. The additional requirements are identified in the species-specific conservation objectives for those 28 species. The Riverside Conservation Authority (RCA) is the governing body that administers the MSHCP. Their database was researched prior to conducting the field visit.

2.6 VEGETATION

All plant species observed within the Project site were recorded. Vegetation communities within the Project site were identified and qualitatively described. Plant communities were determined in accordance with the *Manual of California Vegetation*, *Second Edition* (Sawyer et al. 2009). Plant nomenclature follows that of *The Jepson Manual, Second Edition* (Baldwin et al. 2012). A comprehensive list of the plant species observed during the survey is provided in Appendix D.

2.7 WILDLIFE

All wildlife and wildlife signs observed and detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (native vegetation, wildlife trails, etc.) or in habitats with the potential to support state- and/or federally listed or otherwise special status species. Notes were made on the general habitat types, species observed, and the conditions of the Project site. A comprehensive list of the wildlife species observed during the survey is provided in Appendix D.

SECTION 3.0 – RESULTS

3.1 LITERATURE REVIEW RESULTS

According to the CNDDB, CNPSEI, and other relevant literature and databases, 84 sensitive species including 21 listed species, and 3 sensitive habitats, have been documented in the *Murrieta*, *Romoland*, *Lake Elsinore, and Wildomar* quads. This list of sensitive species and habitats includes any State and/or federally listed threatened or endangered species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all of the taxa the CNDDB is

interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

An analysis of the likelihood for the occurrence of all CNDDB sensitive species documented in the *Murrieta*, *Romoland*, *Lake Elsinore, and Wildomar* quads is provided in Table 2, in Appendix D. This analysis takes into account species range as well as documentation within the vicinity of the Project area and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions. According to the databases, no USFWS designated critical habitat occurs within or adjacent to the Project site.

3.1.1 SOILS

After review of USDA Soil Conservation Service and by referencing the USDA NRCS Web Soil Survey (USDA 2022), it was determined that the Project site is located within the Western Riverside Area, California area CA679. Based on the results of the database search one of the soils present on site are classified as hydric soils, Placentia fine sandy loam 5-15 percent slopes. The Project site contains five (5) soil types (Figure 3 in Appendix A):

Cajalco fine sandy loam (CaD2). 8 to 15 percent slopes. This soil is well-drained with a very low to moderately low capacity to transmit water. This soil consists of residuum weathered from gabbro, typically ranges in elevation from 900 to 3,500 feet above mean sea level (amsl), and is not considered prime farmland.

Monserate sandy loam (MmD2). 8 to 15 percent slopes. This soil is well-drained with a very low capacity to transmit water. This soil consists of alluvium derived from granite, typically ranges in elevation from 700 to 2,500 feet amsl, and is considered farmland of statewide importance.

Monserate sandy loam, shallow (MnD2). 5 to 15 percent slopes. This soil is well-drained with a very low capacity to transmit water. This soil consists of alluvium derived from granite, typically ranges in elevation from 700 to 2,500 feet amsl, and is not considered prime farmland.

Monserate sandy loam, shallow (MnE3). 15 to 25 percent slopes. This soil is well-drained with a very low capacity to transmit water. This soil consists of alluvium derived from granite, typically ranges in elevation from 700 to 2,500 feet amsl, and is not considered prime farmland.

Placentia fine sandy loam (PlD). 5 to 15 percent slopes. This soil is moderately well-drained with a very low to moderately low capacity to transmit water. This soil consists of alluvium derived from granite, typically ranges in elevation from 50 to 2,500 feet amsl, and is not considered prime farmland. This soil is also found on the NRCS Hydric Soils List (USDA, 1999).

3.1.2 JURISDICTIONAL WATERS

Aerial imagery of the site was examined and compared with the surrounding USGS 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The U.S. Fish and Wildlife Service National Wetland Inventory and Environmental Protection Agency (EPA) Water Program "My Waters" data layers were also reviewed to determine whether any hydrologic features and wetland areas had been

documented within the vicinity of the site. Similarly, the Soil maps from the U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2022) were reviewed to identify the soil series on-site and to check if they have been identified regionally as hydric soils. Upstream and downstream connectivity of waterways (if present) was reviewed in the field, on aerial imagery, and topographic maps to determine jurisdictional status. No obvious signs of jurisdictional features were observed during the literature review.

3.1.3 HYDROLOGY AND HYDROLOGIC CONNECTIVITY

Hydrologically, the Project site is located within an undefined Hydrologic Sub-Area (HSA 902.32) which comprises a 32,148-acre drainage area within the larger Murrieta Hydrologic Area (Hydrologic Unit Code [HUC10] 1807030204) (CalTrans, 2022). The Murrieta watershed in Wildomar is bordered to the north by the Lower San Jacinto River watershed, to the east by the Wilson Creek watershed, to south by the Lower Temescal Creek and Santa Margarita River watersheds, and to the west by the San Mateo Creek watershed (Figure 4 in Appendix A).

3.1.4 MSHCP

Prior to the field visit the Riverside Conservation Authority's website and databases were searched. This includes the MSHCP plan itself and any relevant protocol survey requirements. The database also includes a mapping program that contains site-specific information related to criteria cell location, special survey areas for plants and animals, and vegetation mapping.

A summary of the MSHCP Conservation Goals and Policies as they relate to this Project is provided below in Table 1.

Table 1: MSHCP Conservation Goals for Project Area

Conservation Goals	Within /Adjacent	Not Within /Adjacent
Proposed Constrained Linkages: **None**		X
Core Areas: **None**		X
Linkages: **None**		X
Constrained Linkage:		X
Habitat Block:		X
Core: **None**		X
Criteria Cell**:**		X
Pre-existing Conservation Area		X

Conservation Goals	Within /Adjacent	Not Within /Adjacent
Riparian/Riverine or Vernal Pool Habitat		X
Narrow Endemic Plant Survey Area		X
Urban/Wildlife Interface		X
Mammal Survey Area		X
Amphibian Survey Area		X
Burrowing Owl Survey Area	X	

3.2 FIELD STUDY RESULTS

3.2.1 HABITAT

The habitat on-site consists of a mix of ruderal vegetation, bare ground, and *Amsinckia* (*menziesii*, *tessellata*) - *Phacelia* spp. Herbaceous Alliance (Sawyer, 2009), or Fiddleneck – Phacelai Fields. The site shows signs of recent vegetation management in the form of mowing,historical disturbance ,vehicle use, and pedestrian traffic. Table 1 in Appendix D contains a list of all plants found on-site. Surrounding land uses include undeveloped parcels and residential developments. Additionally, the site did not contain any plants with a CRPR Rank of 1 or 2.

3.2.2 WILDLIFE

Species observed or otherwise detected on or in the vicinity of the Project site during the surveys included; house finch (*Haemorhous mexicanus*), California towhee (*Melozone crissalis*), and Anna's hummingbird (*Calypte anna*). A complete list of all wildlife observed is included in Table 1 of Appendix D.

3.2.3 SPECIAL STATUS SPECIES

No State and/or federally listed threatened or endangered species or other sensitive species were observed on-site during surveys.

Designated Critical Habitat

The site is not located within or adjacent to any USFWS designated Critical Habitat. No further action is required.

Nesting Birds

The Project site and immediate surrounding area does contain habitat suitable for nesting birds. Nesting bird surveys should be conducted prior to any construction activities taking place during the nesting season to avoid potentially taking any birds or active nests. In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season (generally March 15th

to September 15th), and conducting a worker awareness training. However, if all work cannot be conducted outside of the nesting season, a Project-specific Nesting Bird Management Plan can be prepared to determine suitable buffers.

3.2.4 JURISDICTIONAL WATERS

Waters of the United States and Waters of the State

The USACE has the authority to permit the discharge of dredged or fill material in Waters of the U.S. under Section 404 CWA. While the Regional Water Quality Board has authority over the discharge of dredged or fill material in Waters of the State under Section 401 CWA as well as the Porter-Cologne Water Quality Control Act. The Project area was surveyed with 100 percent visual coverage and no drainage features were present on site. As such, the subject parcel does not contain any wetlands, Waters of the U.S., or Waters of the State.

Fish and Game Code Section 1602 - State Lake and/or Streambed

The CDFW asserts jurisdiction over any drainage feature that contains a definable bed and bank or associated riparian vegetation. The Project area was surveyed with 100 percent visual coverage and no definable bed or bank features exist on the Project site. There is an outlet structure that deposits water onto the site from the surrounding parcels, however, it appears that the amount of water that is discharged does not stay within a defined location or channel. It is either absorbed into the soil or lost to sheet flow within the parcel. As such, the subject parcel does not contain any areas under CDFW jurisdiction.

3.2.5 WETLANDS

NWI maps did not identify portions within the Project site as a Riverine/Riparian system. Additionally, only one of the requirements for wetland designation (hydric soils) was present within the parcel. The site does not contain hydric vegetation or wetland hydrology. In order to be classified as a wetland all three criteria must be present within the Project site. As such, there are no wetlands currently present on site.

3.3 MSHCP CONSISTENCY ANALYSIS

The Project is located within The Elsinore Area Plan of the MSHCP. The target conservation acreage range for The Elsinore Plan is 66,500 – 73,315 acres; it is composed of approximately 54,800 acres of existing Public/Quasi-Public Lands and 11,700 – 18,515 acres of Additional Reserve Lands.

The MSHCP Conservation Area comprises a variety of existing and proposed Cores, Linkages, Constrained Linkages, and Noncontiguous Habitat Blocks (referred to herein generally as "Cores and Linkages"). The Cores and Linkages within the Sun City/Menifee Valley Area Plan include:

- Contains all of Proposed Constrained Linkage 5
- Contains all of Proposed Constrained Linkage 6
- Contains most of Proposed Core 1
- Contains a portion of Proposed Extension of Existing Core 2
- Contains all of Proposed Extension of Existing Core 3
- Contains all of Proposed Linkage 1

- Contains all of Proposed Linkage 2
- Contains a portion of Proposed Linkage 3
- Contains a portion of Proposed Linkage 7
- Contains a large portion of Proposed Linkage 8

3.3.1 PUBLIC QUASI-PUBLIC LANDS (PQP) AND COVERED ROADS

Pursuant to Sections 3.2.1 PQP Lands are a Subset of MSHCP Conservation Area lands totaling approximately 347,000 acres of lands known to be in public/private ownership and expected to be managed for open space value and/or in a manner that contributes to the Conservation of Covered Species (including lands contained in existing reserves), as generally depicted in Figure 3-1 of the MSHCP, Volume I. Section 7.2.1 Existing Roads within Existing PQP Lands are existing roadways within existing Public/Quasi-Public Lands, including interstates, freeways, State highways, city and county maintained roadways, as well as local roads, which are not city, or county maintained that provide property access. This latter category of other maintained roadways are generally maintained by the adjacent property owners, either individually or collectively. Table 7-1, of the MSHCP, provides an estimate summarizing the extent of these various types of existing roadways which are permitted to remain within Public/Quasi-Public Lands.

The Project site is not located within or adjacent to any PQP Lands and will not impact a covered road.

- *No further discussion on this subject is made in this analysis*

3.3.2 SUBUNIT AREA/CELL CRITERIA

Pursuant to Section 3.3.12, Subunits are areas within an area plan that contain target conservation acreages along with a description of the planning species, biological issues, and considerations. The Project site is not located within a subunit area or cell criteria.

- *No further discussion on this subject is made in this analysis*

3.3.3 NARROW ENDEMIC PLANT SPECIES

Pursuant to Section 6.1.3 of the MSHCP, focused surveys for narrow endemic plant species are required for properties within the mapped areas if the appropriate habitat is present. The survey area maps have been reviewed and assessed, and the proposed Project is not located within a Narrow Endemic Plant Species Survey Area based on Figure 6-1 of the MSHCP.

- *No further discussion on this subject is made in this analysis*

3.3.4 ADDITIONAL SURVEY NEEDS AND PROCEDURES

Based on Figures 6-2 (Criteria Area Species Survey Areas), 6-3 (Amphibian Species Survey Areas), 6-4 (BUOW Survey Areas), and 6-5 (Mammal Species Survey Areas) of the MSHCP and the MSHCP Mapping Program, the site is located in an area where additional surveys are needed for BUOW in conjunction with MSHCP implementation in order to achieve coverage for these species.

- *BUOW: Pursuant to MSHCP Section 6.3.2, surveys shall be conducted within suitable habitat for BUOW, according to accepted protocols.*

- *Survey Results: Based on the April 2022 field survey, the site does not contain suitable habitat for this species. The property is continually maintained. No burrowing owls were observed during the site visit. No burrows of any kind were located within the property site. No portion of the Project site showed any evidence of past or present BUOW activity. No feathers, whitewash, or castings were found and no suitable burrow surrogate species are present on-site. No suitable habitat exists on-site; therefore, no focused surveys are required.*

3.3.5 RIPARIAN/RIVERINE AREAS AND VERNAL POOLS

The MSHCP describes the protection of Riparian/Riverine Areas and Vernal Pools within the MSHCP Plan Area as important to the conservation of certain amphibian, avian, fish, invertebrate and plant species. The MSHCP describes guidelines to ensure that the biological functions and values for species inside the MSHCP Conservation Area are maintained, as outlined in Volume 1, Section 6.1.2.

Riparian/ Riverine

Pursuant to Section 6.1.2 of the MSHCP, Riparian/Riverine areas are lands which contain habitat dominated by trees, shrubs, persistent emergent vegetation, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from nearby freshwater sources, or areas with freshwater flow during all or a portion of the year. Riverine habitat includes all wetlands and deepwater habitats contained in natural or artificial channels periodically or continuously containing flowing water or which forms a connecting link between the two bodies of standing water. Riverine habitat is bounded on the landward side by upland, by the channel bank (including natural and man-made levees), or by wetlands dominated by trees, shrubs, persistent emergents, mosses, or lichens. In braided streams, the system is bounded by the banks forming the outer limits of the depression within which the braiding occurs. Springs discharging into a channel are considered part of the riverine habitat. The term riparian is used to define the type of wildlife habitat found along the banks of a river, stream, lake, or other body of water. Riparian habitats are ecologically diverse and can be found in many types of environments including grasslands, wetlands, and forests.

The Project site does not contain any areas that meet the definition of Riparian/Riverine.

- *No further discussion on this subject is made in this analysis*

Vernal Pools

Pursuant to Section 6.1.2 of the MSHCP, Vernal Pools are 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 should consider (1) the length of time the area exhibits upland and wetland characteristics, and (2) 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.

The Project site does not contain the appropriate soils, vegetation, or hydrology to allow for vernal pools.

- *No further discussion on this subject is made in this analysis*

Fairy Shrimp

The MSHCP contains coverage for three species of fairy shrimp (*Streptocephalus woottoni*) (Riverside, vernal pool, and Santa Rosa fairy shrimps). As mentioned in the Vernal Pool discussion, the site does not contain vernal pools. Vernal pools are a required constituent element for all three fairy shrimp species in the MSHCP. As such, they are considered absent from the Project site.

- *No further discussion on this subject is made in this analysis*

Riparian Birds

The MSCHP includes coverage for many riparian birds, including least Bell's vireo, southwestern willow flycatcher, and yellow-billed cuckoo. As mentioned above in the Riparian/Riverine section, the site does not contain any riparian or riverine habitats which are a required constituent element for the riparian bird species. As such, these species are considered absent from the Project site.

- *No further discussion on this subject is made in this analysis*

3.3.6 INFORMATION ON OTHER SPECIES

Delhi sands flower-loving fly

The Delhi Sands flower-loving fly (Rhaphiomidas terminatus abdominalis) is found at low numbers and is narrowly distributed within the Plan Area. This species is restricted by the distribution and availability of open Habitats within the fine, sandy Delhi series soils. USFWS has identified three main population areas are known to currently or to have at one time existed in the Plan Area. One is located in the northwestern corner of the Plan Area, a second is located in the Jurupa Hills, and the third is located in the Agua Mansa Industrial Center area. Because the Delhi Sands flower-loving fly requires a specific Habitat type, this species will require site-specific considerations, protection and enhancement of this limited Habitat type, and species-specific management to maintain the Habitat and populations.

The Project site does not contain the appropriate soils for this species and is not within or near known areas for this species.

- *No further discussion on this subject is made in this analysis*

Species Not Adequately Conserved

As described in Section 2.1.4, of the 146 Covered Species addressed in the MSHCP, 118 species are considered to be adequately conserved. The remaining 28 Covered Species will be considered to be adequately conserved when certain conservation requirements are met as identified in the species-specific conservation objectives for those species. For 16 of the 28 species, particular species-specific conservation objectives, which are identified in Table 9-3, must be satisfied to shift those particular species to the list of Covered Species Adequately Conserved. For the remaining 12 species, a Memorandum of Understanding must be executed with the Forest Service that addresses management

for these species on Forest Service Land in order to shift these species to the list of Covered Species Adequately Conserved.

The Project site does not contain the appropriate habitats for any of these species. There is no occurrence potential for any of these species to occur within the Project site.

- *No further discussion on this subject is made in this analysis*

3.3.7 URBAN/ WILDLANDS INTERFACE

Section 6.1.4 of the MSHCP presents guidelines to minimize the indirect effects of Projects in proximity to the MSCHP Conservation areas. This section provides mitigation measures for impacts associated with Drainage, Toxics, Lighting, Noise, Invasives, Barriers, and Grading/Land Development.

The Project site is not within or adjacent to any area the meets the definition of an urban/wildland interface. The site is fenced off and mostly surrounded by other fenced off developed parcels.

- *No further discussion on this subject is made in this analysis*

3.3.7 BEST MANAGEMENT PRACTICES (VOLUME I, APPENDIX C)

Appendix C of the MSHCP details Best Management Practices (BMPs) that should be implemented. However, the Project does not impact any of the covered species or habitats described in the MSHCP or any federally or state-listed species. As such, there are only two BMPs that could qualify as required for this Project:

> 13. To avoid attracting predators of the species of concern, the Project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
>
> 14. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed Project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the Project and shall be specified in the construction plans. Construction limits will be fenced with an orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.

SECTION 4.0 - CONCLUSIONS AND RECOMMENDATIONS

Based on the literature review and personal observations made in the Project site and immediate vicinity, no State and/or federally listed threatened or endangered species are documented/or expected to occur within the Project site.

Jurisdictional Delineation

There are no streams, channels, washes, or swales that meet the definitions of Section 1600 of the State of California Fish and Game Code (FGC) under the jurisdiction of the CDFW, Section 401 (“Waters of the State”) of the Clean Water Act (CWA) under the jurisdiction of the Regional Water Quality Control Board (RWQCB), or “Waters of the United States” (WoUS) as defined by Section 404 of the CWA under the

jurisdiction of the U.S. Army Corps of Engineers (Corps) within the subject parcel. Therefore, no permit from any regulatory agency will be required.

MSHCP Consistency

The site is not mapped within a criteria cell or subunit. The Project is also consistent with the MSHCP policies found in Section 6 which include Riparian/Riverine Areas/ Vernal Pools; Narrow Endemic Plant Species; Urban/Wildlands Interface; and Surveys for Special Status Species. The site is not located within an area mapped for Narrow Endemic or Criteria Area Plant Species, Special Status Species, Riparian/Riverine/Vernal Pools, and Urban/Wildlife Interface. Therefore, the Project is consistent with MSCHP policies and conditions.

Nesting Birds

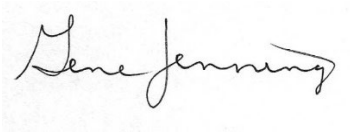
Since there is some habitat within the Project site and adjacent area that is suitable for nesting birds in general, a pre-construction nesting bird survey is recommended before the commencement of any Project-related work activities within nesting season (Generally February 15 through September 15) to avoid any potential Project-related impacts to nesting birds.

Certification

I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this analysis to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was performed by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the Project proponent and that I have no financial interest in the Project.

Please do not hesitate to contact me at 909-534-4547 should you have any questions or require further information.

Sincerely,



Gene Jennings
Principal/Regulatory Specialist

Appendices:

- Appendix A – Figures
- Appendix B – Site Photos
- Appendix C – Regulatory Framework
- Appendix D – Tables

Section 5 – REFERENCES

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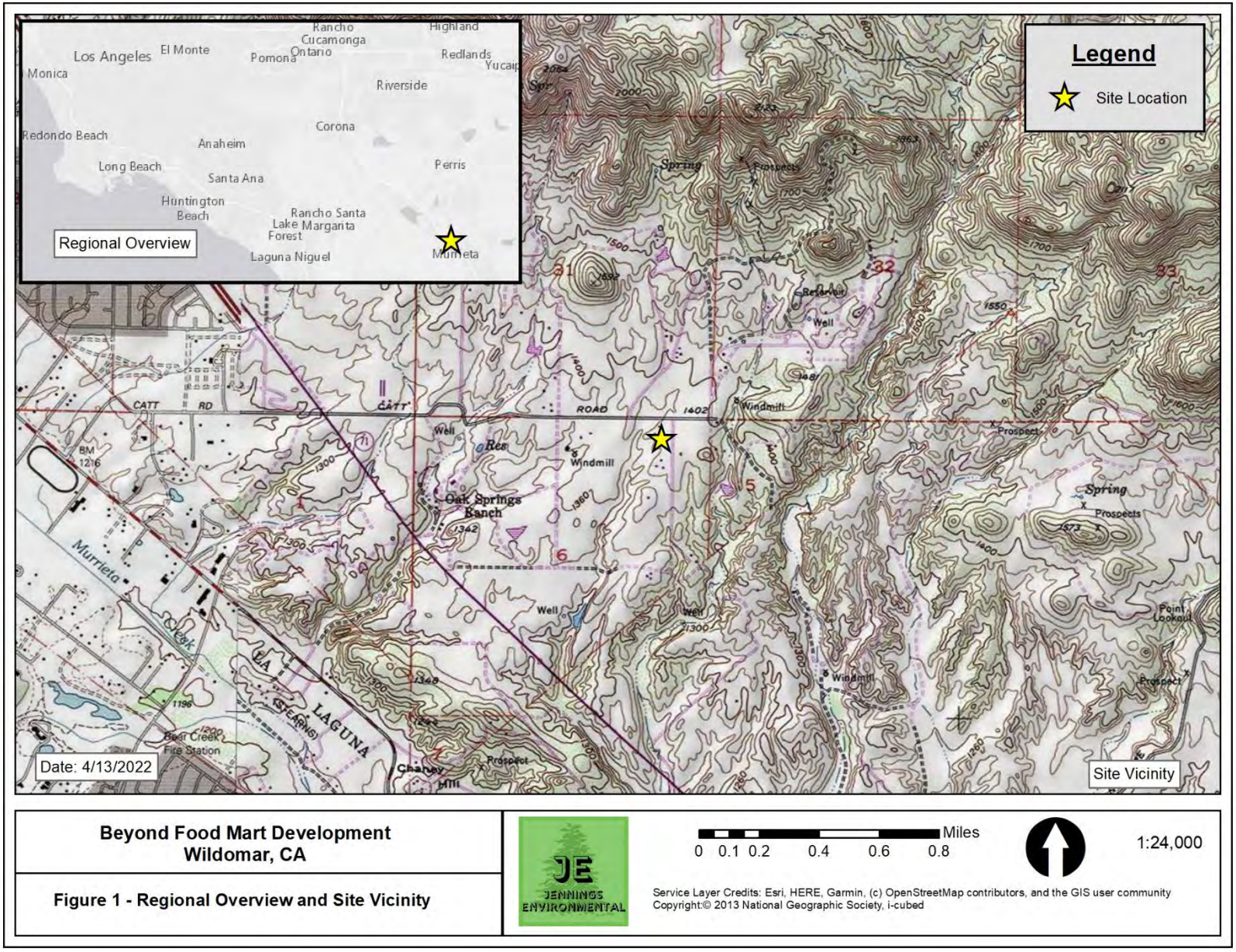
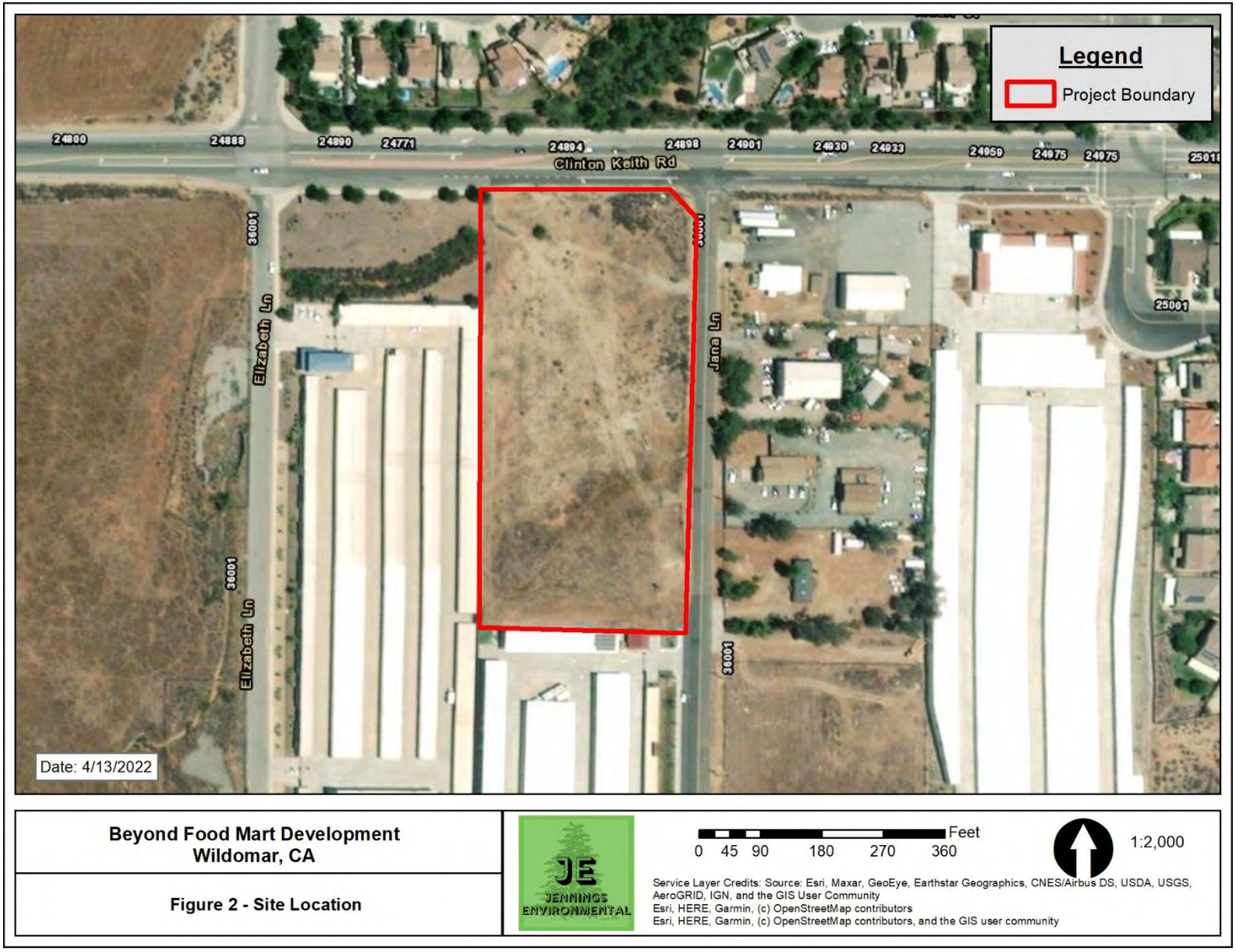
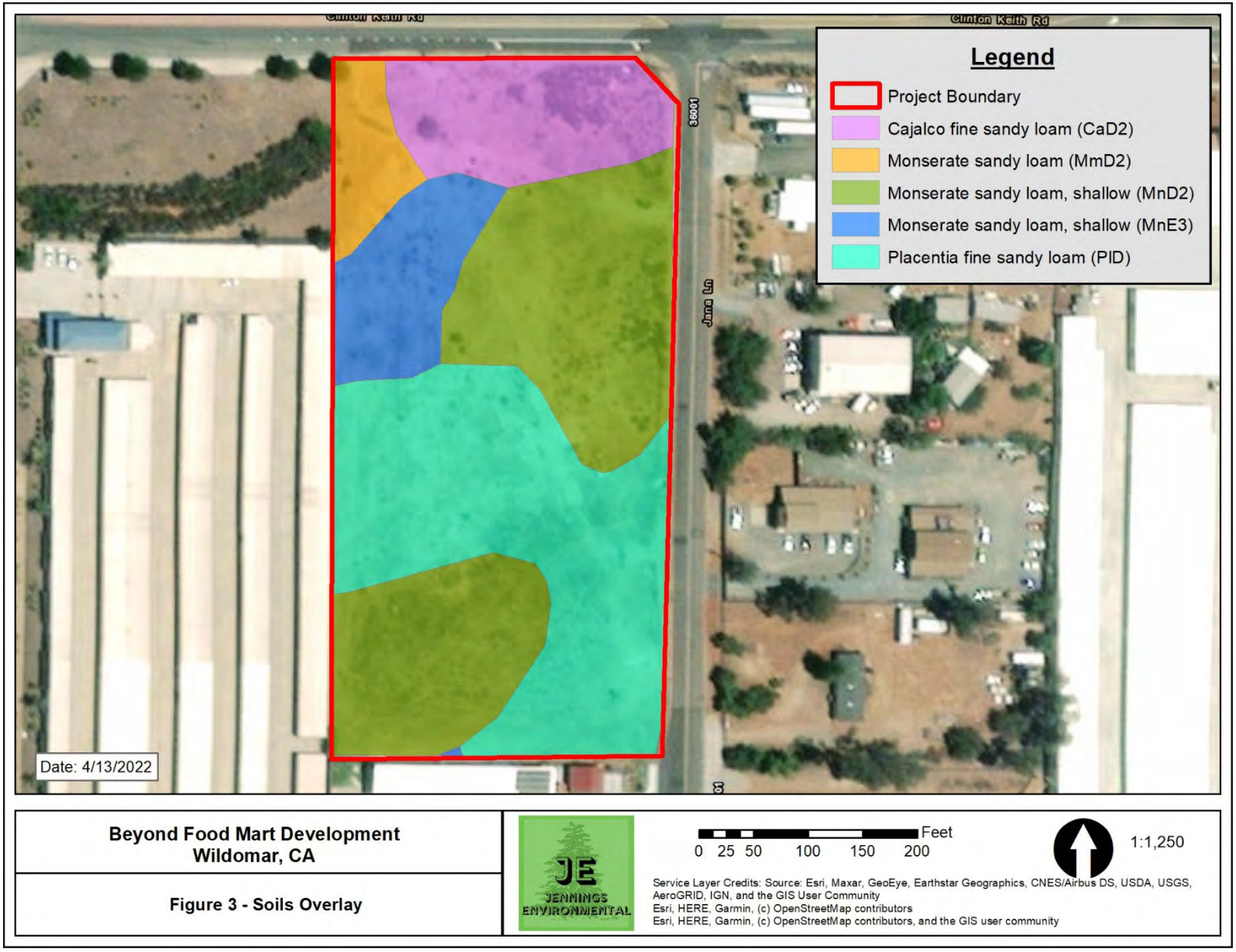
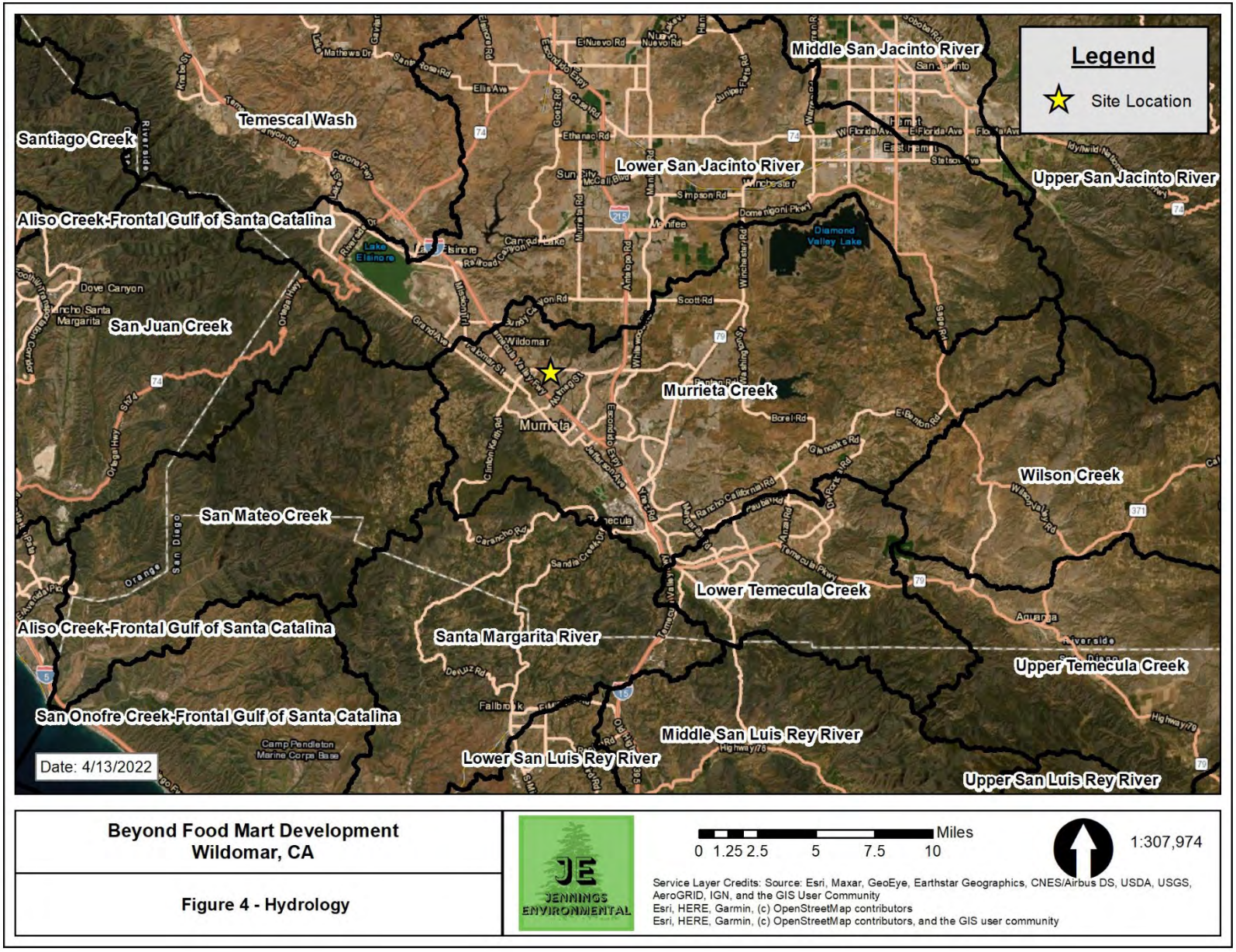
Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Volume 1 – The Plan (2003). https://www.wrc-rca.org/Permit_Docs/MSHCP/MSHCP-Volume%201.pdf

Appendix A - Figures


Legend
Site Location
Regional Overview
Los Angeles
El Monte
Monica
Pomona
Rancho Cucamonga
Ontario
Highland
Redlands
Riverside
Corona
Redondo Beach
Anaheim
Long Beach
Santa Ana
Perris
Huntington Beach
Rancho Santa Margarita
Lake Forest
Laguna Niguel
Murrieta
Date: 4/13/2022
Site Vicinity
Beyond Food Mart Development
Wildomar, CA
Figure 1 - Regional Overview and Site Vicinity
JE
JENNINGS ENVIRONMENTAL
0 0.1 0.2 0.4 0.6 0.8 Miles
1:24,000
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Copyright:© 2013 National Geographic Society, i-cubed


Legend
Project Boundary
Clinton Keith Rd
Elizabeth Ln
Jana Ln
Date: 4/13/2022
Beyond Food Mart Development
Wildomar, CA
Figure 2 - Site Location
JE
JENNINGS ENVIRONMENTAL
0 45 90 180 270 360
Feet
1:2,000
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community


Clinton Keith Rd
Clinton Keith Rd
36001
Jana Ln
Legend
Project Boundary
Cajalco fine sandy loam (CaD2)
Monserate sandy loam (MmD2)
Monserate sandy loam, shallow (MnD2)
Monserate sandy loam, shallow (MnE3)
Placentia fine sandy loam (PlD)
Date: 4/13/2022
Beyond Food Mart Development
Wildomar, CA
Figure 3 - Soils Overlay
JE
JENNINGS ENVIRONMENTAL
0 25 50 100 150 200
Feet
1:1,250
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community


Legend
Site Location
Middle San Jacinto River
Temescal Wash
Santiago Creek
Lower San Jacinto River
Upper San Jacinto River
Aliso Creek-Frontal Gulf of Santa Catalina
San Juan Creek
Murrieta Creek
Wilson Creek
San Mateo Creek
Lower Temecula Creek
Aliso Creek-Frontal Gulf of Santa Catalina
Santa Margarita River
Upper Temecula Creek
San Onofre Creek-Frontal Gulf of Santa Catalina
Middle San Luis Rey River
Lower San Luis Rey River
Upper San Luis Rey River
Date: 4/13/2022
Beyond Food Mart Development
Wildomar, CA
Figure 4 - Hydrology
JE
JENNINGS ENVIRONMENTAL
Miles
0 1.25 2.5 5 7.5 10
1:307,974
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Appendix B - Photos

	Photo 1 – Southeast corner of parcel, facing northwest. Showing fiddleneck fields and ruderal vegetation.
	Photo 2 – Eastern edge of parcel, facing southwest corner. Facing downstream of outlet on-site. Showing lack defined channel.

	Photo 3 – Southwest corner of parcel, facing northeast. Showing fiddleneck fields and ruderal vegetation.
	Photo 4 – Northwest corner of parcel, facing southeast. Showing ruderal vegetation.

	Photo 5 – Northeast corner of parcel, facing south. Showing some California buckwheat and ruderal vegetation.

Appendix C – Regulatory Framework

1.1 FEDERAL JURISDICTION

1.1.1 United States Army Corps of Engineers

Pursuant to Section 404 of the CWA, the United States Army Corps of Engineers (USACE) regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined by 33 Code of Federal Regulations (CFR) Part 328 and currently includes: (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all other waters (e.g., lakes, rivers, intermittent streams) that could affect interstate or foreign commerce, (4) all impoundments of waters mentioned above, (5) all tributaries to waters mentioned above, (6) the territorial seas, and (7) all wetlands adjacent to waters mentioned above. Waters of the United States do not include (1) waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act (CWA), and (2) prior converted cropland. Waters of the United States typically are separated into two types: (1) wetlands and (2) "other waters" (non-wetlands) of the United States.

Wetlands are defined by 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support … a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987, USACE published a manual (1987 Wetland Manual) to guide its field personnel in determining jurisdictional wetland boundaries. This manual was amended in 2008 to the USACE 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (2008 Arid West Supplement). Currently, the 1987 Wetland Manual and the 2008 Arid West Supplement provide the legally accepted methodology for identification and delineation of USACE-jurisdictional wetlands in southern California.

In the absence of wetlands, the limits of USACE jurisdiction in nontidal waters, including intermittent Relatively Permanent Water (RPW) streams, extend to the Ordinary High Water Mark (OHWM), which is defined by 33 CFR 328.3(e) as:

> … that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

On January 9, 2001, the U.S. Supreme Court ruled (in Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers) (SWANCC) that USACE jurisdiction does not extend to previously regulated isolated waters, including but not limited to isolated ponds, reservoirs, and wetlands. Examples of isolated waters that are affected by this ruling include vernal pools, stock ponds, lakes (without outlets), playa lakes, and desert washes that are not tributary to navigable or interstate waters or to other jurisdictional waters. A joint legal memorandum by EPA and USACE was signed on January 15, 2003.

In May 2007, USACE and EPA jointly published and authorized the use of the Jurisdictional Determination Form Instructional Guidebook (USACE 2007). The form and guidebook define how to determine if an area is USACE jurisdictional and if a significant nexus exists per the Rapanos decision. A nexus must have more than insubstantial and speculative effects on the downstream TNW to be considered a significant nexus. This guidebook is updated by the 2008 Arid West Supplement, the 2010 Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, and the 2011 Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region.

A joint guidance by EPA and USACE was issued on June 5, 2007, and revised on December 2, 2008, is consistent with the Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States (126 S. Ct. 2208 [2006]) (Rapanos), which addresses the jurisdiction over waters of the United States under the CWA (33 U.S.C. §1251 et seq.). A draft guidance was circulated in April 2011 to supercede both the 2003 SWANCC guidance and 2008 Rapanos decision; however, this guidance is not finalized and lacks the force of law.

USACE will continue to assert jurisdiction over Traditionally Navigable Waters (TNWs), wetlands adjacent to TNW, non-navigable tributaries of TNW that are Relatively Permanent Waters (RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months), and wetlands that directly abut such tributaries.

USACE generally will not assert jurisdiction over swales or erosional features (e.g., gullies or small washes characterized by low volume, infrequent, or short duration flow) or nontidal drainage ditches (including roadside ditches) that are (1) excavated wholly in and draining only uplands and (2) that do not carry a relatively permanent flow of water. USACE defines a drainage ditch as:

> A linear excavation or depression constructed for the purpose of conveying surface runoff or groundwater from one area to another. An "upland drainage ditch" is a drainage ditch constructed entirely in uplands (i.e., not in waters of the United States) and is not a water of the United States, unless it becomes tidal or otherwise extends the ordinary high water line of existing waters of the United States.

Furthermore, USACE generally does not consider "[a]rtificially irrigated areas which would revert to upland if the irrigation ceased" to be subject to their jurisdiction. Such irrigation ditches are linear excavations constructed for the purpose of conveying agricultural water from the adjacent fields. Therefore, such agricultural ditches are not considered to be subject to USACE jurisdiction.

USACE will use fact-specific analysis to determine whether waters have a significant nexus with (1) TNW for nonnavigable tributaries that are not relatively permanent (non-RPW); (2) wetlands adjacent to nonnavigable tributaries that are not relatively permanent; and (3) wetlands adjacent to, but that do not directly abut, a relatively permanent nonnavigable tributary. According to USACE, "a significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to

determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters," including consideration of hydrologic and ecologic factors. A primary component of this determination lies in establishing the connectivity or lack of connectivity of the subject drainages to a TNW.

1.2 STATE JURISDICTION

The State of California (State) regulates discharge of material into waters of the State pursuant to Section 401 of the CWA as well as the California Porter-Cologne Water Quality Control Act (Porter-Cologne; California Water Code, Division 7, §13000 et seq.). Waters of the State are defined by Porter-Cologne as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050(e)). Waters of the State broadly includes all waters within the State's boundaries (public or private), including waters in both natural and artificial channels.

1.2.1 Regional Water Quality Control Board

Under Porter-Cologne, the State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Boards (RWQCB) regulate the discharge of waste into waters of the State. Discharges of waste include "fill, any material resulting from human activity, or any other 'discharge' that may directly or indirectly impact 'waters of the state.'" Porter-Cologne reserves the right for the State to regulate activities that could affect the quantity and/or quality of surface and/or groundwaters, including isolated wetlands, within the State. Wetlands were defined as waters of the State if they demonstrated both wetland hydrology and hydric soils. Waters of the State determined to be jurisdictional for these purposes require, if impacted, waste discharge requirements (WDRs).

When an activity results in fill or discharge directly below the OHWM of jurisdictional waters of the United States (federal jurisdiction), including wetlands, a CWA Section 401 Water Quality Certification is required. If a proposed Project is not subject to CWA Section 401 certification but involves activities that may result in a discharge to waters of the State, the Project may still be regulated under Porter-Cologne and may be subject to waste discharge requirements. In cases where waters apply to both CWA and Porter-Cologne, RWQCB may consolidate permitting requirements to one permit.

1.2.2 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other

aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation" (California Code of Regulations, Title 14, Section 1.72). The jurisdiction of CDFW may include areas in or near intermittent streams, ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams that are indicated on USGS maps, watercourses that may contain subsurface flows, or within the flood plain of a water body. CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW limits of jurisdiction typically include the maximum extents of the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

In a CDFW guidance of stream processes and forms in dryland watersheds (Vyverberg 2010), streams are identified as having one or more channels that may all be active or receive water only during some high flow event. Subordinate features, such as low flow channels, active channels, banks associated with secondary channels, floodplains, and stream-associated vegetation, may occur within the bounds of a single, larger channel. The water course is defined by the topography or elevations of land that confine a stream to a definite course when its waters rise to their highest level. A watercourse is defined as a stream with boundaries defined by the maximal extent or expression on the landscape even though flow may otherwise be intermittent or ephemeral.

Artificial waterways such as ditches (including roadside ditches), canals, aqueducts, irrigation ditches, and other artificially created water conveyance systems also may be under the jurisdiction of CDFW. CDFW may claim jurisdiction over these features based on the presence of habitat characteristics suitable to support aquatic life, riparian vegetation, and/or stream-dependent terrestrial wildlife. As with natural waterways, the limit of CDFW jurisdiction of artificial waterways includes the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

CDFW does not have jurisdiction over wetlands but has jurisdiction to protect against a net loss of wetlands. CDFW supports the wetland criteria recognized by USFWS; one or more indicators of wetland conditions must exist for wetlands conditions to be considered present. The following is the USFWS accepted definition of a wetland:

> Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the lands supports hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated withwater or covered by shallow water at some time during the growing season of each year (Cowardin et al. 1979).

In A Clarification of the U.S. Fish and Wildlife Service's Wetland Definition (Tiner 1989), the USFWS definition was further clarified "that in order for any area to be classified as wetland by the Service, the area must be periodically saturated or covered by shallow water, whether wetland vegetation and/or hydric soils are present or not; this hydrologic requirement is

addressed in the first sentence of the definition." When considering whether an action would result in a net loss of wetlands, CDFW will extend jurisdiction to USFWS-defined wetland conditions where such conditions exist within the riparian vegetation that is associated with a stream or lake and does not depend on whether those features meet the three-parameter USACE methodology of wetland determination. If impacts to wetlands under the jurisdiction of CDFW are unavoidable, a mitigation plan will be implemented in coordination with CDFW to support the CDFW policy of "no net loss" of wetland habitat.

Appendix D – Tables

Table 1. Species Observed On-Site

Common Name	Scientific Name
Plants	
California buckwheat	*Eriogonum fasciculatum*
Wall barley	*Hordeum murinum*
Stinknet	*Oncosiphon piluliferum*
Common fiddleneck	*Amsinckia intermedia*
Mediterranean mustard	*Hirschfeldia incana*
Common stork's-bill	*Erodium cicutarium*
Miniature lupin	*Lupinus bicolor*
Annual yellow sweetclover	*Melilotus Indicus*
Red willow	*Salix laevigata*
California aster	*Symphyotrichum chilense*
Deerweed	*Acmispon glaber*
Brittlebush	*Encelia farinosa*
Foxtail brome	*Bromus madritensis*
Island false bindweed	*Calystegia macrostegia ssp. intermedia*
Paperflower	*Bougainvilea glabra*
Tonyon	*Heteromeles arbutifolia*
Broadleaf fillare	*Erodium botrys*
Chinaberry tree	*Melia azedarach*
Common dandelion	*Taraxacum officinale*
Schismus grass	*Schismus spp.*
Birds	
Common raven	*Corvus corax*
House finch	*Haemorhous mexicanus*
Song sparrow	*Melospiza melodia*
California towhee	*Melozone crissalis*
Mourning dove	*Sayornis nigricans*
Anna's hummingbird	*Calypte anna*
Eurasian collard-dove	*Streptopelia decaocto*

Table 2 – CNDDB Potential to Occur for the *Romoland, Murrieta, Lake Elsinore, and Wildomar* Quadrangles

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Abronia villosa var. aurita	chaparral sand-verbena	None, None	G5T2?, S2, 1B.1	Chaparral, coastal scrub, desert dunes. Sandy areas. -60-1570 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Accipiter cooperii	Cooper's hawk	None, None	G5, S4, CDFW-WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	None, None	G5T3, S3, CDFW-WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Allium marvinii	Yucaipa onion	None, None	G1, S1, 1B.2	Chaparral. In openings on clay soils. 850-1070 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Allium munzii	Munz's onion	Endangered, Threatened	G1, S1, 1B.1	Chaparral, coastal scrub, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Heavy clay soils; grows in grasslands and openings within shrublands or woodlands. 375-1040 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Almutaster pauciflorus	alkali marsh aster	None, None	G4, S1S2, 2B.2	Meadow and seeps. Alkaline. 60-765 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Ambrosia pumila	San Diego ambrosia	Endangered, None	G1, S1, 1B.1	Chaparral, coastal scrub, valley and foothill grassland. Sandy loam or clay soil; sometimes alkaline. In valleys; persists where disturbance has been superficial. Sometimes on margins or near vernal pools. 3-580 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Anaxyrus californicus	arroyo toad	Endangered, None	G2G3, S2S3, CDFW-SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Anniella stebbinsi	Southern California legless lizard	None, None	G3, S3, CDFW-SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Aquila chrysaetos	golden eagle	None, None	G5, S3, CDFW-WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Arctostaphylos rainbowensis	Rainbow manzanita	None, None	G2, S2, 1B.1	Chaparral. Usually found in gabbro chaparral. 100-870 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Arizona elegans occidentalis	California glossy snake	None, None	G5T2, S2, CDFW-SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Artemisiospiza belli belli	Bell's sage sparrow	None, None	G5T2T3, S3, CDFW-WL	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Aspidoscelis hyperythra	orange-throated whiptail	None, None	G5, S2S3, CDFW-WL	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Aspidoscelis tigris stejnegeri	coastal whiptail	None, None	G5T5, S3, CDFW-SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Athene cunicularia	burrowing owl	None, None	G4, S3, CDFW-SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Atriplex coronata var. notatior	San Jacinto Valley crownscale	Endangered, None	G4T1, S1, 1B.1	Playas, valley and foothill grassland, vernal pools. Alkaline areas in the San Jacinto River Valley. 35-460 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Ayenia compacta	California ayenia	None, None	G4, S3, 2B.3	Mojavean desert scrub, Sonoran desert scrub. Sandy and gravelly washes in the desert; dry desert canyons. 60-1830 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Bombus crotchii	Crotch bumble bee	None, None	G2, S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Branchinecta lynchi	vernal pool fairy shrimp	Threatened, None	G3, S3	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Branchinecta sandiegonensis	San Diego fairy shrimp	Endangered, None	G2, S2	Endemic to San Diego and Orange County mesas. Vernal pools.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Brodiaea filifolia	thread-leaved brodiaea	Threatened, Endangered	G2, S2, 1B.1	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Occurs in openings on clay soils. 15-1030 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Brodiaea santarosae	Santa Rosa Basalt brodiaea	None, None	G1, S1, 1B.2	Valley and foothill grassland. Santa Rosa Basalt. 585-1045 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Buteo regalis	ferruginous hawk	None, None	G4, S3S4, CDFW-WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Buteo swainsoni	Swainson's hawk	None, Threatened	G5, S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Calochortus weedii var. intermedius	intermediate mariposa-lily	None, None	G3G4T3, S3, 1B.2	Coastal scrub, chaparral, valley and foothill grassland. Dry, rocky calcareous slopes and rock outcrops. 60-1575 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Centromadia pungens ssp. laevis	smooth tarplant	None, None	G3G4T2, S2, 1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Chaetodipus californicus femoralis	Dulzura pocket mouse	None, None	G5T3, S3, CDFW-SSC	Variety of habitats including coastal scrub, chaparral and grassland in San Diego County. Attracted to grass-chaparral edges.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None, None	G5T3T4, S3S4, CDFW-SSC	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Charadrius nivosus nivosus	western snowy plover	Threatened, None	G3T3, S2, CDFW-SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Chorizanthe parryi var. parryi	Parry's spineflower	None, None	G3T2, S2, 1B.1	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Chorizanthe polygonoides var. longispina	long-spined spineflower	None, None	G5T3, S3, 1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Gabbroic clay. 30-1630 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Cicindela senilis frosti	senile tiger beetle	None, None	G2G3T1T3, S1	Inhabits marine shoreline, from Central California coast south to salt marshes of San Diego. Also found at Lake Elsinore. Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Clinopodium chandleri	San Miguel savory	None, None	G3, S2, 1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Rocky, gabbroic or metavolcanic substrate. 120-975 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Crotalus ruber	red-diamond rattlesnake	None, None	G4, S3, CDFW-SSC	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Dipodomys merriami parvus	San Bernardino kangaroo rat	Endangered, Candidate Endangered	G5T1, S1, CDFW-SSC	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Dipodomys stephensi	Stephens' kangaroo rat	Endangered, Threatened	G2, S2	Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Dodecahema leptoceras	slender-horned spineflower	Endangered, Endangered	G1, S1, 1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes; associates include Encelia, Dalea, Lepidospartum, etc. Sandy soils. 200-765 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Dudleya multicaulis	many-stemmed dudleya	None, None	G2, S2, 1B.2	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 1-910 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Elanus leucurus	white-tailed kite	None, None	G5, S3S4, CDFW-FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Emys marmorata	western pond turtle	None, None	G3G4, S3, CDFW-SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Eremophila alpestris actia	California horned lark	None, None	G5T4Q, S4, CDFW-WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Eryngium aristulatum var. parishii	San Diego button-celery	Endangered, Endangered	G5T1, S1, 1B.1	Vernal pools, coastal scrub, valley and foothill grassland. San Diego mesa hardpan and claypan vernal pools and southern interior basalt flow vernal pools; usually surrounded by scrub. 15-880 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Eumops perotis californicus	western mastiff bat	None, None	G4G5T4, S3S4, CDFW-SSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Euphydryas editha quino	quino checkerspot butterfly	Endangered, None	G5T1T2, S1S2	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties. Hills and mesas near the coast. Need high densities of food plants Plantago erecta, P. insularis, and Orthocarpus purpurescens.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Geothallus tuberosus	Campbell's liverwort	None, None	G2, S2, 1B.1	Coastal scrub, vernal pools. Liverwort known from mesic soil. 60-610 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Gila orcuttii	arroyo chub	None, None	G2, S2, CDFW-SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Harpagonella palmeri	Palmer's grapplinghook	None, None	G4, S3, 4.2	Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. 20-955 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Hesperocyparis forbesii	Tecate cypress	None, None	G2, S2, 1B.1	Closed-cone coniferous forest, chaparral. Primarily on north-facing slopes; groves often associated with chaparral. On clay or gabbro. 60-1650 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Icteria virens	yellow-breasted chat	None, None	G5, S3, CDFW-SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Juncus luciensis	Santa Lucia dwarf rush	None, None	G3, S3, 1B.2	Vernal pools, meadows and seeps, lower montane coniferous forest, chaparral, Great Basin scrub. Vernal pools, ephemeral drainages, wet meadow habitats and streamsides. 280-2035 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Lanius ludovicianus	loggerhead shrike	None, None	G4, S4, CDFW-SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Lasiurus xanthinus	western yellow bat	None, None	G4G5, S3, CDFW-SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None, None	G4T2, S2, 1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	None, None	G5T3, S3, 4.3	Chaparral, coastal scrub. Dry soils, shrubland. 4-1435 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None, None	G5T3T4, S3S4	Intermediate canopy stages of shrub habitats and open shrub / herbaceous and tree / herbaceous edges. Coastal sage scrub habitats in Southern California.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Lilium parryi	lemon lily	None, None	G3, S3, 1B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Wet, mountainous terrain; generally in forested areas; on shady edges of streams, in open boggy meadows and seeps. 625-2930 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Limnanthes alba ssp. parishii	Parish's meadowfoam	None, Endangered	G4T2, S2, 1B.2	Lower montane coniferous forest, meadows and seeps, vernal pools. Vernally moist areas and temporary seeps of highland meadows and plateaus; often bordering lakes and streams. 605-1805 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Linderiella occidentalis	California linderiella	None, None	G2G3, S2S3	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and total dissolved solids.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Linderiella santarosae	Santa Rosa Plateau fairy shrimp	None, None	G1G2, S1	Found only in the vernal pools on Santa Rosa Plateau in Riverside County. Southern basalt flow vernal pools.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Monardella hypoleuca ssp. intermedia	intermediate monardella	None, None	G4T2?, S2?, 1B.3	Chaparral, cismontane woodland, lower montane coniferous forest (sometimes). Often in steep, brushy areas. 195-1675 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Myosurus minimus ssp. apus	little mousetail	None, None	G5T2Q, S2, 3.1	Vernal pools, valley and foothill grassland. Alkaline soils. 20-640 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Navarretia fossalis	spreading navarretia	Threatened, None	G2, S2, 1B.1	Vernal pools, chenopod scrub, marshes and swamps, playas. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrouded by other habitat types. 15-850 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Navarretia prostrata	prostrate vernal pool navarretia	None, None	G2, S2, 1B.2	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. 3-1235 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Onychomys torridus ramona	southern grasshopper mouse	None, None	G5T3, S3, CDFW-SSC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Orcuttia californica	California Orcutt grass	Endangered, Endangered	G1, S1, 1B.1	Vernal pools. 10-660 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None, None	G5T2, S1S2, CDFW-SSC	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Phrynosoma blainvillii	coast horned lizard	None, None	G3G4, S3S4, CDFW-SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Plegadis chihi	white-faced ibis	None, None	G5, S3S4, CDFW-WL	Shallow freshwater marsh. Dense tule thickets for nesting, interspersed with areas of shallow water for foraging.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Polioptila californica californica	coastal California gnatcatcher	Threatened, None	G4G5T3Q, S2, CDFW-SSC	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None, None	G4, S2, 2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35-515 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Rana draytonii	California red-legged frog	Threatened, None	G2G3, S2S3, CDFW-SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Salvadora hexalepis virgultea	coast patch-nosed snake	None, None	G5T4, S2S3, CDFW-SSC	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Scutellaria bolanderi ssp. austromontana	southern mountains skullcap	None, None	G4T3, S3, 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland. 425-2000 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Sibaropsis hammittii	Hammitt's clay-cress	None, None	G2, S2, 1B.2	Valley and foothill grassland, chaparral. Mesic microsites in open areas on clay soils in Stipa grassland. Often surrounded by Adenostoma chaparral. 715-1040 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	None, None	G4, S4	Riparian forest	This habitat type is **absent** from the Project site.
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	None, None	G3, S3.2	Riparian forest	This habitat type is **absent** from the Project site.
Southern Interior Basalt Flow Vernal Pool	Southern Interior Basalt Flow Vernal Pool	None, None	G1, S1.2	Vernal pool | Wetland	This habitat type is **absent** from the Project site.
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	None, None	G4, S4	Riparian woodland	This habitat type is **absent** from the Project site.
Spea hammondii	western spadefoot	None, None	G2G3, S3, CDFW-SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Sphaerocarpos drewiae	bottle liverwort	None, None	G1, S1, 1B.1	Chaparral, coastal scrub. Liverwort in openings; on soil. 60-585 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Streptocephalus woottoni	Riverside fairy shrimp	Endangered, None	G1G2, S1S2,	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Symphyotrichum defoliatum	San Bernardino aster	None, None	G2, S2, 1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Taricha torosa	Coast Range newt	None, None	G4, S4, CDFW-SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow moving streams.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Thamnophis hammondii	two-striped gartersnake	None, None	G4, S3S4, CDFW-SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential to Occur
Valley Needlegrass Grassland	Valley Needlegrass Grassland	None, None	G3, S3.1	Valley & foothill grassland	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Vireo bellii pusillus	least Bell's vireo	Endangered, Endangered	G5T2, S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs Projecting into pathways, usually willow, Baccharis, mesquite.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Coding and Terms

E = Endangered T = Threatened C = Candidate FP = Fully Protected WL=Watch List SSC = Species of Special Concern R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = Secure – Common; widespread and abundant.
? = Uncertainty in the exact status of an element (could move up or down one direction from current rank)

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank**)** attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa.* The T-rank refers only to the global condition of ssp. *phaea*.

State Ranking:

S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.
S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.
S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.
S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (CNPS List):

1A = Plants presumed extirpated in California and either rare or extinct elsewhere.
1B = Plants rare, threatened, or endangered in California and elsewhere.
2A = Plants presumed extirpated in California, but common elsewhere.
2B = Plants rare, threatened, or endangered in California, but more common elsewhere.
3 = Plants about which more information is needed; a review list.
4 = Plants of limited distribution; a watch list.

Threat Ranks:

.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Appendix 4

Phase I Cultural Resources Assessment

A PHASE I CULTURAL RESOURCES ASSESSMENT

OF

PRE-APPLICATION REVIEW NO. 21-0065

APN 380-290-002

4.35 ACRES OF LAND IN THE CITY OF WILDOMAR
RIVERSIDE COUNTY, CALIFORNIA
TOWNSHIP 7 SOUTH, RANGE 3 WEST, SECTION 6, SBM
USGS MURRIETA, CALIFORNIA QUADRANGLE, 7.5' SERIES

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MANAGEMENT SUMMARY

A Phase I Cultural Resources Assessment of Pre-Application Review No. 21-0065 PAR 21-0065) was requested by the project sponsor, Mr. Mark Sater of Beyond Food Mart. The subject property encompasses ±4.35 acres of land located south of Clinton Keith Road, east of Elizabeth Lane, west of Jana Lane, and north of Prielipp Road, in the City of Wildomar. The proposed project is the new construction of a 7460-square-foot Beyond Food Mart convenience store, a 1790-square-foot drive-thru carwash facility, a 10-pump service station with canopy, and an 11,500-square-foot office/warehouse building. It is anticipated that the project may require a Change of Zone, General Plan Amendment, Conditional Use Permit, and a Plot Plan.

The purpose of the cultural resources assessment was two-fold: 1) information was to be obtained pertaining to previous land uses of the subject property through research and a comprehensive field survey, and 2) a determination was to be made if, and to what extent, existing cultural resources would be adversely impacted by the proposed project.

No cultural resources of prehistoric (Native American) or historical origin were observed within the boundaries of Pre-Application Review No. 21-0065. No information has been obtained through Native American consultation that the subject property is culturally or spiritually significant and no Traditional Cultural Properties that currently serve religious or other community practices are known to exist within the project area. Results of the Sacred Lands File search conducted by the Native American Heritage Commission (NAHC) for the subject property were positive, but this finding was in relation to the USGS topographic map and no further information specific to the subject property was provided. At this time, no responses to project scoping letters have been received from the ten Tribal representatives listed by the NAHC as being interested in the Wildomar area.

Pre-Application Review No. 21-0065 is located within an area of moderate sensitivity for cultural, archaeological, and historical resources, with nineteen cultural resources properties having been recorded within a one-mile radius of the subject property. Fourteen of these properties are of Native American origin, eight of which were isolates and five represented small temporary sites used for seasonal resource procurement and processing. One site located approximately three-quarters of a mile east of PAR 21-0065, which has been recorded as a village site with abundant and diverse cultural resources. The isolates and temporary use sites were undoubtedly associated with the village site, thereby expanding the impact of Native American occupation in this area. This village may be the reason for the positive findings of the Sacred Lands File research. The five cultural resource properties of historical-period origin include a ca. 1934 single-story vernacular stone residence(the Schwartz House), a modest barn with mortared stone walls and

corrugated metal roof, Oak Springs Ranch, a residential complex, and a debris scatter. None of the 19 recorded cultural resources properties are listed on either the California Register of Historic Resources or the National Register of Historical Places

The subject property was originally part of a 129.72-acre parcel that was first purchased in 1890 and maintained as a single entity until at least 1932, but probably, 1956. Historical-period buildings existed within this large acreage, but there is no evidence that they were located within the 4.35-acre project site. However, cartographic evidence does indicate that two buildings were constructed near the northwestern corner of PAR 21-0065 between 1951 and 1973. Aerial photographs indicate that these buildings no longer existed by at least as late as 1996. No extant features of the buildings were observed during the pedestrian field survey.

Despite the fact that no cultural resources were observed within the project boundaries during the current Phase I field survey, in consideration of the moderate cultural, archaeological, and historical sensitivity of the area in which the project is located, as well as the fact that two structures once existed within the property boundaries, and that the Sacred Lands File search findings were positive, it is recommended that monitoring of all ground-disturbing activities associated with construction of the proposed project be actively monitored by a Riverside County/City of Wildomar qualified archaeologist. Although no Tribe responded to the project scoping letters or requested monitoring, if such a request is made during the AB 52 process, it is recommended that Tribal monitoring be required in addition to archaeological monitoring.

Should any cultural resources be discovered during the course of ground-disturbing activities anywhere on the subject property, said activities should be halted or diverted until a qualified archaeologist can evaluate the resources, make a determination of their significance, and recommend appropriate treatment measures to mitigate impacts to the resource from the project, if found to be significant. If human remains are encountered unexpectedly during implementation of the project, State Health and Safety Code Section 7050.5 requires that no further disturbances shall proceed until the Riverside County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may, with the permission of the landowner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and recommend to the owner or the person responsible for the excavation work means for treating, with appropriate dignity, the human and any associated grave goods,

INTRODUCTION

In compliance with California Environmental Quality Act (CEQA) and City of Wildomar Planning Department requirements, the project sponsor contracted with Jean A. Keller, Ph.D., Cultural Resources Consultant, to conduct a Phase I Cultural Resources Assessment of the subject property. The purpose of the assessment was to identify, evaluate, and recommend mitigation measures for existing cultural resources that may be adversely impacted by the proposed development.

The Phase I Cultural Resources Assessment commenced with a request for review of maps, site records, and reports to be conducted by staff at the Eastern Information Center at the University of California, Riverside. A request for a Sacred Lands File search was submitted to the Native American Heritage Commission and project scoping letters sent to ten Tribal representatives listed as being interested in project development within the Wildomar area. Literature, archival, cartographic, and photographic research pertaining the subject property was conducted utilizing all available resources. Finally, a comprehensive pedestrian field survey of the subject property was conducted for the purpose of locating, documenting, and evaluating all existing cultural resources within its boundaries.

The proposed project, Pre-Application Review No. 21-0065, is the new construction of a 7460-square-foot Beyond Food Mart convenience store, a 1790-square-foot drive-thru carwash facility, a 10-pump service station with canopy, and an 11,500-square-foot office/warehouse building (Fig. 1). It is anticipated that the project may require a Change of Zone, General Plan Amendment, Conditional Use Permit, and a Plot Plan. As shown on the USGS Murrieta, California Topographic Map, 7.5' series, the subject property, which encompasses a total of ±4.35 acres of land, is located in Section 6, Township 7 south, Range 3 west, SBM (Fig. 2). Current land use is vacant. Adjacent land uses are Clinton Keith Road and residential to the north, Patriot Pipeline to the east, Big Easy RV and Boat Storage to the south, and Life Storage to the west. Literally every inch of the subject property has been disturbed, reflecting the cumulative impacts of such activities as residential construction and occupation, agricultural endeavors, grading, excavation, vegetation clearance, vehicle activity, and trash dumping.

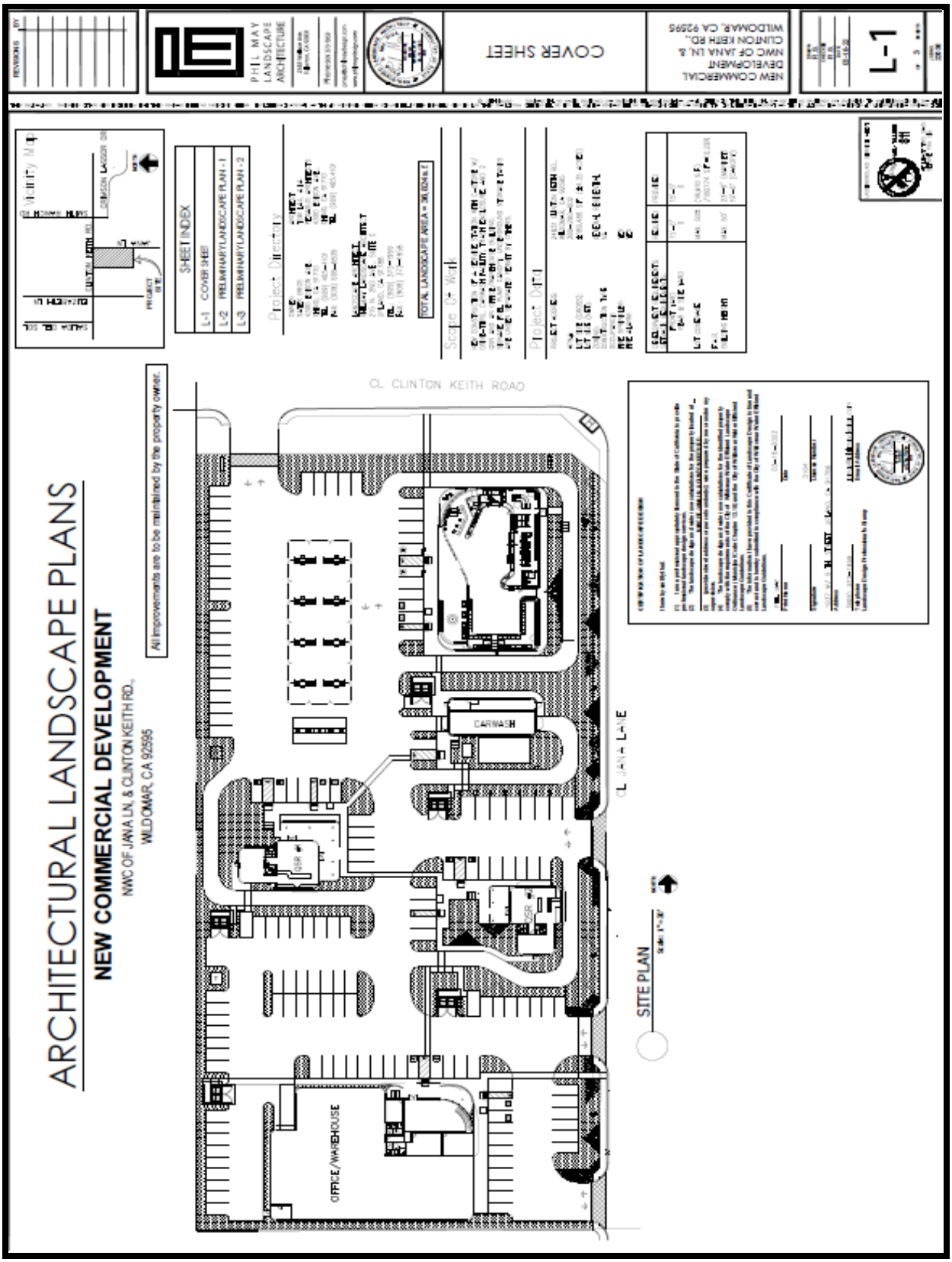


Figure 1: Pre-Application Review No. 21-0065.

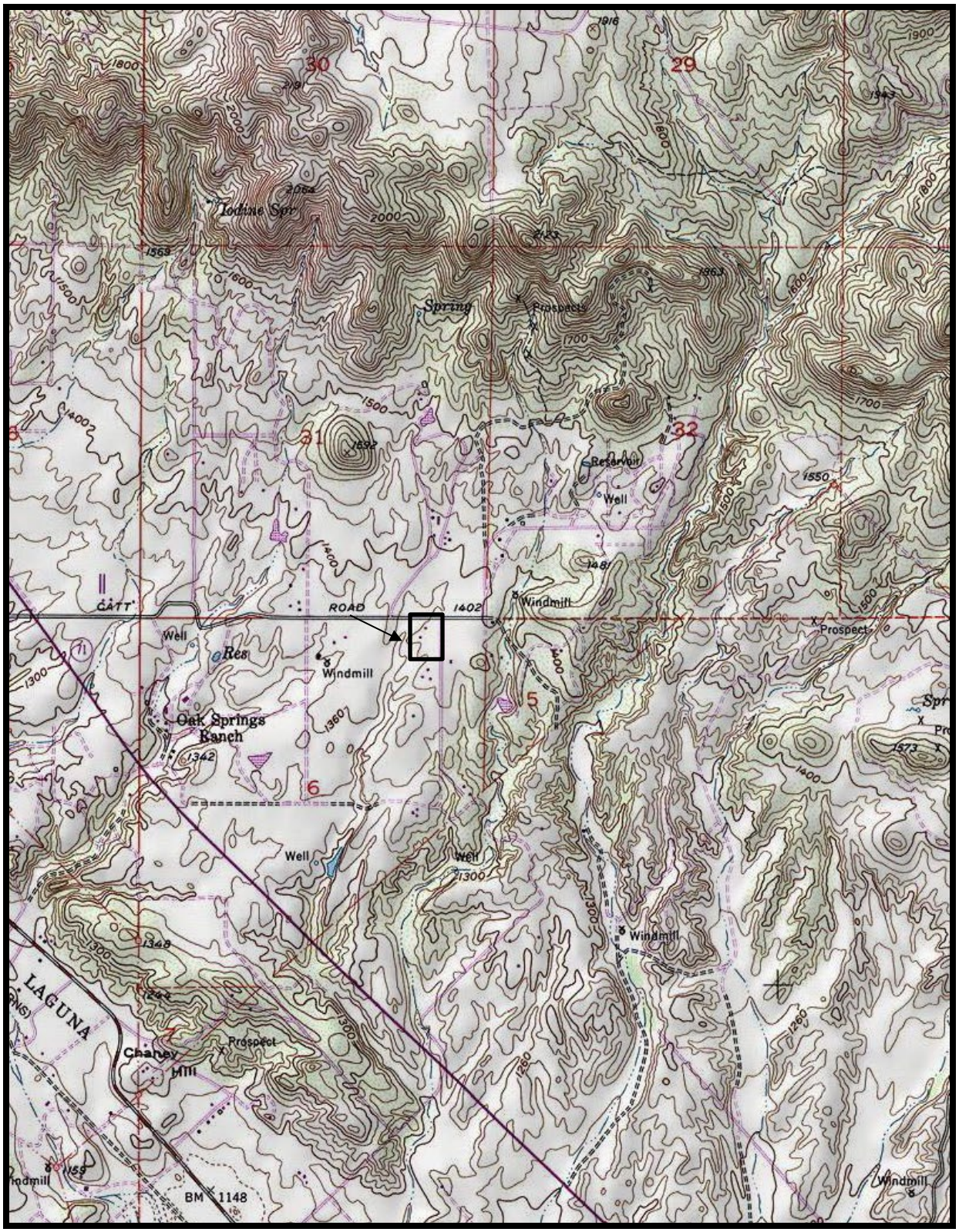


Figure 2: Location of Pre-Application Review No. 21-0065 in the City of Wildomar, southwestern Riverside County. Adapted from USGS Murrieta, California Quadrangle, 7.5' series (1953, photorevised 1979).

ENVIRONMENTAL SETTING

Topography and Geology

The subject property is located in the City of Wildomar, southwestern Riverside County. It is situated in a topographically diverse region that is defined by Murrieta Valley to the south, Cottonwood Canyon to the north, Murrieta Creek to the west, and the Hogbacks to the east (Fig. 3). The study area lies near the eastern margin of the Elsinore Mountains, a portion of the Northern Peninsular Ranges of Southern California. Virtually all drainage in the vicinity of the subject property has been channelized, but historically the flow pattern was in a southwesterly direction from the upper elevations of unnamed hills to the north and east toward Murrieta Creek, which ultimately drains into the Santa Margarita River south of Temecula. For the most part, drainage in this region is intermittent, occurring only as the result of seasonal precipitation.

The subject property is generally flat-lying and featureless, with all natural topography having been altered by past ground-disturbing activities such as residential occupation, grading, vegetation removal via scraping/plowing/discing, and agricultural endeavors (Fig. 4 & 5). Current elevations reflect a downward slope in topography from 1392 feet above mean sea level (AMSL) at the northeastern property corner to 1370 feet AMSL at the southwestern corner. A permanent source of water does not exist within the property boundaries, but a narrow watercourse meanders through the property, entering at the northeastern property corner, moving to the eastern property boundary, then transecting the southwestern quadrant, exiting at the southwestern property corner. With the exception of an arroyo willow at the point of entry, no riparian vegetation was present that would indicate this watercourse contained measurable drainage on a regular basis. Lake Elsinore, which is a permanent source of water, is located approximately five miles to the northwest, and there are a number of USGS-designated blueline streams in the project vicinity that possible represented relatively permanent sources of water.

The subject property is located within the Northern Peninsular Range on the southern sector of the structural unit known as the Perris Block, which is bounded on the northeast by the San Jacinto Fault Zone, on the southwest by the Elsinore Fault Zone, and on the north by the Cucamonga Fault Zone. The Northern Peninsular Range is generally comprised of the great mass of basement igneous rocks called the Southern California Batholith, with the primary rocks being granitic tonalite and diorite of Jurassic age. Exposed granitic bedrock outcrops or boulders suitable for use by indigenous peoples of the region for food preparation, rock art, or shelter are not present within the property boundaries. A number of small boulders appear to have been moved to the site, perhaps as a means of erosion control around the watercourse. Scattered

Figure 3: Location of the study area relative to western Riverside County. Adapted from USGS Santa Ana, California Topographic Map (1979). Scale 1:250,000.

Figure 4: Aerial view of the subject property. (Google Earth, August 15, 2021)

loose lithic material, primarily granitics, quartzite, and quartz, was observed throughout the subject property, but little of that observed would have been suitable for production of flaked or ground stone tools by Native Americans of the region. Gravel, rocks, and chunks of concrete have been brought to the brought, intermixed with native lithic materials, so it was somewhat difficult to determine the extent of what was originally present.

Biology

As a result of recent scraping as a means of vegetation clearance, there are large areas within the property that are bare ground with exposed soils and other areas covered with gravel, concrete

View from the northern property boundary looking south.

View from the southern property boundary looking north.

Figure 5: Views of the subject property.

chunks, and rocks. with no vegetation present. Intact native plant communities no longer exist, and non-native grassland is the predominant remnant vegetation throughout the property. Several non-native species are invasive and abundant, but there are other species that are less diverse and occur with minimal frequency. Non-native grassland species identified during the current field survey included, but are not limited to, slender wild oat (*Avena barbata*), shortpod mustard (*Brassica geniculate*), Russian thistle (*Salsola tragus*), brome grass (*Bromus diandrus*), and foxtail barley (*Hordeum murinum*). A non-native chinaberry tree (*Melia azedarach*) has been planted near the northern property boundary in the general location of a ca. 1976 house that once existed. Native plant species, while much less abundant, were present throughout the property, intermixed with non-native species or as separate occurrences. For example, the native toyon (*Heteromeles arbutifolia*) has been planted along the side of a building at the western boundary of the property, together with creeping fig (*Ficus pumila*), glory bower (*Volkamerica inermis*), and bougainvillea (*Bougainvillea spectabilis*), all of which are non-native plants. Other native species observed within the property included California buckwheat (*Eriogoum fasciculatum*), which predominated throughout the property, as well as arroyo willow (*Salix lasiolepis*), tree tobacco (*Nicotiana glauca*), California primrose (*Eulobus californicus*), and mule fat (*Baccharis salicifolia*). Native Americans of the region used most of the native plants for food, implement production, medicine, and construction.

During both the prehistoric and historical periods an abundance of faunal species undoubtedly inhabited the study area. However, due to regional urbanization, the current faunal community is generally restricted to those species that can exist in proximity to humans, such as valley pocket gopher (*Thomomys bottae*), black-tailed jackrabbit (*Lepus californicus*), Audobon's cottontail (*Sylvilagus audobonii*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), western fence lizard (*Scelopous occidentalis*), and occasionally, mule deer (*Odocoileus hemionus*).

Climate

The climate of the study area is that typical of cismontane Southern California, which on the whole is warm, and rather dry. This climate is classified as Mediterranean or "summer-dry subtropical." Temperatures seldom fall below freezing or rise above 100 degrees Fahrenheit. The rather limited precipitation received occurs primarily during the summer months.

Discussion

Based on existing resources found on undeveloped land in the proximity of the subject property, it is probable that floral and faunal resources would have offered opportunities to Native Americans for procuring food, as well as components for medicines, tools, and construction materials. Bedrock outcrops suitable for use in food processing, rock art, or shelter are not present within the project boundaries and loose lithic material has limited availability, with little

of that observed suitable for ground or flaked stone tool production. No permanent source of water is present within the property boundaries, although the narrow watercourse that meanders through the property probably carries ephemeral drainage. Lake Elsinore, which represents a permanent and (usually) abundant source of water, is located approximately five miles northwest of the subject property. It is probable that the subject property was viewed in a favorable light for seasonal resource exploitation, but due to the lack of preferred defensive locations, suitable bedrock and lithic material for food processing and tool production, as well as the distance to a permanent water source, it is unlikely that the subject property would have been considered desirable for permanent habitation.

Criteria for occupation during the historical era were generally somewhat different than for aboriginal occupation since later populations did not depend solely on natural resources for survival. During the historical era the subject property would probably have been considered very desirable due to tillable soil, relatively flat topography, and its proximity to an urban center and major transportation corridors.

CULTURAL SETTING

Prehistory

On the basis of currently available archaeological research, occupation of Southern California by human populations is believed to have begun at least 10,000 years ago. Theories proposing much earlier occupation, specifically during the Pleistocene Age, exist but at this time archaeological evidence has not been fully substantiating. Therefore, for the purposes of this report, only human occupation within the past 10,000 years will be addressed. A time frame of occupation may be determined on the basis of characteristic cultural resources. These comprise what are known as cultural traditions or complexes. It is through the presence or absence of time-sensitive artifacts at a particular site that the apparent time of occupation may be suggested.

In general, the earliest established cultural tradition in Southern California is accepted to be the San Dieguito Tradition, first described by Malcolm Rogers in the 1920's. The San Dieguito people were nomadic large-game hunters whose tool assemblage included large domed scrapers, leaf-shaped knives and projectile points, stemmed projectile points, chipped stone crescentics, and hammerstones (Rogers 1939; Rogers 1966). The San Dieguito Tradition was further divided into three phases: San Dieguito I is found only in the desert regions, while San Dieguito II and III occur on both sides of the Peninsular Ranges. Rogers felt that these phases formed a sequence in which increasing specialization and refinement of tool types were the key elements. Although absolute dates for the various phase changes have not been hypothesized or fully substantiated by a stratigraphic sequence, the San Dieguito Tradition as a whole is believed to have existed from approximately 7000 to 10,000 years ago (8000 to 5000 BCE).

Throughout southwestern California the La Jolla Complex followed the San Dieguito Tradition. The La Jolla Complex, as first described by Rogers (1939, 1945), then redefined by Harding (1951), is recognized primarily by the presence of millingstone assemblages within shell middens. Characteristic cultural resources of the La Jolla Complex include basined millingstones, unshaped manos, flaked stone tools, shell middens, and a few Pinto-like projectile points. Flexed inhumations under stone cairns, with heads pointing north, are also present (Rogers 1939, 1945; Warren *et al* 1961).

The La Jolla Complex existed from 5500 to 1000 BCE. Although there are several hypotheses to account for the origins of this complex, it would appear that it was a cultural adaptation to climatic warming after c. 6000 BCE. This warming may have stimulated movements to the coast of desert peoples who then shared their millingstone technology with the older coastal groups (Moratto 1984). The La Jollan economy and tool assemblage seems to indicate such an infusion of coastal and desert traits instead of a total cultural displacement.

The Pauma Tradition, as first identified by D.L. True in 1958, may be an inland variant of the La Jolla Complex, exhibiting a shift to a hunting and gathering economy, rather than one based on shellfish gathering. Implications of this shift are an increase in number and variety of stone tools and a decrease in the amount of shell (Meighan 1954; True 1958; Warren 1968; True 1977). At this time, it is not known whether the Pauma Complex represents the seasonal occupation of inland sites by La Jollan groups or whether it represents a shift from a coastal to a non-coastal cultural adaptation by the same people.

The late period is represented by the San Luis Rey Complex, first identified by Meighan (1954) and later redefined by True *et al* (1974). Meighan divided this complex into two periods: San Luis Rey I (1400-1750 CE) and the San Luis Rey II (1750-1850 CE). The San Luis Rey I type component includes cremations, bedrock mortars, millingstones, small triangular projectile points with concave bases, bone awls, stone pendants, *Olivella* shell beads, and quartz crystals. The San Luis Rey II assemblage is the same as San Luis Rey I, but with the addition of pottery vessels, cremation urns, tubular pipes, stone knives, steatite arrow straighteners, red and black pictographs, and such non-aboriginal items as metal knives and glass beads (Meighan 1954). Inferred San Luis Rey subsistence activities include hunting and gathering with an emphasis on acorn harvesting.

Ethnography

According to available ethnographic research, the study area was included in the known territory of the Luiseño Indians during both prehistoric and historic times. The name Luiseño is Spanish in origin and was used in reference to those aboriginal inhabitants of Southern California associated with the Mission San Luis Rey. As far as can be determined, the Luiseño, whose language is of the Takic family (part of the Californian Uto-Aztecan linguistic stock), had no equivalent word for their nationality because they did not consider themselves to "belong to" the Spanish occupiers. The Luiseño people refer to themselves as *'Atáaxum*.

According to ethnographers and Luiseño oral tradition, the territory of the Luiseño was extensive, encompassing much of coastal and inland Southern California. Known territorial boundaries extended on the west to the Southern Channel Islands, to the Santa Ana River and Box Springs Mountain on the north, as far northeast as Mt. San Jacinto, to Lake Henshaw on the southeast, and to Agua Hedionda Creek on the southwest. Their habitat included every ecological zone from sea level to 6000 mean feet above sea level. northeast as Territorial boundaries of the Luiseño were shared with the Gabrieliño and Serrano to the north, the Cahuilla to the east, the Cupeño and Ipai to the south (Fig.6). With the exception of the Ipai, these tribes shared similar cultural and language traditions. Although the social structure and philosophy of the Luiseño were similar to that of neighboring tribes, they had a greater population density and correspondingly, a more rigid social structure.

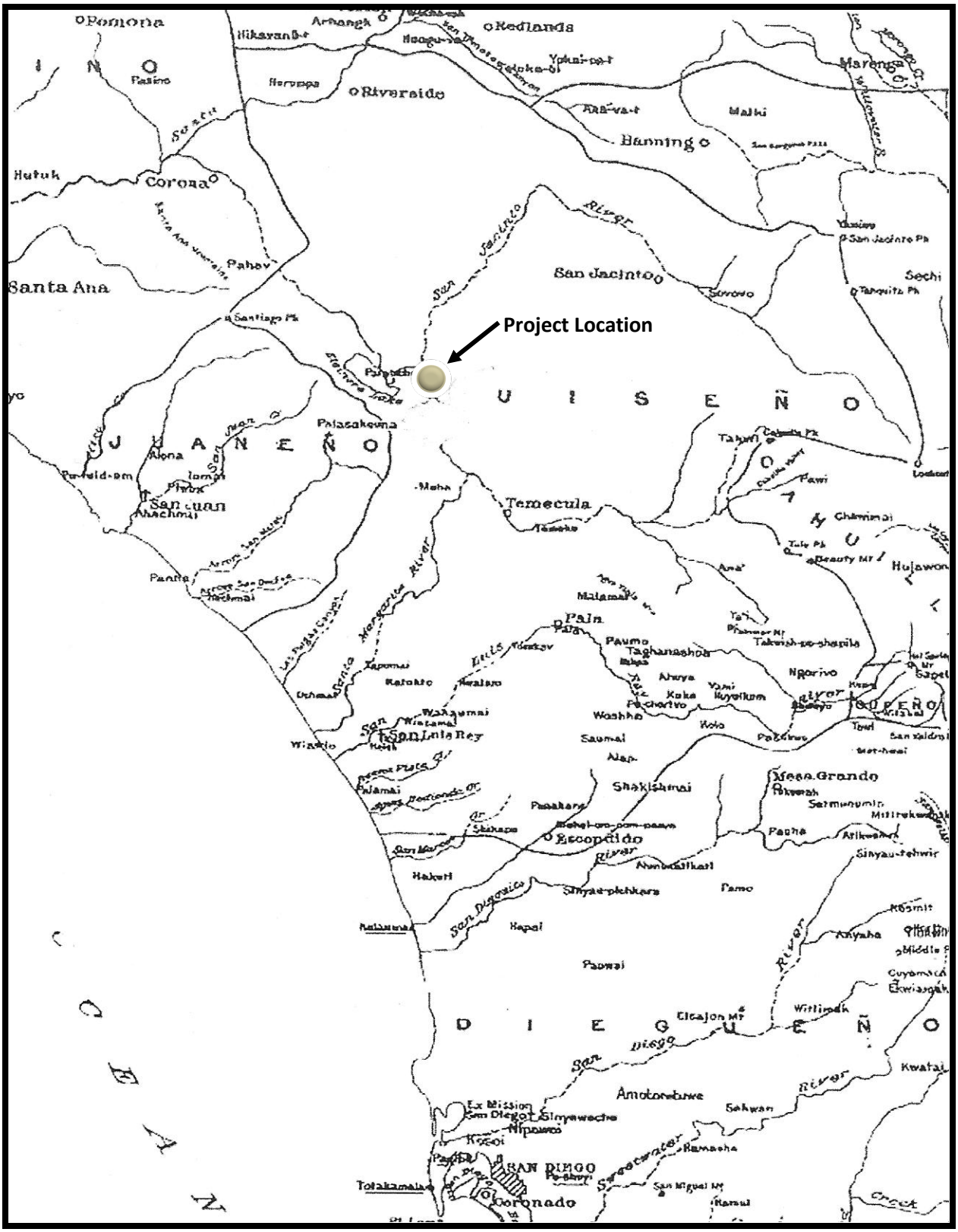


Figure 6: Ethnographic location of the study area. Adapted from Kroeber (1925).

The settlement pattern of the Luiseño was based on the establishment and occupation of sedentary autonomous village groups. Villages were usually situated near adequate sources of food and water, in defensive locations primarily found in sheltered coves and canyons. Typically, r a village was comprised of permanent houses, a sweathouse, and a religious edifice. The permanent houses of the Luiseño were earth-covered and built over a two-foot excavation (Kroeber 654). According to informants' accounts, the dwellings were conical roofs resting on a few logs leaning together, with a smoke hole in the middle of the roof and entrance through a door. Cooking was done outside, when possible, on a central interior hearth when necessary. The sweathouse was similar to the houses except that it was smaller, elliptical, and had a door in one of the long sides. Heat was produced directly by a wood fire. Finally, the religious edifice was usually just a round fence of brush with a main entrance for viewing by the spectators and several narrow openings for entry buy the ceremonial dancers (Kroeber 655).

Luiseño subsistence was based on seasonal floral and faunal resource procurement. Each village had specific resource procurement territories, most of which were within one day's travel of the village. During the autumn of each year, however, most of the village population would migrate to the mountain oak groves and camp for several weeks to harvest the acorn crop, hunt, and collect local resources not available near the village. Hunters typically employed traps, nets, throwing sticks, snares, or clubs for procuring small animals, while larger animals were usually ambushed, then shot with bow and arrow. The Luiseño normally hunted antelope and jackrabbits in the autumn by means of communal drives, although individual hunters also used bow and arrow to hunt jackrabbits throughout the year. Many other animals were available to the Luiseño during various times of the year but were generally not eaten. These included dog, coyote, bear, tree squirrel, dove, pigeon, mud hen, eagle, buzzard, raven, lizards, frogs, and turtles (Kroeber 62).

Small game was prepared by broiling it on coals. Venison and rabbit were either broiled on coals or cooked in and earthen oven. Whatever meat was not immediately consumed was crushed on a mortar, then dried and stored for future use (Sparkman 208). Of all the food sources utilized by the Luiseño, acorns were by far the most important. Six species were collected in great quantities during the autumn of every year, although some were favored more than others. In order of preference, they were black oak (*Quercus kelloggii),* coast live oak *(Q. agrifolia), c*anyon live oak *(Q. chrysolepsis),* Engelmann Oak *(Q. engelmannii),* interior live oak *(Q. wislizenii),* and scrub oak *(Q. berberidifoilia).* The latter three were used only when others were not available. Acorns were prepared for consumption by crushing them in a stone mortar and leaching off the tannic acid, then made into either a mush or dried to a flour-like material for future use.

Herb and grass seeds were used almost as extensively as acorns. Many plants produce edible seeds which were collected between April and November. Important seeds included, but were

not limited to, the following: California sagebrush (*Artemisia californica*), wild tarragon (*Artemisia dracunculus*), white tidy tips (*Layia glandulosa*), sunflower (*Helianthus annus*), calabazilla (*Cucurbita foetidissima*), sage (*Salvia carduacea* and *S. colombariae*), California buckwheat (*Eriogonum fasciculatum*), peppergrass (*Lepidium nitidum*), and chamise (*Adenostoma fasciculatum*). Seeds were parched, ground, cooked as mush, or used as flavoring in other foods.

Fruit, berries, corms, tubers, and fresh herbage were collected and often immediately consumed during the spring and summer months. Among those plants commonly used were basketweed (*Rhus trilobata*), Manzanita (*Arctostaphylos Adans.*), miner's lettuce (*Montia Claytonia*), thimbleberry (*Rubus parviflorus*), and California blackberry (*Rubus ursinuss*). When an occasional large yield occurred, some berries, particularly juniper and manzanita, were dried and made into a mush at a later time.

Tools for food acquisition, preparation, and storage were made from widely available materials. Hunting was done with a bow and fire-hardened or stone-tipped arrows. Coiled and twined baskets were used in food gathering, preparation, serving, and storage. Seeds were ground with handstones on shallow granitic mutates, while stone mortars and pestles were used to pound acorns, nuts, and berries. Food was cooked in clay vessels over fireplaces or earthen ovens. The Luiseño employed a wide variety of other utensils produced from locally available geological, floral, and faunal resources in all phases of food acquisition and preparation.

The Luiseño subsistence system described above constitutes seasonal resource exploitation within their prescribed village-centered procurement territory. In essence, this cycle of seasonal exploitation was at the core of all Luiseño lifeways. During the spring collection of roots, tubers, and greens was emphasized, while seed collecting and processing during the summer months shifted this emphasis. The collection areas and personnel (primarily small groups of women) involved in these activities remained virtually unchanged. However, as the autumn acorn harvest approached, the settlement pattern of the Luiseño altered completely. Small groups joined to form the larger groups necessary for the harvest and village members left the villages for the mountain oak groves for several weeks. Upon completion of the annual harvest, village activities centered on the preparation of collected foods for use during the winter. Since few plant food resources were available for collection during the winter, this time was generally spent repairing and manufacturing tools and necessary implements in preparation for the coming resource procurement seasons.

Each Luiseño village was a clan tribelet – a group of people patrilineally related who owned an area in common and who were both politically and economically autonomous from neighboring villages (Bean & Shipek 555). The chief of each village inherited his position and was responsible, with the help of an assistant, for the administration of religious, economic, and warfare powers.

A council comprised of ritual specialists and shamans, also hereditary positions, advised the chief on matters concerning the environment, rituals, and supernatural powers.

According to early ethnographers, the social structure of the villages was considered obscure, since the Luiseño apparently did not practice the organizational system of exogamous moieties used by many of the surrounding Native American groups. At birth, a baby was confirmed into the house-holding group and patrilineage. Girls and boys went through numerous puberty initiation rituals during which they learned about the supernatural beings governing them and punishing any infractions of the rules of behavior and ritual (Sparkman 221-225). The boys' ceremonies included the drinking of toloache (*Datura*), visions, dancing, ordeals, and the teaching of songs and rituals. Girl's puberty rituals, which included "roasting" in warm sands and rock painting, were centered on how to be a contributing adult in their society and their responsibilities in the cycles of the world. Marriages did not take place immediately after puberty rituals were completed as the relationship between girls, puberty, and marriage was very complex. Children's future marriages were often arranged at birth, but as the parties became adults, relationships were reevaluated. The Luiseño were concerned that marriages not occur between individuals too closely related. Although cross-cousin marriages occurred on occasion, they were not commonly accepted. Instead, marriage was based more on clan relationships. Luiseño marriages created important economic and social alliances between lineages and were celebrated accordingly with elaborate ceremonies and a bride price. Residence was typically patrilineal. Men and women with large social responsibility often lived with multiple people and the relationships were of support for the community.

One of the most important elements in the Luiseño life cycle was death. At least a dozen successive mourning ceremonies were held following an individual's death, with feasting taking place and gifts being distributed to ceremony guests. Luiseño cosmology was based on a dying-god theme, the focus of which was *Wiyó-t',* a creator-culture hero and teacher who was the son of earth-mother (Bean & Shipek 557). The order of the world was established by this entity, and he was one of the first "people" or creations. Upon the death of *Wiyó-t'* the nature of the universe changed, and the existing world of plants, animals, and humans was created. The original creations took on the various life forms now existing and worked out solutions for living. These solutions included a spatial organization of species for living space and a chain-of-being concept that placed each species into a mutually beneficial relationship with all others.

Based on Luiseño settlement and subsistence patterns, the type of archaeological sites associated with this culture may be expected to represent the various activities involved in seasonal resource exploitation. Temporary campsites usually evidenced by lithic debris and/or milling features, may be expected to occur relatively frequently. Food processing stations, often only single milling features, are perhaps the most abundant type of site found. Isolated artifacts

occur with approximately the same frequency as food processing stations. The most infrequently occurring archaeological site is the village site. Sites of this type are usually large (often spanning out five miles in all directions), in defensive locations amidst abundant natural resources, and usually surrounded by the types of sites previously discussed, which reflect the daily activity of the villagers. Little is known of ceremonial sites, although the ceremonies themselves are discussed frequently in the ethnographic literature. It may be assumed that such sites would be found in association with village sites, but with what frequency is not known.

History

Four principal periods of historical occupation existed in Southern California: the Protohistoric Period (1540-1768 CE), the Spanish Mission Period (1769-1830 CE), the Mexican Rancho Period (1830-1860 CE), and the American Developmental Period (1860 CE-present).

In the general study area, the Spanish Mission Period (1769-1830 CE) first represents historical occupation. Although earlier European explorers had traveled throughout South California, it was not until the 1769 "Sacred Expedition" of Captain Gaspar dé Portola and Franciscan Father Junipero Serra that there was actual contact with aboriginal inhabitants of the region. The intent of the expedition, which began in San Blas, Baja California, was to establish missions and presidios along the California coast, thereby serving the dual purpose of converting Indians to Christianity and expanding Spain's military presence in the "New World." In addition, each mission became a commercial enterprise utilizing Indian labor to produce commodities such as wheat, hides, and tallow that could be exported to Spain. Founded on July 16, 1769, the Mission San Diego de Alcalá was the first of the missions, while the Mission San Francisco Solana was the last mission, founded on July 4, 1823.

In 1798 the Mission San Luis Rey de Francia was founded and all aboriginals living within the mission's realm of influence became known as the "Luiseño." Within a 20-year period, under the guidance of Fr. Antonio Peyri, the mission prospered to a degree that it was often referred to as the "King of the Missions." At its peak, the Mission San Luis Rey de Francia, which is located in what is now Oceanside, controlled six ranches and annually produced 27,000 cattle, 26,000 sheep, 1300 goats, 500 pigs, 1900 horses, and 67,000 bushels of grain. During this period, the Mission San Luis Rey de Francia claimed the entire region that is now western Riverside County and northern San Diego County as a cattle ranch, although records of the Mission San Juan Capistrano show this region as part of their holdings.

By 1818 the greater Temecula Valley had become the Mission San Luis Rey's principal producer of grain and was considered one of the mission's most important holdings. It was at approximately this time that a granary, chapel, and majordomo's home were built in Temecula. These were the first structures built by whites within the boundaries of Riverside County. The

buildings were constructed at the original Indian village of Temecula on a high bluff at the southern side of Temecula Creek where it joins Murrieta Creek to form the Santa Margarita River. This entire area continued to be an abundant producer of grain, as well as horses and cattle, for the thriving Mission San Luis Rey until the region became part of Mexico on April 11, 1822. Following this event, the Spanish missions and mission ranches began a slow decline.

Toward the end of this period, a federal law was passed that would have a substantial future impact on the study area in that it encouraged both increased settlement and land speculation. The Land Act of 1820, enacted April 24, 1820, ended the ability to purchase the United States' public domain lands on a credit or installment system over four years, as previously established. The new law became effective July 1, 1820 and required full payment at the time of purchase and registration. But to encourage more sales and make land more affordable, Congress also reduced both the minimum price from $2.00 to $1.25 per acre and the minimum size of a standard tract from 160 to 80 acres. The minimum full payment now amounted to $100, rather than $320. By lowering the price of land and the amount of land required for purchase, the law made it possible for settlers to move to the West, thus increasing the population and decreasing the need for illegal occupation. Although the Land Act of 1820 was good for the average American, it was also good for the wealthy land speculators who had sufficient money to buy the lower cost land, hoping to sell it later at a higher price. The Land Act helped create a new age of Western growth and influence, but it also increased the confiscation of land from Native Americans.

During the Mexican Rancho Period (1830-1860 CE) the first of the Mexican ranchos were established following the enactment of the Secularization Act of 1833 by the Mexican government. Mexican governors were empowered to grant vacant land to “contractors (*empresarios*), families, or private citizens, whether Mexicans or foreigners, who may ask for them for the purpose of cultivating or inhabiting them” (Robinson 66). Mexican governors granted approximately 500 ranchos during this period. Although legally a land grant could not exceed 11 square leagues (about 50,000 acres or 76 square miles) and absentee ownership was officially forbidden, neither edict was rigorously enforced (*ibid*). The subject property was located in what was labelled “Worthless Land” one-quarter mile north of the Temecula Rancho and one mile east of the La Laguna Rancho.

The La Laguna Rancho, encompassing three square leagues, was granted to Julian Manriquez by Mexican Governor Manuel Micheltorena on June 7, 1844. The land grant included all of the lake and shoreline but did not extend very far onto land around the lake in any direction. Manriquez died a few years after receiving the grant and the property passed to his widow, Trinidad, and their two sons. They sold the rancho to Abel Stearns in 1852 for $4,125, but Stearns only held the rancho for six years, selling it to Augustin Machado for $6000 (Gunther 281). Machado built an

adobe on the northwest corner of his property and with the advent of the Butterfield Stage Road, the house became a focal point and a stage stop for the mail stages (Lech 85). Augustin Machado died in 1865 and left the La Laguna Rancho to his wife, Ramona, and their twelve children. Ramona received an undivided one-half interest, while each child received an undivided twenty-sixth interest.

It was also during this historical period that the central event of California history -the Gold Rush - occurred. Although gold had been discovered as early as 1842 in the Sierra Pelona north of Los Angeles, it cost more to extract and process the gold than it was worth. The second discovery of gold in 1848 at Sutter's Mill by James Marshall was serendipitously coincidental with California's change in ownership as the result of the Anglo-American victory in the Mexican War, occurring at a time when many adventurers had come to California in the vanguard of military conquest. If gold had not been discovered, California may have remained an essentially Hispanic territory of the United States. The discovery of gold and the riches it promised caused California to become a magnet that attracted Anglo-American exploration and colonization. It has been estimated that the Anglo-American population of California at the beginning of 1848 was 2000 and that by the end of 1849 it had exploded to over 53,000 (Farquhar 1965). In 1849 alone, more than 40,000 people traveled overland from the Eastern United States to California and by the end of the year, 697 ships had arrived in San Francisco, bringing another 41,000 individuals. In 1850, over 50,000 people came overland and 35,000 came by sea. Hence, despite the fact that thousands of disenchanted prospectors who left California (reportedly 31,000 in 1853 alone), California's population had grown to 380,000 by 1860 and to 560,000 by 1870, not including the Native Americans, whose populations were decimated by the Anglo-American invasion. Conversely, in 1846 the Native American population in California is estimated to have been at least 120,000 and by the 1860s, only 20,000-40,000 had survived. This period of history is often referred to as the "California Indian Holocaust".

During the years of the Gold Rush most mining occurred in the northern and central portions of the state. As a result, these areas were far more populated than most of southern California. Nevertheless, there was an increasing demand for land throughout the state and the federal government was forced to address the issue of how much land in California would be declared public land for sale. The Congressional Act of 1851 created a land commission to receive petitions from private land claimants and to determine the validity of their claims. The United States Land Survey of California conducted by the General Land Office, began that year.

Throughout the 1840s and 1850s thousands of settlers and prospectors traveled through the study area on the Emigrant Trail in route to various destinations in the West. The southern portion of the trail ran from the Colorado River to Warner's Ranch and then westward to Aguanga, where it split into two roads. The main road continued westward past Aguanga and

into the valley north of the Santa Ana Mountains. This road was alternately called the Colorado Road, Old Temescal Road, or Fort Yuma Road and what is now SR-79 generally follows its alignment. The second road, known as the San Bernardino Road, split off northward from Aguanga and ran along the base of the San Jacinto Mountains.

On September 16, 1858, the Butterfield Company, following the southern Emigrant Trail, began carrying the Overland Mail from Tipton, Missouri to San Francisco, California. The first stagecoach passed through Temecula on October 7, 1858, and exchanged horses at John Magee's store, which was located south of Temecula Creek on the Little Temecula Rancho. It was around this store that the second location of Temecula had been established. In addition to being a Butterfield Overland Mail stop, it was at John Magee's store that the first post office in what is now Riverside County opened on April 22, 1859, with Louis A. Rouen being appointed the first United States postmaster in inland southern California (Hudson 1968:8). From this time until the outbreak of the Civil War terminated Butterfield's service, mail was delivered to the Temecula Post Office four times per week.

In the final period of historic occupation, the American Developmental Period (1860 CE - current) the first major changes in the study area took place as a result of the land issues addressed in the previous decade. Following completion of the GLO land survey, large tracts of federal land became available for sale and for preemption purposes, particularly after Congress passed the Homestead Act of 1862. The state was eventually granted 500,000 acres of land by the federal government for distribution, as well as two sections of land in each township for school purposes. Much of this land was in the southern part of the state. Under the Homestead Act of 1862 160-acre homesteads were available to citizens of the United States (or those who had filed an intention to become one) who were either head-of-household or a single person over the age of 21 (including women). Once the homestead claim was filed, the applicant had six months to move onto the land and was required to maintain residency for five years as well as to build a dwelling and raise crops. Upon completion of these requirements, the homesteader was required to publish an intent to close on the property in order to allow others to dispute the claim; if no one did so, the homesteader was issued a patent to the property, thus conveying ownership. Individuals were attracted to the federal lands by their low prices and as a result, the population began to increase in regions where the lands available for homestead were located. It was at this time, that the region of southern California which came to be known as Riverside County saw an influx of settlers, as well as those seeking other opportunities, including gold mining.

In June of 1873, Augustin Machado's wife and eleven of the children sold their rights to 12,832 acres of the La Laguna Rancho for $29,000 to Charles Ammon Sumner (SDC Deed Bk. 21:453). The oldest of Machado's children, Juan Machado, retained his share, a pie-shaped piece 513 acres in size, whose point extended into the lake. Machado built an adobe to house his family

and continued to live there for many years. In 1875 Sumner mortgaged the La Laguna Rancho to the Temple and Workman Bank of Los Angeles for $5000 with interest at 1 ¼% monthly. In 1876 the note was foreclosed on and sold at a sheriff's sale in 1877 for $6714.49 to Milton S. Latham. Later the same year, Latham sold the rancho to Frederick M. Sumner, brother of Charles Ammon Sumner (Gunther 281). In 1881 Sumner transferred the land grant to Arthur Scrivener, Trustee for the London and San Francisco Bank, Ltd.

On March 17, 1882, the California Southern Railroad (San Bernardino and Temecula Line) was opened, extending from National City near the Mexican border in San Diego County, northerly to Temecula and Murrieta, across the Perris Valley, down Box Springs Grade, and on to the City of San Bernardino and the entire region anticipated a boom in industry and population. With the arrival of rail access, the La Laguna Rancho flourished, and within fifteen years no fewer than eight separate developments were founded on, or adjacent to, rancho lands (Lech 342). While many of these developments died in the bust of the 1880s, the town of Elsinore survived and became one of the foremost towns in western Riverside County. Unfortunately, rail access was short-lived. Flooding and washouts in Temecula Canyon had plagued the California Southern Railroad from the beginning, railway service was disrupted for months at a time, and a fortune was spent on rebuilding the washed-out tracks. Finally, in 1891 the Santa Fe Railway constructed a new line from Los Angeles to San Diego down the coast and when later that year the California Southern Railway's route through Temecula Canyon once again was washed out, that portion of the line was discontinued.

Serendipitously, the great land boom in California commenced shortly after the opening of the California Southern Railroad and on September 24, 1883, Franklin H. Heald, Donald M. Graham, and William Collier purchased 12,832 acres of the La Laguna Rancho for $24,000 ($1.95/acre). The rancho was renamed Elsinore and subdivided into town lots and small acreages for sale. Graham and Collier had also been trying to persuade Juan Machado to sell them his 513 acres, but since they spoke no Spanish and he spoke no English, they were unsuccessful. Unluckily for them, Spanish-speaking George Irish came along, liked Machado's place, and succeeded in buying most of it in 1884 at an undisclosed price. Machado continued living with his family on his decreased acreage, eventually adding 150 acres through a purchase from the General Land Office in October 1890 (SDC Patent Bk. 6: 423).

Franklin, Heald, and Collier dissolved their partnership in 1885, with Heald taking the portion of the rancho that lay northwesterly of Corydon Street. Unfortunately, he was unable to pay his mortgage and in 1892, lost approximately 10,000 acres to Security Loan and Trust Company. That company quickly sold to land to the South Riverside Land and Water Company for $36,000 (Gunther 282). Collier and Graham took as their share the land that lay southeasterly of Corydon Street and decided to establish their settlement around what had been referred to as Car B

Station. Sales of the land had apparently begun even before their May 1885 advertisement of "cheap lands" at $25 - $30 per acre, compared to the $50 to $100 per acre of nearby Elsinore lands (Lech 351). Interestingly, this initial development not only didn't have a name, but there was no a formal subdivision map. Collier and Graham's hired P.W. Minthorn to survey and design a map for their subdivision, and in December 1885, christened their new town "Wildon," using the first syllables of their respective names. In November of 1886, a second plat for the new town was recorded with the name "Wildomar." This final name was comprised of letters of each partner's first name, plus letters from the first name of Margaret Collier, who was Graham's sister and Collier's wife. The town was centered around Palomar Street and Grand Street, with thirty-four blocks of 50-foot-wide town lots making up the 120-acre townsite, bisected by a 100-foot-wide railroad right-of-way (Lech 352) (Fig. 7). By 1887, Wildomar had become so popular that three men by the names of Townsend, Frame, and Starbuck decoded to expand the town by adding another 50 lots to the original townsite (*ibid.*).

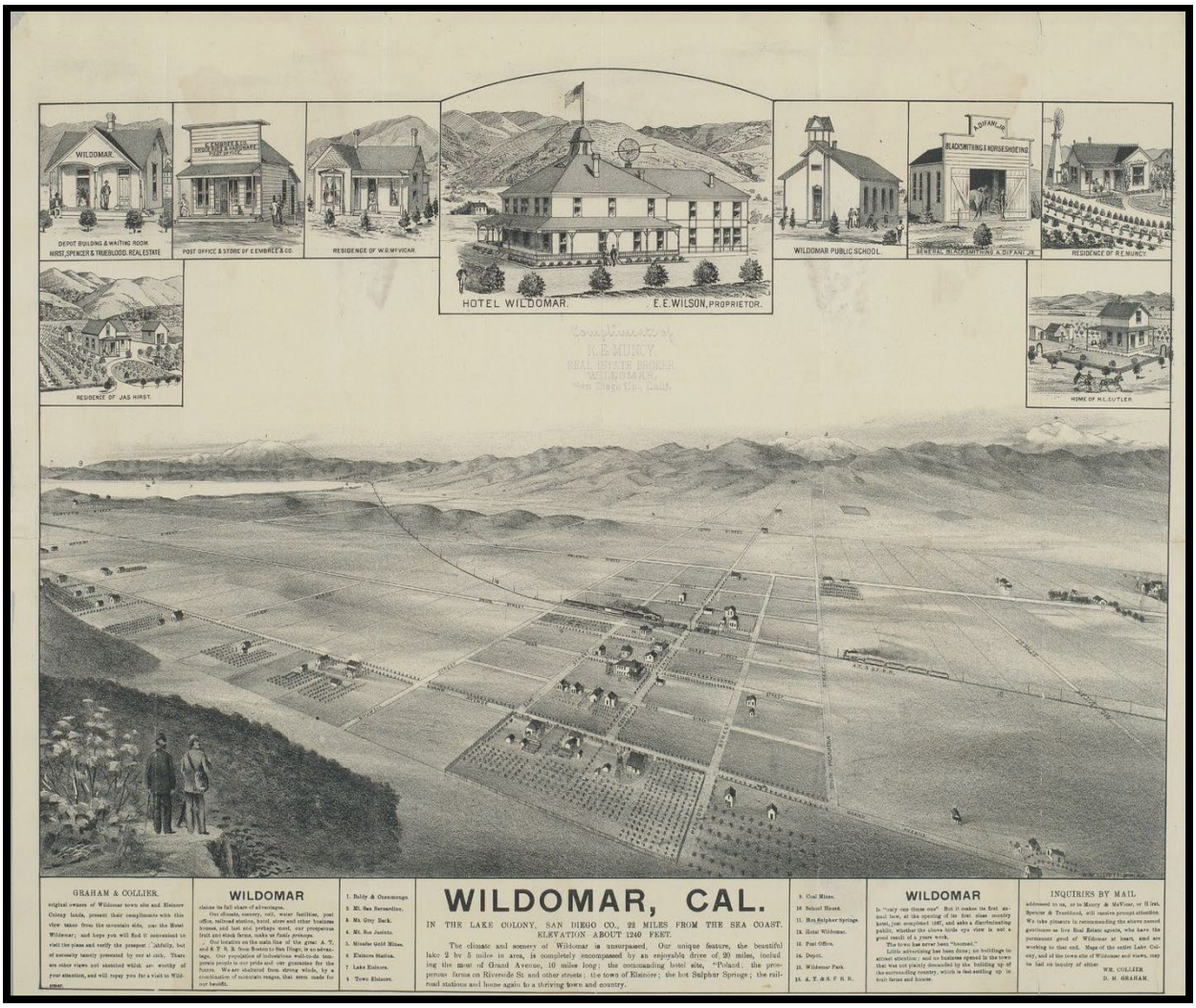


Figure 7: Birds-eye view of Wildomar, California (W.W. Elliot, 1890).

Collier and Graham were both Quakers who had come from Keokuk, Iowa, and as such, appealed to their friends and neighbors from back home to move to Wildomar. Since Graham had originally come to Southern California for his health, they used the arid climate and healthful living available in Wildomar as an effective marketing tool. This was an attractive concept to many in the Midwest and as a result of letters sent by Collier and Graham extolling the benefits of life in Wildomar, there was a steady influx of Quakers from Iowa and Wildomar became known as a Quaker colony (Lech 352).

The Wildomar post office was established on April 16, 1886, with Isaac C. Penrose as its first postmaster By 1887, the town had grown to the point where it could support the Hotel Wildomar, a Friends Church, a lumber business, brick yard, hardware store, and a soon-to-be-completed library. By 1890, the population had grown enough to warrant building an addition to the schoolhouse, since there were 114 school-aged children ages 5 – 17; only five years earlier, there had been only 23 school-aged children in the entire Elsinore valley (Lech 353). The town itself had also grown to include not only a Friends Church, but a Presbyterian church, twice daily mail service, a blacksmith, wagonmaker, and three general merchandise stores. Unfortunately, although Wildomar had a great outlook for continued growth and prosperity, like many other small towns, it had suffered when the land boom ended in 1888. It had no other means to attract investors, so it remained primarily a small town utilized by farmers from the Elsinore and Murrieta areas until late in the 20th century.

METHODS AND PROCEDURES

Research

Prior to commencement of the Phase I Cultural Resources Assessment field survey, a records search request was submitted to staff at the Eastern Information Center located at the University of California, Riverside on April 22, 2022, with the results received on May 25, 2022. The records search included a review of all site maps, site records, survey reports, and mitigation reports within a one-mile radius of the study area. The following documents were also reviewed: National Register of Historic Places, California Office of Historic Preservation Archaeological Determinations of Eligibility, and California Office of Historic Preservation Historic Properties Directory. In addition to the records search, a request for a Sacred Lands File search was submitted to the Native American Heritage Commission on April 22, 2022, with the results received on May 24, 2022. On May 28, 2022, project scoping letters were sent to ten Tribal representatives listed by the NAHC as being interested in project development within the City of Wildomar.

Following the requests for records and Sacred Lands File searches, a literature search of available published references to the study area was undertaken. Reference material included all available photographs, maps, books, journals, historical newspapers, registers, and directories held in various repositories. Archival and cartographic research was conducted through the USGS Historical Map Collection, the General Land Office records currently maintained by the California Office of the Bureau of Land Management, and a plethora of archival materials held by Ancestry.com, the California Digital Newspaper Collection, and the California Internet Archives. Limited information regarding property ownership and valuation from 1892 to 1932 was available digitally from the Riverside County Archives; post-1932 records were not accessible due to current conservation efforts and scanning of the original materials. The following maps were consulted:

1885 General Land Office Plat of Township No. 7 South, Range No. 3 West, SBM
1901 Elsinore, California 30’ USGS Topographic Map
1942 Murrieta, California 15’ USGS Topographic Map
1953 Murrieta, California 7.5’ USGS Topographic Map
1959 Santa Ana, California 1:250,000 USGS Topographic Map
1973 Murrieta, California 7.5’ USGS Topographic Map
1979 (photorevised) Santa Ana, California 1:250,000 USGS Topographic Map.
1979 (photorevised) Murrieta, California 7.5’ USGS Topographic Map

Fieldwork

Subsequent to the literature, archival, and cartographic research, Dr. Jean Keller conducted a comprehensive pedestrian field survey of the subject property on May 31, 2022. The survey was accomplished by traversing the subject property, beginning at the southeastern property corner, in parallel transects at 15-meter intervals. Proceeding in a generally south-north, north-south direction, the survey followed existing land contours. All of the property was accessible for survey, with the exception of numerous scattered refuse deposits and piles of cleared vegetation. Due to recent vegetation abatement, ground surface visibility of accessible land ranged from 50% in areas with remaining ground cover, to 100% throughout most of the property, resulting in an overall average ground surface visibility of approximately 75%.

RESULTS

Research

Results of the records search conducted by staff at the Eastern Information Center revealed that the subject property had been involved in three previous cultural resources studies, albeit only tangentially as each study only included property boundaries. The first cultural resources study, entitled "Phase I Archaeological Assessment Assessor's Parcel No. 380-290-003, 36215 Jana Lane, Wildomar, California" (RI-7600), was conducted in 2008 by CRM TECH. The study encompassed the 4.5-acre parcel of land immediately south of PAR 21-0065. It did not involve any part of the subject property with the exception of the shared boundary. No cultural resources were observed within the surveyed acreage. The second cultural resources study, conducted by CRM TECH in 2016, was an "Update to Historical/Archaeological Resources Survey, Assessor's Parcel No. 380-290-003" (RI-9883). A proposed commercial/industrial development (Big Easy RV and Boat Storage) in 2016 necessitated the updated study since eight years had elapsed since the earlier study. Again, this study only involved the southern boundary of PAR 21-0065 and no cultural resources were observed. The third cultural resources study that marginally involved the subject property was also conducted in 2016 by CRM TECH. "Addendum to Historical/Archaeological Resources Survey, Big Easy RV and Boat Storage Facility Project (Conditional Use Permit 16-0095)" (RI-9884) was a survey of an approximately 1,500-foot-long segment of the Jana Lane right-of-way and an approximately 700-foot-long segment of Clinton Keith Road right-of-way. The only portions of PAR 21-0065 that were involved in this survey were the road rights-of-way and no cultural resources were observed.

The subject property is located within a very well-studied area with 70 cultural resources studies having been recorded within a one-mile radius. Many of these studies involved large acreages, resulting in almost all land within one mile of PAR 21-0065 having been included in one or more cultural resource study. During the course of field surveys for these studies, nineteen cultural resource properties have been recorded. Table 1 lists the assigned primary numbers and trinomials for each cultural resource property, the recorded cultural resources for each, and the distance from the PAR 21-0065.

A search of the *Sacred Lands File* for the subject property was submitted on April 22, 2022, by the Native American Heritage Commission, with results received on May 24, 2022. Based on the provided USGS quadrangle information, the search had positive results. No further information specific to the subject property was provided by the NAHC. It was recommended that the Pechanga Band of Indians be contacted, as well as other tribes listed as being interested in the

Table 1
Previously Recorded Cultural Resources in the Scope of the Records Search

Primary No. (Trinomial)	Description	Distance from Property (in miles)
P-33-003405 (CA-RIV-3405)	Bedrock milling feature with 1 grinding slick	0.75 – 1.00
P-33-007804	The Schwartz House, a single-story vernacular stone residence, ca. 1932	0.00 – 0.25
P-33-007812	A modest barn with mortared stone walls and corrugated metal roof, ca. 1934	0.75 – 1.00
P-33-008652 (CA-RIV-6168)	Sparse surface scatter of flaked, faunal, and groundstone artifacts including 46 pieces of debitage, 2 flaked lithic artifacts, 3 manos, and 1 fragmented animal bone.	0.50 – 0.75
P-33-008653 (CA-RIV-6169)	Sparse surface scatter of 2 fine-grained volcanic & 2 quartz flakes	0.75 – 1.00
P-33-008654 (CA-RIV-6170)	Surface scatter of historical-period artifacts, including amethyst glass, a horseshoe fragment, fragments of a canning jar, and an angle bracket, all from the early 20th century	0.00 – 0.25
P-33-008948	1 quartz interior flake	0.50 – 0.75
P-33-008949 (CA-RIV-6350)	Traces of previously recorded prehistoric site (CA-RIV-6350) located 100 meters from the site, including a muller, 2 metates, and 100-200 pieces of lithic debitage	0.50 – 0.75
P-33-011434 (CA-RIV-6821)	A lithic scatter with 6 manos fragments, 2 possible flakes, 2 possible fragments of fire-cracked rock	0.25 – 0.50
P-33-011435	1 quartz hammerstone	0.25 – 0.50
P-33-011436	1 half of a granite metate	0.50 – 0.75
P-33-013913 (CA-RIV-7612)	Village site with 7 bedrock mortars, 7 slicks, flakes, cores, projectile points, midden, shell beads, clay figurine (female), obsidian, bone awls, core tools, manos & metates, mortars & pestles, steatite, charcoal, bone, shell	0.75 – 1.00
P-33-015304	1 quartzite flake	0.75 – 1.00
P-33-015305	1 andesite flake with cortex	0.50 – 0.75
P-33-016988 (CA-RIV-8848)	Residential complex, ca. 1914-1945 and post-1945	0.75 – 1.00
P-33-017366 (CA-RIV-9024)	1 mano, 4 flakes	0.50 – 0.75
P-33-020991	Oak Springs Ranch, ca. pre-1953	0.75 – 1.00
P-33-024798	1 metavolcanic core reduction flake	0.25 – 0.50
P-33-024819 (CA-RIV-012308)	*Surface:* 4 debitage, 1 adze, 1 flake tool, 1 angular hammer, 6 manos, 1 metate fragment	0.25 – 0.50

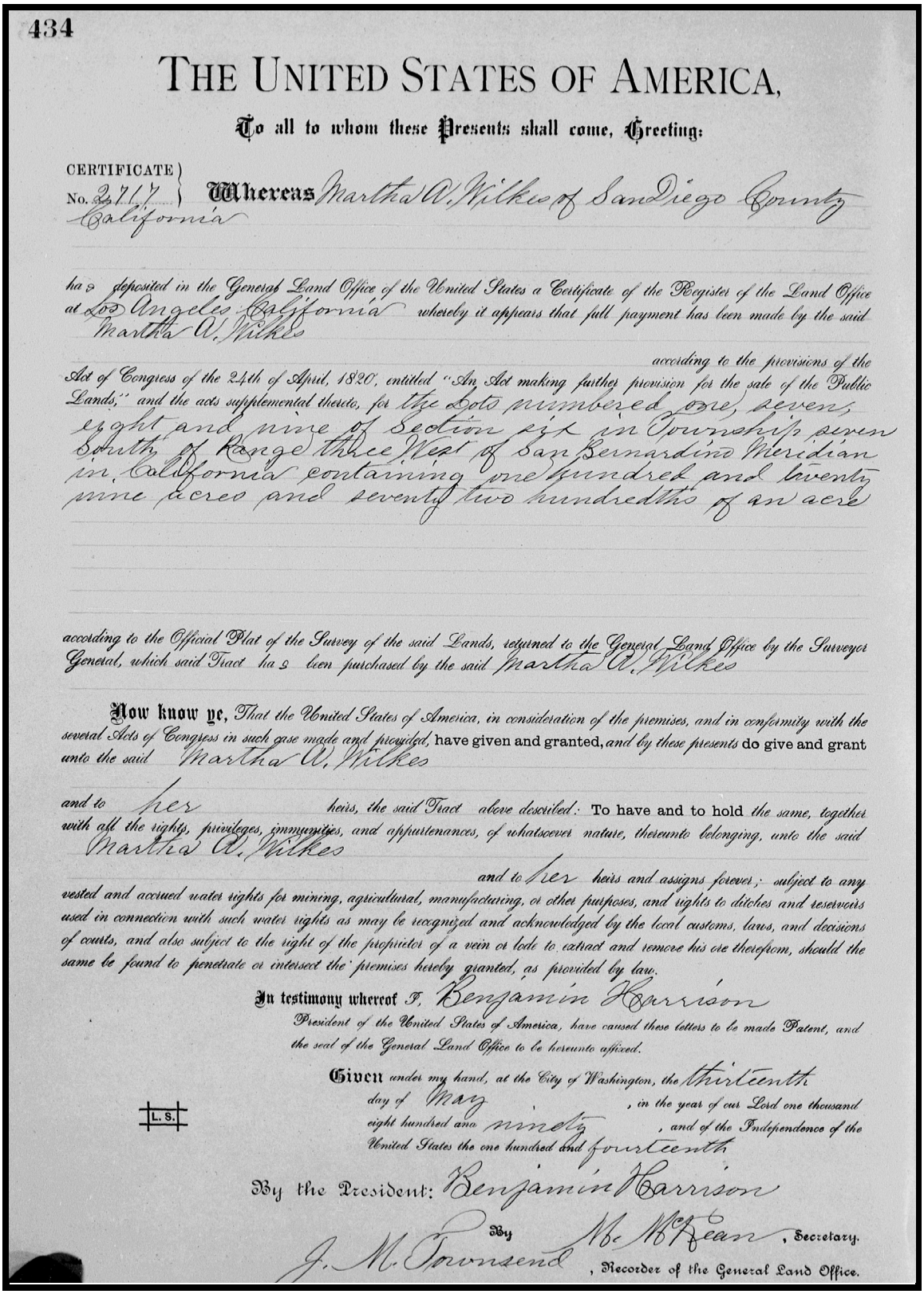
	Subsurface: 5 manos, 1 debitage, 1 groundstone fragment, 1 hammerstone fragment	

Wildomar area. At this time, no responses to the ten project scoping letters sent to tribes interested in the Wildomar have been received.

The literature search offered no information specific to the subject property, although archival research provided some limited information. According to General Land Office records maintained by the Bureau of Land Management, the first non-Native owner of the subject property was Martha A. Wilkes. On May 13, 1890, a Serial Patent (BLM Accession No. CACAAA 082477) for 129.72 acres of land was granted to Wilkes, issued by authority of the Land Act of 1820 (Fig. 8). As previously discussed in the History section of this report, a cash-sale patent permitted purchase of as few as 80 acres of land for as little as $1.25 per acre. These purchases did not require residence, domicile construction, or agriculture as did the Homestead Act of 1862. Wilkes' purchase included Lots 1, 7, 8, and 9 of Section 6, Township 7 south, Rage 3 west, which represented the NENE, SNE, and a portion of the NESE quarters of the section; the subject property was included in the northeast quarter of Lot 1. Based on cartographic, census, and voter registration research, it appears that Marth A. Wilkes never actually lived on the subject property, or on any of her other holdings for that matter.

Wilkes' purchase of the 129.72 acres of land in Section 6 was apparently part of a family venture, probably for investment purposes. On August 15, 1889, Martha's older sister, Margaret L. Wilkes, received a cash-sale patent for the 112.02 acres of Lots 5, 12, and 13 of Section 6 (CACAAA_.082475) and on March 7, 1890, her other sister, Rachel E. Wilkes, received a cash-sale patent for the 118.24 acres of Lots 10, 11, 14, and 15 (CACAA 082476) (Fig. 9).

Martha A. Wilkes was born in 1853 in Missouri; Margaret was born in 1845 and Rachel in 1851. There are no available records of their early lives, including the period of time during which the serial patents were issued except that in 1889 and 1890 they were living in San Diego. Interestingly, this information comes only from the serial patents, as none of the sisters are found in any census records prior to 1910. Since women were not given the right to vote in California until 1911, their names do not appear in the Great Register of San Diego County at the time they purchased property and by 1910, they were already living in another county. The first information about the lives of the Wilkes sisters is found in the *Thirteenth Census of the United States: 1910 – Population.* At this time, they were living together in Malibu, California and owned a restaurant – Margaret was 65, Rachel 59, and Martha was 57 years of age. By 1920, Margaret and Martha had moved to Redondo Beach, where, they lived with their younger sister, Ellen, and younger brother, William. Margaret's occupation was that of a storekeeper and Martha had no



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THE UNITED STATES OF AMERICA,

To all to whom these Presents shall come, Greeting:

CERTIFICATE No. 2717 } **Whereas** Martha A. Wilkes of San Diego County California

has deposited in the General Land Office of the United States a Certificate of the Register of the Land Office at Los Angeles California whereby it appears that full payment has been made by the said Martha A. Wilkes according to the provisions of the Act of Congress of the 24th of April, 1820, entitled "An Act making further provision for the sale of the Public Lands," and the acts supplemental thereto, for the Lots numbered one, seven, eight and nine of Section six in Township seven South of Range three West of San Bernardino Meridian in California containing one hundred and twenty nine acres and seventy two hundredths of an acre

according to the Official Plat of the Survey of the said Lands, returned to the General Land Office by the Surveyor General, which said Tract has been purchased by the said Martha A. Wilkes

Now know ye, That the United States of America, in consideration of the premises, and in conformity with the several Acts of Congress in such case made and provided, have given and granted, and by these presents do give and grant unto the said Martha A. Wilkes

and to her heirs, the said Tract above described: To have and to hold the same, together with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said Martha A. Wilkes and to her heirs and assigns forever; subject to any vested and accrued water rights for mining, agricultural, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws, and decisions of courts, and also subject to the right of the proprietor of a vein or lode to extract and remove his ore therefrom, should the same be found to penetrate or intersect the premises hereby granted, as provided by law.

In testimony whereof I, Benjamin Harrison President of the United States of America, have caused these letters to be made Patent, and the seal of the General Land Office to be hereunto affixed.

Given under my hand, at the City of Washington, the thirteenth day of May, in the year of our Lord one thousand eight hundred and ninety, and of the Independence of the United States the one hundred and fourteenth

L. S.

By the President: Benjamin Harrison

By M. McLean, Secretary.

J. M. Townsend, Recorder of the General Land Office.

Figure 8: Serial patent issued to Martha A. Wilkes on May 13, 1890, for 129.72 acres of land, under authority of the Land Act of 1820.

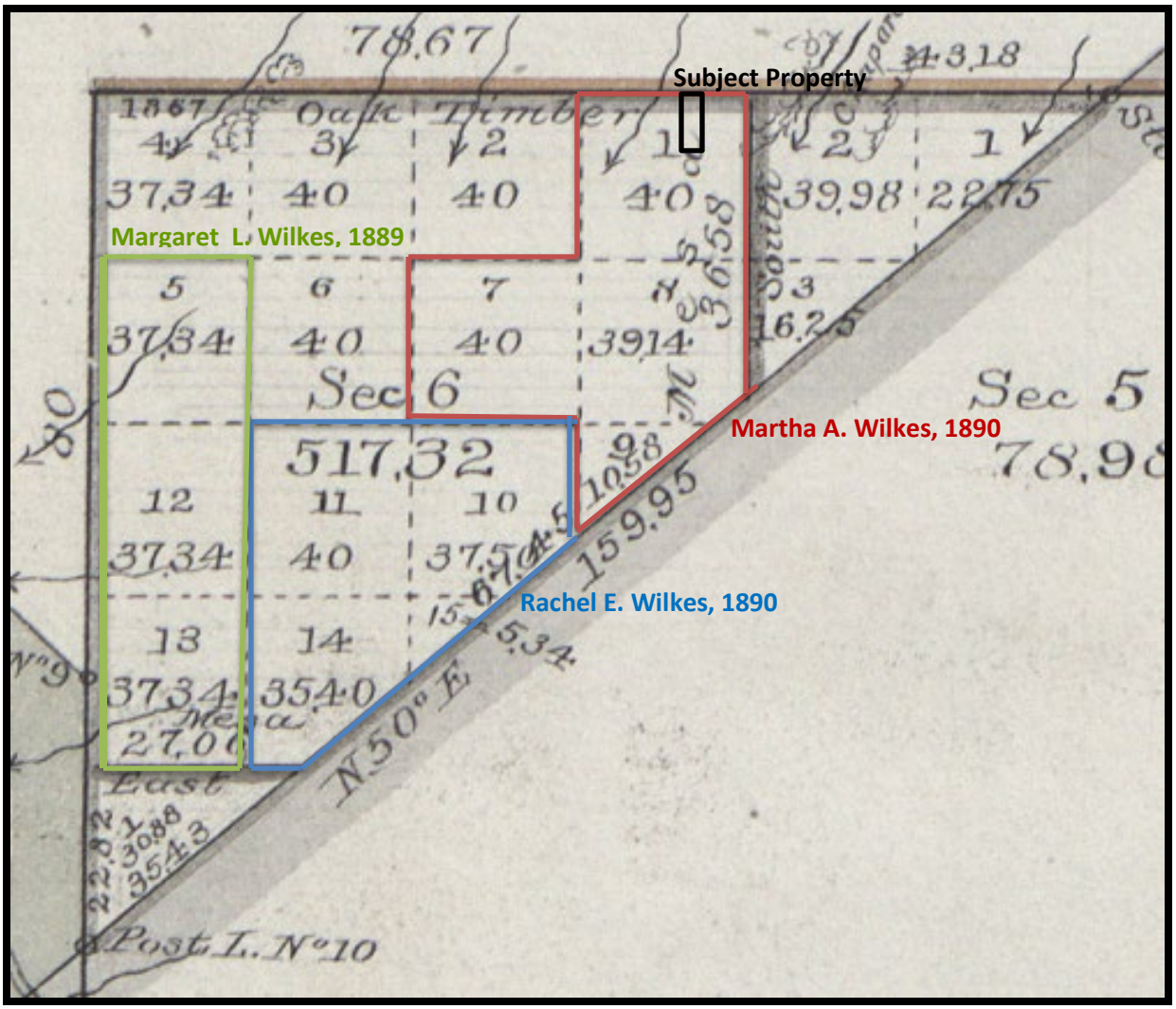


Figure 9: Location of the subject property in relation to ownership of Section 6 by the Wilkes Sisters, 1889-1890.

occupation (*Fourteenth Census of the United States: 1920 – Population*). Following Margaret's death in 1929, Martha lived with Rachel in Redondo Beach, with both listed as having no occupations (*Fifteenth Census of the United States: 1930 – Population).* Martha died in 1931, followed by Rachel's death in 1933.

Despite extensive research, no additional information could be found regarding the first non-Native owner of the subject property, Martha A. Wilkes. What is particularly interesting about the information that was discovered, however, is that three single women were able to purchase a large expanse of land in the late 19th century, presumably as an investment, since there is no evidence that any of the sisters ever actually lived on the land they owned, and all sold their holdings a short time after issuance of their cash-sale patents. Even with the potential for single

women to own land under both the Land Act of 1820 and the Homestead Act of 1862, this was still a remarkable – and rare – feat.

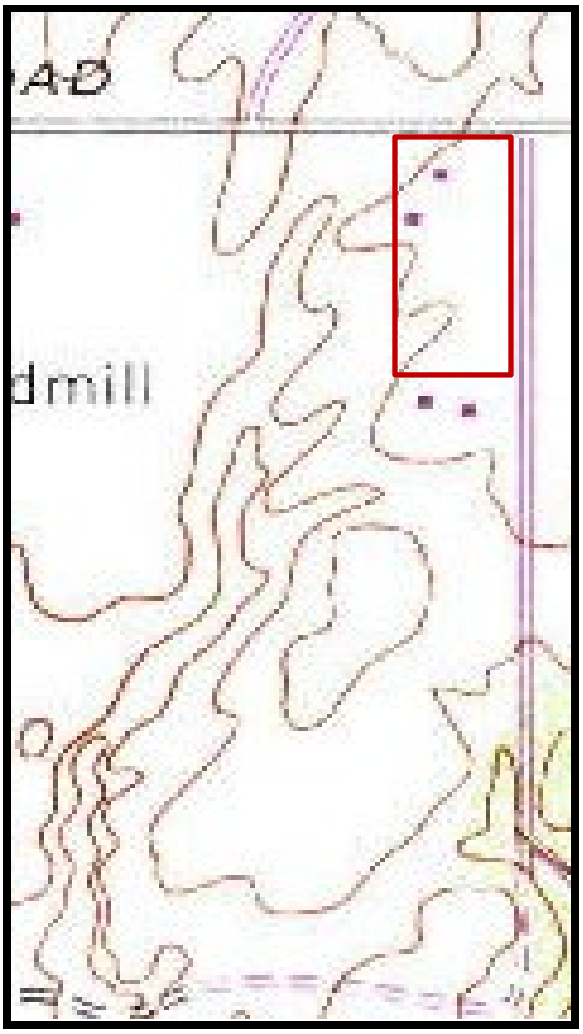
Between 1880 and 1892, the subject property was located in San Diego County and currently, property ownership information for 1880-1891 period is not available. Wilke's 1890 purchase of the 129.72 acres that included the subject property has been confirmed, but it is not known for how long she maintained ownership after issuance of the cash-sale patent on May 13, 1890. Rachel and Margaret sold the entirety of their combined acreage to William C. Wentworth, who developed the property as the Wentworth Subdivision in 1892. Property ownership records for the subject property beginning in 1892 and continuing until 1932 are available from the Riverside County Archives, but later records are currently being scanned and/or conserved so were not available for research. While these records do not give a comprehensive history of the property, they do offer interesting insight into its early years. Table 2 provides an historical summary of ownership and the value of land, buildings, and agriculture (trees and vines).

Table 2
Historical Property Ownership and Value Summary of the 129.72 Acres of Land (Lots 1, 7, 8, 9 of Section 6) containing the Subject Property (PAR 21-0065)

YEAR	OWNER	LAND VALUE	BUILDING TYPE/VALUE	TREE VALUE	VINE VALUE
1890	Martha A. Wilkes	$162 (purchase)	-	-	-
1891	?	?	?	?	?
1892	John McFadden	$324	-	-	-
1893	"	$389	-	-	-
1894	"	"	-	-	-
1895	"	$390	-	-	-
1896	"	"	-	-	-
1897	"	"	-	-	-
1898	"	$350	-	-	-
1899	"	$315	-	-	-
1900	S.E. Manatt	"	-	-	-
1901	"	"	-	-	-
1902	"	"	-	-	-
1903	"	"	-	-	-
1904	"	"	-	-	-
1905	"	"	-	-	-
1906	"	"	-	-	-
1907	"	"	-	-	-
1908	John McFadden	$375	-	-	-

1909	"	"	-	-	-
1910	"	$550	-	-	-
1911	William R. Stokes	"	-	-	-
1912	"	"	-	-	-
1913	"	$865	-	-	-
1914	"	"	-	-	-
1915	"	$1100	-	-	-
1916	"	"	-	-	-
1917	"	"	$350	-	-
1918	"	"	"	-	-
1919	"	"	"	-	-
1920	"	"	-	-	-
1921	"	"	-	-	-
1922	"	"	-	-	-
1923	"	"	-	-	-
1924	"	"	-	-	-
1925	"	"	$630	-	-
1926	"	"	$630	-	-
1927	"	"	"	-	-
1928	"	"	"	-	-
1929	"	"	"	-	-
1930	"	$1300	"	-	-
1931	"	"	-	-	-
1932	"	"	-	-	-

Cartographic research shows no structures or other development within the property boundaries between 1854 (date of first GLO survey) and 1951 (date of aerial photographs taken for the 1953 USGS Murrieta quadrangle), indicating that the property was vacant during this period. Between 1951 and 1973 (date of aerial photography for the 1973 photorevised USGS Murrieta quadrangle), two structures appear near the northwestern corner of the subject property, but by at least as late as 1996, aerial photographs show that the structures no longer existed (Fig. 10). No more precise information about the date of construction or occupants could be located, but it is probable that they were built after 1956, when Lots 1, 8, and 9 of Section 6 were divided into seven parcels, with PAR 21-0065 located in Parcel 2 (Record of Survey 25/62). Until this time, Lots 1, 7, 8, and 9, comprising the 129.72 acres purchased by Martha A. Wilkes, remained as a single undeveloped entity.



USGS Murrieta (1979, aerial photos 1976)

Google Earth (Sept. 29, 1996)

Figure 10: Development history of the subject property. Post-1951 to 1996.

Fieldwork

No cultural resources of prehistoric (Native American) or historical origin were observed within the property boundaries during the current field survey. Disturbed soil throughout the property showed uniform texture and color, with no evidence of a subsurface cultural deposit. No bedrock exists on the property and with excellent ground surface visibility, few lithic materials suitable for tool production by indigenous peoples were observed.

RECOMMENDATIONS

No cultural resources of prehistoric (Native American) or historical origin were observed within the boundaries of Pre-Application Review No. 21-0065. No information has been obtained through Native American consultation that the subject property is culturally or spiritually significant and no Traditional Cultural Properties that currently serve religious or other community practices are known to exist within the project area. Results of the Sacred Lands File search conducted by the Native American Heritage Commission (NAHC) for the subject property were positive, but this finding was in relation to the USGS topographic map and no further information specific to the subject property was provided. At this time, no responses to project scoping letters have been received from the ten Tribal representatives listed by the NAHC as being interested in the Wildomar area.

Pre-Application Review No. 21-0065 is located within an area of moderate sensitivity for cultural, archaeological, and historical resources, with nineteen cultural resource properties having been recorded within a one-mile radius of the subject property. Fourteen of these properties are of Native American origin, eight of which were isolates and five represented small temporary sites used for seasonal resource procurement and processing. There is one site, located approximately three-quarters of a mile east of PAR 21-0065, which has been recorded as a village site with abundant and diverse cultural resources. The isolates and temporary use sites were undoubtedly associated with the village site, thereby expanding the impact of Native American occupation in this area. This village may be the reason for the positive findings of the Sacred Lands File research. The five cultural resource properties of historical-period origin include a ca. 1934 single-story vernacular stone residence (the Schwartz House), a modest barn with mortared stone walls and corrugated metal roof, Oak Springs Ranch, a residential complex, and a debris scatter. None of the nineteen recorded cultural resource properties are listed on either the California Register of Historic Resources or the National Register of Historical Places

The subject property was originally part of a 129.72-acre parcel that was first purchased in 1890 and maintained as a single entirety at least until 1932, but probably, 1956. Although Riverside County property ownership records indicate that buildings existed within this large acreage during the historical period, there is no evidence that they were located within the 4.35 acres of the subject property. However, cartographic evidence does indicate that two buildings were constructed near the northwestern corner of PAR 21-0065 between 1951 and 1973. Aerial photographs indicate that these buildings no longer existed by at least as late as 1996. No extant features of the buildings were observed during the pedestrian field survey.

Despite the fact that no cultural resources were observed within the project boundaries during the current Phase I field survey, in consideration of the moderate cultural, archaeological, and historical sensitivity of the area in which the project is located, as well as the fact that two structures once existed within the property boundaries, and that the Sacred Lands File search had positive findings, it is recommended that monitoring of all ground-disturbing activities associated with construction of the proposed project be actively monitored by a Riverside County/City of Wildomar qualified archaeologist. Although no Tribe responded to the project scoping letters or requested monitoring, if such a request is made during the AB 52 process, it is recommended that Tribal monitoring be required in addition to archaeological monitoring.

Should any cultural resources be discovered during the course of ground-disturbing activities anywhere on the subject property, said activities should be halted or diverted until a qualified archaeologist can evaluate the resources, make a determination of their significance, and recommend appropriate treatment measures to mitigate impacts to the resource from the project, if found to be significant. If human remains are encountered unexpectedly during implementation of the project, State Health and Safety Code Section 7050.5 requires that no further disturbances shall proceed until the Riverside County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may, with the permission of the landowner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and recommend to the owner or the person responsible for the excavation work means for treating, with appropriate dignity, the human and any associated grave goods,

CONSULTANT CERTIFICATION

The undersigned certifies that the attached report is a true and accurate description of the results of the Phase I Cultural Resources Assessment described herein.

June 14, 2022

Jean A. Keller, Ph.D. Date

Riverside County Certificate No. 232

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1896 - 1899: Index Map
Assessor Map T7S R3W Sec 6
Property Ownership Register T7S R3W Sec 6
1899 - 1907: Index Map
Assessor Map T7S R3W Sec 6
Property Ownership Register T7S R3W Sec6
1907 - 1913: Index Map
Assessor Map T7S R3W Sec 6
Property Ownership RegisterT7S R3W Sec6
1913 – 1919: Index Map
Assessor Map T7S R3W Sec 6
Property Ownership Register T7S R3W Sec 6
1920 – 1926: Index Map
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Property Ownership Register T7S R3W Sec6

1926 – 1932: Index Map
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1942 Map: Lake Elsinore, Calif. (15', 1:62,500); aerial photos taken in 1939

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1901 Map: Elsinore, Calif. (30', 1:125,000); surveyed in 1897-1898
1953 Map: Murrieta, Calif. (7.5', 1:24,000); aerial photos taken in 1951
1959 Map: Santa Ana, Calif. (1:250,000); aerial photos taken in 1955
1973 Map: (photorevised) Murrieta, Calif. (7.5', 1:24,000); aerial photos taken 1973
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APPENDIX

Records Search Results
Sacred Lands File Search Results

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-00509	NADB-R - 1080548; Other - UCRARU #337; Voided - MF-0441	1978	Stan Wilmoth	Environmental Impact Evaluation: Archaeological Assessment of Tentative Parcel Map 12198, Murrieta Area of Riverside County, California	Archaeological Research Unit, U.C. Riverside	
RI-00701	NADB-R - 1080752; Voided - MF-0624	1979	Roger J. Desautels	Archaelogical Survey Report on Farm Lot 24, in Black "B" of the Murrieta Eucalyptus Company's Tract, As Shown by Map in the File in Book 6, Page 73 of Maps, Riverside County Records, State of California	Scientific Resource Surveys, Inc., Santa Ana, CA	
RI-00702	NADB-R - 1080753; Voided - MF-0625	1979	Roger J. Desautels	Archaeological Survey Report on a Portion of Farm Lot 27, in Block "B" of the Murrieta Eucalptus Company's Tract, As Shown By Map in the File in Book 6, Page 73 of Maps, Riverside County Records, State of California	Scientific Resource Surveys, Inc., Santa Ana, CA	
RI-00703	NADB-R - 1080754; Voided - MF-0626	1979	Roger J. Desautels	Archaeological Survey Report on Lot 25 in Block "B" of Murrieta Eucalyptus Company's Tract as Shown by Map on File in Book 6, Page 73 of Maps, Riverside County Records, in Temecula Rancho	Scientific Resource Surveys, Inc., Santa Ana, CA	
RI-00829	NADB-R - 1080882; Other - UCRARU #600; Voided - MF-0750	1980	Alan Davis	Enivornmental Impact Evaluation: An Archaeological Assessment of Tentative Parcel 16945, Northwest of Murrieta in Riverside County, California	Archaeological Research Unit, U.C. Riverside	
RI-01246	NADB-R - 1081408; Other - UCRARU #628; Voided - MF-1241	1981	Alan Davis	Environmental Impact Evaluation: An Archaeological Assessment of Tentative Parcel 17625, Northwest of Murrieta in Riverside County, California	Archaeological Reseach Unit, U.C. Riverside	
RI-01327	NADB-R - 1081500; Voided - MF-1327	1981	SCIENTIFIC RESOURCE SURVEYS, INC.	Cultural Resources Report on the "California Oaks" Property Located in the Murrieta Area of the County of Riverside	Scientific Resource Surveys, Inc., Santa Ana, CA	33-000722, 33-002228, 33-002229, 33-013913, 33-013914, 33-013915, 33-013916
RI-02020	NADB-R - 1082444; Voided - MF-2210	1985	KELLER, JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF TRACT 20311, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-02114	NADB-R - 1082543; Voided - MF-2304	1987	KELLER, JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF TT MAP 22346, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-02215	NADB-R - 1082646; Submitter - UCRARU #939; Voided - MF-2402	1988	GOODMAN, JOHN D.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL 23087, LOCATED NORTH OF MURRIETA IN SOUTHWESTERN RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-02219	NADB-R - 1082650; Voided - MF-2406	1988	KELLER, JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP NO. 22776, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-02221	NADB-R - 1082652; Voided - MF-2408	1988	KELLER, JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF VESTING TENTATIVE TRACT MAP NO. 23051, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-02283	NADB-R - 1082720; Voided - MF-2476	1988	DROVER, C.E.	AN ARCHAEOLOGICAL ASSESSMENT OF THE FARM-SECONDARY HIGHWAY ACCESS STUDY	AUTHOR(S)	33-003413
RI-02333	NADB-R - 1082791; Voided - MF-2535	1987	WHITNEY-DESAUTELS, NANCY	ARCHAEOLOGICAL ASSESSMENT FORM: WINKER ACRES (TRACT 22948)	SCIENTIFIC RESOURCE SURVEYS, INC.	33-003405
RI-02382	NADB-R - 1082880; Submitter - UCRARU #986; Voided - MF-2622	1989	PARR, ROBERT E.	AN ARCHAEOLOGICAL ASSESSMENT OF T.P. 23508 LOCATED NORTH OF MURRIETA IN SOUTHWESTERN RIVERSIDE COUNTY, CALIFORNIA	ARCHAELOGICAL RESEARCH UNIT, UNIVERSITY OF CALIF, RIVERSIDE	
RI-02510	NADB-R - 1082996; Voided - MF-2735	1989	KELLER, JEAN S.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT MAP NO. 23435, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02610	NADB-R - 1083087; Voided - MF-2823	1989	KELLER, JEAN S.	AN ARCHAEOLOGICAL ASSESSMENT OF VESTING TENTATIVE TRACT MAP 25362, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02684	NADB-R - 1083154; Submitter - #914; Voided - MF-2886	1989	SCIENTIFIC RESOURCE SURVEYS	ARCHAEOLOGICAL AND PALEONTOLOGICAL ASSESSMENT OF A 3+ ACRE PORTION OF TPM 25065 ADJACENT TO INLAND VALLEY REGIONAL MEDICAL CENTER, RIVERSIDE COUNTY, CALIFORNIA.	SRS, INC.	
RI-02848	NADB-R - 1083451; Voided - MF-3045	1990	KATHLEEN C. DEL CHARIO	ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT NO. 24274 CALIFORNIA OAKS AREA, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESOURCE MANAGEMENT CORPORATION, Fullterton, CA	
RI-03912	NADB-R - 1084715; Voided - MF-4275	1994	DEMCAK, CAROL R.	ARCHAEOLOGICAL INVESTIGATIONS AT THE CALIFORNIA OAKS SITES (RIV -722, -2228, AND -2229), NEAR TEMECULA, RIVERSIDE COUNTY, CALIFORNIA (VOL I & II)	ARCHAEOLOGICAL RESOURCE MANAGEMENT CORP.	33-000722, 33-002228, 33-002229

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-04065	NADB-R - 1085212; Voided - MF-4513	1997	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF THE CHURCH OF THE NAZARENE SITE 11.23 ACRES OF LAND LOCATED IN MURRIETA, RIVERSIDE COUNTY, CALIFORNIA USGS MURRIETA, CALIFORNIA QUADRANGLE, 7.5' SERIES	AUTHOR	
RI-04070	NADB-R - 1085219; Submitter - 306; Voided - MF-4519	1998	LOVE, BRUCE and BAI "TOM" TANG	CULTURAL RESOURCES REPORT WATER AND SEWER PIPELINE RIGHTS-OF-WAY AND ASSOCIATED FACILITIES IN COMMUNITY FACILITIES DISTRICT NO. 97-1, NEAR WILDOMAR ELSINORE VALLEY MUNICIPAL WATER DISTRICT RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-04297	NADB-R - 1085559; Other - HR 98006; Voided - MF-4780	1998	WADE, SUE A.	CULTURAL RESOURCES SURVEY AND ARCHAEOLOGICAL EVALUATIONS FOR THE CLINTON KEITH ROAD AND RESIDENTIAL PROJECT (TRACT MAP 29039 AND PARCEL MAP 29040), COUNTY OF RIVERSIDE, CALIFORNIA.	HERITAGE RESOURCES	33-008652, 33-008654
RI-04350	NADB-R - 1085648; Submitter - 99-1471; Voided - MF-4846	1999	BROWN, JOAN C.	A CULTURAL RESOURCES RECONNAISSANCE FOR THE MACARTHUR PROPERTIES, LOCATED IN RIVERSIDE COUNTY, CALIFORNIA.	RMW PALEO	33-008949
RI-04390	NADB-R - 1085717; Voided - MF-4892	2000	KELLER, JEAN A.	A PHASE 1 CULTURAL RESOURCES ASSESSMENT OF GENERAL PLAN AMENDMENT 540/CHANGE OF ZONE 6536 LOCATED NEAR MURRIETA, RIVERSIDE COUNTY CALIFORNIA	JEAN A. KELLER	33-001257, 33-003405, 33-003956, 33-008173, 33-008652, 33-008949
RI-04470	NADB-R - 1085831; Submitter - 02-1	2002	ROBINSON, MARK C.	CULTURAL RESOURCES SURVEY AND ASSESSMENT OF APPROXIMATELY 10.73 ACRES: OAK CREEK APARTMENT COMPLEX PROJECT, ELIZABETH LANE AND PRIELIPP ROAD, WILDOMAR, RIVERSIDE COUNTY, CALIFORIA	GREAT LAKES RESEARCH	33-011434, 33-011435, 33-011436
RI-04507	NADB-R - 1085868	2001	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF A PORTION OF TENTATIVE TRACT MAP NO. 29476, 8.82 ACRES OF LAND LOCAT4ED NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-04641	NADB-R - 1086000	2001	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF CHANGE OF ZONE 6618, 29.10 ACRES OF LAND LOCATED NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	
RI-04698	NADB-R - 1086060	2003	TETRA TECH, INC.	A PHASE I ARCHAEOLOGICAL SURVEY OF APPROX. 3.5-ACRES FOR THE STONEBRIDGE MEDICAL OFFICE BUILDING, WILDOMAR, RIVERSIDE COOUNTY, CALIFORNIA	TETRA TECH, INC.	
RI-04885	NADB-R - 1086247; Submitter - GD-03-R209	2003	IRISH, LESLIE NAY, ANNA M. HOOVER, and KRISTIE R. BELVINS	A PHASE I ARCHAEOLOGICAL RECORDS SEARCH AND SURVEY REPORT FOR TT#31009, APN 362-150-023, COUNTY OF RIVERSIDE, CALIFORNIA.	L&L ENVIRONMENTAL, INC.	
RI-04937	NADB-R - 1086299; Submitter - 04-03-06-748	2003	MCKENNA, JEANETTE A.	A PHASE I CULTURAL REOURCES SURVEY OF THE DEPASQUALE FAMILY PARTNERSHIP PROPOERTY (TRACT 30155) IN THE OAK SPRINGS AREA OF RIVERSIDE COUNTY, CALIFORNIA.	MCKENNA ET AL.	
RI-05009	NADB-R - 1086371; Submitter - 06-01-06-576	2001	MCKENNA ET AL.	A PALEONTOLOGICAL OVERVIEW OF THE USA PETROLEUM CORP. PROJECT SITE LOCATED IN THE WILDOMAR AREA OF RIVERSIDE COUNTY, CALIFORNIA	MCKENNA ET AL.	
RI-05181	NADB-R - 1086544; Submitter - LSA Project No. PCY 232	2002	GOODWIN, RIORDAN and ROBERT E. REYNOLDS	CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT, WINDSOR PACIFIC CENTURY HOMES TENTATIVE TRACT 29402, RIVERSIDE COUNTY, CALIFORNIA	LSA ASSOCIATES, INC., Riverside, CA	33-008948, 33-008949
RI-05216	NADB-R - 1086579	2002	ROBINSON, MARK C.	PHASE II TESTING AND EVALUATION OF 33-11434 (CA-RIV-6821)	GREAT LAKES RESEARCH	33-011434
RI-05366	NADB-R - 1086729	2003	KELLER, JEAN	A OHASE I CULTURAL RESOURCE ASSESSMENT OF CONDITIONAL USE PERMIT 02-401	JEAN KELLER	
RI-05536	NADB-R - 1086899	2005	KELLER, JEAN A.	A PHASE I CULTURAL RESORUCES ASSESSMENT OF HIDDEN SPRINGS RANCH APN 380-290-029, +/-9.5 ACRES OF LAND NEAR WILDOMAR, RIVERSIDE COUNTY, CA	JENA KELLER	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-05611	NADB-R - 1086974	2000	DROVER, CHRISTOPHER E.	A CULTURAL RESOURCE INVENTORY: AN ARCHAEOLOGICAL ASSESSMENT OF CLYATON RANCH, APN'S 369-260-003/ 369-260-005, NEAR WILDOMAR, CLINTON KEITH ROAD, RIVERSIDE COUNTY, CA	CHRISTOPHER DROVER	
RI-05920	NADB-R - 1087283; Submitter - 896	2002	LOVE, BRUCE, BAI TANG, TERESA WOODARD, MARIAM DAHDUL, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 30656, APNS 362-180-029 TO -032, WILDOMAR AREA, RIVERSIDE COUNTY, CA	CRM TECH	
RI-05921	NADB-R - 1087284; Submitter - 893	2002	LOVE, BRUCE, BAI TANG, TERESA WOODARD, MARIAM DAHDUL, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 30734, CLINTON KEITH ROAD AND SMITH RANCH ROAD, WILDOMAR AREA, RIVERSIDE COUNTY, CA	CRM TECH	33-007804, 33-007812
RI-05970	NADB-R - 1087333; Submitter - 1061	2003	TANG, BAI, MICHAEL HOGAN, CASEY TIBBET, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 31479, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06033	NADB-R - 1087396	2004	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF VESTING TENTATIVE PARCEL MAP 32166, +/-20.20 ACRES OF LAND IN WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	JEAN A. KELLER	
RI-06035	NADB-R - 1087398	2004	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF PLOT PLAN 19064, +/-10 ACRES OF LAND NEAR MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	JEAN A. KELLER	
RI-06245	NADB-R - 1087608; Submitter - CRM TECH CONTRACT #1258	2004	TANG, BAI "TOM"	THE SCHWARTZ-SMITH HOUSE, 25025 CLINTON KEITH ROAD (FORMERLY CATT ROAD), WILDOMAR, CA 92395	CRM TECH	33-007804, 33-007812
RI-06827		2006	Williams, Audry	Archaeological Survey Report for the Southern California Edison Company, Wildomar Service Center Project	Southern California Edison Company, Natural and Cultural Resources Group	33-015304, 33-015305
RI-06830		2006	Sander, Jay K.	Cultural Resources Inventory of 3 Acres, A.P.N. 380-240-001, -001, and -003, Wildomar, Riverside County, California	Chambers Group, Inc.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06905	Other - Contract No. 06715.06, 06788.06	2006	Jordan, Stacey C.	Archaeological Survey Report for the Southern California Edison Company, DSP-DOROF 12Kv Circuit Project, Riverside County, California (WO# 6077-5395; AI# 6-5301 and 6-5302)	Mooney Jones & Stokes, San Diego, CA	
RI-06909	Other - Contract # 06327.06	2006	Jordan, Stacey C. and Joshua D. Patterson	Archaeological Survey Report for the So CA Edison Company, Syborne, Dominic C&D Land Co, Hemet Nazaren, Sunset Vista Homes, and Iodine Springs Projects, Riverside County, CA, (WO#6279-2326, 6377-1377, 6677-7101, 6577-1957, 6277-7164, AI# 6-2063, -1259 etc	Mooney, Jones & Stokes	
RI-07227	Submitter - Jones & Stokes Contract No. 00514.07	2007	Moreno, Adrian Sanchez	Archaeological Survey Report for Southern California Edison Company clinton Keith Reconductor Project Overhead Section Riverisde County, California	Jones & Stokes	
RI-07228	Submitter - Jones & Stokes Contract No. 00514.07	2007	Moreno, Adrian Sanchez	Archeaological Survey Report for Southern California Edison Company: Clinton Keith Reconductor Project Underground Section in Riverside County, California	Jones & Stokes	
RI-07408		2006	Keller, Jean A.	A Phase I Cultural Resources Assessment of PAR #788 Crossroads Apartments, +- 23.19 Acres of Land in Wildomar, Riverside County, California, USGS Murrieta, California Quadrangle, 7.5' Series	Author	
RI-07593	Other - Contract No. 00104.08	2008	Tsunoda, Koji and Joshua D. Patterson	Archaeological Survey Report for Southern California Edison Company O&M -- Wildomar Service Center Fiber Optic Cables Project, on the Nutmeg 12 kV Circuit Riverside County, California	Jones and Stokes	
RI-07600	Submitter - CRM Tech Contract No. 2202	2008	Bai "Tom" Tang, Clarence Bodmer, Daniel Ballester, and Laura Shaker	Phase I Archaeological Assessment: Assessor's Parcel No. 380-290-003, 36125 Jana Lane, Wildomar Area, Riverside County, California	CRM Tech	
RI-07677	Other - Contract No.: #01128.07; Other - SCE 2007 CWA 93	2008	Tsunoda, Koji	ARCHAEOLOGICAL SURVEY REPORT FOR SOUTHERN CALIFORNIA EDISON COMPANY O&M-NEXUS RESIDENTIAL PROJECT ON THE NUTMEG 12kV CIRCUIT, RIVERSIDE COUNTY, CALIFORNIA (WO#6277-6784, AI#K-6757)	Jones & Stokes, San Diego, CA	33-016988

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-07797	Submitter - Contract No. 01128.07	2008	Tsunoda, Koji	Archaeological Survey Report for Southern California Edison Company O&M-Nexus Residential Project: Additional Survey for the Replacement of One Pole (#2228150E) on the Nutmeg 12 kV Circuit Riverside County, California (WO# 6377-6753, AI# X-6731)	ICF Jones & Stokes	
RI-08056	Submitter - LA3421A	2008	Wayne Bonner	Letter Report: Cultural Resource Records Search and Site Visit Results for Royal Street Communications California, LLC	Michael Brandman Associates, Irvine, California	
RI-08172		2003	Riordan Goodwin	Letter Report: Results of the Cultural Resource Management Compliance Review and Paleontological Resources Assessment for the Oak Creek Apartments Parcel Riverside County, California	LSA Associates	33-011434, 33-011435, 33-011436
RI-08726		2011	Robert J Wlodarski	proposedAT&TWireless Telecommunications Site RS0275 (Wildomar)located at 25125 Clinton Keith Road, Wildomar, California 92595	Cellular, Archaeological, Resource Evaluations	
RI-08770		2011	Jay K. Sanders	Archaeological Survey Report for SCE's Idle Facilities Removal Project	TD# 525428	
RI-08859	Submitter - CRM Tech Contract No. 2627A	2012	Bai "Tom" Tang, Michael Hogan, Daniel Ballester, Terri Jacquemain, and Nina Gallardo	Historical/Archaeological Resources Survey Report Assessor's Parcel No. 380-350-022, City of Wildomar, Riverside County, California	CRM Tech	33-003405, 33-007804, 33-007812, 33-008173, 33-008652, 33-008653, 33-008654, 33-008948, 33-008949, 33-011434, 33-011435, 33-011436, 33-013913, 33-015304, 33-015305, 33-016988, 33-017366
RI-08935	Submitter - Contract No. 2716	2013	Bai "Tom" Tang	Update to Historical/Archaeological Resources Survey, Assessor's Parcel No. 380-290-029(Siena Apartments Project), City of Wildomar, Riverside County, California	CRM Tech	
RI-09066		2012	Tracy A. Stropes and Brian F. Smith	PHASE I CULTURAL RESOURCES SURVEY FOR THE WILDOMAR 23 PROJECT CITY OF WILDOMAR, COUNTY OF RIVERSIDE, Assessor's Parcel Numbers: 380-280-004, and 380-280-008 through -012	Brian F. Smith and Associates, Inc.	
RI-09295		2014	David Brunzell	Letter Report: Native American Consultation Correspondence for the Catt Cellular Communications New Tower Project, Wildomar, Riverside County, California (BCR Consulting Project No. TRF1402)	BCR Consulting	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-09427		2015	Tracy A. Stropes and Brian F. Smith	A Class III Archaeological Study for the Parkside Project for Section 106 Compliance, Riverside County, California (APNs 380-280-004 and 380-280-009 through -012	Brian F. Smith and Associates Inc.	
RI-09443		2012	David Brunzell	Cultural Resources Assessment Clinton Keith/Prielipp Property, Wildomar, Riverside County, California	BCR Consulting	
RI-09458		2015	Phil Fulton	Cultural Resource Assessment Class III Inventory Verizon Wireless Services Nutmeg Facility City of Murrieta, County of Riverside, California	LSA	
RI-09798	Other - TR 36497	2016	Brian F. Smith and Jennifer R. Kraft	Cultural Resources Monitoring Report for the Briarwood Project, TR 36497, Wildomar, California	Brian F. Smith & Associates	
RI-09883		2016	Bai "Tom" Tang	Update to Historical/ Archaeological Resources Survey Assessor's Parcel No. 380-290-003 City of Wildomar, Riverside County, California CRM TECH Contract 3104	CRM TECH	
RI-09884	Other - CRM TECH Contract 3104B	2016	Bai "Tom" Tang	Addendum to Historical/ Archeological Resources Survey Big East RV and Boat Storage Facility Project (Conditional Use Permit 16-0095)	CRM TECH	
RI-10230	Other - NEXTEL COLO-CLINTON KEITH SITE; Other - SB-172-01	2002	DON LEWIS	CULTURAL RESOURCE ASSESSMENT PREPARED FOR: COLLEEN DOOLEY CINGULAR WIRELESS SB-172-01, NEXTEL COLO-CLINTON KEITH ROAD, 25125 CLINTON KEITH ROAD WILDOMAR, CA 92595	THE ALARIS GROUP, LLC	
RI-10566	Other - STR1202	2015	David Brunzell	Cultural Resources Assessment Clinton Keith Property (Grove Park Project) Wildomar, Riverside County, California	BCRConsulting LLC	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-003405	CA-RIV-003405	Other - SRS-800-IF-1	Site	Prehistoric	AP04	1987 (M. Horne, SRS, Huntington Beach, CA.)	RI-02333, RI-04390, RI-08859
P-33-007804		Other - Schwartz House; Other - Ser. No. 33-2395-6; Other - CRM TECH 893-1H	Building	Historic	HP02	1982 (Marna O'Brien, Riverside County Historical Comm.); 2002 (Teresa Woodard, CRM TECH)	RI-05921, RI-06245, RI-08859
P-33-007812		Other - Ser. No. 33-2395-1	Building	Historic	HP06	1982 (Marna O'Brien, Riverside County Historical Comm.)	RI-05921, RI-06245, RI-08859
P-33-008652	CA-RIV-006168	Other - CK-1/CK-2	Site	Prehistoric	AP02	1999 (Sue Wade, Heritage Resources, Ramona, CA)	RI-04297, RI-04390, RI-08859
P-33-008653	CA-RIV-006169	Other - CK-A	Site	Prehistoric	AP02	1999 (Sue Wade, Heritage Resources, Ramona, CA)	RI-08859
P-33-008654		Other - CK-3	Site	Historic	AH04	1999 (Sue Wade, Heritage Resources, Ramona, CA)	RI-04297, RI-08859
P-33-008948		Other - Mac-I1	Other	Prehistoric	AP02	1999 (Joan Brown, Dave Stevens, and David Ferraro, RMW Paleo Associates)	RI-05181, RI-08859
P-33-008949	CA-RIV-006350	Other - Mac-1	Site	Prehistoric	AP02; AP08	1999 (Joan Brown, Dave Stevens, and David Ferraro, RMW Paleo Associates Incorporated)	RI-04350, RI-04390, RI-05181, RI-08859
P-33-011434	CA-RIV-006821	Other - GLR 02-1-1	Site	Prehistoric	AP02; AP11	2002 (Mark C. Robinson, Great Lakes Research)	RI-04470, RI-05216, RI-08172, RI-08859
P-33-011435		Other - GLR-ISO-2002-1	Other	Prehistoric	AP16	2002 (Mark C. Robinson, Great Lakes Research)	RI-04470, RI-08172, RI-08859
P-33-011436		Other - GLR-ISO-2002-2	Other	Prehistoric	AP16	2002 (Mark C. Robinson, Great Lakes Research)	RI-04470, RI-08172, RI-08859
P-33-013913	CA-RIV-007612	Other - SBCM 575; RIV-722A	Site	Prehistoric	AP02; AP03; AP04; AP15; AP16	1963 (Tarwater of Murrieta, n/a); 1992 (Carol R. Demcak, Carleton S. Jones, Archaeological Resource Management)	RI-01327, RI-08859
P-33-015304		Other - Isolate-1	Other	Prehistoric	AP02	2006 (Lapin, Philippe and Adam Sriro, Southern California Edison)	RI-06827, RI-08859
P-33-015305		Other - Isolate-2	Other	Prehistoric	AP02	2006 (Lapin, Philippe and Adam Sriro, Southern California Edison)	RI-06827, RI-08859
P-33-016988	CA-RIV-008848	Other - 2007CWA93-01		Historic		2008 (Tsunoda, Koji, Jones & Stokes)	RI-07677, RI-08859
P-33-017366	CA-RIV-009024	Other - APN's 380-250-011; Other - Temp 1 20370013	Site	Prehistoric	AP02	2008 (Dice, Michael, Michael Brandman Associates)	RI-08859

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-020991		Other - Oak Springs Ranch	Building, Structure	Historic	HP33	2012 (Casey Tibbet, Riordan Goodwin, LSA Associates, Inc)	
P-33-024798		Other - STR1202-I-1	Other	Prehistoric	AP16	2012 (David Brunzell and Jon Spenard, BCR Consulting)	
P-33-024819	CA-RIV-012308	Other - Temp-1	Site	Prehistoric	AP02	2015 (David Grabski, Jennifer Kraft, Brian F. Smith and Associates, Inc.)	

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nahc@nahc.ca.gov
NAHC.ca.gov

May 23, 2022

Jean A. Keller
Cultural Resources Consultant

Via Email to: 4jakeller@gmail.com

Re: PAR No. 21-0065 (APN 380-290-002) Project, Riverside County

Dear Dr. Keller:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the Pechanga Band of Indians on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Riverside County
5/23/2022

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Juaneno Band of Mission Indians Acjachemen Nation - Belardes
Matias Belardes, Chairperson
32161 Avenida Los Amigos — Juaneno
San Juan Capisttrano, CA, 92675
Phone: (949) 293 - 8522
kaamalam@gmail.com

Juaneno Band of Mission Indians Acjachemen Nation - Belardes
Joyce Perry, Tribal Manager
4955 Paseo Segovia — Juaneno
Irvine, CA, 92603
Phone: (949) 293 - 8522
kaamalam@gmail.com

La Jolla Band of Luiseno Indians
Norma Contreras, Chairperson
22000 Highway 76 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 3771

Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Rd. — Cupeno, Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

Pauma Band of Luiseno Indians
Temet Aguilar, Chairperson
P.O. Box 369 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 1289
Fax: (760) 742-3422
bennaecalac@aol.com

Pechanga Band of Indians
Paul Macarro, Cultural Resources Coordinator
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

Pechanga Band of Indians
Mark Macarro, Chairperson
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed PAR No. 21-0065 (APN 380-290-002) Project, Riverside County.

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Rincon Band of Luiseno Indians
Bo Mazzetti, Chairperson
One Government Center Lane — Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

Rincon Band of Luiseno Indians
Cheryl Madrigal, Tribal Historic Preservation Officer
One Government Center Lane — Luiseno
Valley Center, CA, 92082
Phone: (760) 297 - 2635
crd@rincon-nsn.gov

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosa-nsn.gov

Soboba Band of Luiseno Indians
Isaiah Vivanco, Chairperson
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed PAR No. 21-0065 (APN 380-290-002) Project, Riverside County.

Appendix 5

Geotechnical Engineering Report

NTS
GEOTECHNICAL

October 17, 2022
(Revised November 9, 2022)

Project No. 22504

Mr. Michael Ramirez
Beyond Foot Mart
4300 Edison Avenue
Chino, CA 91710

Subject: Limited Geotechnical Engineering Report
Proposed Commercial Development
24831 Clinton Keith Road, Wildomar, California

Dear Mr. Ramirez:

In accordance with your request and authorization, we have completed a preliminary geotechnical study for the design and construction of the subject structures. We are presenting, herein, our findings and recommendations.

Based on our findings, the proposed project is geotechnically feasible, provided that the recommendations in this report are incorporated into the design and are implemented during construction of the project. This report was prepared in accordance with the requirements of the 2019 California Building Code and the City of Wildomar requirements.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding this report or if we can be of further service, please do not hesitate to contact the undersigned at (657) 888-4608 or info@ntsgeo.com.

Respectfully submitted,
NTS GEOTECHNICAL, INC.

Nadim Sunna, MS, PE, GE 3172
Principal Engineer

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Appendix B – Geotechnical Laboratory Test Result
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INTRODUCTION

This report presents results of the limited geotechnical study conducted on the subject site for the proposed commercial development located at 24831 Clinton Keith Road, in the City of Wildomar, County of Riverside, California. The general location of the subject site is indicated on Plate 1 – Location Map.

SITE DESCRIPTION

The subject property comprises approximately 4.35 acres and was nearly rectangular in shape. The subject property is located at 24831 Clinton Keith Road in the City of Wildomar, California.

The subject property is bound by existing self-storage facility on the south and west, by Jana Lane on the east and Clinton Keith Road on the north.

PURPOSE AND SCOPE OF STUDY

The scope of work performed for this study was designed to evaluate the surface and subsurface conditions of the subject site with respect to geotechnical characteristics, including potential geologic hazards that may affect the development of the site, and to provide geotechnical recommendations and criteria for use in the design and construction of the proposed development. The scope of work included the following:

- Review of locally and readily available published and unpublished soils and geologic reports and data for the site and surrounding areas (see References section), Google Earth photographs, flood hazard maps, well data, etc. to ascertain earth material, geologic, and hydrologic conditions of the area.

- Utilize subsurface data performed by others for analysis.

- Utilize previous geotechnical laboratory test results performed by others.

- Define the general geology of the subject site and evaluate potential geologic hazards which would influence the proposed site development.

- Determine seismic classification of the site to meet the requirements of the 2019 California Building Code (CBC).

- Engineering analysis of previous field and laboratory data to provide a basis for geotechnical conclusions and recommendations regarding site grading and foundation, floor slab, retaining wall, etc. design parameters.

- Preparation of this report to present the preliminary geotechnical and geologic conclusions and recommendations for the proposed site development.

This report presents our preliminary conclusions and/or recommendations regarding:

- The geologic setting of the site.
- Potential geologic hazards (including landslides, seismicity, faulting, liquefaction potential, etc.)
- General subsurface earth conditions.
- Presence and effect of expansive and compressible earth materials.
- Groundwater conditions within the depth of our subsurface study.
- Excavation characteristics of the on-site earth materials.
- Characteristics and compaction requirements of proposed fill and backfill materials.
- Recommendations and guide specifications for earthwork.
- Seismic design coefficients for structural design purposes.
- Types and depths of foundations.
- Allowable bearing pressure and lateral resistance for foundations.
- Temporary and permanent cut and fill slope recommendations.
- Slope maintenance and protection recommendations.

The scope of work performed for this report did not include any testing of earth materials or groundwater for environmental purposes, an environmental assessment of the property, or opinions relating to the possibility of surface or subsurface contamination by hazardous or toxic substances.

This study was prepared for the exclusive use of **Beyond Food Mart** and their consultants for specific application to proposed structures in accordance with generally accepted standards of the geotechnical professions and generally accepted geotechnical (soil and foundation) engineering and practices at the time this report was prepared. Other warranties, implied or expressed, are not made. Although reasonable effort has been made to obtain information regarding geotechnical and subsurface conditions of the site, limitations exist with respect to knowledge of unknown regional or

localized off-site conditions which may have an impact at the site. The conclusions and recommendations presented in this report are valid as of the date of this report. However, changes in conditions of a property can occur with passage of time, whether they are due to natural processes or to works of man on this and/or adjacent properties.

If conditions are observed or information becomes available during the design and construction process which are not reflected in this report, NTS, as Geotechnical Consultant of record for the project, should be notified so that supplemental evaluations can be performed and conclusions and recommendations presented in this report can be verified or modified in writing, as necessary. Changes in applicable or appropriate standards of care in the geotechnical professions occur, whether they result from legislation or the broadening of knowledge and experience. Accordingly, the conclusions and recommendations presented in this report may be invalidated, wholly or in part, by changes outside the influence of the project Geotechnical Consultant which occur in the future.

PROPOSED DEVELOPMENT

Based upon information presented to this firm by the client, it is our understanding that the proposed project will consist of construction of new gas station, car wash, fuel pump station, two retail buildings and an office/warehouse building at the southern side of the property. All structures all planned to be 1-story structures and constructed at-grade.

The above project description and assumptions were used as the basis for the field exploration, laboratory testing program, the engineering analysis, and the conclusions and recommendations presented in this report. NTS should be notified if structures, foundation loads, grading, and/or details other than those represented herein are proposed for final development of the site so a review can be performed, a supplemental evaluation made, and revised recommendations submitted, if required.

FIELD EXPLORATION

The field study performed for this report included utilizing existing data from previous study performed by Others.

The subsurface exploration performed by others consisted of excavating ten (10) hollow stem auger borings to a maximum depth of 23 feet below the existing grade. The approximate locations of the exploratory excavations are shown on Plate 2 – Geotechnical Map. Logs of the borings are presented in Appendix A – Field Exploration.

The result of the subsurface soil conditions are presented on Plate 3 – Geotechnical Section.

GEOTECHNICAL LABORATORY TESTING

Laboratory testing was performed on bulk and undisturbed samples collected during the previous subsurface exploration performed by Others. Testing was performed on soil samples and included the following tests:

- Moisture and density
- Maximum density and optimum moisture content
- Sieve analysis; and
- Corrosivity.

Laboratory test results from the previous investigations are presented in Appendix B of this report.

It is recommended that samples be obtained at the completion of rough grading and remolded direct shear, consolidation and expansion index be performed to confirm the foundation recommendations provided in this report.

GEOLOGIC FINDINGS

Regional Geologic Setting

According to the geologic maps, we note that the subject property underlain by Monzogranite to granodiorite bedrock (Kpvg) that consists of pale gray, massive, medium-grained monzogranite rock.

Subsurface Materials

Majority of the materials encountered during the subsurface investigation performed by others consist of alluvium ranging from about 2 to 16 feet in thickness underlain by monzogranite bedrock to the to total depth of the exploration.

In general, the alluvium consists light brown to red brown, slightly moist to damp, medium dense to dense, silty sands.

The bedrock consists of pale brown to pale gray, fine- to- medium grained, dense to very dense Monzogranite.

Groundwater

Groundwater was not encountered in the exploratory excavations to the maximum depth explored of approximately 23 feet below existing ground surface at the time the field study was performed for this report.

No groundwater data was found during a literature search pertaining to the subject property. There are no known shallow groundwater bearing soil or rock formations beneath the subject property. No evidence of onsite springs was found during the field study. Based on anticipated lot grading and the inferred groundwater depths, groundwater should not be a factor for project design or long-term performance.

Surface water was not observed on the subject site at the time the field study was performed for this report.

Based on results of our subsurface exploration and experience, variations in the continuity and nature of surface and subsurface conditions should be anticipated. Due to uncertainty involved in the nature and depositional characteristics of earth materials at the site, care should be exercised in extrapolating or interpolating subsurface conditions between and beyond the exploratory excavation locations.

Groundwater conditions may vary across the site due to stratigraphic and hydrologic conditions and may change over time as a consequence of seasonal and meteorological fluctuations, or activities by humans at this site and nearby sites. However, based on the above findings, groundwater is unlikely to impact the proposed development.

GEOLOGIC HAZARDS

Faulting and Seismicity

The site is not located within an Alquist-Priolo Earthquake Fault Zone, and no known active faults are shown on the reviewed geologic maps crossing the site, however, the site is located in the seismically active region of Southern California. The nearest known active fault is the Elsinore fault system, which is located approximately 1.2 mile from the site, and capable of generating a maximum earthquake magnitude of 7.9. The site is also located approximately 1,885 feet east of the County's Unnamed fault in the Elsinore fault zone.

Liquefaction and Seismic Settlement

Liquefaction occurs when the pore pressures generated within a soil mass approach the effective overburden pressure. Liquefaction of soils may be caused by cyclic loading such as that imposed by ground shaking during earthquakes. The increase in pore pressure results in a loss of strength, and the soil then can undergo both horizontal and vertical movements, depending on the site conditions. Other phenomena associated with soil liquefaction include sand boils, ground oscillation, and loss of foundation bearing capacity. Liquefaction is generally known to occur in loose, saturated, relatively clean, fine-grained cohesionless soils at depths shallower than approximately 50 feet. Factors to

consider in the evaluation of soil liquefaction potential include groundwater conditions, soil type, grain size distribution, relative density, degree of saturation, and both the intensity and duration of ground motion.

Based on our review of the County of Riverside Map My County website, approximately the southern ¾ of the site is located within a moderate liquefaction hazard zone. Based on lack of shallow groundwater and the presence of shallow bedrock and our liquefaction analysis as presented within Appendix D of this report, it is our professional opinion that the potential for liquefaction to occur is low.

Landslides

The subject site is not located within an earthquake-induced landslide zone. Field reconnaissance did not disclose the presence of older, existing landslides on or near the subject property. In addition, due to the relatively gentle sloping of the site, the potential for landslides to impact the proposed development is considered low.

Flooding

The Federal Emergency Management Agency (FEMA) has prepared flood insurance rate maps (FIRMs) for use in administering the National Flood Insurance Program. Based on our review of the FEMA flood map, the site is located in an area identified as Area of Minimal Flood Hazard (Zone X).

Tsunami and Seiches

Tsunamis are waves generated by massive landslides near or under sea water. The site is not located on any State of California – County of Riverside Tsunami Inundation Map for Emergency Planning. The potential for the site to be adversely impacted by earthquake-induced tsunamis is considered to be negligible because the site is located several miles inland from the Pacific Ocean shore, at an elevation exceeding the maximum height of potential tsunami inundation.

Seiches are standing wave oscillations of an enclosed water body after the original driving force has dissipated. The potential for the site to be adversely impacted by earthquake-induced seiches is considered to be negligible due to the lack of any significant enclosed bodies of water located in the vicinity of the site.

GEOTECHNICAL ENGINEERING FINDINGS

Expansive Soil

Based on our evaluation and experience with similar material types, the soil encountered near the ground surface at the site exhibit a very low expansion potential.

Soil Corrosion

The potential for the on-site materials to corrode buried steel and concrete improvements was evaluated. Laboratory testing was performed on representative soil samples to evaluate pH, minimum resistivity, and soluble chloride and sulfate contents. The results of our corrosivity testing is presented within Appendix B of this report. General recommendations to address the corrosion potential of the on-site soils are provided below. Imported fill materials, if used, should be tested to evaluate whether their corrosion potential is more severe than those assumed.

Structural Concrete

Laboratory tests indicate that the potential of sulfate attack on concrete in contact with the on-site soils is “negligible” or “S0” exposure in accordance with ACI 318, Table 19.3.1.1. Therefore, restriction on the type of cement, water to cement ratio, and compressive strength is not required.

Ferrous Metal

The results of the laboratory chemical tests performed on a sample of soil collected within the site indicate that the on-site soils are mildly corrosive to ferrous metals. Consequently, metal structures which will be in direct contact with the soil (i.e., underground metal conduits, pipelines, metal sign posts, etc.) and/or in close proximity to the soil (wrought iron fencing, etc.) may be subject to corrosion. The use of special coatings or cathodic protection around buried metal structures has been shown to be beneficial in reducing corrosion potential. Additional provisions will be required to address high chloride contents of the soil per the 2019 CBC to protect the concrete reinforcement. The laboratory testing program performed for this project does not address the potential for corrosion to copper piping. In this regard, a corrosion engineer should be consulted to perform more detailed testing and develop appropriate mitigation measures (if necessary).

The above discussion is provided for general guidance in regards to the corrosiveness of the on-site soils to typical metal structures used for construction. Detailed corrosion testing and recommendations for protecting buried ferrous metal and/or copper elements are beyond our purview. If detailed testing is

required, a corrosion engineer should be consulted to perform the testing and develop appropriate mitigation measures.

Preliminary Infiltration Testing

Two (2) infiltration tests were performed others previously in general conformance with the County of Riverside requirements. The borings were excavated to a depth of 5 and 10 feet below the existing grade using a hollow-stem-auger drill rig. The result of our infiltration testing is summarized in the table below, which includes a factor of safety of 3.

Preliminary Infiltration Rates Summary

Boring No.	Depth Below Existing Grade (feet)	Factored Infiltration Rate (inches/hour)
I-1	5	0.18
I-2	5	0.23

Based on our infiltration testing and due to the presence of very dense bedrock underlying the site, infiltration within the site soils is deemed not feasible from a geotechnical standpoint. Alternate methods of disposing of stormwater should be considered by the project civil engineer.

Excavation Characteristics

The native soil materials underlying the site can be excavated with conventional grading equipment (i.e., backhoes, excavators, or loaders). However, the bedrock materials may be difficult to excavate and will heavy duty equipment or jack hammers.

GEOTECHNICAL ENGINEERING CONLUSIONS AND RECOMMENDATIONS

Conclusions

The conclusions and recommendations presented in this report are based on information provided to this firm, the results of the field and laboratory data obtained from ten (10) exploratory excavations located on the subject property, experience gained from work conducted by this firm on projects within the general vicinity of the subject site, the project description and assumptions presented in the ‘Proposed Development’ section of this report, engineering analyses, and professional judgement.

Based on a review of the field and laboratory data and the engineering analysis, the proposed development is feasible from a geotechnical standpoint. The

subject property can be developed without adverse impact onto or from adjoining properties providing the recommendations contained within this report are adhered to during project design and construction.

The field observations indicate that the upper 3 feet of the site soils are considered loose and compressible and are not considered suitable for the support of structural fills, foundations, slab-on-grade floor slabs, hardscape, and/or pavement without removal and replacement as compacted fill. On this basis, it is recommended that the upper 3 feet of the site soils be removed and replaced as engineered fill in order to densify the material and to reduce the potential for additional settlement to occur. Additionally, new foundations should not span a cut/fill transition. Wherever a cut/fill transition occurs, the cut portion of the pad should be excavated to at least 3 feet below the bottom of footing and the excavated material be placed as engineered fill to create a uniform blanket of engineered fill and minimize differential movement.

The actual conditions of the near-surface supporting material across the site may vary. The nature and extent of variations of the surface and subsurface conditions between the exploratory excavations may not become evident until construction. If variations of the material become evident during construction of the proposed development, NTS should be notified so that the project Geotechnical Consultant can reevaluate the characteristics of the material and the conclusions and recommendations of this report, and, if needed, revise the conclusions and recommendations presented herein.

Preliminary recommendations for site grading, foundations, slab support, and spa design are presented in the subsequent paragraphs.

Site Preparation

Site preparation should begin with the removal of utility lines, concrete, vegetation, and other deleterious debris from areas to be graded. Tree stumps and roots should be removed to such a depth that organic material is generally not present. Clearing and grubbing should extend to the outside edges of the proposed excavation and fill areas. We recommend that unsuitable materials such as organic matter or oversized material be selectively removed and disposed offsite. The debris and unsuitable material generated during clearing and grubbing should be removed from areas to be graded and disposed at a legal dump site away from the project areas.

Grading

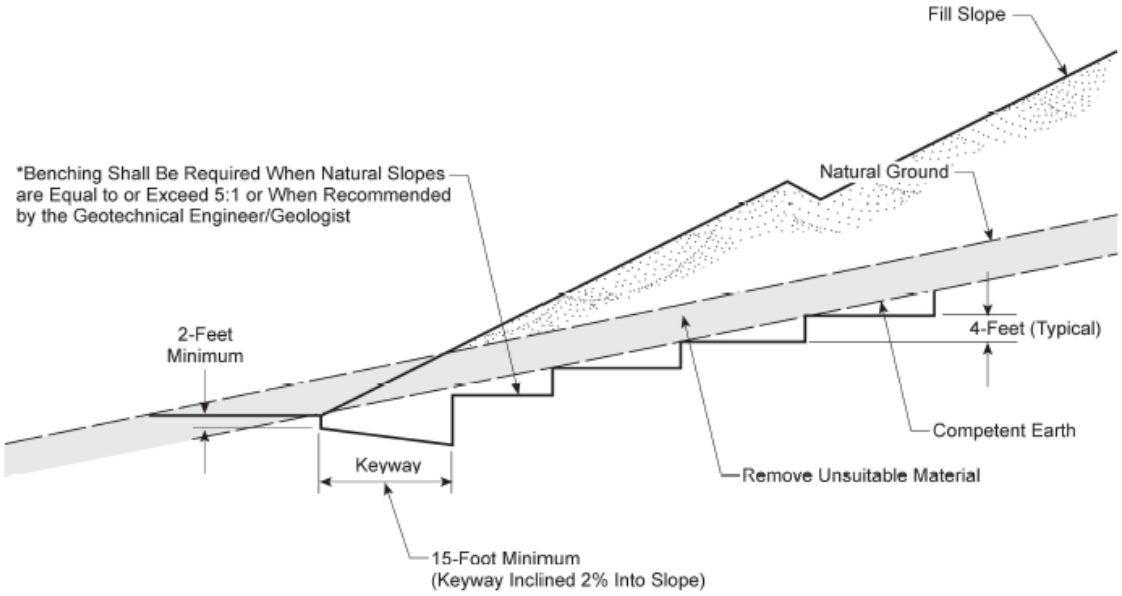
It should be noted that the recommendations provided herein are based on our subsurface exploration and knowledge of the on-site geology. Actual removals

may vary in configuration and volume based on observations of geologic materials and conditions encountered during grading. The bottom of all corrective grading removals should be observed by a representative of NTS to verify the suitability of in-place soil prior to performing scarification and recompaction.

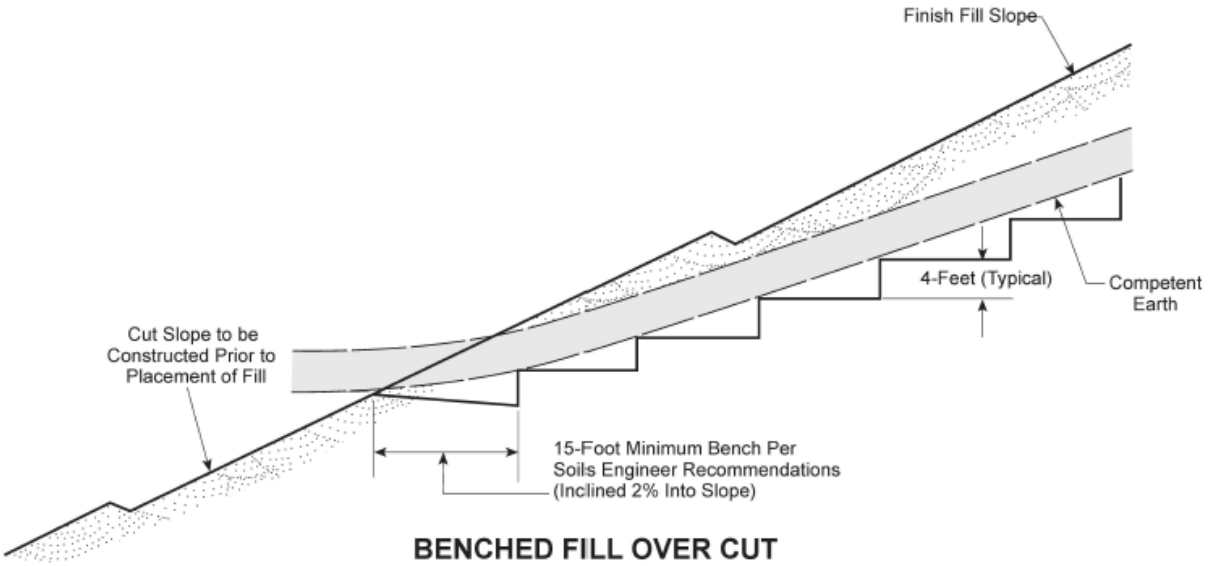
The need for corrective grading, i.e., removal of existing soil materials from areas to receive fill, where exposed at design grade in cut and fill areas

Fill Support Benches:

Benches should be excavated through any non-engineered fill, topsoil, or loose soil wherever the toe of a fill slope is located at a natural ground surface having a gradient of 5 horizontal to 1 vertical, or steeper, or in flatter areas where recommended by the geotechnical consultant. Horizontal benches should also be excavated at the daylight line between cut and fill portions of all graded slopes. The bottom of these keys and initial benches should be 15 feet in minimum width, and any non-engineered fill, topsoil, or native soil should be completely removed to expose undisturbed, in-place rock unit materials. Further benching should be performed uphill from these keys or initial benches simultaneously with fill placement to remove surficial soil materials and provide additional level surfaces for fill support where the natural ground surface is 5 horizontal to 1 vertical, or steeper. Benching detail is provided in the figure below.



BENCHED FILL OVER NATURAL



BENCHED FILL OVER CUT

Warehouse Building Pad:

The proposed warehouse building pad should be supported on engineered fill, a minimum of 4 feet below the footing or 6 feet from existing grade, whichever is deeper.

Other Buildings Pads:

All the other building pads planned onsite should also be supported on engineered fill, a minimum of 3 feet below the footing or 5 feet from existing grade, whichever is deeper.

Pavement:

New pavement should be supported on engineered fill, a minimum of 2 feet below the proposed pavement section (i.e., below the aggregate base section).

Further subexcavation may be necessary depending on the conditions of the underlying soils. The actual depth of removal should be determined at the time of grading by the project geotechnical engineer. The determination will be based on soil conditions exposed within the excavations. At minimum, any undocumented fill, topsoil or other unsuitable materials should be removed and replaced as properly compacted fill.

In-place density tests may be taken in the removal bottom areas where appropriate to provide data to help support and document the engineer's decision.

It is imperative that no clearing and/or grading operations be performed without the presence of a representative of the geotechnical engineer. An on-site, pre-job meeting with the developer, the contractor and the geotechnical engineer should occur prior to all grading-related operations. Operations undertaken at the site without the geotechnical engineer present may result in exclusions of affected areas from the final compaction report for the project.

Grading of the subject site should be performed, at a minimum, in accordance with these recommendations and with applicable portions of the CBC. The following recommendations are presented for your assistance in establishing proper grading criteria.

Materials for Fill

On-site soils with an organic content of less than 3 percent by volume (or 1 percent by weight) are suitable for use as fill. Soil material to be used as fill should not contain contaminated materials, rocks, or lumps over 6 inches in

largest dimension, and not more than 40 percent larger than ¾ inch. Utility trench backfill material should not contain rocks or lumps over 3 inches in largest dimension. Larger chunks, if generated during excavation, may be broken into acceptably sized pieces or may be disposed offsite.

Any imported fill material should consist of granular soil having a “low” expansion potential (that is, expansion index of 50 or less). Import material should also have low corrosion potential (that is, chloride content less than 500 parts per million [ppm], soluble sulfate content of less than 0.1 percent, and pH of 5.5 or higher). Materials to be used as fill should be evaluated by a representative of NTS prior to importing or filling.

Compacted Fill

Prior to placement of compacted fill, the contractor should request an evaluation of the exposed excavation bottom by NTS. Unless otherwise recommended, the exposed ground surface should then be scarified to a depth of at least 8 inches and watered or dried, as needed, to achieve generally consistent moisture contents near optimum moisture content. The scarified materials should then be compacted to 90 percent relative compaction in accordance with the latest version of ASTM Test Method D1557.

Compacted fill should be placed in horizontal lifts of approximately 6 to 8 inches in loose thickness. Prior to compaction, each lift should be watered or dried as needed to achieve near optimum moisture condition, mixed, and then compacted to a relative compaction of 90 percent as evaluated by ASTM D1557. Successive lifts should be treated in a like manner until the desired finished grades are achieved.

Personnel from NTS should observe the excavations so that any necessary modifications based on variations in the encountered soil conditions can be made. All applicable safety requirements and regulations, including CalOSHA requirements, should be met.

Temporary Excavations

Temporary excavations for the demolishing, earthwork, footing and utility trench are expected. We anticipate that unsurcharged excavations with vertical side slopes less than 5 feet high will generally be stable; however, sloughing of cohesionless sandy materials encountered at the site should be expected.

Where the space is available, temporary, unsurcharged excavation sides over 5feet in height should be sloped no steeper than an inclination of 1H:1V (horizontal:vertical). Where sloped excavations are created, the tops of the slopes should be barricaded so that vehicles and storage loads do not encroach within the imaginary zone of 1:1 as measured from the bottom of the excavated

slopes. A greater setback may be necessary when considering heavy vehicles, such as concrete trucks and cranes. NTS should be advised of such heavy vehicle loadings so that specific setback requirements can be established. If the temporary construction slopes are to be maintained during the rainy season, berms are recommended to be graded along the tops of the slopes in order to prevent runoff water from entering the excavation and eroding the slope faces. Where space for sloped excavations is not available, temporary shoring may be utilized.

Personnel from NTS should observe the excavation so that any necessary modifications based on variations in the encountered soil conditions can be made. All applicable safety requirements and regulations, including CalOSHA requirements, should be met.

Slope Construction

Slopes should not be steeper than 2(h):1(v). Should steeper inclinations of slopes be required for the project, additional analysis may be warranted. Fill slopes should be overfilled during construction and then cut back to expose fully compacted soil. A suitable alternative would be to compact the slopes during construction and then roll the final slopes to provide dense, erosion-resistant surfaces.

Where fills are to be placed against existing slopes steeper than 5(h):1(v), and the depth of fill exceeds 5 feet, the existing slopes should be benched into competent bearing materials to provide a series of level benches to seat the fill and to remove potential loose soil or fill soil. The benches should be in accordance with the recommendations provided in the Grading section of this report.

In addition, a shear key should be constructed across the toe of fill slopes. The shear key should be a minimum of 15 feet wide and should penetrate a minimum of 2 feet beneath the toe of the slope into firm and competent bedrock.

Slope Protection

Inasmuch as the native materials are susceptible to erosion by wind and running water, it is our recommendation that the slopes at the project be planted as soon as possible after completion. The use of succulent ground covers, such as iceplant or sedum, is not recommended. If watering is necessary to sustain plant growth on slopes, then the watering operation should be monitored to assure proper operation of the water system and to prevent over watering.

Measures should be provided to prevent surface water from flowing over slope faces.

Rodent infestation can also be a serious issue with respect to slope stability. Rodent tunneling and burrowing alters the strength of the soil and can allow water to infiltrate the soil, resulting in ultimate slope failure. Rodent burrows can also provide direct access for surface water to the slope face, causing surficial slope "blowouts". Although a maintenance issue, we recommend that measures be taken to prevent rodent infestation in slopes.

Slope Structural Setback

As per section 1808.7.2 of the 2019 CBC, which references Figure 1808.7.1 of the 2019 CBC, the distance between the face of the footing from the face of descending slopes should be at least the smaller of H/3 and 40 feet, where H is the height of the slope. Footings should be deepened as necessary to meet this requirement.

The distance between the face of the structure and the toe of ascending slopes should be at least the smaller of H/2 and 15 feet. The building should be setback from ascending slopes to meet this requirement.

Seismic Design

Our recommendations for seismic design parameters have been developed in accordance with 2019 CBC and ASCE 7-16 (ASCE, 2016) standards. The applicable site class is C based on the results of our field investigation. The table presents the seismic design parameters for the site that are obtained from USGS Design Ground Motions website and are based on the ASCE 7-16 and 2019 California Building Code.

2019 CBC and ASCE 7-16 Seismic Design Parameters

Seismic Item	Design Values[a]	2016 ASCE 7-16 or 2019 CBC Reference
Site Class based on soil profile (ASCE 7-16 Table 20.3-1)	C	ASCE 7-16 Table 20.3-1
Short Period Spectral Acceleration S_s	1.598	CBC Figures 1613.2.1 (1-8)
1-sec. Period Spectral Acceleration S_1	0.598	CBC Figures 1613.2.1 (1-8)
Site Coefficient F_a (2019 CBC Table 1613.2.3(1))	1.2	CBC Table 1613.2.3 (1)
Site Coefficient F_v (2019 CBC Table 1613.2.3(2))	1.402	CBC Table 1613.2.3 (2)
Short Period MCE* Spectral Acceleration S_{MS} $S_{MS} = F_a S_s$	1.917	CBC Equation 16-36
1-sec. Period MCE Spectral Acceleration S_{M1} $S_{M1} = F_v S_1$	0.838	CBC Equation 16-37
Short Period Design Spectral Acceleration S_{DS} $S_{DS} = 2/3S_{Ms}$	1.278	CBC Equation 16-38
1-sec. Period Design Spectral Acceleration S_{D1} $S_{D1} = 2/3S_{M1}$	0.559	CBC Equation 16-39
MCE[b] Peak Ground Acceleration (PGA)	0.699	ASCE 7-16 Figures 22-9 to 22-13
Site Coefficient F_{PGA} (ASCE 7-16 Table 11.8-1)	1.2	ASCE 7-16 Table 11.8-1
Modified MCE[b] Peak Ground Acceleration (PGA_M)	0.839	ASCE 7-16 Equation 11.8-1
Seismic Design Category	D	ASCE 7-16 Tables 11.6.1 and 11.6.2

[a] Design Values Obtained from USGS Earthquake Hazards Program website that are based on the ASCE-7-16 and 2019 CBC and site coordinates of N33.596774° and W117.226484°.

[b] MCE: Maximum Considered Earthquake.

It should be recognized that much of southern California is subject to some level of damaging ground shaking as a result of movement along the major active (and potentially active) fault zones that characterize this region. Design utilizing the 2019 CBC is not meant to completely protect against damage or loss of function. Therefore, the preceding parameters should be considered as minimum design criteria.

Foundation Design and Construction

The proposed improvements may be safely founded on shallow foundations, either individual spread footings and/or continuous wall footings, bearing on competent engineered fill.

The footings should be designed in accordance with the following recommendations:

Foundation Design Parameters

Bearing Material	▪ Competent engineered fill ▪ See Grading section
Minimum Footing Size	▪ Width: 18 inches ▪ Embedment: A minimum of 24 inches
Allowable Bearing Capacity	▪ An allowable bearing capacity of 2,500 psf for the minimum footing size given above. ▪ The above value may be increased by 1/3 for temporary loads such as wind or earthquake.
Settlement	▪ Total static settlement is estimated to be 1 inch with differential settlement estimated to be approximately ½ inch over a span of 30 feet.
Allowable Lateral Passive Resistance	▪ 300 pcf (equivalent fluid pressure)
Allowable Coefficient of Friction	▪ 0.35

Slab-On-Grade Design and Construction

The slab-on-grade should be designed and constructed with the minimum recommendations presented below, however, final design of the slab should be determined by the project structural engineer.

Minimum Thickness: The minimum slab thickness should be 5 inches.

Minimum Slab Reinforcement: Minimum slab reinforcement shall not be less than No. 4 bars placed at 18 inches on center. Welded wire mesh is not recommended. Care should be taken to position the reinforcement bars in the center of the slab.

Slab Subgrade:

- The upper 24 inches of the slab subgrade should be moisture conditioned to near optimum moisture content and compacted to a minimum relative compaction of compacted to 90 percent relative compaction in accordance with the latest version of ASTM D1557 prior to placement of vapor retarder.

- A moisture vapor retarder should be placed direct blow the slab in accordance with the “Moisture Vapor Retarder” section below.

Moisture Vapor Retarder

A vapor retarder, such as a 10-mil-thick moisture vapor retarder that meets the requirements of ASTM E1745 Class C (Stego Wrap or equivalent) should be placed directly over the prepared soil subgrade to provide protection against vapor transmission through concrete floor slabs thatare anticipated to receive carpet, tile or other moisture sensitive coverings. The use of moisture vapor retarder should be determined by the project architect. At minimum, the vapor retarder should be installed as follows:

- Per the manufacture’s specifications as well as with the applicable recognized installation procedures such as ASTM E1643;
- Joints between the sheets and the openings for utility piping should be lapped and taped. If the barrier is not continuously placed across footings/ribs, the barrier should at minimum be lapped into the side of the footing/rib trenches down to the bottom of the trench; and,
- Punctures in the vapor retarder should be repaired prior to concrete placement.

It should be noted that the moisture retarder is intended only to reduce moisture vapor transmissions from the soil beneath the concrete and is consistent with the current standard of the industry in the building construction in Southern California. It is not intended to provide a “waterproof” or “vapor proof” barrier or reduce vapor transmission from sources above the retarder (i.e., concrete). The evaluation of water vapor from any source and its effect on any aspect of the proposed building space above the slab (i.e., floor covering applicability, mold growth, etc.) is beyond our purview and the scope of this report.

Pole Foundations

It is expected that the canopy structures and light poles will be supported on pole foundations. As a minimum, the pole foundations should be at least 18 inches in diameter and at least 4 feet deep; however, the actual dimensions should be determined by the project structural engineer based on the following design parameters.

Bearing Materials: The pole foundations may bear into competent bearing soils approved by a representative from NTS.

Bearing Values: End-bearing capacity may be combined to determine the allowable bearing capacities of the pole foundations. An allowable bearing pressure of 3,000 pounds per square foot (psf) may be used for pole foundations

at least 18 inches in diameter and embedded a minimum of 4 feet below the lowest adjacent grade.

Lateral Load Design: Lateral loads may be resisted by passive resistance within the adjacent earth materials. For passive resistance, an allowable passive earth pressure of 300 pounds per foot of pile diameter per foot of depth into competent bearing material may be used; however, passive resistance should be disregarded within the upper foot due to possible disturbance during drilling. The passive resistance value may be applied over an area equivalent to two pile diameters.

Retaining Walls Design

The following design parameters may be utilized by the structural engineer to design the proposed retaining walls at the subject project. We understand that the retaining walls could retain over 6 feet of soil.

Foundation Recommendations

Retaining walls foundation may be sized based on the recommendations presented in “Foundation Design and Construction” section of this report.

Lateral Earth Pressure

The values presented below assume that the supported grade is level and that surcharge loads are not applied. In addition, the recommended design lateral earth pressure is calculated assuming that a drainage system will be installed behind the retaining walls and that external hydrostatic pressure will not develop. Where adequate drainage is not provided behind the walls, further evaluation should be conducted by the project geotechnical engineer and the lateral earth pressures will need to be adjusted accordingly.

Unrestrained Wall:	40 pcf for level backfill
Unrestrained Wall	60 pcf for 2:1 backfill

The unrestrained values are applicable only when the walls are designed and constructed as cantilevered walls allowing sufficient wall movement to mobilize “active” pressure conditions. This wall movement should be less than 0.01 H (H = height of wall) for the unrestrained values to be applicable.

Vertical surcharge loads within 1:1 project from the bottom of the wall distributed over retained soils should be considered as additional uniform horizontal pressure acting on the wall.

Seismic Earth Pressure

Given the general seismicity and the fact that the basement walls are retaining more than 6 feet of earth, it is recommended that the walls also be designed for seismic earth pressure. The seismic earth pressure distribution may be considered to be a triangle with the maximum pressure at the bottom. The total seismic earth pressure may be represented by an equivalent fluid pressure (EFP) of 25 pcf.

Drainage

The backdrain system should consist of 4-inch perforated pipe surrounded by at least one cubic foot of ¾" – 1.5" open graded gravel wrapped in Mirafi 140N fabric or equivalent. The perforated pipe should consist of SDR-35 or Schedule 40 PVC pipe or approved equivalent laid on at least 2 inch of crushed rock with the perforations laid down. The back drain gradient should not be less than 1 percent. The perforated pipe should outlet into area drains or other suitable outlet points at runs 200 feet or less, if practical. If the back drains cannot be outleted by gravity flow, a sump pump system will need to be designed and constructed. Redundant back-up pumps or components are recommended. Design of the system is outside of the purview of NTS.

Waterproofing

The back side of the retaining walls should be waterproofed prior to placement of subdrains or backfill. Waterproofing is outside of our purview and should be designed by a waterproofing consultant.

Wall Backfill

Backfill behind the wall may consist of onsite soil granular fill material approved by NTS. If select backfill is used, then all select backfill within 2 feet of final grade should consist of free-draining granular material (i.e., SE 30 sand or crushed rock). Crushed rock, if used, should be completely wrapped in filter fabric (Mirafi 140N or equivalent) to minimize the potential for migration of fines into the rock. The select backfill should be moisture conditioned to near optimum moisture content and compacted to achieve at least 90 percent relative compaction in accordance with ASTM D1557. The upper two feet of backfill should consist of fine-grained native soils, moisture conditioned to 4 percent above optimum moisture content and compacted to 90 percent relative compaction in order to cap the select backfill zone.

The select backfill should extend horizontally a minimum of H/2 behind the wall, where H is the retained height.

Utility Trench Backfill Considerations

New utility line pipeline trenches should be backfilled with select bedding materials beneath and around the pipes (pipe zone) and compacted soil above the pipe bedding. Recommendations for the types of the materials to be used and the proper placement of these materials are provided in the following sections.

Pipe Zone (Bedding and Shading)

The pipe bedding and shading materials should extend from at least 6 inches below the pipes to at least 12 inches above the crown of the pipes. Pipe bedding and shading should consist of either clean sand with a sand equivalent (SE) of at least 30, or crushed rock. If crushed rock is used, it should consist of ¾-inch crushed rock that conforms to Table 200-1.2.1 (A) of the 2018 "Greenbook." Pipe bedding and shading should also meet the minimum requirements of the City of Los Angeles. If the requirements of the City are more stringent, they should take precedence over the geotechnical recommendations. Sufficient laboratory testing should be performed to verify the bedding and shading meets the minimum requirements of the Greenbook and City of Wildomar grading codes.

Granular pipe bedding and shading material should be properly placed in thicknesses not exceeding 3 feet, and then sufficiently flooded or jetted in place. Crushed rock, if used, should be capped with filter fabric (Mirafi 160N, or equivalent; Mirafi 140N filter fabric is suitable if available) to prevent the migration of fines into the rock.

Trench Backfill

All existing soil material within the limits of the site are considered suitable for use as trench backfill above the pipe bedding and shading zone if care is taken to remove all significant organic and other decomposable debris, moisture condition the soil materials as necessary, and separate and selectively place and/or stockpile any inert materials larger than 6 inches in maximum diameter.

Imported soils are not anticipated for backfill since the on-site soils are suitable. However, if imported soils are used, the soils should consist of clean, granular materials with physical and chemical characteristics similar to or better than those described herein for on-site soils. Any imported soils to be used as backfill should be evaluated and approved by NTS prior to placement.

Soils to be used as trench backfill should be moistened, dried, or blended as necessary to achieve near optimum moisture content, placed in lifts which, prior to compaction shall not exceed the thickness specified in Section 306-12.3 of the 2018 "Greenbook" for various types of equipment, and mechanically

compacted/densified to at least 90 percent relative compaction as determined by ASTM Test Method D 1557. Jetting is not permitted in this trench zone.

No rock or broken concrete greater than 6 inches in maximum diameter should be utilized in the trench backfills.

Asphalt Concrete Pavement Design

In accordance with Chapter 600 of the Caltrans Highway Design Manual, we have performed pavement structural design utilizing assumed traffic indices (TI) of 4.5, 5.5 and 7 and assumed R-value of 30. Based on our analysis, we have developed the pavement structural sections presented in the following table. We note that the assumed TI's should be reviewed by a traffic engineer to confirm their applicability to the project. The assumed R-value should be confirmed by testing at the completion of rough grading.

Asphalt Concrete Pavement Structural Sections

Location	Traffic Index	Asphalt Concrete (in.)	Aggregate Base (in.)*
Parking Stalls	4.5	3.0	4.0
Driveways	5.5	4.0	5.0
Fire lane	7.0	4.0	10.0

The planned pavement structural sections should consist of the following:

- Aggregate Base materials (AB) consisted of either Crushed Aggregate Base (CAB) or Crushed Miscellaneous Base (CMB).
- Asphalt Concrete (AC) material of a type meeting the minimum City of Wildomar standards.
- The subgrade soils should be moisture conditioned to 2 percent above optimum moisture content to a depth of at least 18 inches and compacted to 90 percent relative compaction.
- The AB and AC should be compacted to at least 95 percent relative compaction.

Exterior Flatwork/Hardscape Design Considerations

For exterior flatwork and hardscape planned as part of the proposed development, the following design may be considered by the project civil engineer. These recommendations may be considered as minimal design based

on the soils conditions encountered during our investigation. Final design of the proposed flatwork and hardscape area should be provided by the project civil engineer. Based on the conditions encountered, we recommend that the subgrade for the subject concrete flatwork and hardscape be moisture conditioned to near optimum to a depth of 18 inches below finish subgrade elevation and compacted to 90 percent relative compaction. A Type II/V cement may be used from a geotechnical perspective. Our flatwork and hardscape design considerations are presented in the table below.

Concrete Flatwork Table

Description	Subgrade Preparation (1)	Minimum Concrete Thickness	Cut-Off Barrier Or Edge Thickness	Joint Spacing (Maximum)	Concrete(3)
Concrete Sidewalks and Walkways (4)	1) 2 percent above optimum to 18"(1), 2) 2" of sand or well graded rock (i.e., Class II base or equiv.) above moisture conditioned subgrade.	4 inches	Not Required	5 feet	Type II/V

(1) The moisture content of the subgrade must be verified by the geotechnical consultant prior to sand/rock placement.
(2) Reinforcement to be placed at or above the mid-point of the slab (i.e., a minimum of 2.0 to 2.5 inches above the prepared subgrade).
(3) The site has negligible levels of sulfates as defined by the CBC. Concrete mix design is outside the geotechnical engineer's purview.
(4) Where flatwork is adjacent a stucco surface, a ¼" to ½" foam separation/expansion joint should be used.
(5) If dowels are placed in cored holes, the core holes shall be placed at alternating in-plane angles (i.e., not cored straight into slab).

Planters and Trees

Where new trees or large shrubs are to be located in close proximity to new concrete flatwork, rigid moisture/root barriers should be placed around the perimeter of the flatwork to at least 12 inches in depth in order to offer protection to the adjacent flatwork against potential root and moisture damage. Existing mature trees near flatwork areas should also incorporate a rigid moisture/root barrier placed at least 2 feet in depth below the top of the flatwork.

Drainage Control

The control of surface water is essential to the satisfactory performance of the site improvements. Surface water should be controlled so that conditions of uniform moisture are maintained beneath the improvements, even during periods of heavy rainfall. The following recommendations are considered minimal:

- Ponding and areas of low flow gradients should be avoided.
- If bare soil within 5 feet of the structure is not avoidable, then a gradient of 5 percent or more should be provided sloping away from the improvement. Corresponding paved surfaces should be provided with a gradient of at least 2 percent.
- The remainder of the unpaved areas should be provided with a drainage gradient of at least 2 percent.
- Positive drainage devices, such as graded swales, paved ditches, and/or catch basins should be employed to accumulate and to convey water to appropriate discharge points.
- Concrete walks and flatwork should not obstruct the free flow of surface water.
- Brick flatwork should be sealed by mortar or be placed over an impermeable membrane.
- Area drains should be recessed below grade to allow free flow of water into the basin.
- Enclosed raised planters should be sealed at the bottom and provided with an ample flow gradient to a drainage device. Recessed planters and landscaped areas should be provided with area inlet and subsurface drain pipes.
- Planters should not be located adjacent to the structures wherever possible. If planters are to be located adjacent to the structures, the planters should be positively sealed, should incorporate a subdrain, and should be provided with free discharge capacity to a drainage device.
- Planting areas at grade should be provided with positive drainage. Wherever possible, the grade of exposed soil areas should be established above adjacent paved grades. Drainage devices and curbing should be provided to prevent runoff from adjacent pavement or walks into planted areas.
- Gutter and downspout systems should be provided to capture discharge from roof areas. The accumulated roof water should be conveyed to off-site disposal areas by a pipe or concrete swale system.
- Landscape watering should be performed judiciously to preclude either soaking or desiccation of soils. The watering should be such that it just sustains plant growth without excessive watering. Sprinkler systems should be checked.

Review, Observation, and Testing

The recommendations presented in this report are contingent upon review of final plans and specifications for the project by NTS. NTS Geotechnical, Inc. should review and verify in writing the compliance of the final grading plan and the final foundation plans with the recommendations presented in this report.

It is recommended that NTS be retained to provide Geotechnical Consulting services during the earthwork operations and foundation installation process. This is to observe compliance with the design concepts, specifications and recommendations and to allow for design changes in the event that subsurface conditions differ from those anticipated during our subsurface investigation.

It is the responsibility of the owner and their representative to bring any deviations or unexpected conditions observed during construction to the attention of NTS Geotechnical, in order for supplemental recommendations can be made with a minimum delay to the project. Construction should be observed and/or testing at the following stages by NTS Geotechnical, Inc.:

- Continuous observation during the excavation and recompaction for the structures.
- During preparation of subgrade for slab-on-grade.
- During installation of foundations.
- Installation of drainage for new retaining walls.
- Backfill of retaining walls.
- Grading for new parking lots.
- Testing of aggregate base for the new parking lot.
- Testing of asphalt concrete for the new parking lot.
- Backfill of utility trenches.
- When unusual conditions are encountered.

If any of these inspections to verify site geotechnical conditions are not performed by NTS Geotechnical, liability for the safety and stability of the project is limited only to the actual portions of the project that is observed and approved by NTS Geotechnical.

LIMITATIONS

All parties reviewing or utilizing this report should recognize that the findings, conclusions, and recommendations presented represent the results of our professional geological and geotechnical engineering efforts and judgments. Due to the inexact nature of the state of the art of these professions and the possible occurrence of undetected variables in subsurface conditions, we cannot guarantee that the conditions actually encountered during grading and site construction will be identical to those observed, sampled, and interpreted during our study, or that there are no unknown subsurface conditions which could have an adverse effect on the use of the property. We have exercised a degree of care comparable to the standard of practice presently maintained by other professionals in the fields of geotechnical engineering and engineering geology, and believe that our findings present a reasonably representative description of

geotechnical conditions and their probable influence on the grading and use of the property.

Our conclusions and recommendations are based on the assumption that our firm will act as the geotechnical engineer of record during construction and grading of the project to observe the actual conditions exposed, to verify our design concepts and the grading contractor's general compliance with the project geotechnical specifications, and to provide our revised conclusions and recommendations should subsurface conditions differ significantly from those used as the basis for our conclusions and recommendations presented in this report. Since our conclusions and recommendations are based on a limited amount of current and previous geotechnical exploration and analysis, all parties should recognize the need for possible revisions to our conclusions and recommendations during grading of the project.

It should be further noted that the recommendations presented herein are intended solely to minimize the effects of post-construction soil movements. Consequently, minor cracking and/or distortion of all on-site improvements should be anticipated.

This report has not been prepared for the use by other parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

REFERENCES

American Concrete Institute, 2014, Building Code Requirements for Structural Concrete (ACI 318-14).

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Coduto, Donald P., 1994, Foundation Design: Principles and Practices: Prentice-Hall, Inc, Englewood Cliffs, New Jersey.

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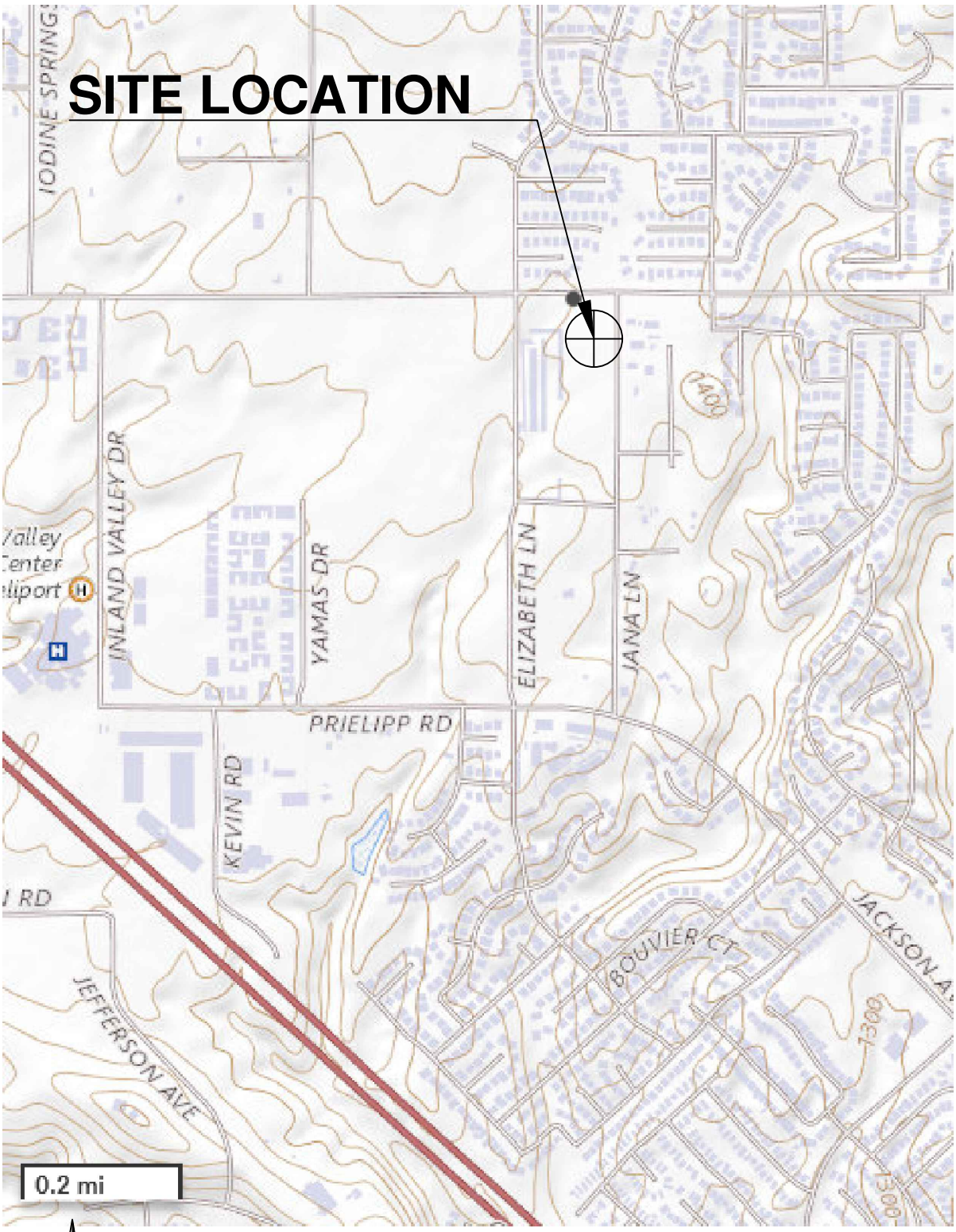
Naval Facilities Engineering Command, 1986, NAVFAC Design Manual.

United States Geological Survey (USGS), 2008, Unified Hazard Tool, Dynamic: Conterminous U.S. 2014 (update) (v4.2.0), Retrieved May 14, 2020, from: https://earthquake.usgs.gov/hazards/interactive/

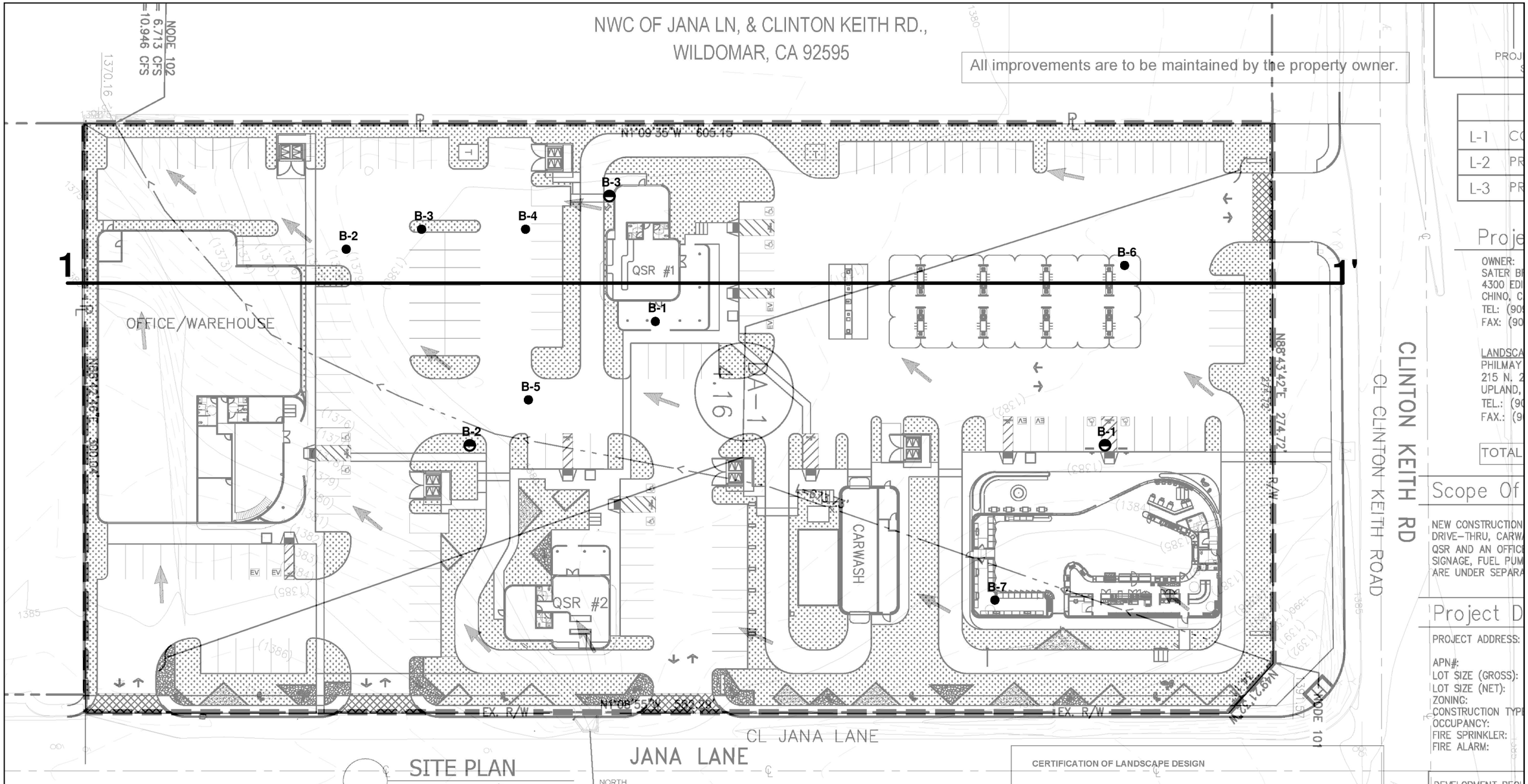


LOCATION MAP

NTS GEOTECHNICAL	Date: October 17, 2022	Plate 1
	Project No.: 22504	

NWC OF JANA LN, & CLINTON KEITH RD.,
WILDOMAR, CA 92595

All improvements are to be maintained by the property owner.



L-1 CO
L-2 PR
L-3 PR

Proje

OWNER:
SATER BE
4300 EDI
CHINO, C
TEL: (90
FAX: (90

LANDSCA
PHILMAY
215 N. 2
UPLAND,
TEL.: (90
FAX.: (9

TOTAL

Scope Of

NEW CONSTRUCTION
DRIVE-THRU, CARWA
QSR AND AN OFFICE
SIGNAGE, FUEL PUM
ARE UNDER SEPARA

Project D

PROJECT ADDRESS:

APN#:
LOT SIZE (GROSS):
LOT SIZE (NET):
ZONING:
CONSTRUCTION TYPE
OCCUPANCY:
FIRE SPRINKLER:
FIRE ALARM:

DEVELOPMENT REQU

NTS
GEOTECHNICAL

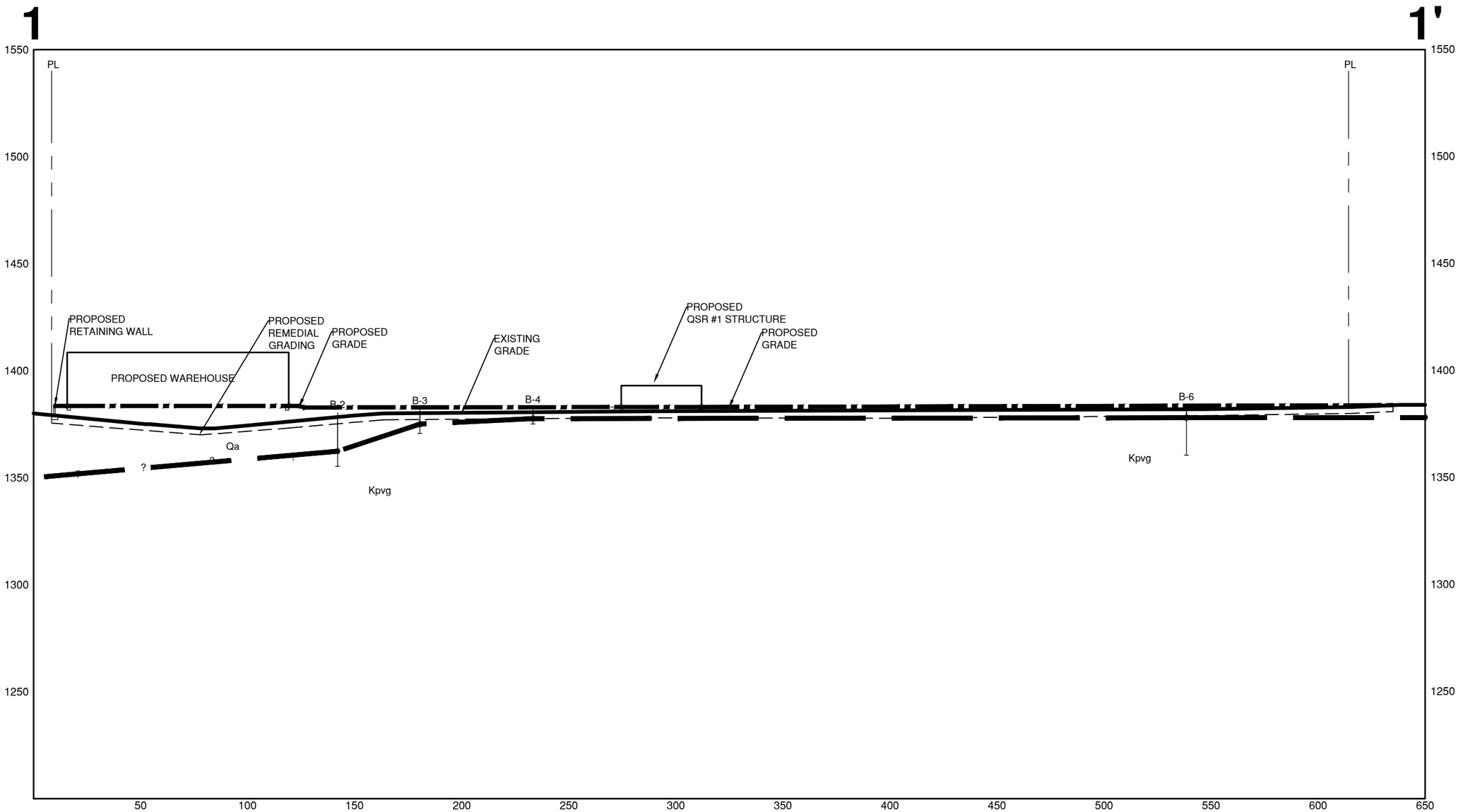
0 50'

GEOTECHNICAL LEGEND

- B-1 ● APPROXIMATE LOCATION OF BORINGS BY GEO-CAL
- B-1 ◒ APPROXIMATE LOCATION OF BORINGS BY SOIL EXPLORATION
- 1 1' GEOTECHNICAL SECTION

GEOTECHNICAL MAP

Date:	Project No.:	Plate:
10/17/2022	22504	2



DRAWING: c:\users\info\nts geotechnical\projects - general\2022\22504 - swc jona ln & clinton keith rd, wildomar\reports\plates\plate 3 - geotechnical section.dwg PLOTTED: 10/17/2022 9:26 PM BY: Nadim Sumra

0 50'

Geotechnical Section

NTS GEOTECHNICAL

Date:	October 17, 2022
Project No.:	22504

Plate 3

NTS GEOTECHNICAL

APPENDIX A

Field Exploration

GEOTECHNICAL BORING LOGS

Drill Hole No. B-1

Date: 2/25/21 **Project No.** 20237-01
Drilling Company: Larry Harklerode **Type of Rig:** B-53
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1	Alluvium					SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, dense
2							
3					9.6		
4		X	11/18/18				
5	Bedrock					Kpvg	**MONZOGRANITE:** Pale brown, fine to medium grained, medium dense
6		X	25/21/35		7.4		Pale gray, very dense
7							
8							
9							
10							
11		X	17/43/50/4"				Very dense
12							
13							
14							
15							
16		X	35/50/4"				
17							
18							
19							
20							
21		X	38/50/4"				Very dense
22							
23							
24							
25		X	48/50/3"				Very dense

TOTAL DEPTH = 25'
NO GROUNDWATER
NO CAVING
BORING BACKFILLED

GEOTECHNICAL BORING LOGS

Drill Hole No. B-2

Date: 2/25/21 **Project No.** 20237-01
Drilling Company: Larry Harklerode **Type of Rig:** B-53
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1	Alluvium					SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, dense
2	Bedrock					Kpvg	**MONZOGRANITE:** Pale gray, fine to medium grained, very dense
3		X	50/4"		6.8		
4							
5							
6		X	50/1"		2.8		Very dense
7							
8							
9							
10							
11		X	50/3.5"				
12							
13							
14							
15							
16		X	50/2"				Very dense
17							
18							
19							
20							
21		X	50/3"				
22							
23							
24							
25		X	50/3"				Very dense

TOTAL DEPTH = 25'
NO GROUNDWATER
NO CAVING
BORING BACKFILLED

GEOTECHNICAL BORING LOGS

Drill Hole No. B-3

Date: 2/25/21 **Project No.** 20237-01

Drilling Company: Larry Harklerode **Type of Rig:** B-53

Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1	Alluvium					SM	**SILTY SAND:** Light brown, fine to medium grained, dry, very dense
2							
3		■	30/50/4"	95.4	12.1		Slightly moist, very dense
4							
5							
6	Bedrock	⊠	35/50/2.5"		6.3	Kpvg	**MONZOGRANITE:** yellow, fine to medium grained, very dense
7							
8							
9							
10							
11		⊠	28/25/32				Pale gray, fine to medium grained, very dense
12							
13							
14							
15		⊠	35/50/4"				Very dense
16							TOTAL DEPTH = 15'
17							NO GROUNDWATER
18							NO CAVING
19							BORING BACKFILLED
20							
21							
22							
23							
24							
25							

Geo-Cal, inc.
Environmental & Geotechnical Engineering
4370 Hallmark Parkway, Suite 101
San Bernardino, CA 92407
(909) 880-1146 FAX (909) 880-1557 email: info@geo-cal.com

LOG OF BORING B-1

Project:

24831 Clinton Keith Rd.
Wildomar, CA

Date:	**6-23-21.**
Drilled By:	**Cal-Pac Drilling**
Equipment:	**Mobil B-61**
Hole Size:	**6″ HSA**
Logged By:	**Todd Wyland, RCE**
Total Depth:	**10.5 ft**
Groundwater Depth:	Not Encountered

*Automatic Hammer
140 lbs 30-Inch Drop

**
SA=Sieve Analysis
MDC=(ASTM D 1557)
COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	1A (0′-5′)	B		4.9	MDC SA			**(SM) Silty Sand, fine to medium, traces coarse and subrounded gravel to 3/4″, light red brown**
5	1-1	R	37 50/5″	4.3	128			**(SM) Silty Sand, fine to medium, traces coarse and subrounded gravel to 3/4″, light red brown, very dense**
								Weathered Bedrock recovered as (SW-SM) Sand, fine to coarse with silt, gray.
10	1-2	S	50/6″	4.6				**Very dense**
								End of Boring
								Total Depth 10.5 ft. **No Groundwater** **No Fill.** **No Refusal** **Boring Backfilled w/ drill spoils** **Weathered Bedrock at Approximately 7 ft.**
15								
20								
25								
30								

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LOG OF BORING B-2

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	6-23-21.	Total Depth:	23 ft
Drilled By:	Cal-Pac Drilling	Groundwater Depth:	Not Encountered
Equipment:	Mobil B-61		
Hole Size:	6" HSA		
Logged By:	Todd Wyland, RCE		

*Automatic Hammer 140 lbs 30-Inch Drop

** SA=Sieve Analysis MDC=(ASTM D 1557) COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0								Fill
	2A (0'-5')	B		4.9		SA MDC		(SM) Silty Sand, fine to medium, trace coarse 3/8" and light brown red.
5	2-1	R	7 17 24	8.7	120			(SM) Silty Sand, fine to medium, light brown dense.
10	2-2	S	5 11 16	11.1				(SM) Silty Sand, fine, trace medium, mica, dark to down, medium dense.
15	2-3	S	8 9 16	13.2				(SM) Silty Sand, fine, trace medium, mica, dark to down, medium dense. Weathered Bedrock
20		S	-					Lost Sampler
	2-4	S	50/0"					No Recovery, very dense End of Boring
25								Refusal @ 23' Fill to 1 ft (estimated) No Groundwater Weathered Bedrock estimated at 16 ft Boring Backfilled w/Drill Spoils
30								

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LOG OF BORING B-3
(PB-1)

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	6-23-21.	Total Depth:	9.5 ft
Drilled By:	Cal-Pac Drilling	Groundwater Depth:	Not Encountered
Equipment:	Mobil B-61		
Hole Size:	8″ HSA		
Logged By:	Todd Wyland, RCE		

*Automatic Hammer 140 lbs 30-Inch Drop

** SA=Sieve Analysis MDC=(ASTM D 1557) COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	3A (0′-5′)	B		4.9				(SM) Silty Sand, fine to medium, traces coarse and gravel 1/2", brown
5								Weathered Bedrock
	3-1	R	9 15 18	5.1 5.5	114 118	SA SA		(SW) Well Graded Sand, fine to coarse, trace gravel to 3/8", gray, medium dense End of Boring
10								Total Depth 9.5 ft.
								3″-Diameter perc pipe packed with gravel to the surface No Fill No groundwater No Refusal
15								
20								
25								
30								

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LOG OF BORING B-4
(PB-2)

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	**6-23-21.**
Drilled By:	**Cal-Pac Drilling**
Equipment:	**Mobil B-61**
Hole Size:	**6″ HSA**
Logged By:	**Todd Wyland, RCE**
Total Depth:	**5.5 ft**
Groundwater Depth:	Not Encountered

*Automatic Hammer
140 lbs 30-Inch Drop

**
SA=Sieve Analysis
MDC=(ASTM D 1557)
COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	4A (0′-5′)	B		4.8				(SM) Silty Sand, fine to medium, brown
5	4-1	R	20 50/3″	5.8	129.5	SA		Weathered Bedrock (SW-SM) Well graded Sand, fine to coarse with silt, very dense at 5.5 ft white and less weathered End of Boring
								Total Depth 5.5 ft.

No Fill, No Groundwater, No Refusal
3″-Diameter perc pipe
packed with gravel to the surface
Weathered Bedrock at 3ft.(estimated)
Persistent Bedrock at 5.5 ft.

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LOG OF BORING B-5
(PB-3)

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date: **6-23-21.**
Drilled By: **Cal-Pac Drilling**
Equipment: **Mobil B-61**
Hole Size: **6″ HSA**
Logged By: **Todd Wyland, RCE**

Total Depth: **6.5 ft**
Groundwater Depth: **Not Encountered**

*Automatic Hammer
140 lbs 30-Inch Drop

**
SA=Sieve Analysis
MDC=(ASTM D 1557)
COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	5A (0′-4′)	B		5.5		COR		(SM) Silty Sand, fine to medium, brown
5	5-1	R	16 25 31	4.8	134	SA		Weathered Bedrock (SW-SM) Well Graded Sand, fine to coarse with silt and gravel to 3/8″, dark gray, dense End of Boring
10								Total Depth 6.5 ft. 3″-Diameter perc pipe packed with gravel to the surface No Fill No Groundwater No Refusal Weathered Bedrock at 4 ft. (estimated)
15								
20								
25								
30								

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San Bernardino, CA 92407
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LOG OF BORING B-6

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	**6-23-21.**
Drilled By:	**Cal-Pac Drilling**
Equipment:	**Mobil B-61**
Hole Size:	**6" HSA**
Logged By:	**Todd Wyland, RCE**
Total Depth:	**21.5 ft**
Groundwater Depth:	Not Encountered

*Automatic Hammer 140 lbs 30-Inch Drop

** SA=Sieve Analysis MDC=(ASTM D 1557) COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	6-A (0'-5')	B		5.6				(SM) Silty Sand, fine to medium trace, gravel to 3/4', brown
5	6-1	R	8 18 24	4.1				Weathered Bedrock (SM) Silty Sand, fine to medium, mica, dark gray, dense
10	6-2	S	11 16 18	6.8	126			(SM) Silty Sand, fine to medium, mica, dark gray, dense
15	6-3	S	24 50/6"	4.8				(SM) Silty Sand, fine to medium, mica, dark gray, very dense
20	6-4	S	9 20 38	3.4				(SP-SM) Sand, fine to medium, with silt, gray, very dense
								End of Boring
25								Total Depth 21.5 ft. No Fill No Groundwater No Refusal Weathered Bedrock at 4 ft(Estimated) Boring Backfilled w/ drill spoils
30								

Geo-Cal, inc.
Environmental & Geotechnical Engineering
4370 Hallmark Parkway, Suite 101
San Bernardino, CA 92407
(909) 880-1146 FAX (909) 880-1557 email: info@geo-cal.com

LOG OF BORING B-7

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	**6-23-21.**
Drilled By:	**Cal-Pac Drilling**
Equipment:	**Mobil B-61**
Hole Size:	**6" HSA**
Logged By:	**Todd Wyland, RCE**
Total Depth:	**16 ft**
Groundwater Depth:	Not Encountered

*Automatic Hammer
140 lbs 30-Inch Drop

**
SA=Sieve Analysis
MDC=(ASTM D 1557)
COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	7A (0′-5′)							(SM) Silty Sand, fine to medium, light red brown, medium dense
5	7-1	S	5 9 25	4.2				Weathered Bedrock reducing to (SW) Sand, fine to coarse, gray, dense
10	7-2	S	32 50/3"					(SW) Sand, fine to coarse, gray, very dense
15	7-3	S	26 50/6"					(SW) Sand, fine to coarse, gray, very dense
								End of Boring
20								Total Depth 16 ft. No Groundwater No Fill Weathered Bedrock @ 6′ No Refusal Boring Backfilled with Drill Spoils
25								
30								

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Exploratory Trench No. T-1

Project:
New Development of A Beyond Market w/Gas Station & Drive-Thru, Plus a Carwash

Location:
24831 Clinton Keith Rd.
Wildomar, CA

Excavation Method: Mini Excavator w/ 12" bucket

Logged By: Henry Olivier, P.G

Date: 6/23/2021

Total Depth: 9.5 Ft.

Groundwater: Not Encountered

Depth (Ft.)	Description	Graphic
	Top Soil: Silty Sand (SM), fine grained, relatively loose, brown, gravelley, random cobbles (6"-diameter), dry, with rootlets.	
	Weathered Rock (DG), possibly weathered Granodiorite, medium to coarse grain size, dense, relatively friable, gray, dry.	
	Same, but more dense, less weathered, less friable, with caliche stingers	
5'		
10'	Digging refusal at 9.5 ft bgs using mini excavator	
15'		

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Exploratory Trench No. T-2

Project:
New Development of A Beyond Market w/Gas Station & Drive-Thru, Plus a Carwash

Location:
24831 Clinton Keith Rd.
Wildomar, CA

Excavation Method: Mini Excavator w/ 12" bucket

Logged By: Henry Olivier, P.G

Date: 6/23/2021

Total Depth: 4 Ft.

Groundwater: Not Encountered

Depth (Ft.)	Description	Graphic
	Top Soil: Silty Sand (SM) with sparse cobbles (≥ 6"), loose to medium dense, light brown, dry, w/ rootlets	
	Weathered Rock (DG), possibly weathered Granodiorite, medium to coarse grain, dense, dry	
	Refusal at 4 ft.	
5'		
10'		
15'		

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Exploratory Trench No. T-3

Project:
New Development of A Beyond Market w/Gas Station & Drive-Thru, Plus a Carwash

Location:
24831 Clinton Keith Rd.
Wildomar, CA

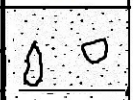
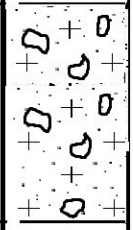
Excavation Method: Mini Excavator w/ 12" bucket

Logged By: Henry Olivier, P.G

Date: 6/23/2021

Total Depth: 4 Ft.

Groundwater: Not Encountered

Depth (Ft.)	Description	Graphic
	Top Soil: Silty Sand (SM) with sparse cobbles (≥ 6"), loose to medium dense, light brown, dry, w/ rootlets	
	Weathered Rock (DG), possibly weathered Granodiorite, medium to coarse grain, dense, dry	
	Refusal at 4 ft.	
5'		
10'		
15'		

(3 of 4)

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Exploratory Trench No. T-4

Project:
New Development of A Beyond Market w/Gas Station & Drive-Thru, Plus a Carwash

Location:
24831 Clinton Keith Rd.
Wildomar, CA

Excavation Method: Mini Excavator w/ 12" bucket

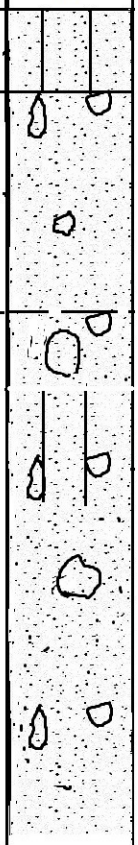
Logged By: Henry Olivier, P.G

Date: 6/23/2021

Total Depth: 10.5 Ft.

Groundwater: Not Encountered

Depth (Ft.)	Description	Graphic
	Top Soil: Silty Sand (SM) with sparse cobbles (≥ 6"), loose , light brown, dry, w/rootlets	
	Gravelly Sand (SP), fine to medium, with random coarse gravel and cobbles (≥ 6"), dense, brown, dry	
5'	Silty Sand (SM), with gravel and sparse cobbles, brown, dense, dry	
10'	Digging Refusal at 10.5 ft bgs using mini excavator	
15'		



(4 of 4)

NTS GEOTECHNICAL

APPENDIX B

Geotechnical Laboratory Testing

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Soil Exploration Company**
7535 Jurupa Ave., Suite C
Riverside, CA 92504
Tel:(909)374-5429 E-Mail: SoilExploration@yahoo.com

PROJECT: **Beyond Food Mart / 20237-01**
MATRIX:SOIL DATE RECEIVED:03/03/21
SAMPLING DATE:02/25/21 DATE ANALYZED:03/03&04/21
REPORT TO:Mr. GENE K. LUU DATE REPORTED:03/08/21

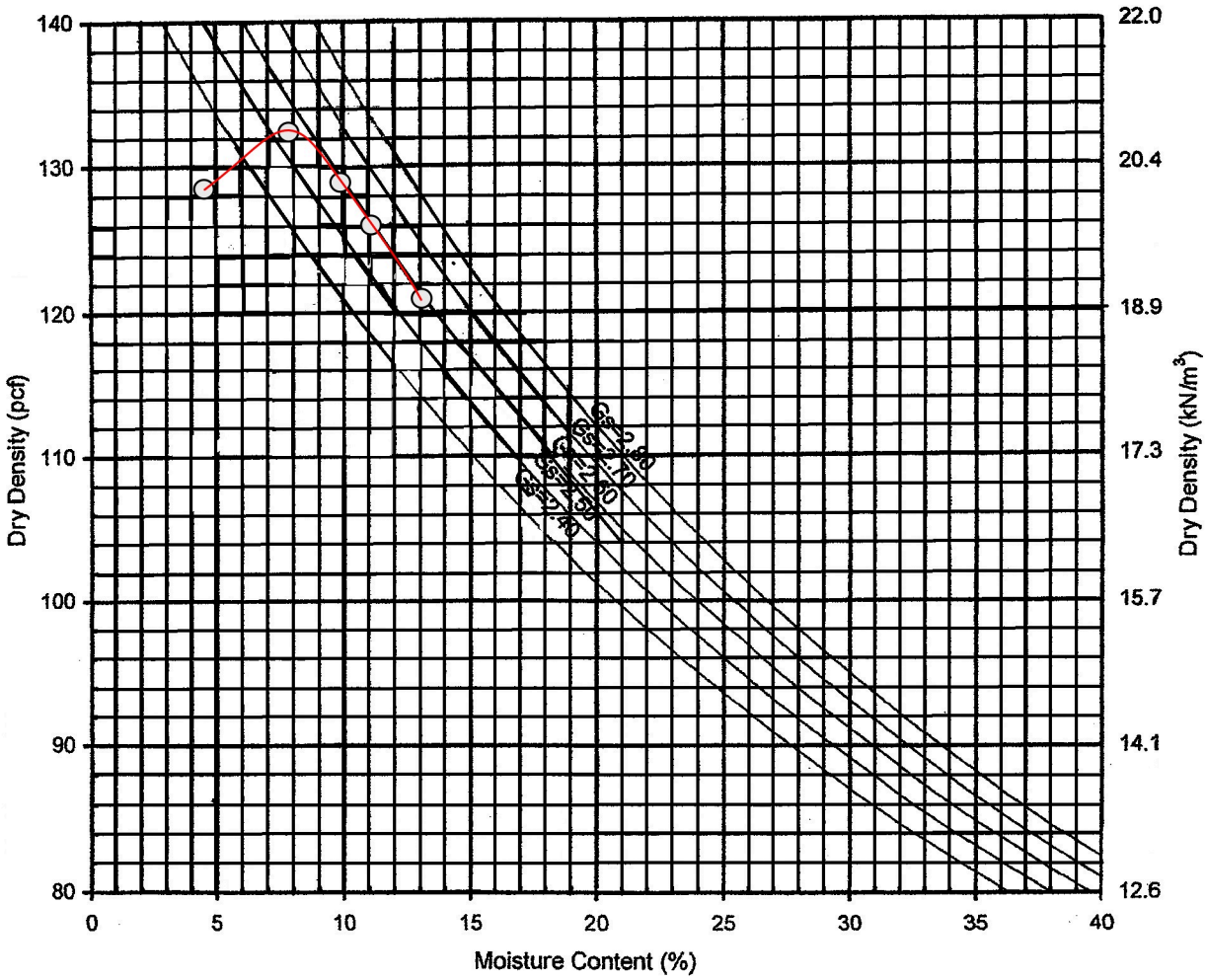
SAMPLE I.D.: **B-1 @ 0-5'** LAB I.D.: 210303-2

PARAMETER	SAMPLE RESULT	UNIT	PQL	DF	TEST METHOD
RESISTIVITY	11100	OHMS-CM	100000*	--	CALTRANS
SULFATE	13.3	mg/Kg	10	1	EPA 9038
CHLORIDE	20.0	mg/Kg	10	1	EPA 9253
pH	7.45	pH/UNIT	--	--	EPA 9045C

COMMENTS
DF = DILUTION FACTOR
PQL = PRACTICAL QUANTITATION LIMIT
ACTUAL DETECTION LIMIT = DF X PQL
mg/Kg = MILLIGRAM PER KILOGRAM = PPM
OHMS-CM = OHMS-CENTIMETER
RESISTIVITY = 1/CONDUCTIVITY
* = HIGH LIMIT
pH ANALYSIS CONDUCTED ON 1;1 SOIL/DEIONIZED WATER EXTRACTION

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

MOISTURE DENSITY CURVE



Boring	Depth(ft)	Classification	γ_{max} (pcf)	w_{opt} (%)
B-1 + B-2	0'-5'	(SM) Silty Sand, Fine to medium, trace coarse	132	8.0

MOISTURE DENSITY CURVE (MDC) ASTM D 1557	
Project:	24831 Clinton Keith Rd
Location:	Wildomar, CA

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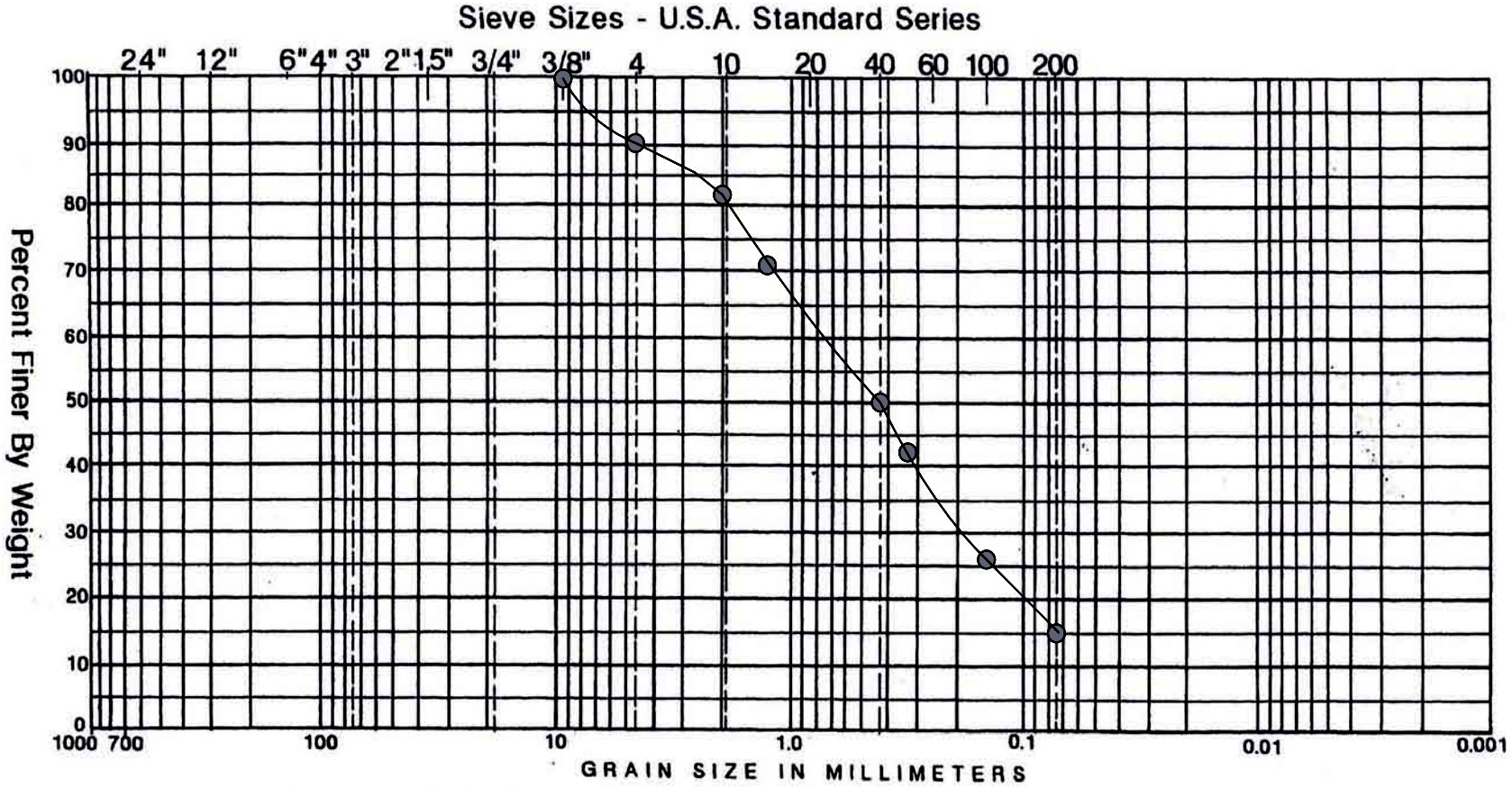
Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-1 + B-2	0'-5'	(SM) Silty Sand, fine to medium, traces coarse and gravel to 3/8"
			15% fines

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Wildomar, CA

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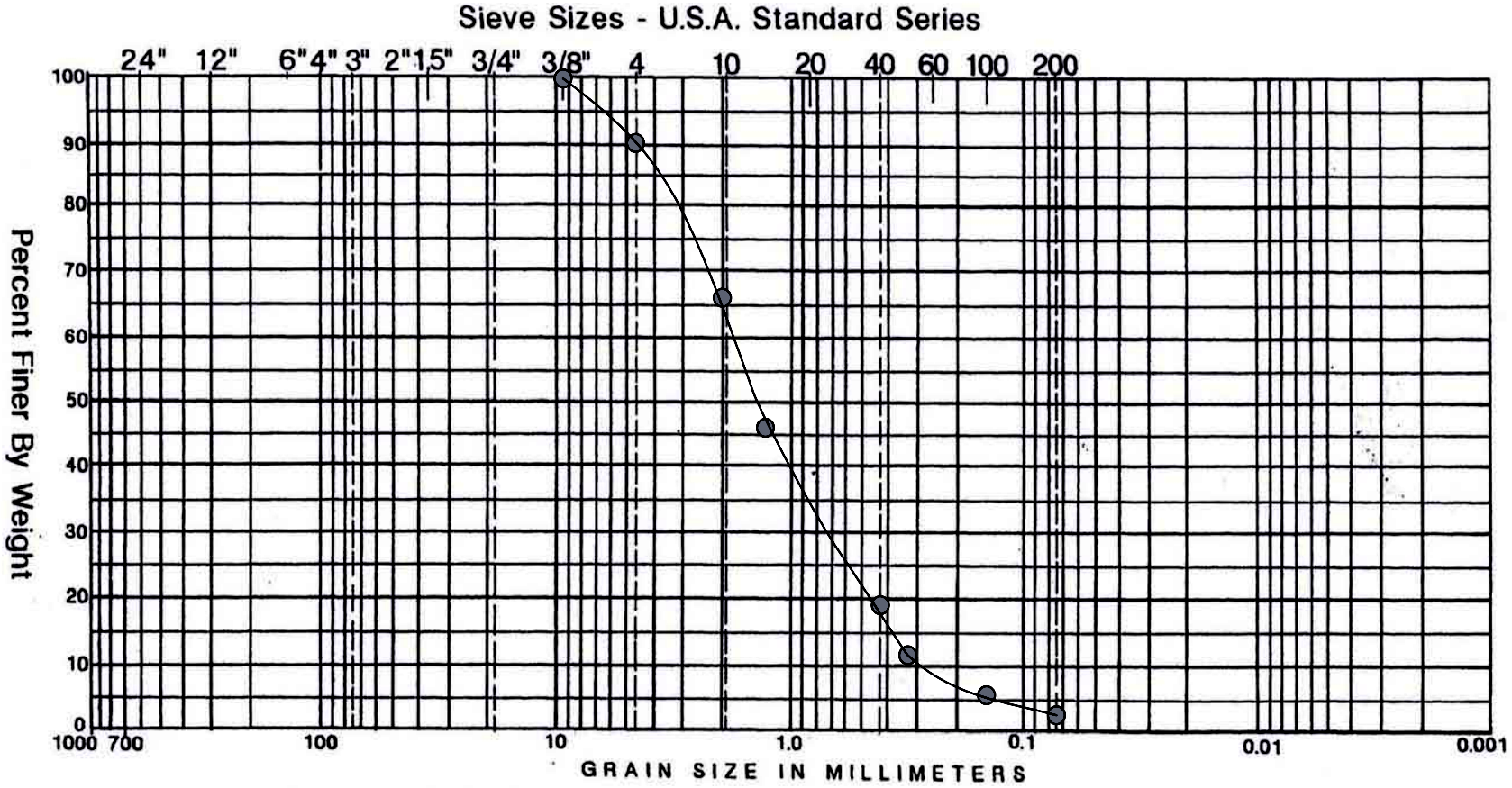
Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-3 (PB-1)	8.5'-9.0'	(SW) Well graded Sand, fine to coarse, trace gravel to 3/8" 2% fines,
			D10=0.29mm,
			Note: Sample Scalped at 3/8'

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Wildomar, CA

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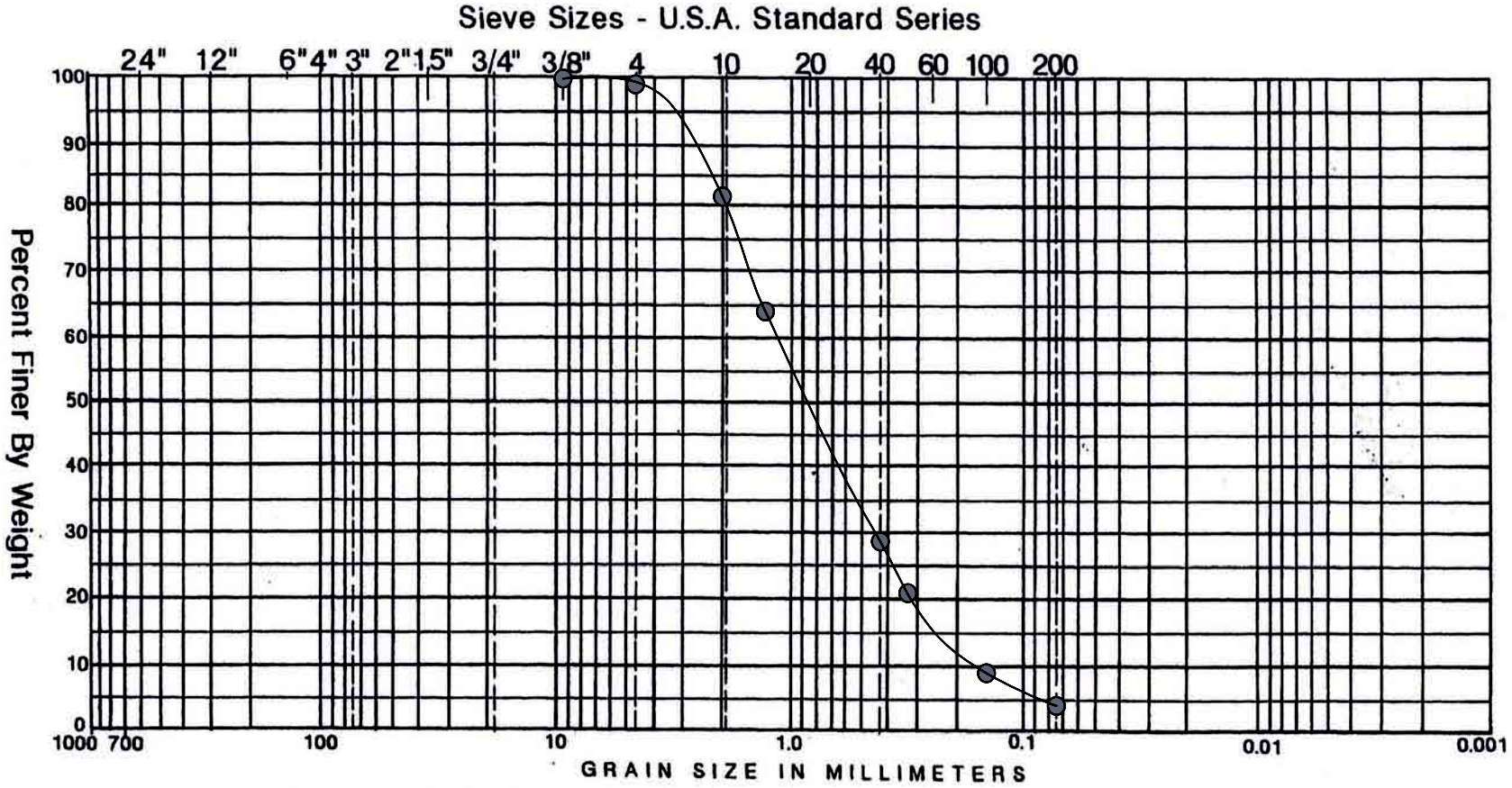
Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-3 (PB-1)	9.0'-9.5'	(SW) Well Graded Sand, fine to coarse, 4% fines, D_{10}=0.18 mm

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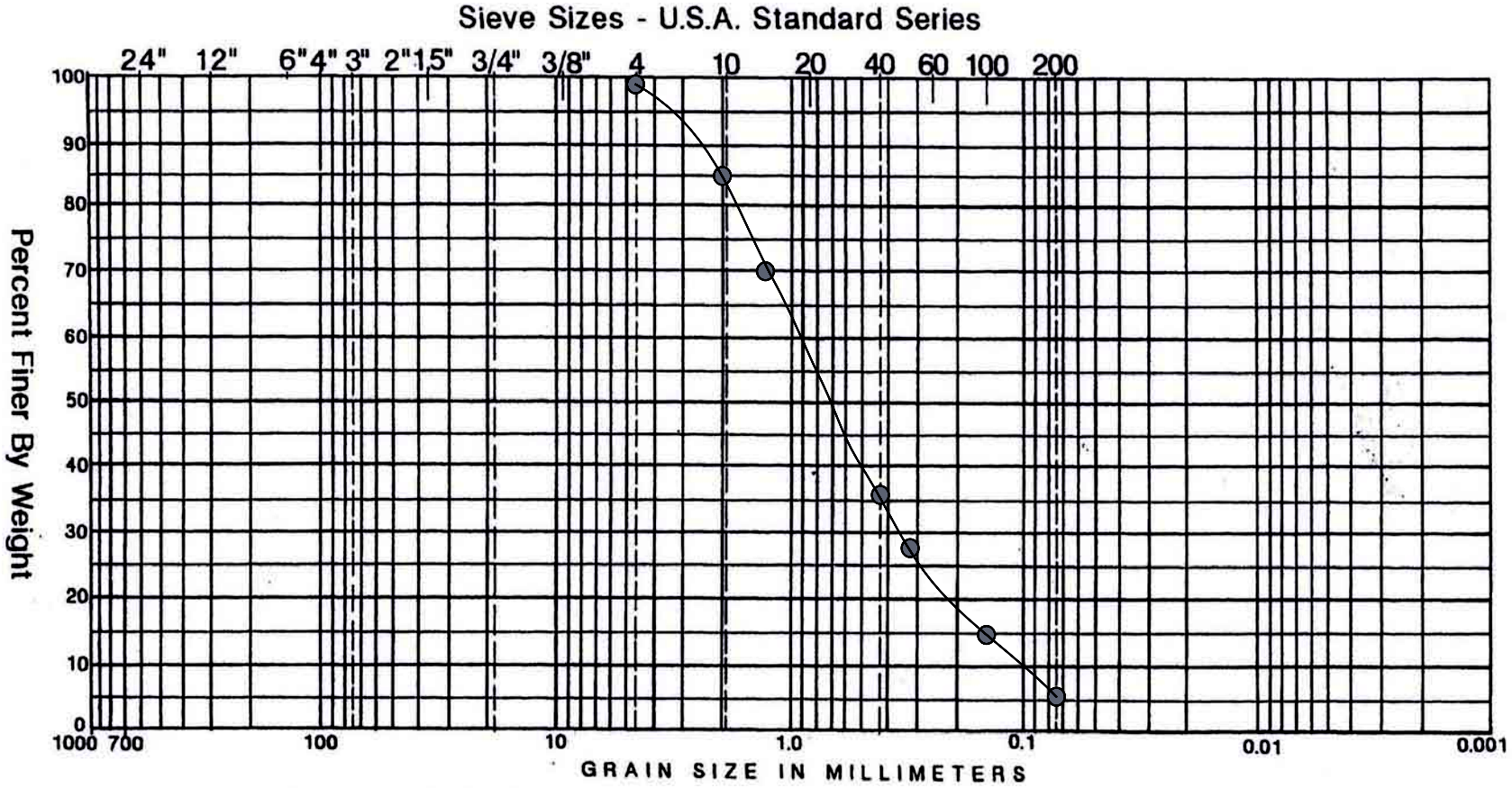
Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-4 (PB-2)	5.0'-5.5'	(SW-SM) Well Graded Sand, fine to coarse with silt, **6% fines D10=0.1mm**

24831 Clinton Keith Rd
Wildomar, CA

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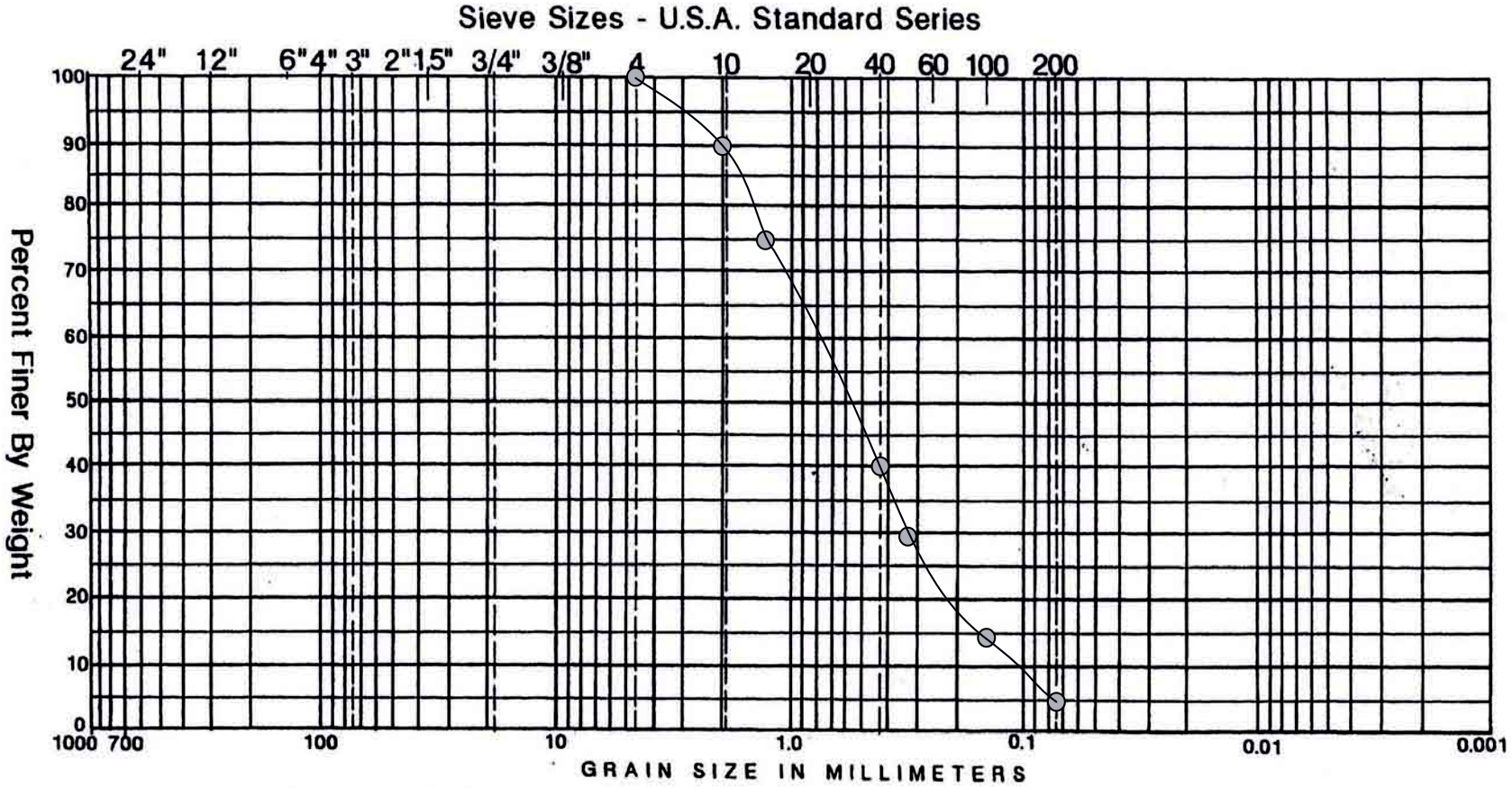
Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
○	B-5 (PB-3)	5.5'-6.0'	(SP-SM) Poorly graded sand, fine to medium with silt, trace coarse
			5% fines. D_{10}=0.12mm

24831 Clinton Keith Rd
Wildomar, CA

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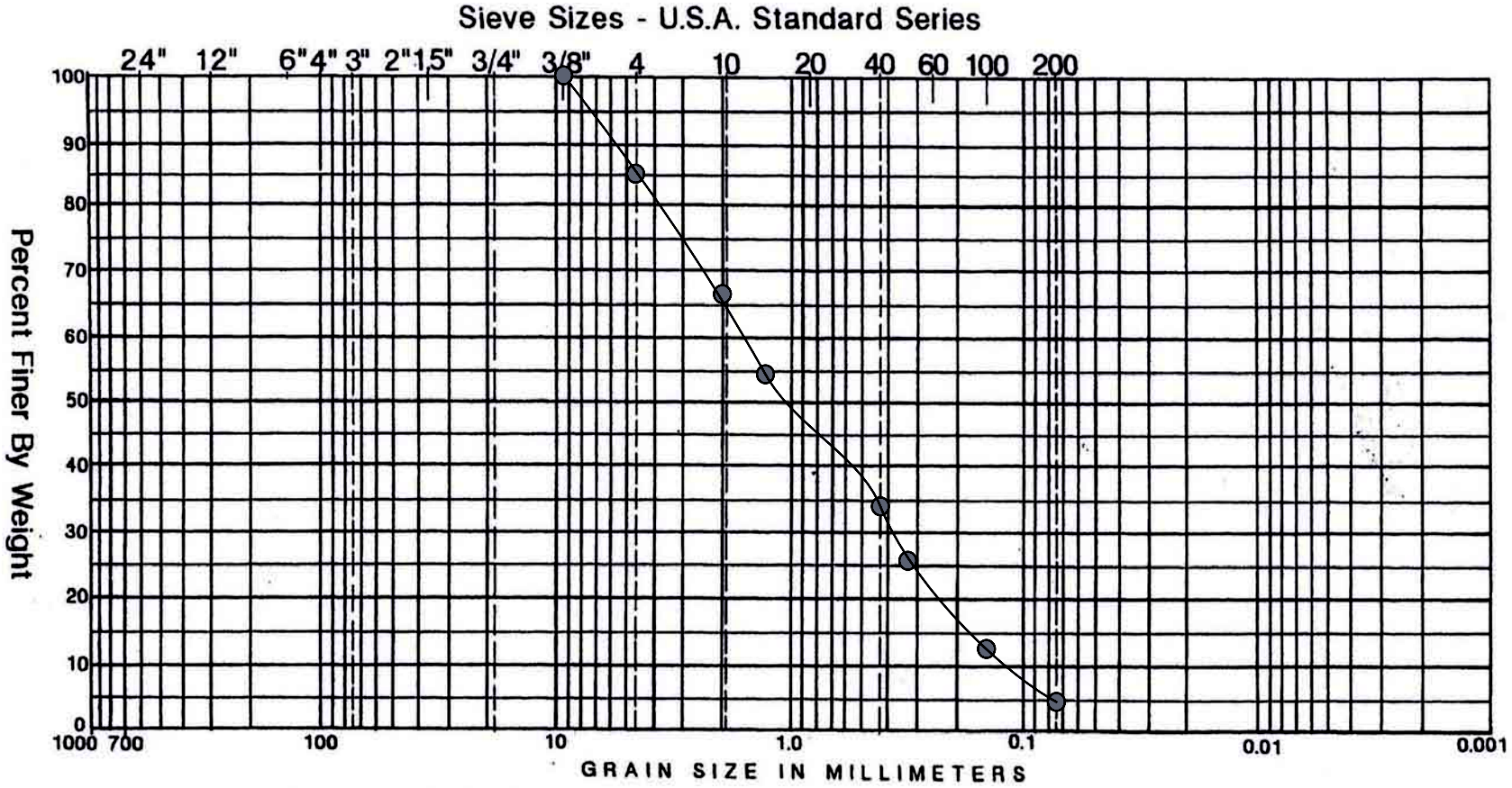
Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-5 (PB-3)	6.0'-6.5'	(SW-SM) Well graded Sand, fine to coarse with silt and gravel to 3/8",
			5% fines, D10=0.14 mm
			Note: Sample Scalped at 3/8"

24831 Clinton Keith Rd
Wildomar, CA

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NTS GEOTECHNICAL

APPENDIX C

Liquefaction Analysis

GEOLOGISMIKI Geotechnical Software

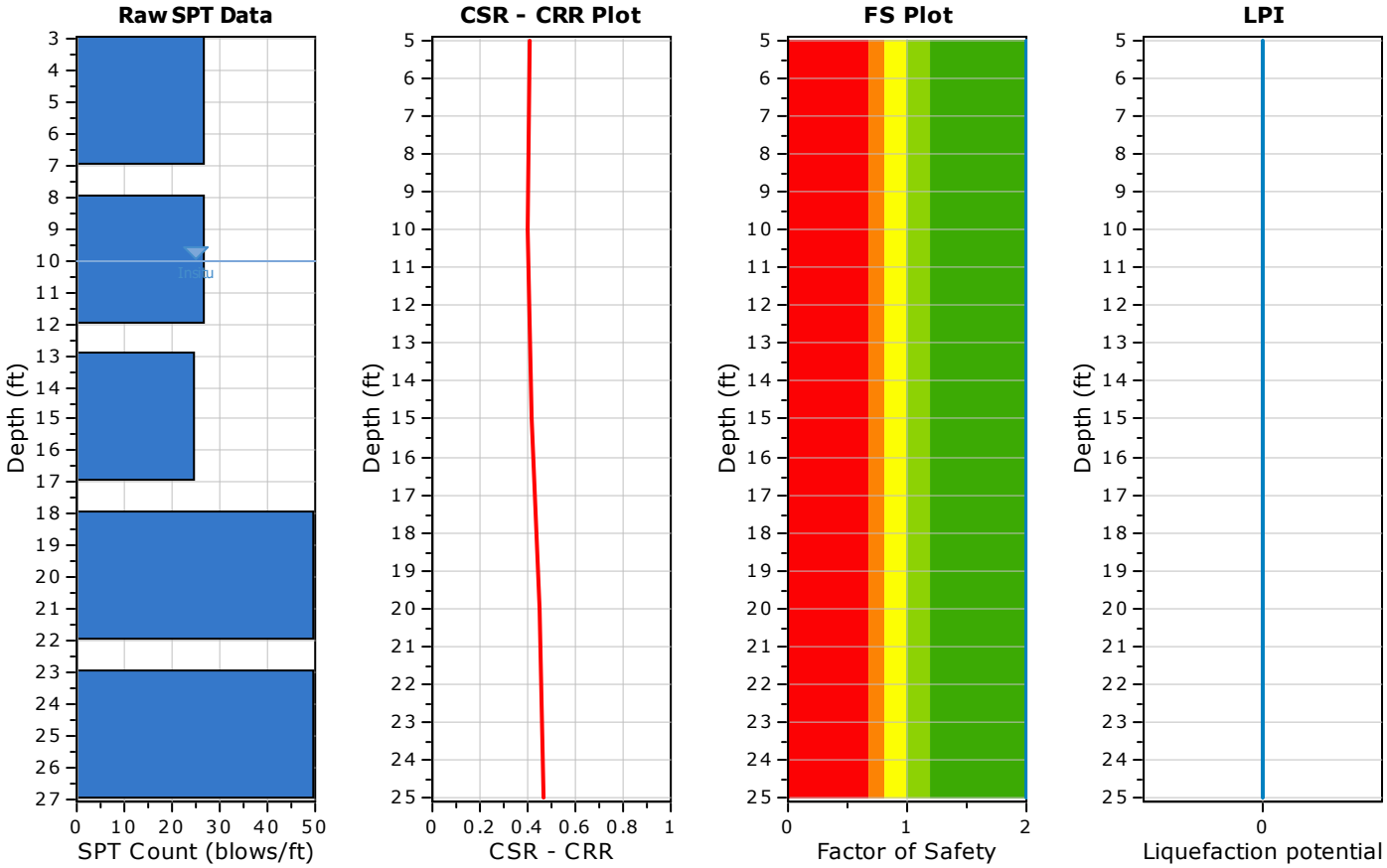
SPT BASED LIQUEFACTION ANALYSIS REPORT

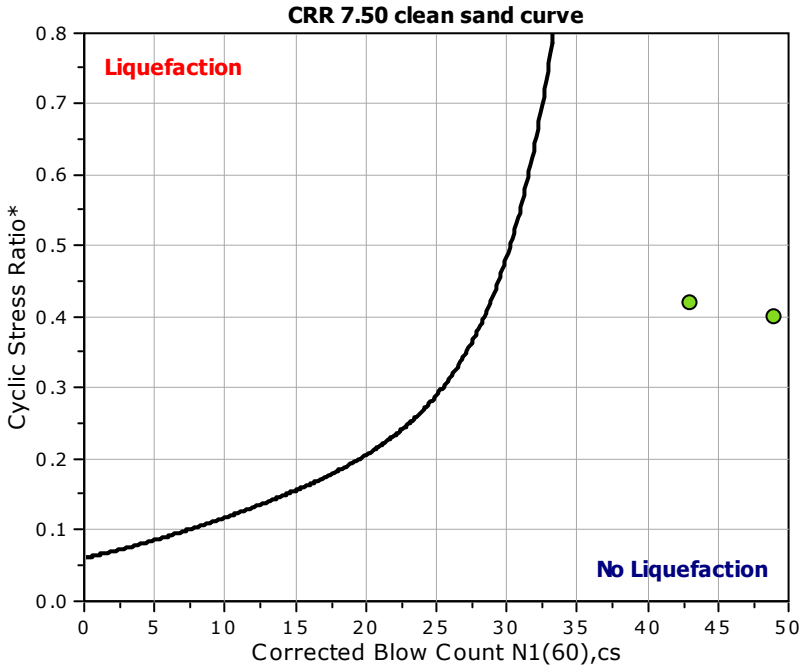
Project title : 24831 Clinton Keith Rd **SPT Name: B-2**

Location : Wildomar, CA

:: Input parameters and analysis properties ::

Analysis method:	Boulanger & Idriss, 2014	G.W.T. (in-situ):	10.00 ft
Fines correction method:	Boulanger & Idriss, 2014	G.W.T. (earthq.):	50.00 ft
Sampling method:	Sampler wo liners	Earthquake magnitude M_w:	7.00
Borehole diameter:	200mm	Peak ground acceleration:	0.84 g
Rod length:	3.30 ft	Eq. external load:	0.00 tsf
Hammer energy ratio:	1.28		





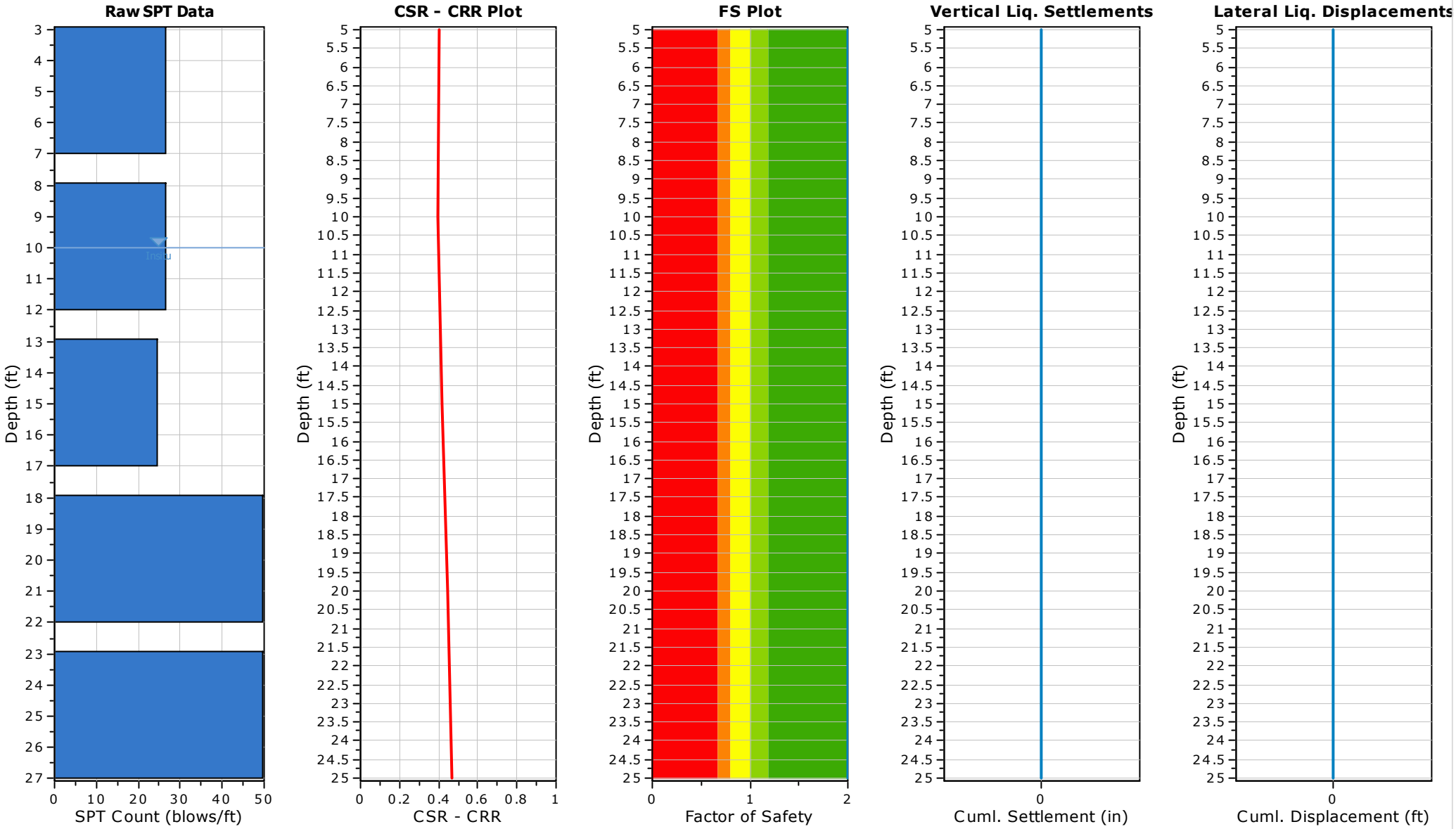
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

:: Overall Liquefaction Assessment Analysis Plots ::



:: Field input data ::

Test Depth (ft)	SPT Field Value (blows)	Fines Content (%)	Unit Weight (pcf)	Infl. Thickness (ft)	Can Liquefy
5.00	27	15.00	130.00	5.00	Yes
10.00	27	15.00	130.00	5.00	Yes
15.00	25	15.00	130.00	5.00	Yes
20.00	50	6.00	130.00	5.00	Yes
25.00	50	6.00	130.00	5.00	Yes

Abbreviations

Depth: Depth at which test was performed (ft)
SPT Field Value: Number of blows per foot
Fines Content: Fines content at test depth (%)
Unit Weight: Unit weight at test depth (pcf)
Infl. Thickness: Thickness of the soil layer to be considered in settlements analysis (ft)
Can Liquefy: User defined switch for excluding/including test depth from the analysis procedure

:: Cyclic Resistance Ratio (CRR) calculation data ::

Depth (ft)	SPT Field Value	Unit Weight (pcf)	σ_v (tsf)	u_o (tsf)	σ'_{vo} (tsf)	m	C_N	C_E	C_B	C_R	C_S	$(N_1)_{60}$	FC (%)	$\Delta(N_1)_{60}$	$(N_1)_{60cs}$	$CRR_{7.5}$
5.00	27	130.00	0.33	0.00	0.33	0.26	1.36	1.28	1.15	0.75	1.20	49	15.00	3.26	52	4.000
10.00	27	130.00	0.65	0.00	0.65	0.26	1.14	1.28	1.15	0.85	1.20	46	15.00	3.26	49	4.000
15.00	25	130.00	0.97	0.16	0.82	0.28	1.07	1.28	1.15	0.85	1.20	40	15.00	3.26	43	4.000
20.00	50	130.00	1.30	0.31	0.99	0.26	1.02	1.28	1.15	0.95	1.20	85	6.00	0.03	85	4.000
25.00	50	130.00	1.63	0.47	1.16	0.26	0.98	1.28	1.15	0.95	1.20	82	6.00	0.03	82	4.000

Abbreviations

σ_v: Total stress during SPT test (tsf)
u_o: Water pore pressure during SPT test (tsf)
σ'_{vo}: Effective overburden pressure during SPT test (tsf)
m: Stress exponent normalization factor
C_N: Overburden corretion factor
C_E: Energy correction factor
C_B: Borehole diameter correction factor
C_R: Rod length correction factor
C_S: Liner correction factor
$N_{1(60)}$: Corrected N_{SPT} to a 60% energy ratio
$\Delta(N_1)_{60}$ Equivalent clean sand adjustment
$N_{1(60)cs}$: Corected $N_{1(60)}$ value for fines content
$CRR_{7.5}$: Cyclic resistance ratio for M=7.5

:: Cyclic Stress Ratio calculation (CSR fully adjusted and normalized) ::

Depth (ft)	Unit Weight (pcf)	$\sigma_{v,eq}$ (tsf)	$u_{o,eq}$ (tsf)	$\sigma'_{vo,eq}$ (tsf)	r_d	α	CSR	MSF_{max}	$(N_1)_{60cs}$	MSF	$CSR_{eq,M=7.5}$	K_{sigma}	CSR^*	FS	
5.00	130.00	0.33	0.00	0.33	0.99	1.00	0.542	2.20	52	1.21	0.447	1.10	0.406	2.000	●
10.00	130.00	0.65	0.00	0.65	0.97	1.00	0.532	2.20	49	1.21	0.439	1.10	0.399	2.000	●
15.00	130.00	0.97	0.00	0.97	0.95	1.00	0.520	2.20	43	1.21	0.429	1.02	0.419	2.000	●
20.00	130.00	1.30	0.00	1.30	0.93	1.00	0.508	2.20	85	1.21	0.419	0.94	0.446	2.000	●
25.00	130.00	1.63	0.00	1.63	0.90	1.00	0.494	2.20	82	1.21	0.408	0.87	0.467	2.000	●

:: Cyclic Stress Ratio calculation (CSR fully adjusted and normalized) ::

Depth (ft)	Unit Weight (pcf)	$\sigma_{v,eq}$ (tsf)	$u_{o,eq}$ (tsf)	$\sigma'_{vo,eq}$ (tsf)	r_d	α	CSR	MSF_{max}	$(N_1)_{60cs}$	MSF	$CSR_{eq,M=7.5}$	K_{sigma}	CSR^*	FS

Abbreviations

$\sigma_{v,eq}$: Total overburden pressure at test point, during earthquake (tsf)
$u_{o,eq}$: Water pressure at test point, during earthquake (tsf)
$\sigma'_{vo,eq}$: Effective overburden pressure, during earthquake (tsf)
r_d: Nonlinear shear mass factor
α: Improvement factor due to stone columns
CSR : Cyclic Stress Ratio
MSF : Magnitude Scaling Factor
$CSR_{eq,M=7.5}$: CSR adjusted for M=7.5
K_{sigma}: Effective overburden stress factor
CSR^*: CSR fully adjusted (user FS applied)***
FS: Calculated factor of safety against soil liquefaction

*** User FS: 1.00

:: Liquefaction potential according to Iwasaki ::

Depth (ft)	FS	F	wz	Thickness (ft)	I_L
5.00	2.000	0.00	9.24	5.00	0.00
10.00	2.000	0.00	8.48	5.00	0.00
15.00	2.000	0.00	7.71	5.00	0.00
20.00	2.000	0.00	6.95	5.00	0.00
25.00	2.000	0.00	6.19	5.00	0.00

Overall potential I_L : 0.00

I_L = 0.00 - No liquefaction
I_L between 0.00 and 5 - Liquefaction not probable
I_L between 5 and 15 - Liquefaction probable
I_L > 15 - Liquefaction certain

:: Vertical settlements estimation for dry sands ::

Depth (ft)	$(N_1)_{60}$	τ_{av}	p	G_{max} (tsf)	α	b	γ	ε_{15}	N_c	ε_{Nc} weight factor	ε_{Nc} (%)	Δh (ft)	ΔS (in)
5.00	49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000
10.00	46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000
15.00	40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000
20.00	85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000
25.00	82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000

Cumulative settlemetns: 0.000

Abbreviations

τ_{av}: Average cyclic shear stress
p: Average stress
G_{max}: Maximum shear modulus (tsf)
α, b: Shear strain formula variables
γ: Average shear strain
ε_{15}: Volumetric strain after 15 cycles
N_c: Number of cycles
ε_{Nc}: Volumetric strain for number of cycles N_c (%)
Δh: Thickness of soil layer (in)
ΔS: Settlement of soil layer (in)

References

- Ronald D. Andrus, Hossein Hayati, Nisha P. Mohanan, 2009. Correcting Liquefaction Resistance for Aged Sands Using Measured to Estimated Velocity Ratio, Journal of Geotechnical and Geoenvironmental Engineering, Vol. 135, No. 6, June 1

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Appendix 6

Phase I Environmental Assessment Report

PHASE I
ENVIRONMENTAL ASSESSMENT REPORT

NOVEMBER 8, 2022

APN 380-290-002
WILDOMAR, CA

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THIS REPORT WAS PREPARED IN CONFORMANCE TO MEET OR EXCEED THE LIMITATIONS AS SET FORTH BY THE AMERICAN SOCIETY FOR TESTING & MATERIALS (ASTM) STANDARD PRACTICE E 1527-21. IT IS FOR THE EXPRESS USE OF THE CLIENT, AND ITS CONTENTS ARE CONSIDERED TO BE PREVILEGED AND CONFIDENTIAL. ACCEPTANCE OF THIS REPORT CONSTITUTES AN AGREEMENT BY THE CLIENT TO ASSUME FULL LIABILITY FOR INFORMATION CONTAINED HEREIN. THIS REPORT IS FOR THE SOLE USE AND INTERPRETATION OF THE CLIENT, AND IT IS NOT TO BE REPRODUCED OR DISTRIBUTED TO OUTSIDE PARTIES. THE INFORMATION IN THIS REPORT IS FURNISHED IN GOOD FAITH AND WAS OBTAINED FROM PUBLIC & PRIVATE SOURCES AND DATABASE CONSIDERED RELIABLE. REM MAKES NO REPRESENTATION OF WARRANTY REGARDING THE ACCURACY, OR RELIABILITY, QUALITY OR COMPLETENESS OF SUCH INFORMATION. IN NO EVENT, SHALL REM BE LIABLE TO ANY PARTY FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXAMPLARY DAMAGES. THE CUSTOMER SHALL ASSUME FULL LIABILITY FOR USE OF THIS REPORT.

1. INTRODUCTION

1.1 Objective

This report summarizes the results of a Phase I Environmental Site Assessment of the subject property performed by Robin Environmental Management (REM) in November 2022. The purpose of this Environmental Site Assessment is to evaluate the potential for environmental concerns or liabilities due to past and/or current land use practices at the subject site or from nearby properties. This assessment included in this report is solely targeted for CERCLA (Superfund) liability and the "innocent landowner defense", to permit user to satisfy one of the requirements to qualify for the innocent landowner defense to CERCLA liability, by conducting all appropriate inquiries to identify recognized environmental conditions (RECs).

1.2 Scope of Work

- Visual investigation of the property to obtain information regarding obvious visual signs of adverse environmental conditions, contamination, hazardous material usage, storage and handling on and in the adjoining sites (only up to one parcel next to the subject property) of the subject property

- Visual survey of the adjoining land uses (only up to one parcel next to the subject property) and determination of any current nearby operations which may potentially impact the subject site

- Government document search of records compiled by various government agencies for on site or nearby operations (past and present) to aid in the identification of any potential contamination sources

- Review of reasonably available historical information such as building permit records from local agency, aerial photographs, historical topographic maps, if available, to identify any potential past on-site operation which may have environmental implications

2. PROPERTY DESCRIPTION

2.1 Geographical Description of Property

The subject property, APN 380-290-002 (with 24831 Clinton Keith Road address; see Co. Assessor's Office records Summary for the Site Included as Appendix B), is a roughly N-S trending rectangular-shaped lot at the southwestern corner of (there E-W trending) Clinton Keith Road and (the N-S trending) Jana Lane within a commercial usage zone in the southern portion of the city of Wildomar, California as shown on Figure 1-Site Photos, Figure 2-Site Location Map, and Figure 3-Recent Aerial Photograph Showing Site/Its Vicinity General Layout.

2.2 General Description of the Subject Property

The subject property, APN 380-290-002 (with 24831 Clinton Keith Road address; see Co. Assessor's Office records Summary for the Site Included as Appendix B), is a roughly N-S trending rectangular-shaped lot at the southwestern corner of (there E-W trending) Clinton Keith Road and (the N-S trending) Jana Lane in the southern portion of the city of Wildomar, California. The site is currently generally an unpaved vacant lot. No pits, ponds, swamps, dry wells, or lagoons were observed on the subject property. No apparently significant surface staining was observed on the entire unpaved outdoor areas of the site.

2.3 Present Tenants and Business Operation

At the time of site inspection on November 6, 2022, the site was generally an unpaved vacant lot.

2.4 Past Tenants and Business Operation

Methods of researching historic use of ownership of the subject property employed by REM are as follows:

- Historic Aerial Photo records
- Historic Topographic Map records
- Historic City Directory records

2.4.1 Historic Aerial Photo Records

Historic aerial photo records for the site area included in Appendix C showed that, in 1938, the site was vacant lot with no improvement features. In 1967, the site was mainly vacant lot and with a dwelling present in its northern portion. In 1978 and 1985, the site was mainly vacant lot and with two dwellings respectively present in its northern and west-central portions. In 1996 and 2005, the site was generally vacant lot like today.

2.4.2 Historic Topographic Map Records

1962 topographic map for the site area also included in Appendix C revealed that site was with no improvement features in that year. 1986 topographic map for the site area included as Figure 2 showed that the site was with two dwellings respectively present in its northern and west-central portions in that year.

2.4.3 Historic City Directory Records

REM staff reviewed historic city directory records for the site address available at the Sherman Library, Newport Beach, CA. Based on available historic city directory records, other various residences occupying the site from the middle 1960's to the early 1990's. There were no post-1993 city directory listings for site addresses.

2.4.4 Site Development/Occupancy History Summary

Based on historic site occupancy data listed above, the site development/occupancy history can be summarized as below:

Prior to the middle 1960's - The site was vacant lot
The middle-late 1960's - The site was mainly vacant lot and with a dwelling present in its northern portion
The 1970's to the early 1990's - The site was mainly vacant lot and with two dwellings respectively present in its northern and west-central portions
The middle 1990's on - The site has been vacant lot again like today

2.5 Regional Physical Setting

The subject property's physical locations were researched employing a United States

Geological Survey (USGS) 7.5 Minute Topographic Quadrangle (Quad) Map relevant to the subject property. The USGS 7.5 Minute Quad Map has an approximate scale of 1 inch to 2,000 feet, and shows physical features with environmental significance such as wetlands, water bodies, roadways, mines, and buildings. Please refer to Appendix A, Figure 2.

The physical and natural features illustrated on the Quad Map served as areas of visual emphasis when conducting the site inspection of the subject property. The USGS 7.5 Minute Quad Map was used as the only Standard Physical Setting Source, and is sufficient as a single reference. The surface elevation of the subject site is approximately 1,380 feet above Mean Sea Level (MSL) and exhibits a topographic down gradient generally towards southwest.

2.6 Hydrogeological Information

The subject site is located within the northern portion of the Temecula Valley Groundwater Basin. The Temecula Valley Groundwater Basin is bounded by non-water bearing crystalline rocks of the Peninsular Range and overlying valleys in the southwestern portion of the Riverside County and the northern portion of San Diego County. The depth to the first-encountered groundwater underneath the subject site is approximately 20-25 feet and exhibits a general groundwater flow direction towards northwest.

2.7 Historical Hazardous Substance Usage

2.7.1 Records search sources

REM's field engineer contacted the following public agencies to find any records of former operation of Underground Storage Tank (UST) for gasoline/product or any other hazardous substances on the subject premises.

- City of Wildomar Building Department
- Regional Water Quality Control Board – San Diego Region

No records were found in reference to historical usage or handling of UST on the subject property.

2.7.2 List and quantities of the hazardous materials

List and quantities of the hazardous materials previously or presently used, disposed,

treated, stored, or generated at the subject property were searched and assessed. REM staff searched the State Department of Toxic Substances Control (DTSC)-compiled records website for all documented hazardous wastes disposal activities throughout California in the past at http://hwts.dtsc.ca.gov/report_list.cfm for the sites address and found no site hazardous wastes disposal manifest records.

2.7.3 Permits, licenses, and registrations

All present and past records of permits, licenses, registrations, certificates of environmental relation were searched. REM staff searched the South Coast Air Quality Management District (SCAQMD)-compiled Facility INformation Detail (FIND) database at www.aqmd.gov/webappl/fim/defualt.htm for the site address and found no SCAQMD permit records for the site.

2.7.4 Violation or non-compliance notice

No currently pending violation or notice of non-compliance was issued with the present environmental regulations, according to the findings of our environmental assessment on the subject property.

2.7.5 Regulatory database record research

According to the conducted government records search (see Section 5.0), the subject property was not recognized being listed on the following environmental regulatory database record research (NETR database): NPL, RCRA-TSD, CERCLIS, NFRAP, RCRA-G, ERNS, CORRACTS, CORTESE, CALSITES, LUST, UST, and SWF.

2.7.6 Environmental lien records

Under current environment regulation, government agency may place an environmental lien on the property with known contamination and no cleanup/mitigation activities apparently intended being conducted by the site owner upon the agency issued the cleanup enforcement order. Based on historic site usage and government records search summary documented in this section, the subject property is not a known contamination site and no environmental liens are likely being imposed on the subject property. Furthermore, the conducted government records search shows that there are no environmental liens placed by the federal environmental agency under CERCLA regulations for the subject site. REM staff searched the California State Department of Toxic Substances website EnviroStor data

search and found no environmental liens were placed by the State environmental agency for the subject site. City of Wildomar records also show that there are no environmental liens placed by the local environmental agency for the subject site.

3. PROPERTY RECONNAISSANCE

REM's environmental assessor/geologist performed the field survey of the subject site and adjacent properties on April 19, 2022. A site location map and a recent aerial photograph showing site/its vicinity general layout are included as Figures 2 and 3, respectively.

3.1 Air Quality - Indoor and Visible Emissions

No unusual smells, obnoxious odors, or visual emissions were observed during the inspection of the subject property. Neither air emission stacks nor paint booth were present, thus no pertinent permits were searched for the previous records of violation history.

3.2 Asbestos-Containing Material (ACM)

Since the subject lot is currently with no improvement structures, asbestos-containing building materials are not of environmental concern.

3.3 Lead-Based Paint (LBP)

The subject lot is currently unpaved vacant lot with no improvement structures. No any construction debris likely derived from demolition of formerly onsite dwellings (formerly present onsite from the middle 1960's to the early 1990's; see Section 2.4) were noticed present on the site. Therefore, lead-based paint is also not a potentially environmental concern.

3.4 Polychlorinated Biphenyl (PCB's)

Prior to 1978, PCBs were commonly used in dielectric fluids in transformers, capacitors, and light ballasts due to their desirable thermal characteristics, and hydraulic fluid compactor. Due to their demonstrated toxicity and persistence in the environment, PCB manufacturing in the United States was discontinued.

Pole-mounted transformers were found in the vicinity of the subject site, appearing in good condition without any sign of leakage. No PCB-containing hydraulic fluid trash compactor or concrete pad-mounted transformers were noticed present on the subject site premise.

3.5 Underground Storage Tank (UST)

The visual inspection of the subject site revealed no evidence of surface or above ground features (e.g., fill pipe, vent pipes, fill connections, concrete pads, saw cuts, sumps, spill containment device, leak detection device, etc.) normally associated with underground storage tanks (UST's).

3.6 Aboveground Storage Tank

REM's field officer performed the visual inspection of the subject site to find evidence of surface or above ground features (e.g., fill pipe, vent pipes, fill connections, concrete pads, saw cuts, concrete pad, drains in vicinity, etc.) normally associated with aboveground storage tanks (AST's). Visual observation also includes the inspection to identify any surface markings indicating the existence of aboveground product pipelines. No evidence on the presence of any on-site aboveground storage tank was identified.

3.7 Fuel Islands

The visual inspection of the subject site revealed no evidence of fuel islands or dispensers either in operation or abandoned.

3.8 Hydraulic Hoist Unit

The visual inspection of the subject site revealed no presence of underground hydraulic hoist units within the subject site premise.

3.9 Hazardous Materials / Petroleum Products Storage & Handling

No containers storing automotive or industrial batteries, pesticides, or chemicals seemingly exhibiting toxic hazards at the time of site inspection. No major spills, leakage, or staining were observed throughout the site

3.10 Other Containers

No other containers indicating any sign of environmental concern were observed during the site inspection.

3.11 Hazardous Waste Treatment, Storage, Disposal (TSD)

No storage, treatment, or disposal of hazardous waste was found during the site investigation. No severely improper waste stream processing or disposal practices were observed on the subject property.

3.12 Distress Vegetation

Planters and vegetation in the vicinity of the subject site were found well maintained on bare soil or within separate planters in relatively good appearance with no sign of chemical stress or unnatural appearance.

3.13 Stockpiled Soils and Construction Debris

REM's site inspection did not reveal any evidence of stockpiled soils on the ground of subject property.

3.14 Wastewater Treatment Unit / Clarifier

No underground industrial wastewater treatment facility, i.e., clarifier was observed on the subject property during the site visit.

Storm water drainage system in the close proximity of the subject area did not identify any abnormal accumulation of petroleum or chemical run-off or foreign materials. No unusual blockage of the storm-water control system was observed during the site visual inspection. REM recommends no investigation on described storm-water systems at the subject property.

3.15 Solid Waste Disposal

No improper activities of treatment or disposal of hazardous, medical, or toxic wastes are performed on the subject site.

3.16 Wells

REM's site walk-through did not discover any irrigation wells, injection wells, abandoned wells, groundwater-monitoring wells, dry wells, septic wells oil wells, gas wells, domestic water wells, other monitoring wells on the subject premises.

3.17 Underground Pipelines

REM's site inspection did not reveal any evidence of underground pipelines beneath the ground of subject property, other than public utility lines such as sewer, power, and electric lines, for which public "dig-alert" service would easily identify upon 48-hour telephone notice in advance.

3.18 Boilers & HVAC Systems

The subject lot is current with no improvement structures and there are no water heater and HVAC systems present on the site premise.

3.19 Visual Indication of Spills, Leakage, Staining

REM's site inspection did not reveal any evidence of on-site or off-site spills, leakages, or staining significant enough to pose immediate environmental concern onto the subject property. No significantly stained catch basins, drip pads, or sumps were observed. There were no major spills around surface drains, pipes, gutters, spouts, or tubes, if any, at the time of site investigation.

3.20 Soil Staining or Surface Staining on Unpaved/Natural Lands

No staining or surface staining on the bare soil or unpaved lands were identified during the site investigation.

3.21 Pits, Ponds, Lagoons

No visible evidence of wetlands such as pits, ponds, lagoons, or any other water bodies, except water accumulating at the bottom of excavation along the west side of the site, was observed within the subject property's boundary lines.

3.22 Herbicides/Pesticides

No evidence of herbicide or pesticide use on the subject property was observed during the inspection.

3.23 Radon

Radon sources can be found from earth and rock beneath building structures, well water, and building materials themselves. Though there is no immediate health effect, it is believed to account for approximately 10% of lung cancer deaths in the United States. Estimated national average is 1.5 picocuries per liter of air, however, levels as high as 200 picocuries per liter in some commercial buildings can be found. USEPA and California Department of Health Services' Radon Survey Interim Results report shows different U.S. regions. According to general geological and climate information, where Region 9 includes Imperial, Los Angeles, Orange, Riverside, San Bernardino and San Diego Counties. According to the California EPA, Los Angeles and Riverside County is classified as a "Zone 2" county having a predicted average screening level between 2-4 picocuries per liter of air. Orange and San Diego County is under Zone 3, having the level less than 2 picocuries/L, and Ventura County as Zone 1 has the level greater than 4 picocuries/L.

If a property region reportedly has radon concentration below 4 picocuries per liter of air in 99.5% of homes within the region, then, it is not likely impacted by the presence of radon gas, considering EPA action limit of 4 picocuries per liter of air volume. REM is not contracted to perform the testing of radon level on the subject property, thus the delineation of radon level is beyond the scope of the service covered in this report.

4. NEIGHBORING PROPERTIES

4.1 Adjacent/Adjoining Businesses

For the scope of this assessment, properties are defined and categorized based upon their physical proximity to the subject property. An adjoining property is any real estate property whose border is contiguous or partially contiguous with the subject properties, or that would be if the properties were not separated by a roadway, street, public thoroughfare, or stream.

Adjoining properties of the subject site are as follows:

North: Immediately by Clinton Keith Road, and then by residential community

East: Immediately by Jana Lane, and then by, from north to south, residential property, the 36140 Jana Lane light industrial property, Patriot Pipeline (36180 Jana Lane), and residential property

South: By Big Easy Storage (36215 Jana Lane)

West: By vacant lot to the north, and Life Storage –Wildomar (24781 Clinton Keith Road) to the south

4.2 Historical Hazardous Substance Usage in Neighboring Properties

REM's staff contacted the following public agencies to find any records of former operation of Underground Storage Tank (UST) for gasoline/product or any other hazardous substances in the vicinity of the subject site premise:

- Regional Water Quality Control Board – San Diego Region
- California Department of Toxic Substances Control

No locations in the immediate adjacency of the subject site were found to pose any environmental threat to the subject property, based upon the data obtained via NETR governmental records database and the conducted agency records search.

5. GOVERNMENT RECORDS SEARCH AND POTENTIAL OFF-SITE CONTAMINATION SOURCES

5.1 Historical Background and Scope of Coverage

Since the early 1970s, environmental agencies have been tracking the compliance of many facilities with the various laws that have been promulgated to halt the pollution of air, land and water. More recently, records have been maintained documenting spills of hazardous materials and the locations of known waste sites or regulated waste handling facilities. The following sections summarizes REM's review of database search of available records at the local, state and federal level and highlights the approximate location of such sites with respect to the subject property.

The conducted government record search was performed to aid:

1) Identification of facilities, located within a one-mile radius of the subject property, which might pose a potential threat to the subsurface environment at the subject property; and

2) Identification of any environmental violation notices associated with activities conducted at the subject property itself. The following lists were reviewed for sites within one mile of the property:

5.2 Database Sources

A. Federal Sources

- United States Environmental Protection Agency (U.S. EPA), Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)
- U.S. EPA, National Priority List (NPL)
- Resource Conservation and Recovery Act (RCRA) Federal TSD Facilities
- Federal Emergency Response Notification System (ERNS)
- CERCLA Site Enforcement Tracking System
- RCRA Violators List (CORRACTS)
- U.S. EPA Federal Enforcement Docket
- Toxic Release Inventory System (TRIS)

- No Further Remedial Action Planned (NFRAP)

The CERCLIS is the EPA compilation of sites for which the EPA has evidence of, or is investigating, a release or threatened release, of hazardous substances which may be subject to review in accordance with the terms and conditions of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund Act). Sites to be included are identified primarily by the reporting requirements of hazardous substances including degreasing solvents, oily waste, acid solutions, alkaline solutions, and heavy metal solutions, Treatment, Storage and Disposal (TSD) facilities and releases larger than specific Reportable Quantities (RQ), established by EPA.

An NPL site is an uncontrolled or abandoned hazardous waste site identified for priority remedial action under Superfund Program. Such prioritized sites with significant risk to human health and the environment receive remedial funding under the Comprehensive Environmental Response Conservation and Liability Act (CERCLA). RCRA generator/TSD list is a compilation of hazardous waste generating facilities which have obtained an identification number from EPA.

ERNS database is a national computer database used to store information on unauthorized release of oil and hazardous substances. The program is a cooperative effort of the Environmental Protection Agency, the Department of Transportation Research and Special Program Administration's National Transportation System Center and the National Response Center. There are primarily five Federal statues that requires release reporting: CERCLA Section 103; the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304; the Clean Water Act of 1972 (CWA) Section 311(b)(3); and the Hazardous Material Transportation Act of 1974 (HMTA) Section 1808 (b).

RCRA Violators List (CORRACTS): The Resource Conservation and Recovery Act of 1976 provides for "Cradle to Grave" regulation of hazardous wastes. RCRA requires regulation of hazardous waste generators, transporters, and TSD sites. Evaluation to potential violations, ranging from manifest requirements to hazardous waste discharges, is typically conducted by the US EPA. This database is also known as Corrective Action Report (CORRACTS).

Toxic Release Inventory System (TRIS): TRIS compiles database for a property having had a release of chemical compound, whose listing reflects permitted air releases rather than a release to soil or groundwater.

B. California State Sources

- State of California Office of Planning and Research (CORTESE), the State of California equivalent of CERCLIS
- Leaking Underground Storage Tanks (LUST)
- Solid Waste Information System (SWIS)
- Annual Work Plan (previously known as Bond Expenditure Plan), the State of California equivalent of NPL
- California Historical Abandoned Site Survey Program (CALSITES)

CALSITES: The Historical Abandoned Site Survey (HASS) Program, formerly the California Abandoned Sites Program Information System – ASPIS, identified certain potential hazardous waste sites. The identification of these sites was generally not made via sampling and site characterization, but as a result of file searches and windshield surveys.

No Further Action sites are also on the CALSITE list which has been marked for no further action by the California Environmental Protection Agency, Department of Toxic Substance Control (DTSC) in accordance with California Health & Safety Code.

CORTESE: This database is a consolidation of information from various sources. It is maintained by the State Office of Planning and Research and lists potential and confirmed hazardous waste or substances sites.

LUST(s): The Leaking Underground Storage Tanks (LUST) Information System is maintained by the State Water Resource Board pursuant to California Health & Safety Code.

SWIS (Solid Waste Information System): As legislated under Solid Waste Management and Resource Recovery Act of 1972, the California Waste Management Board maintains list of certain facilities, i.e. Active solid waste disposal sites, Inactive or Closed solid waste disposal sites and Transfer facilities.

AW (Annual Work Plan previously known as Bond Expenditure Plan): The California Health & Safety code requires the California EPA to develop a site-specific expenditure plan as the basis for an appropriation of California Hazardous Substance Cleanup Bond Act of 1984 funds. The Agency is also required to update annually and report any significant adjustments to the Legislature on an ongoing basis. The plan identifies California hazardous waste sites targeted for cleanup by responsible parties, the California and the Federal Environmental Protection Agency over the next coming years.

C. Regional Sources

- LUST - Regional
- Toxic Releases (NT)
- California Regional Water Resources Control Board, Solid Waste Assessment Test (SWAT)
- Well Investigation Program

NT (Toxic Releases): The California Regional Water Quality Control Boards or local Department of Health & Safety Services keeps track of toxic releases to the environment. These lists are known as Unauthorized Releases, Spill, Leaks, Investigation and Cleanups, Non-Tank Releases, Toxic List or similar, depending on the local agency

SWAT (Solid Waste Assessment Test): This program requires that disposal sites with more than 50,000 cubic yards of waste provide sufficient information to the regional water quality control board to determine whether or not the site has discharged hazardous substances which will impact the environment. Site operators are required to file Solid Waste Assessment Test reports on a staggered basis. Operators submit water quality tests to the Regional Water Quality Control Board, describing surface and groundwater quality and supply; and the geology

within 1 mile of the site. Air quality tests are submitted to the local Air Quality Management District or Air Pollution Control District.

D. Other Sources

- RCRA-Generator
- RCRA-TSD Facilities
- SWLF (Solid Waste Landfill)

RCRA-G: The EPA regulates generators of hazardous material through the Resource Conservation and Recovery Act (RCRA). All hazardous waste generators are required to notify EPA of their existence by submitting the Federal Notification of Regulated Waste Activity Form or a State equivalent form. The notification form provides basic identification information and specific waste activities.

RCRA-D: The EPA regulates the treatment, storage and disposal of hazardous material through the Resource Conservation and Recovery Act (RCRA). All hazardous waste TSD facilities are required to notify EPA of their existence by submitting the Federal Notification of Regulated Waste Activity Form or a State equivalent form.

SWLF: The California Waste Information system database consist both open as well closed and inactive solid waste disposal facilities and transfer stations pursuant to the Solid Waste Management and Resource Recovery Act of 1972. Generally the California Integrated Waste Management Board learns of locations of disposal facilities through permit applications and from local enforcement agencies.

5.3 Case Study References

A. Case-Closure

If sites are listed on the California Leaking Underground Storage Tank (LUST) database with a "case closed (no further remedial actions required)" status, it shall be interpreted as follows. The identified contamination at such sites was mitigated to a degree that the governing agency believed that these sites do not pose apparent concern/threat to the subsurface environment of the neighboring area.

B. Lawrence Livermore National Laboratory Reports on LUFT's

According to Lawrence Livermore National Laboratory / University of California Reports on Leaking Underground Fuel Tanks (LUFT's), approximately ninety percent of dissolved petroleum products are found less than 280 feet in distance from the origination source, and most of these plumes are either stable or decreasing in distance. And seventy percent of the plume is in shallow groundwater less than 25 feet below the ground surface.

C. Groundwater Flow Gradient

Environmentally-concerned sites located not directly at the up-gradient from the subject site can be deleted from anticipated target sites, since contamination from identified sites is unlikely to migrate along the groundwater flow direction to affect the subsurface environment underneath the subject site (Section 2.6 – Hydrogeologic Setting).

5.4 Potential Source of Contamination

Sites identified on referenced agency listing within the one-mile radius from the subject property are tabulated in the Appendix D of this Report. As shown in Appendix D, there are no Leaking Underground Storage Tank (LUST)/Spills sites or other sites within the vicinity (< 1/4 mile) of the referenced subject property being targeted as potential environmental concern.

5.5 UST, Disposal Sites, and Generators

As also summarized in Appendix D, there are no sites listed on federal EPA RCRA small quantities hazardous waste generators and Information System facilities databases, no disposal sites, and no sites listed on permitted Underground Storage Tank (UST) database compiled by the State Water Resources Control Board, located within 1/4-mile radius of the subject property.

6. USER PROVIDED INFORMATION

The User has not informed REM of any environmental liens that are filed or recorded against the Property; knowledge of activity and use limitations that are in pace on the Property, or that have been filed or recorded against the Property; any specialized knowledge of experience related to the Property or nearby properties; any information pertaining to the purchase price with respect to the fair market of the Property; any commonly known or reasonably ascertainable information about the Property that would identify conditions indicative of releases or threatened releases; and any obvious indications that point to the presence of contamination at the Property.

7. SUMMARY AND CONCLUSION

- The subject property, APN 380-290-002 (with 24831 Clinton Keith Road address; see Co. Assessor's Office records Summary for the Site Included as Appendix B), is a roughly N-S trending rectangular-shaped lot at the southwestern corner of (there E-W trending) Clinton Keith Road and (the N-S trending) Jana Lane in the southern portion of the city of Wildomar, California. The site is currently generally an unpaved vacant lot covered with native vegetation. No pits, ponds, swamps, dry wells, or lagoons were observed on the subject property. No apparently significant surface staining was observed on the entire unpaved outdoor areas of the site.

- Various historic sources listed in Section 2.4 reveals the site development/occupancy history as follows:

  Prior to the middle 1960's - The site was vacant lot
  The middle-late 1960's - The site was mainly vacant lot and with a dwelling present in its northern portion
  The 1970's to the early 1990's - The site was mainly vacant lot and with two dwellings respectively present in its northern and west-central portions
  The middle 1990's on - The site has been vacant lot again like today

- According to the conducted government records search, the subject property was not recognized being listed on the following environmental regulatory database record research (NETR database): NPL, RCRA-TSD, CERCLIS, NFRAP, RCRA-G, ERNS, CORRACTS, CORTESE, CALSITES, LUST, UST, and SWF. Based on the conducted government records search, there are also no Leaking Underground Storage Tank (LUST)/Spills sites or other sites identified as exhibiting potential environmental concern within the vicinity (< 1/4 mile) of the referenced subject property.

- In conclusion, we have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E-1527-21 of APN 380-290-002, Wildomar, CA. This assessment has revealed no evidence of apparently significant environmental concern or recognized environmental conditions in connection with the property. No Phase II (subsurface investigation) environmental assessment is recommended for the subject property.

8. LIMITATIONS AND CERTIFICATION STAMP

The opinion expressed herein is based on the information collected during our study, our present understanding of the site conditions and our professional judgment in light of such information at the time of preparation of this opinion. The report is a professional opinion work, and no warranty is either expressed, implied or made as to the conclusions, advice and recommendations offered in this report.

Our investigation was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable Engineers and Geologists practicing in this or similar localities.

The findings, conclusions and recommendations in this report are considered valid as of the present date. However, changes in the conditions of the property can occur with the passage of time, due to natural process or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standard may occur. REM is not responsible for conditions found at or beneath the subject property or adjacent properties. Accordingly, portions of this report may be invalidated wholly or partially by the changes beyond our control.

This report is prepared for the exclusive use of the client, and opinions/recommendations contained in this report apply only to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated.

Report Prepared by:
ROBIN ENVIRONMENTAL MANAGEMENT

ROBIN CHANG, PH.D., P.G.
Project Manager

9. QUALIFICATION STATEMENT FOR PERSONNEL CONDUCTING THE PHASE I ASSESSMENT

Since Robin Chang, the personnel conducting the Phase I Environmental assessment is a California State Registered Professional Geologist, Robin Chang declares that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Sec. 312.10 of 40 CFR. I have the specific qualifications based on education, training, experience, and license to assess a property of the nature, history, and setting of the subject property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

ROBIN ENVIRONMENTAL MANAGEMENT

ROBIN CHANG, PH.D., P.G.
Project Manager

APPENDICES

APPENDIX A

FIGURES & PHOTOS

FIGURE 1

SITE PHOTOS

Photo 1
Viewing the site from near its southeastern corner; facing north-northwest

Photo 2
Viewing the site from near its northeastern corner; facing south-southwest

Photo 3
Viewing the northern end of the site with residential community, across Clinton Keith Road, to the north of the site on the back (facing northwest)

Photo 4
Viewing the eastern portion of the site with various residential/light industrial properties, across Jana Lane, to the east of the site (facing south-southeast)

Photo 5
Viewing the southern end of the site with Big Easy Storage (36215 Jana Lane) to the south of the site on the back (facing southwest)

Photo 6
Viewing the central and the west-central portions of the site with Life Storage –Wildomar (24781 Clinton Keith Road) to the west of the main portion of the site on the back (facing northwest)

FIGURE 2

SITE LOCATION MAP

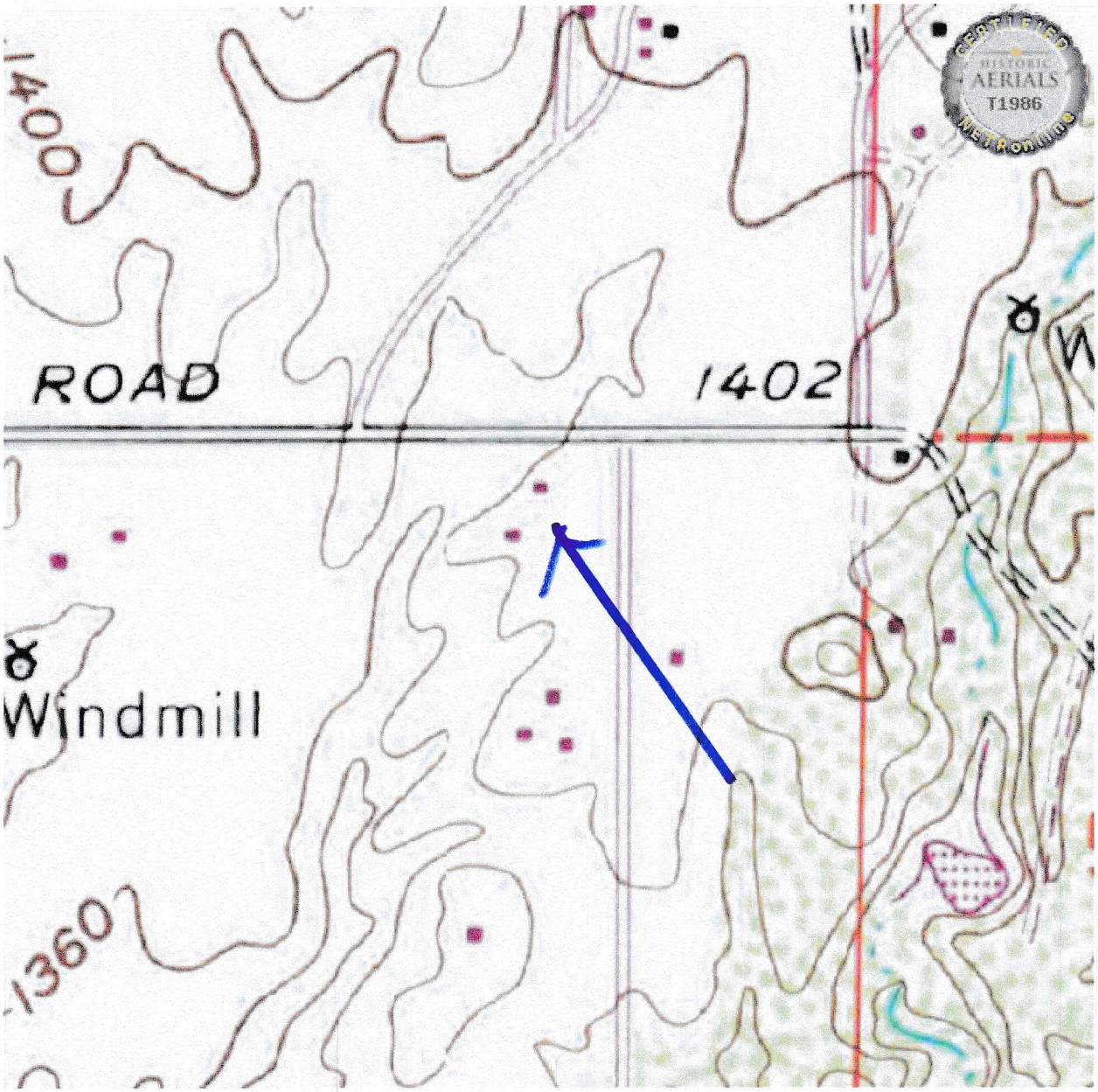
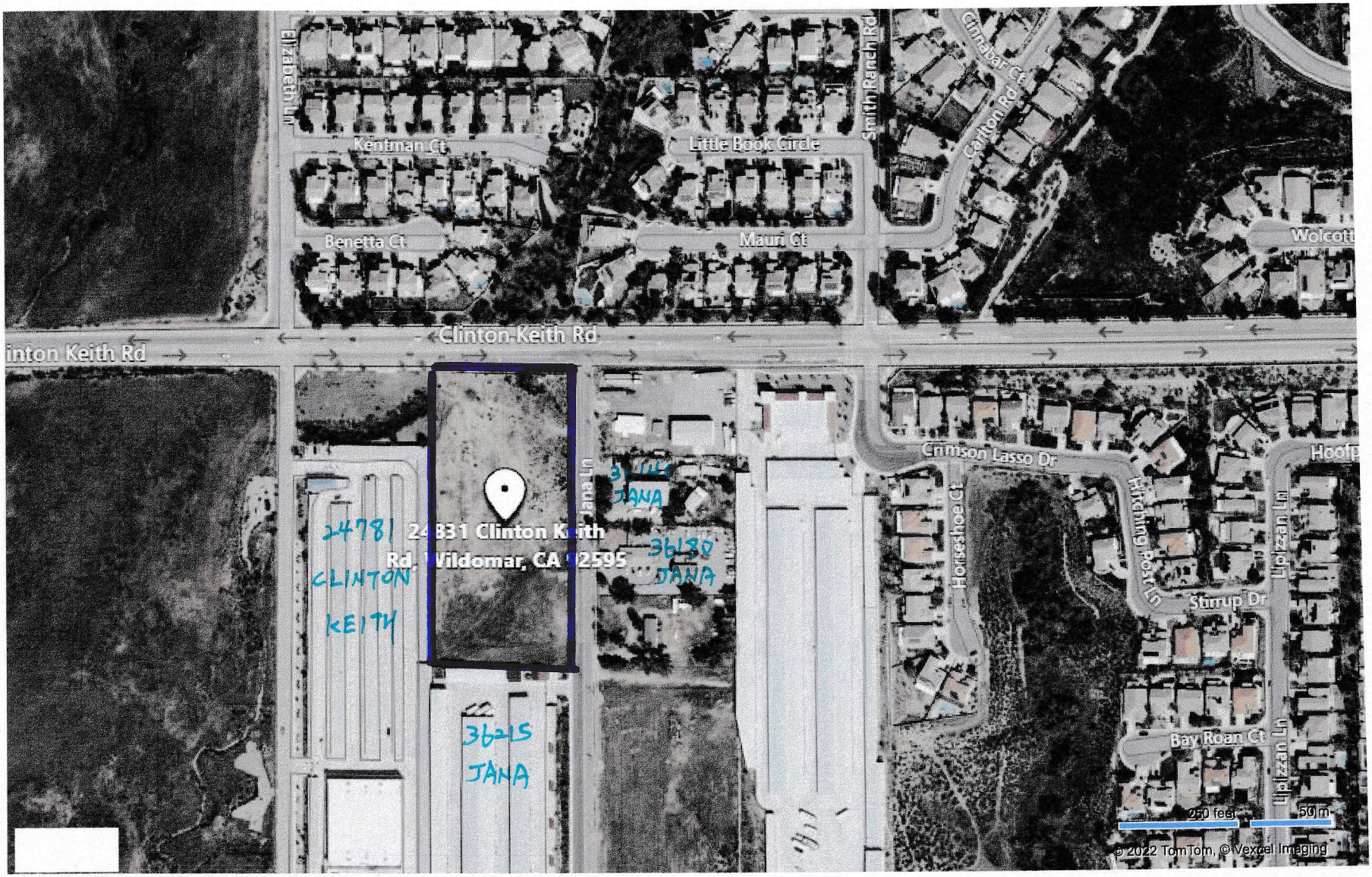

1400
ROAD
1402
Windmill
1360
CERTIFIED
HISTORIC
AERIALS
T1986
METRONAILING

FIGURE 3

RECENT AERIAL PHOTO SHOWING SITE/ITS VICINITY GENERAL LAYOUT


Elizabeth Ln
Kentman Ct
Little Book Circle
Smith Ranch Rd
Cimmaron Ct
Carlton Rd
Benetta Ct
Mauri Ct
Wolcott
Clinton Keith Rd
inton Keith Rd
24781 24831 Clinton Keith Rd, Wildomar, CA 92595
Jana Ln
Crimson Lasso Dr
Horseshoe Ct
Hitching Post Ln
Stirrup Dr
Bay Roan Ct
Lariat Ln
250 feet
50 m
© 2022 TomTom, © Vexcel Imaging
24781 CLINTON KEITH
36215 JANA
36180 JANA
N

APPENDIX B

CO. ASSESSOR'S OFFICE RECORDS SUMMARY

Property Address: **24831 CLINTON KEITH RD WILDOMAR CA 92595-8129**

General Information

County:	**RIVERSIDE**
Parcel # (APN):	**380-290-002** Open Map
Owner:	See Full Detail
Mailing Address:	**2529 FOOTHILL BLVD #101 LA CRESCENTA CA 91214**
Legal Description:	**4.35 ACRES IN POR PAR 2 RS 025/062**
Use Type:	**VACANT**
Tax Rate Area:	**025-007**

Full Detail $14.95 Add to Cart

PLEASE NOTE: If a field is empty on this page, there is no data available, and the field will also be empty on the Full Detail property report.

Assessment

Total Value:	**$928,868**	Year Assd:	**2021**
Land:	**$928,868**	Zoning:	
Structures:		Use Code:	See Full Detail
Other:		Census Tract:	See Full Detail
% Improved:	See Full Detail	Price/SqFt:	
Exempt Amt:			
HO Exempt:	**N**		

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:	**06/10/2021**	See Full Detail		See Full Detail
Document Number:	**0353050**	See Full Detail		See Full Detail
Document Type:	See Full Detail	See Full Detail		
Transfer Amount:	**$650,000**	See Full Detail		
Seller (Grantor):	See Full Detail			

Property Characteristics

Bedrooms:		Fireplace:		Units:	
Baths (Full):		A/C:		Stories:	
Baths (Half):		Heating:		Quality:	
Total Rooms:		Pool:		Building Class:	
Bldg/Liv Area:		Park Type:		Condition:	
Lot Acres:	**4.350**	Spaces:		Site Influence:	
Lot SqFt:	**189,485**	Garage SqFt:		Timber Preserve:	
Year Built:				Ag Preserve:	
Effective Year:					

**The information provided here is deemed reliable, but is not guaranteed.

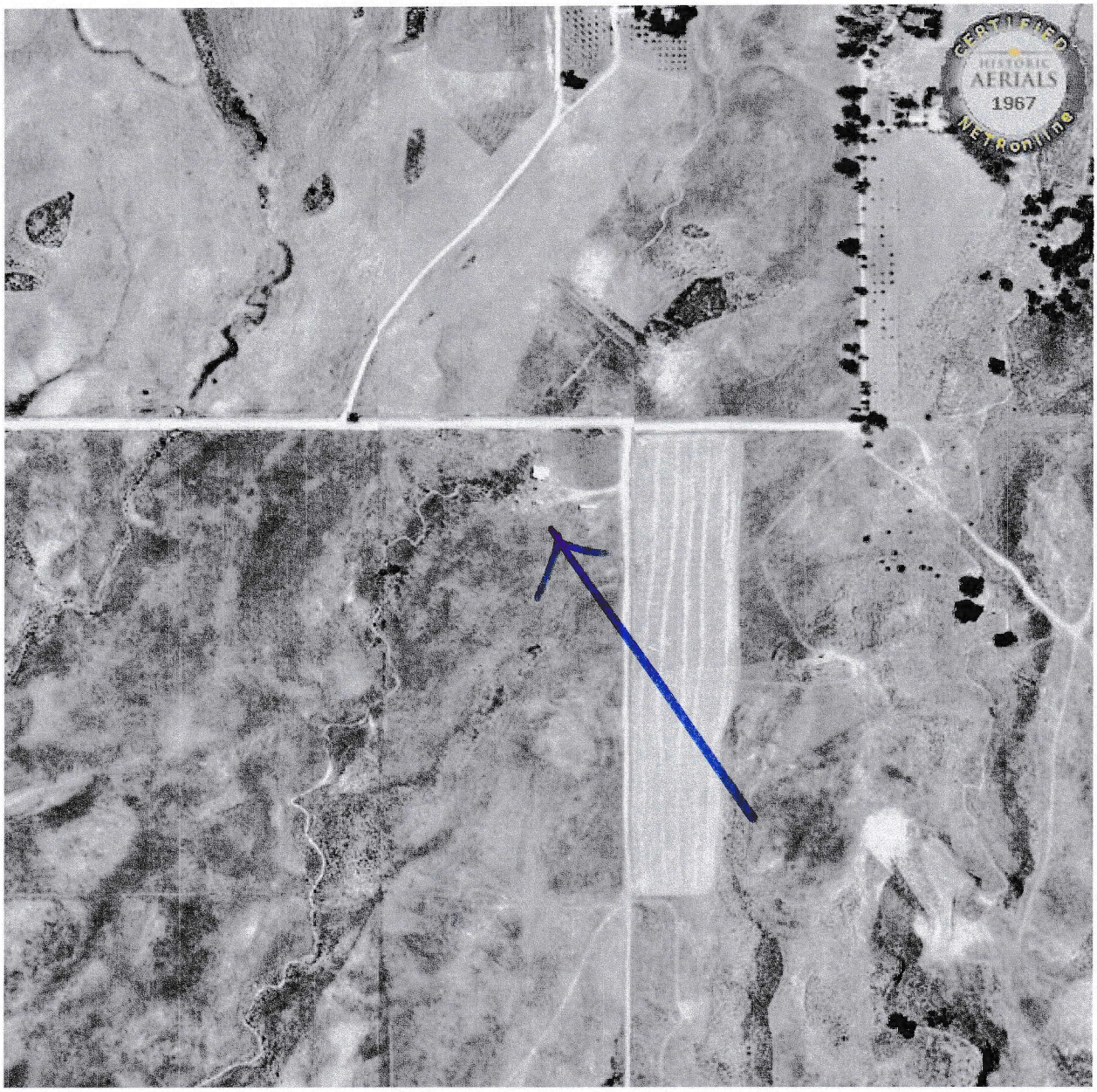
Additional reports on this property

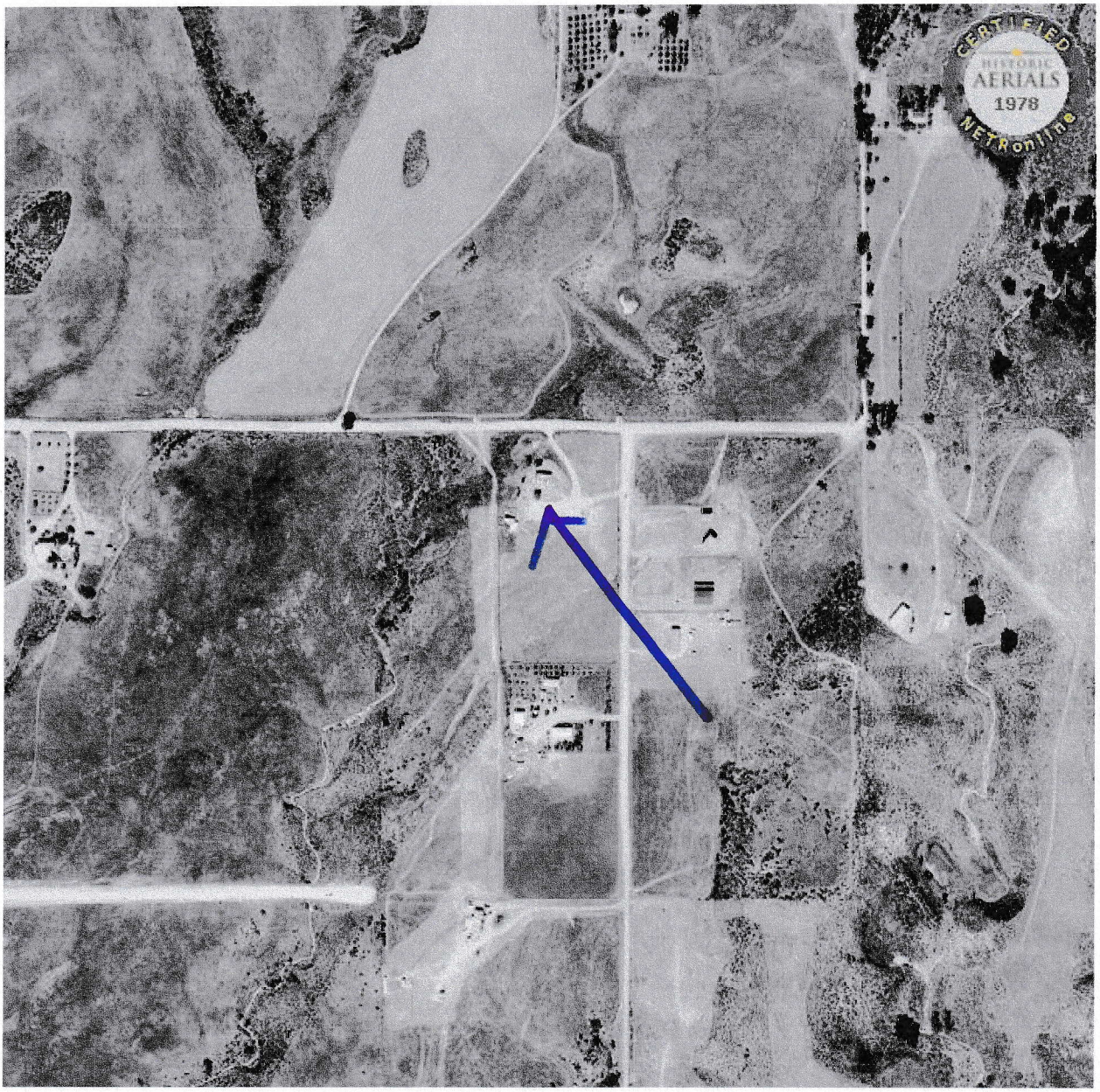
APPENDIX C

HISTORIC AERIAL PHOTO/TOPOGRAPHIC MAP RECORDS

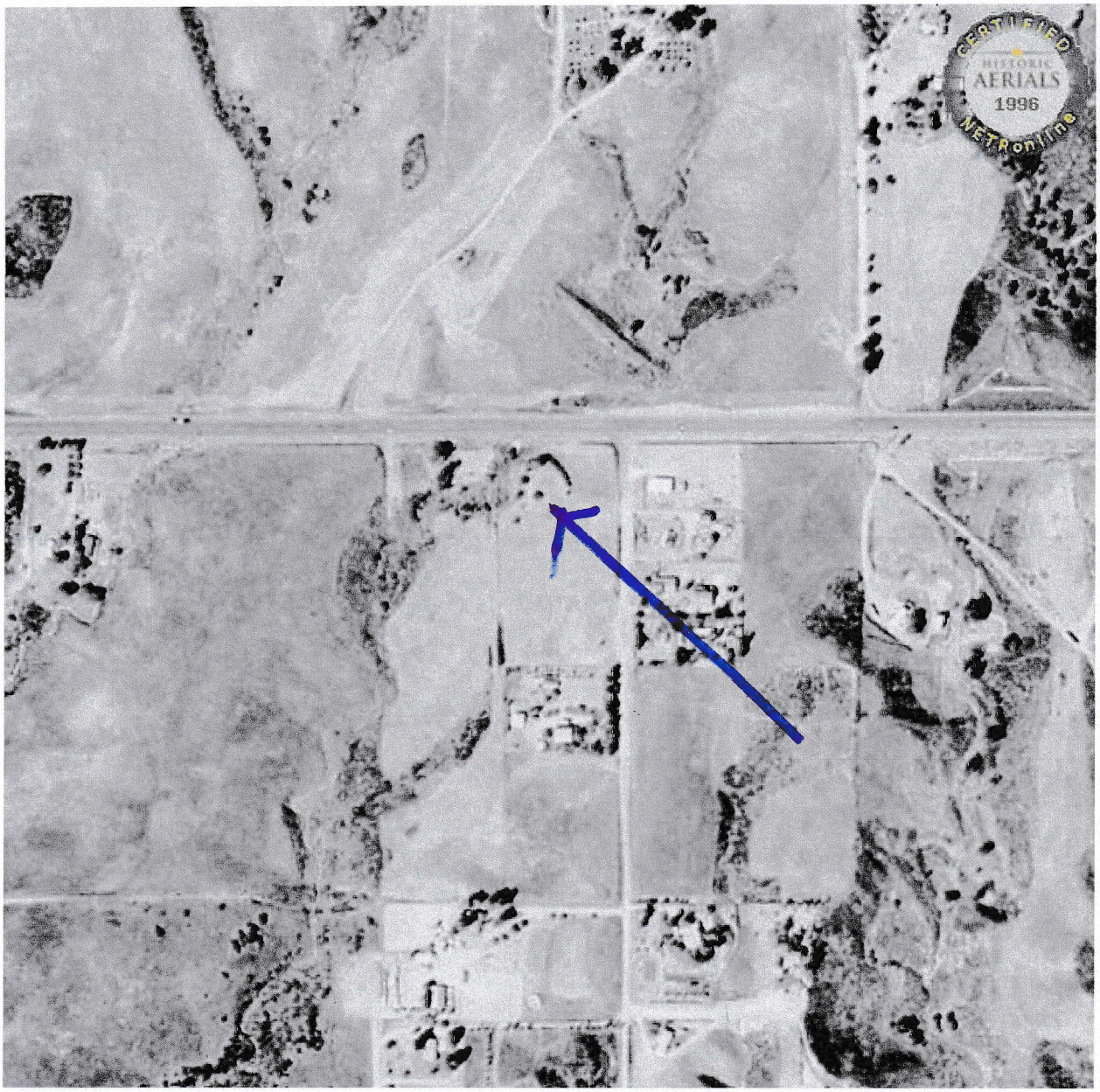
CERTIFIED
HISTORIC
AERIALS
1938
NETRonline

1400
ROAD
1402
Windmill
1360
N


CERTIFIED
HISTORIC
AERIALS
1967
NETRONLINE


CERTIFIED
HISTORIC
AERIALS
1978
NETRonline

CERTIFIED
HISTORIC
AERIALS
1985
NETRonline


CERTIFIED
HISTORIC
AERIALS
1996
NETRonline

CERTIFIED
HISTORIC
AERIALS
2005
NETRonline

APPENDIX D

GOVERNMENT RECORDS SEARCH DATABASE

24831 Clinton Keith Rd, Wildomar, CA 92595
prepared for: REM
Ref:

2022-11-07

Environmental Radius Report

NETRONLINE

2055 E. Rio Salado Pkwy
Tempe, AZ 85381
480-967-6752

Summary

Federal

	< 1/4	1/4 - 1/2	1/2 - 1
Lists of Federal NPL (Superfund) sites	0	0	0
Lists of Federal Delisted NPL sites	0	0	-
Lists of Federal sites subject to CERCLA removals and CERCLA orders	0	0	-
Lists of Federal CERCLA sites with NFRAP	0	0	-
Lists of Federal RCRA facilities undergoing Corrective Action	0	0	-
Lists of Federal RCRA TSD facilities	0	0	-
Lists of Federal RCRA generators	0	-	-
Federal institutional control/engineering control registries	0	-	-
Federal ERNS list	0	-	-

State

	< 1/4	1/4 - 1/2	1/2 - 1
Lists of state and tribal Superfund equivalent sites	0	0	0
Lists of state and tribal hazardous waste facilities	0	0	-
Lists of state and tribal landfills and solid waste disposal facilities	0	0	-
Lists of state and tribal leaking storage tanks	0	0	-
Lists of state and tribal registered storage tanks	0	-	-
State and tribal institutional control/engineering control registries	0	-	-
Lists of state and tribal voluntary cleanup sites	0	0	-
Lists of state and tribal brownfields sites	0	0	-

Other

	< 1/4	1/4 - 1/2	1/2 - 1
Resource Conservation and Recovery Act Information (RCRAInfo)	0	0	-
U.S. EPA Underground Storage Tanks (UST)	0	-	-

Lists of Federal NPL (Superfund) sites

No Federal NPL sites found within a one-mile radius of the target property.

Lists of Federal Delisted NPL sites

No Federal Delisted NPL sites found within a half-mile radius of the target property.

Lists of Federal sites subject to CERCLA removals and CERCLA orders

No Federal sites subject to CERCLA removals and/or orders found within a half-mile radius of the target property.

Lists of Federal CERCLA sites with NFRAP

No Federal CERCLA sites with No Further Remedial Action Planned (NFRAP) decisions found within a half-mile radius of the target property.

Lists of Federal RCRA facilities undergoing Corrective Action

No Federal RCRA facilities undergoing corrective action(s) found within a half-mile radius of the target property.

Lists of Federal RCRA TSD facilities

No Federal RCRA treatment, storage and disposal facilities (TSDFs) found within a half-mile radius of target property.

Lists of Federal RCRA generators

No Federal RCRA generators found at the target property and/or adjoining properties.

Federal institutional control/engineering control registries

No Federal institutional or engineering controls found at the target property.

Federal ERNS list

No Federally recorded releases of oil and/or hazardous substances at the target property.

Lists of state and tribal Superfund equivalent sites

No State and/or tribal Superfund equivalent sites found within a one-mile radius of target property.

Lists of state and tribal hazardous waste facilities

No State and/or tribal hazardous waste facilities found within a half-mile radius of the target property.

Lists of state and tribal landfills and solid waste disposal facilities

No State and/or tribal landfills or solid waste disposal facilities found within a half-mile radius of the target property.

Lists of state and tribal leaking storage tanks

No State and/or tribal leaking storage tanks found within a half-mile radius of the target property.

Lists of state and tribal registered storage tanks

No State and/or tribal registered storage tanks found at subject and adjoining properties.

State and tribal institutional control/engineering control registries

No State and/or tribal institutional and/or engineering controls found filed against the target property.

Lists of state and tribal voluntary cleanup sites

No State and/or tribal voluntary cleanup sites found within a half-mile radius of the target property.

Lists of state and tribal brownfields sites

No State and/or tribal brownfields sites found within a half-mile radius of the target property.

Resource Conservation and Recovery Act Information (RCRAInfo)

No records found

U.S. EPA Underground Storage Tanks (UST)

No records found

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Appendix 7

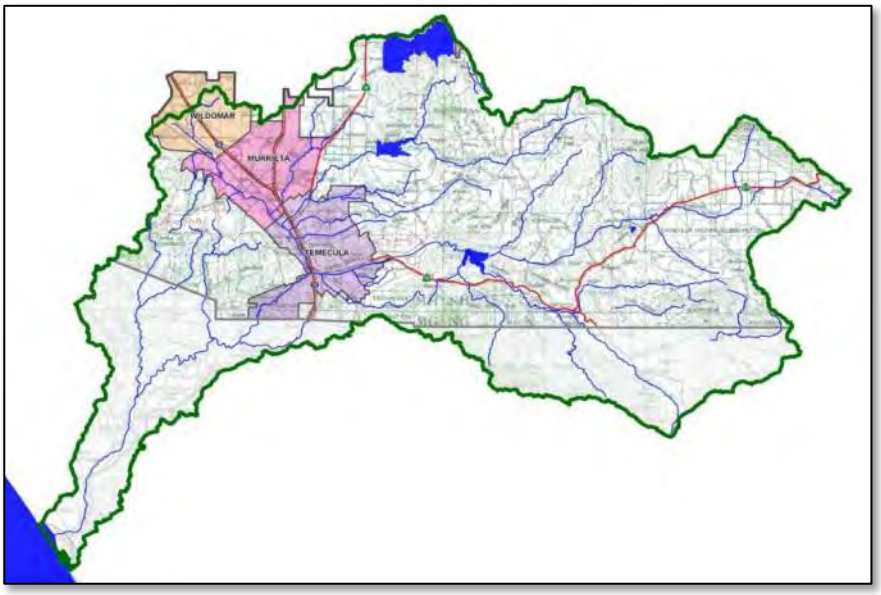
Project Specific Water Quality Management Plan

Project Specific Water Quality Management Plan (WQMP)

A Template for preparing Project Specific Water Quality Management Plans (WQMPs) for Priority Development Projects located in the City of Wildomar.

Attention: This submittal package only applies to "Priority Development Projects" and does not apply to "Other Development Projects". Proceed only if the Applicabilty Checklist completed for your project categorizes project activities as a "Priority Development Project."

Project Title:	Jana Rd Commercial Development	**Prepared for:**	Michael Ramirez, Beyond Food Mart Inc, 4301 Edison Ave, Chino, CA 91710, (760) 810-8548
Development No:	#22-0006	**Prepared by:**	Angel Cesar, P.E, QSD, 9320 Baseline Rd Suite D, Rancho Cucamonga, CA 91701 (909) 248-6557
City Project No:	#22-0006	**WQMP Type:**	☒ **Preliminary (entitlement submittal)** ☐ **Final**



Original Date Prepared: 3/14/2022

Revision Summary (post WQMP acceptance):

MARK	**BY**	**DATE**	**REVISIONS**	**APPRV.**	**DATE**
ENGINEER				**CITY**	

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**

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 (WQPM). 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 Michael Ramirez, Beyond Food Mart Inc by Blue Engineering and Consulting, Inc. for the <Project Name> project.

This WQMP is intended to comply with the requirements of the City of Wildomar for Wildomar Municipal Code Ch. 13.12 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 storm water 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 the City of Wildomar Water Quality Ordinance (Wildomar Municipal Code Ch. 13.12).

"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."

Owner's Signature

10/18/2022
Date

Mark Sater
Owner's Printed Name

Managing Member
Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control Best Management Practices (BMPs) 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**."
p

Preparer's Signature

10/18/2022
Date

Angel Cesar P.E., QSD
Preparer's Printed Name

President/CEO
Preparer's Title/Position

Preparer's Licensure:

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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.

PROJECT INFORMATION		
Type of PDP:	New Development	
Type of Project:	Commercial	
Planning Area:	C-1/C-P	
Community Name:	Insert Community Name if known	
Development Name:	Beyond Food Mart - Clinton Keith Rd & Jana Lane	
PROJECT LOCATION		
Latitude & Longitude (DMS):	33.597, -117.226	
Project Watershed and Sub-Watershed:	Santa Margarita River, Murrieta Creek	
24-Hour 85th Percentile Storm Depth (inches):	0.68	
Is project subject to Hydromodification requirements?	☐ Y ☒ N (Select based on Section A.3)	
APN(s):	380-290-002	
Map Book and Page No.:	PM 25, Pg. 62	
PROJECT CHARACTERISTICS		
Proposed or Potential Land Use(s)		Commercial
Proposed or Potential SIC Code(s)		1521
Existing Impervious Area of Project Footprint (SF)		
Total area of proposed Impervious Surfaces within the Project Limits (AC)/or Replacement		3.22
Total Project Area (ac)		4.04
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
Is the project exempt from Hydromodification Performance Standards?		☐ Y ☒ N
Does the project propose the use of Alternative Compliance to satisfy BMP requirements? (note, alternative compliance is not allowed for coarse sediment performance standards)		☐ 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
Are there any natural hydrologic features on the project site?		☐ Y ☒ N
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)		Insert text here.

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

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 Copermittee 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 storm water 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	Nutrients, Metals, Toxicity, Pesticides and Herbicides	MUN, AGR, IND PROC, REC1, REC2, WARM, WILD	N/A
Santa Margarita River (Upper)	Nutrients, Toxicity	MUN, AGR, IND, REC1, REC2, WARM, COLD, WILD, RARE, SPWN	N/A
Santa Margarita River (Lower)	Nutrients, Bacteria and Pathogens	MUN, AGR, IND, REC1, REC2, WARM, COLD, WILD, RARE, SPWN	N/A

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:

[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.

- 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 Watershed Management Area Analysis (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 Ground	None	☐ Y ☒ N
Santa Margarita River (Upper)	Natural Ground	None	☐ Y ☒ N
Santa Margarita River (Lower)	Natural Ground	None	☐ Y ☒ N
Summary of Performance Standards			
☐ **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 Multiple Species Habitat Conservation Plan (MSHCP) Consistency Approval (e.g., Joint Project Review (JPR), Determination of Biological Equivalent or Superior Preservation (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 Copermittee 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 Priority Development Project (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.
The existing ground drains the southwest, ultimately discharging into Santa Margarita River.

☐ 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. *There is no existing vegetation to be preserved. The entire site will be disturbed.*

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 soils report indicates that the infiltration rate is of 1.12 inch/hour. With this in mind, the infiltration rate is too low to be taken into account when designing the BMP.*	
☐ 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. *Run-off generated by development will be completely treated onsite through the proposed underground infiltration system.*	

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. *The entire storm runoff from the site will be discharged into a bioretention 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. *Native species are included by following the City of Wildomar Water Efficient / Conservation Landscape Standards Manual in the self retaining area along the southern portion of the project.*	

Project- Specific WQMP Site Design BMP Checklist	
☐ Yes ☐ No ☒ N/A	**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. The general feasibility and applicability of Harvest and Use BMPs should consider: • Any downstream impacts related to water rights that could arise from capturing storm water (not common). • Conflicts with recycled water used – where the project is conditioned to use recycled water for irrigation, this should be given priority over storm water capture as it is a year-round supply of water. • Code Compliance - If a particular use of captured storm water, and/or available methods for storage of captured storm water 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 [Insert Jurisdiction], 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. *The demand for non-potable water is not sufficiently large therefore, Harvest and Use is not required.*	
☐ Yes ☐ No ☒ N/A	**Did you keep the runoff from sediment producing pervious area hydrologically separate from developed areas that require treatment?** Pervious area that qualify 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. *Proposed full capture type bioclean catch basin filter to avoid impact to sediment supply and reduce clogging risk to BMPs.*	

Section C: Delineate Drainage Management Areas (DMAs)

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
A	Landscape (35,947), Asphalt (92,900), BLDG (27,256), Concrete (18,809)	176,021	Type D

Add Columns as Needed

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

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.

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	Slopes will be graded toward the center of the pervious area.
☐ Yes ☒ No ☐ N/A	Soils will be freely draining to not create vector or nuisance conditions.
☐ 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	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	Area must be designed to retain the entire Design Storm runoff without

flowing offsite.

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] = $[B] + \frac{[B]\cdot[C]}{[A]}$
N/A	N/A	N/A	N/A	N/A	N/A	N/A

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]
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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:

$$\left(\frac{2}{Impervious\ Fraction}\right) : 1$$

(Tributary Area: Self-Retaining Area)

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-1	Underground Bioretention System

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 principals 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 principals 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 Copermittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the Copermittee, 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, Hydrogeologist, 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?		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 factored infiltration rates of less than 0.8 inches / hour? (Note: on a case-by-case basis, the City may allow a factor of safety as low as 1.0 to support selection of full infiltration BMPs. Therefore, measured infiltration rates could be as low as 0.8 in/hr to support full infiltration. A higher factor of safety would be required for design in accordance with the LID BMP Deign Handbook).		X
If Yes, list affected DMAs:	DMA-A	
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:		
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:		

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

[3] Such a condition must be substantiated by sufficient modeling to demonstrate an impact and would be subject to [Insert Jurisdiction] discretion. There is not a standardized method for assessing this criterion. Water rights evaluations should be site-specific.

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.

Table D-2 Geotechnical Concerns for Onsite Infiltration

Type of Geotechnical Concern	DMAs Feasible (By Name or ID)	DMAs Infeasible (By Name or ID)
Collapsible Soil		DMA-1
Expansive Soil		DMA-1
Slopes		DMA-1
Liquefaction		DMA-1
Other		

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 City

    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 Copermittee with jurisdiction over the Project site to discuss this option. Proceed to Section F to document your alternative compliance measures.

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)
N/A	N	Infiltration is not feasible
Insert text here		
Insert text here		
Insert text here		

Proprietary Biofiltration BMP Approval Criteria

If the project will use proprietary BMPs as biofiltration BMPs, then this section is completed to document that the proprietary BMPs are selected in accordance with Section 2.3.7 of the SMR WQMP. Proprietary Biofiltration BMPs must meet both of the following approval criteria:

1. Approval Criteria for All Proprietary BMPs, and
2. Acceptance Criteria for Proprietary Biofiltration BMPs.

When the use of proprietary biofiltration BMPs is proposed to meet the Pollutant Control performance standards, use Table D-4 to document that appropriate approval criteria have been met for the proposed BMPs. Add additional rows 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
N/A	☐ Proposed BMP has an active TAPE GULD Certification for the project pollutants of concern[4] or equivalent 3rd party demonstrated performance.	Insert text here
	☐ The BMP is used in a manner consistent with manufacturer guidelines and conditions of its third-party certification.	Insert text here
	☐ The BMP includes biological features including vegetation supported by engineered or other growing media.	Describe features here.
	☐ The BMP is designed to maximize infiltration, or supplemental infiltration is provided to achieve retention equivalent to Biofiltration with Partial Infiltration BMPs if factored infiltration rate is between 0.1 and 0.8 inches/hour.	Describe supplemental retention practices if applicable.
	☐ The BMP is sized using one of two	

[4] Use Table F-1 and F-2 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 BMP Hierarchy			No LID (Alternative Compliance)
	1. Infiltration	2. Biofiltration with Partial Infiltration	3. Biofiltration with No Infiltration	
A	☐	☐	☒	☐
Insert text here	☐	☐	☐	☐
Insert text here	☐	☐	☐	☐
Insert text here	☐	☐	☐	☐
Insert text here	☐	☐	☐	☐

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?	The beginning of entitlement before the design was finalized
b) When in the entitlement process were other investigations conducted (e.g., groundwater quality, water rights) to evaluate infiltration feasibility?	The beginning of entitlement before the design was finalized. During Geotechnical engineer analysis of the site
c) What was the scope and results of testing, if	Soils and Foundation Evaluations and infiltration testing. See Geotech Report in Appendix 3 for additional information.

[5] http://www.projectcleanwater.org/download/pdp-infiltration-infeasibility/

	conducted, or rationale for why testing was not needed to reach findings?	
d)	What public health and safety requirements affected infiltration locations?	None
e)	What were the conclusions and recommendations of the geotechnical engineer and/or other professional responsible for other investigations?	Low infiltration rate and no shallow depth groundwater was encountered. See Geotech Report in Appendix 3 for additional information.
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?	Based on the testing location and slope of the site the bmp was determined to be placed at the low point one of the lower points in order to keep natural drainage path.
g)	What site design alternatives were considered to achieve infiltration or partial infiltration on site?	None
h)	What physical impairments (i.e., fire road egress, public safety considerations, utilities) and public safety concerns influenced site layout and infiltration feasibility?	None
i)	What LID Principles (site design BMPs) were included in the project site design?	Underground Infiltration system at the south west area of the site

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 Copermittee to assist you in correctly sizing your LID BMPs. Use Table D-7 below to document the DCV for 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 (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Enter BMP Name / Identifier Here*		
	[A]		[B]	[C]	[A] x [C]			
1	176,021	*Mixed*	*0.67*	*0.47*	*82,730*			
						Design Storm Depth (in)	*DCV, V_{BMP} (cubic feet)*	*Proposed Volume on Plans (cubic feet)*
	A_T = Σ[A] 176,021				Σ= [D] 82,730	[E] 0.69	$[F] = \frac{[D]x[E]}{12}$ 4,757	[G] 8,989

[B], [C] is obtained as described in Section 2.6.1.b of the SMR WQMP

[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 Volume (ft^3)	Proposed Volume (ft^3)
ADS stormtech MC-3500	1	Underground Bioretention System	4,800	8,989

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 meet biofiltration sizing requirements if the underdrain is uncapped.

Section E: Implement Hydrologic Control BMPs and Sediment Supply BMPs

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 Copermittee.

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.

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 (10% of the 2-year runoff event up to the 10-year runoff event). 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.

☐ 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)
DMA	1	Underground Bioretention System	☒	1.34	0.2	48
			☐			
			☐			
			☐			

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 of the WQMP to determine if there are onsite Potential Critical Coarse Sediment Yield Areas or Potential Sediment Source Areas. 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. The Sediment Supply Performance Standard is met with no further action.

☐ 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 or Option 2 below.

The applicant may refer to Section 3.6.4 of the SMR WQMP for a description of the methodology to meet the Sediment Supply Performance Standard. Select the applicable compliance pathway and

complete the appropriate sections to demonstrate compliance with the Sediment Supply Performance Standard if the second box is selected above:

☐ Avoid impacts related to any PDP activities to Potential Critical Coarse Sediment Yield Areas. Proceed to Section E.3.1.

☐ Complete a Site-Specific Critical Coarse Sediment Analysis. Proceed to Section E.3.2.

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.

N/A

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 maintenance of the pre-project source(s) of Critical Coarse Sediment (i.e., Bed Sediment Supply):

1. Determine whether the site or a portion of the site is a Significant Source of Bed Sediment Supply to the Receiving Channel (i.e., an actual verified Critical Coarse Sediment Yield Area);
2. Avoid areas identified as actual verified Critical Coarse Sediment Yield Areas in the PDP design and maintain pathways for discharge of Bed Sediment Supply from these areas to receiving waters.

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* -

☐ The site design **does NOT avoid** all onsite channels identified as actual verified Critical Coarse Sediment Yield Areas

OR

☐ The project impacts transport pathways of Critical Coarse Sediment from onsite upstream drainages.

(If either of these are the case, the applicant may proceed with the subsequent steps of Section E.3).

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

Identified Channel #3 - Insert narrative description here

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 [Insert Jurisdiction]. 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/

N/A

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 City for currently available Alternative Compliance pathways. Coordinate with the Copermittee 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]
N/A	N/A	N/A

[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	*Enter BMP Name / Identifier Here*	
	[A]		[B]	[C]	[A] x [C]		
N/A	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*		
						Design Storm (in)	*Design Flow Rate (cfs)*
	$A_T = \Sigma[A]$				$\Sigma = [D]$	[E]	$[F] = \frac{[D]x[E]}{[G]}$

[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 Copermittee 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

Insert narrative description here

☐ In-Stream Restoration Project

Insert narrative description here

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 City may require full trash capture BMPs to be installed as part of the project. Consult with the City to determine applicability.

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-2 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	*Enter BMP Name / Identifier Here*	
	[A]		[B]	[C]	[A] x [C]		
						Trash Capture Design Storm Intensity (in)	*Trash Capture Design Flow Rate (cubic feet or cfs)*
	$A_T = \Sigma[A]$				$\Sigma = [D]$	[E]	$[F] = \frac{[D]x[E]}{[G]}$

[B], [C] is obtained as described in Section 2.6.1.b from the SMR WQMP
[G] = 43,560

Table G-2 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-3 to summarize and document the selection and sizing of Trash Capture BMPs.

Table G-3 Trash Capture BMPs

BMP Name / ID	DMA No(s)	BMP Type / Description	Required Trash Capture Flowrate (cfs)	Provided Trash Capture Flowrate (cfs)

Section H: Source Control BMPs

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
A. On-site storm drain 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.
C. Interior parking garages	State that parking garage floor drains will be pumped to the sanitary sewer.	Inspect and maintain drains to prevent blockages and overflow.
D2. Landscape/Outdoor Pesticide Use	State that final landscape plans will accomplish all of the following.	Maintain landscaping using minimum or no pesticides.

	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.	
G. Refuse areas	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.
O. Miscellaneous Drain or Wash Water or Other Sources – Roofing, gutters, and trim.	Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	
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.

Section I: Coordinate Submittal with Other Site Plans

Populate Table I-1 below to assist the plan checker in an expeditious review of your project. During construction and at completion, City 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)
A	Bioretention	See WQMP Exhibit & Rough Grading Sheet 4

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 Copermittee 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 Copermittee 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)* City of Wildomar Permits	☒ Y	☐ N

Section J: Operation, Maintenance and Funding

The Copermittee 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 Copermittee 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 Copermittee 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: All proposed BMPs will be owned and maintained by the Property Owners Association (POA). The BMPs will serve only one site owner and will be accessible to inspectors.

Will the proposed BMPs be maintained by a Homeowners' Association (HOA) or Property Owners Association (POA)?

☒ Y ☐ N

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9. 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 storm water 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 storm water BMP that is based upon Low Impact Development concepts. LID BMPs not only provide highly effective treatment of storm water 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 storm water 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 storm water 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 storm water runoff for later use without negatively impacting downstream water rights or other Beneficial Uses.

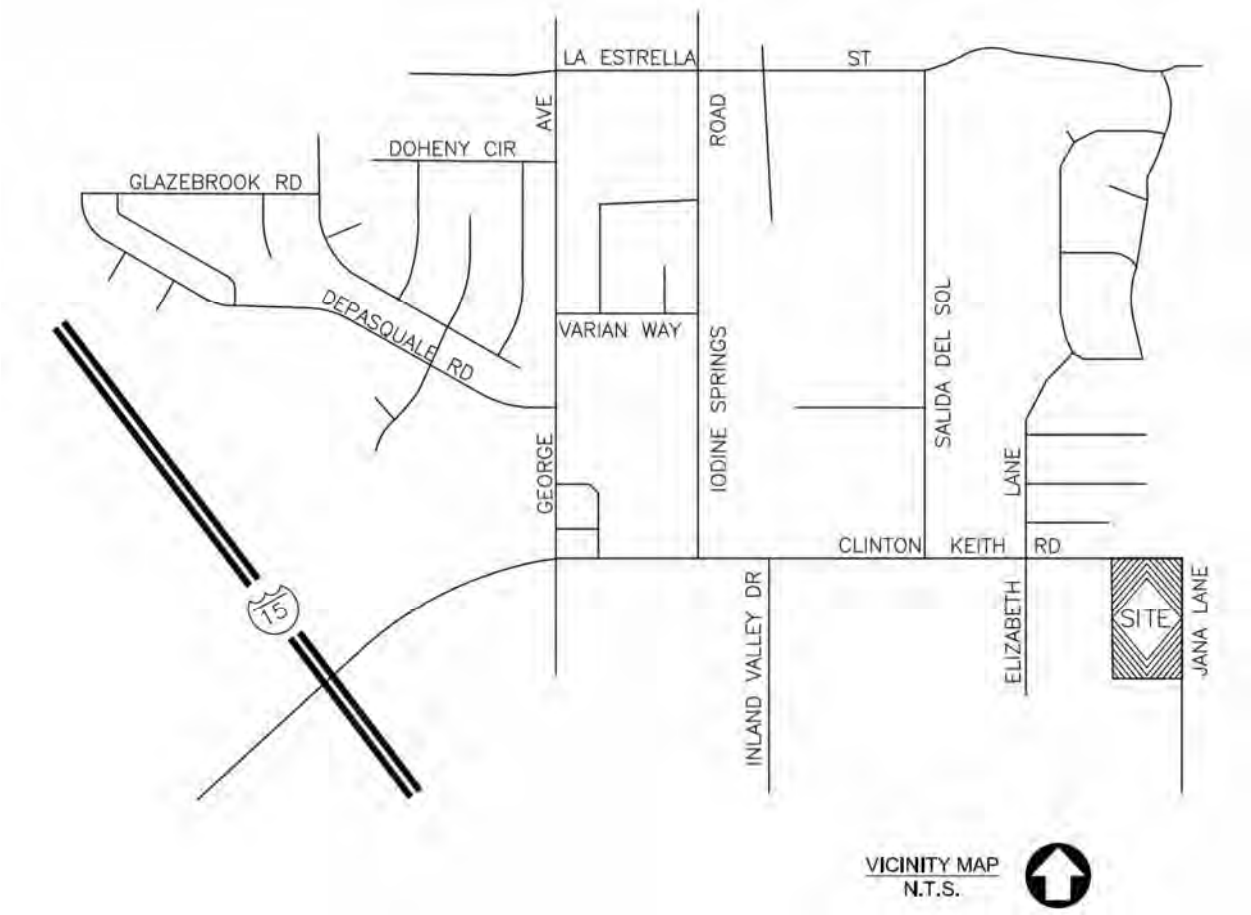
LID Infiltration BMP	BMPs to reduce storm water runoff by capturing and infiltrating the runoff into in-situ soils or amended onsite soils. Typical LID Infiltration BMPs include infiltration basins, infiltration trenches and pervious pavements.
LID Retention BMP	BMPs to ensure full onsite retention without 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 Clean Water Act (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.

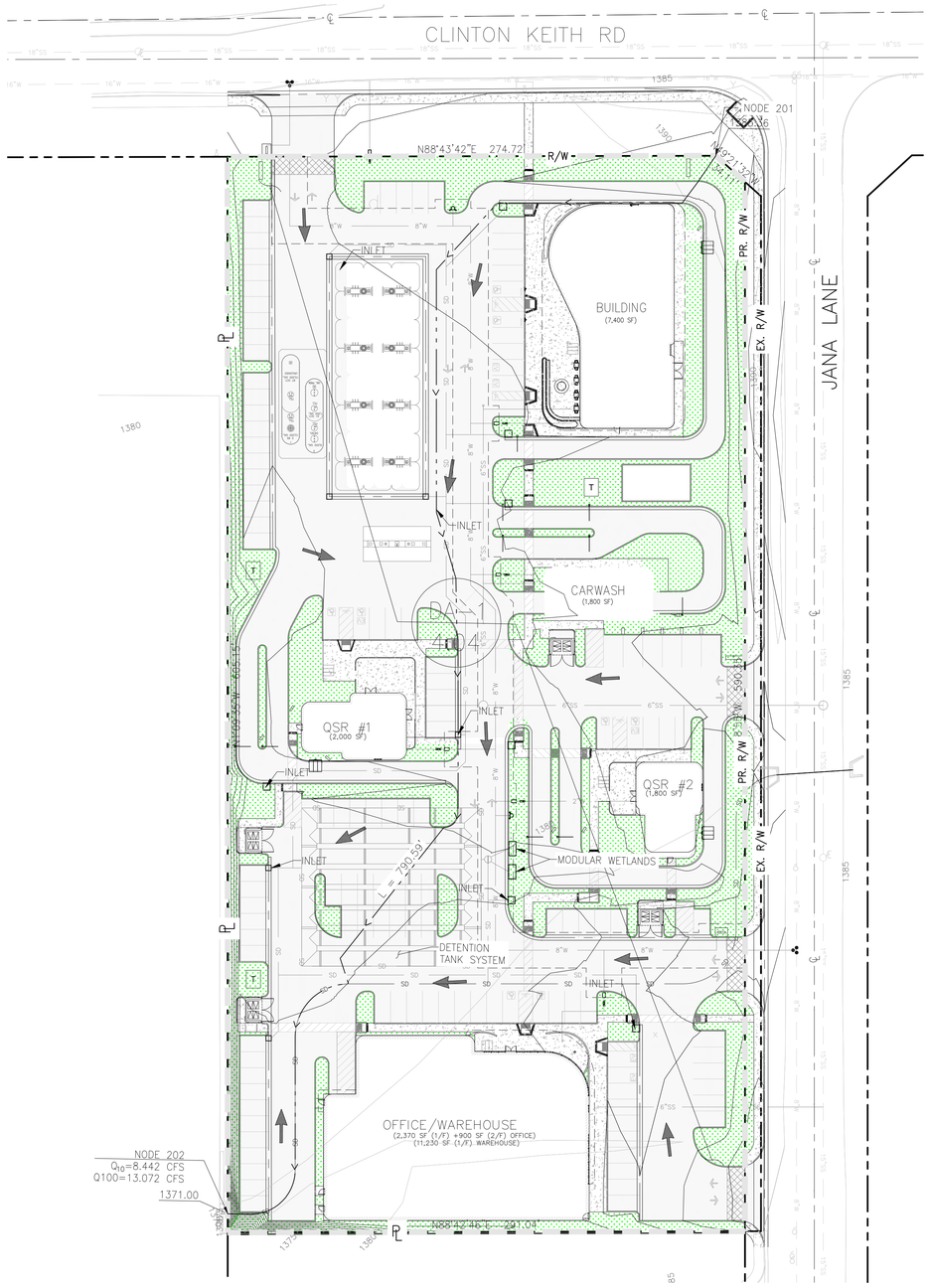
Priority Pollutants of Concern	Pollutants expected to be present on the project site and for which a downstream water body is also listed as Impaired under the CWA Section 303(d) list or by a TMDL.
Project-Specific WQMP	A plan specifying and documenting permanent LID Principles and storm water BMPs to control post-construction Pollutants and storm water 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.

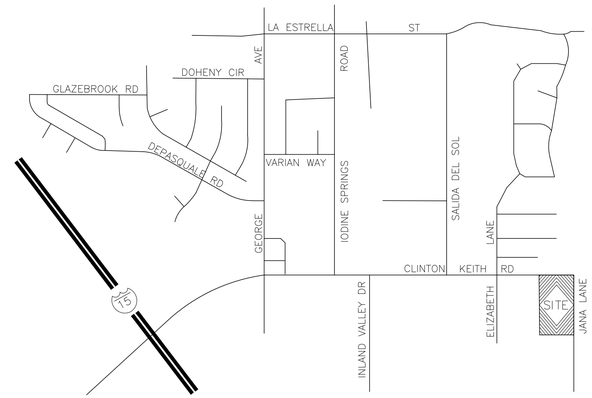
Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map





VICINITY MAP
SCALE: 1" = 40'



VICINITY MAP
N.T.S.

LEGEND

- FLOW LINE
- FLOW DIRECTION
- DRAINAGE AREA BOUNDARY
- # / X.XX — DRAINAGE AREA DESIGNATION
- DRAINAGE AREA
- PROPOSED 12" STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- LANDSCAPE AREA
- ROOF
- CONCRETE
- ASPHALT

NOTE: ALL INLETS HAVE TRASH CAPTURE FILTERS

ENGINEERED SOIL MEDIA REQUIREMENTS

THE ENGINEERED SOIL MEDIA SHALL BE COMPROMISED OF 85 PERCENT MINERAL COMPONENT AND 15 PERCENT ORGANIC COMPONENT, BY VOLUME, DRUM MIXED PRIOR TO PLACEMENT. THE MINERAL COMPONENT SHALL BE CLASS A SANDY LOAM TOPSOIL THAT MEETS THE RANGE SPECIFIED IN THE TABLE BELOW. THE ORGANIC COMPONENT SHALL BE NITROGEN STABILIZED COMPOST, SUCH THAT NITROGEN DOES NOT LEACH MEDIA.

MINERAL COMPONENT RANGE REQUIREMENTS	
Percentage Range	Component
70–80	SAND
15–20	SILT
5–10	CLAY

PROJECT BMP RATIOS

NAME	AREA (SF)	LANDSCAPE AREA (SF)	RATIO (%)	IMPERVIOUS AREA	RATIO (%)
DA–1	176,021	35,947	20	140,074	80

PROJECT BMP CONFORMANCE ANALYSIS

NAME	AREA (SF)	i	C	DMA AREA	V_{BMP}	BMP	$A_{PROVIDED}$	$V_{PROVIDED}$
DA 1	176,021	0.67	0.47	2,608	4,693	BIO 'A'	2,608 SF	4,693 C.F.
		TOTAL REQUIRED		2,608 SF				4,693 C.F. TOTAL PROVIDED

0 10 20 40 Feet
1:600

DESIGNED BY: MG
DRAWN BY: CG
CHECKED BY: AC

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER — ANGEL CESAR — No. 87222 — CIVIL — STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
9320 BASELINE RD. STE. D - RANCHO CUCAMONGA, CA 91701
PHONE: 909-248-6557 - INFO@BLUECIVILENG.COM
WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF WILDOMAR
24831 CLINTON KEITH RD, WILDOMAR, CA 92595

REVIEWED BY: _____ DATE

XXXXXXXXXX
P.E. NO. C-69109
EXP. DATE 6-30-2020

POST-DEVELOPMENT HYDROLOGY EXHIBIT

JANA RD COMMERCIAL DEVELOPMENT
CONDITIONAL USE PERMIT

CUP:
LDP:
DATE: October 17, 2022
SHEET 7
OF 7 SHEETS
PROJECT NUMBER:

Plans Prepared On: 10/17/2022

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RECEIVING WATERS MAP

PLANS PREPARED BY:

BLUE Engineering & Consulting, Inc
9320 BASELINE RD – RANCHO CUCAMONGA, CA 91701
PHONE: 909-248-6557 – E-MAIL ANGEL@BLUECIVILENG.COM WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222

DATE

Appendix 2: Construction Plans

Grading and Drainage Plans

Appendix 3: Soils Information

Geotechnical Study, Other Infiltration Testing Data, and/or Other Documentation

NTS GEOTECHNICAL

October 17, 2022

Project No. 22504

Mr. Michael Ramirez
Beyond Food Mart
4300 Edison Avenue
Chino, CA 91710

Subject: Limited Geotechnical Engineering Report
Proposed Commercial Development
24831 Clinton Keith Road, Wildomar, California

Dear Mr. Ramirez:

In accordance with your request and authorization, we have completed a preliminary geotechnical study for the design and construction of the subject structures. We are presenting, herein, our findings and recommendations.

Based on our findings, the proposed project is geotechnically feasible, provided that the recommendations in this report are incorporated into the design and are implemented during construction of the project. This report was prepared in accordance with the requirements of the 2019 California Building Code and the City of Wildomar requirements.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding this report or if we can be of further service, please do not hesitate to contact the undersigned at (657) 888-4608 or info@ntsgeo.com.

Respectfully submitted,
NTS GEOTECHNICAL, INC.

Nadim Sunna, MS, PE, GE 3172
Principal Engineer

NTS GEOTECHNICAL

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INTRODUCTION

This report presents results of the limited geotechnical study conducted on the subject site for the proposed commercial development located at 24831 Clinton Keith Road, in the City of Wildomar, County of Riverside, California. The general location of the subject site is indicated on Plate 1 – Location Map.

SITE DESCRIPTION

The subject property comprises approximately 4.35 acres and was nearly rectangular in shape. The subject property is located at 24831 Clinton Keith Road in the City of Wildomar, California.

The subject property is bound by existing self-storage facility on the south and west, by Jana Lane on the east and Clinton Keith Road on the north.

PURPOSE AND SCOPE OF STUDY

The scope of work performed for this study was designed to evaluate the surface and subsurface conditions of the subject site with respect to geotechnical characteristics, including potential geologic hazards that may affect the development of the site, and to provide geotechnical recommendations and criteria for use in the design and construction of the proposed development. The scope of work included the following:

- Review of locally and readily available published and unpublished soils and geologic reports and data for the site and surrounding areas (see References section), Google Earth photographs, flood hazard maps, well data, etc. to ascertain earth material, geologic, and hydrologic conditions of the area.

- Utilize subsurface data performed by others for analysis.

- Utilize previous geotechnical laboratory test results performed by others.

- Define the general geology of the subject site and evaluate potential geologic hazards which would influence the proposed site development.

- Determine seismic classification of the site to meet the requirements of the 2019 California Building Code (CBC).

- Engineering analysis of previous field and laboratory data to provide a basis for geotechnical conclusions and recommendations regarding site grading and foundation, floor slab, retaining wall, etc. design parameters.

- Preparation of this report to present the preliminary geotechnical and geologic conclusions and recommendations for the proposed site development.

This report presents our preliminary conclusions and/or recommendations regarding:

- The geologic setting of the site.
- Potential geologic hazards (including landslides, seismicity, faulting, liquefaction potential, etc.)
- General subsurface earth conditions.
- Presence and effect of expansive and compressible earth materials.
- Groundwater conditions within the depth of our subsurface study.
- Excavation characteristics of the on-site earth materials.
- Characteristics and compaction requirements of proposed fill and backfill materials.
- Recommendations and guide specifications for earthwork.
- Seismic design coefficients for structural design purposes.
- Types and depths of foundations.
- Allowable bearing pressure and lateral resistance for foundations.
- Temporary and permanent cut and fill slope recommendations.
- Slope maintenance and protection recommendations.

The scope of work performed for this report did not include any testing of earth materials or groundwater for environmental purposes, an environmental assessment of the property, or opinions relating to the possibility of surface or subsurface contamination by hazardous or toxic substances.

This study was prepared for the exclusive use of **Beyond Food Mart** and their consultants for specific application to proposed structures in accordance with generally accepted standards of the geotechnical professions and generally accepted geotechnical (soil and foundation) engineering and practices at the time this report was prepared. Other warranties, implied or expressed, are not made. Although reasonable effort has been made to obtain information regarding geotechnical and subsurface conditions of the site, limitations exist with respect to knowledge of unknown regional or

localized off-site conditions which may have an impact at the site. The conclusions and recommendations presented in this report are valid as of the date of this report. However, changes in conditions of a property can occur with passage of time, whether they are due to natural processes or to works of man on this and/or adjacent properties.

If conditions are observed or information becomes available during the design and construction process which are not reflected in this report, NTS, as Geotechnical Consultant of record for the project, should be notified so that supplemental evaluations can be performed and conclusions and recommendations presented in this report can be verified or modified in writing, as necessary. Changes in applicable or appropriate standards of care in the geotechnical professions occur, whether they result from legislation or the broadening of knowledge and experience. Accordingly, the conclusions and recommendations presented in this report may be invalidated, wholly or in part, by changes outside the influence of the project Geotechnical Consultant which occur in the future.

PROPOSED DEVELOPMENT

Based upon information presented to this firm by the client, it is our understanding that the proposed project will consist of construction of new gas station, car wash, fuel pump station, two retail buildings and an office/warehouse building at the southern side of the property. All structures all planned to be 1-story structures and constructed at-grade.

The above project description and assumptions were used as the basis for the field exploration, laboratory testing program, the engineering analysis, and the conclusions and recommendations presented in this report. NTS should be notified if structures, foundation loads, grading, and/or details other than those represented herein are proposed for final development of the site so a review can be performed, a supplemental evaluation made, and revised recommendations submitted, if required.

FIELD EXPLORATION

The field study performed for this report included utilizing existing data from previous study performed by Others.

The subsurface exploration performed by others consisted of excavating ten (10) hollow stem auger borings to a maximum depth of 23 feet below the existing grade. The approximate locations of the exploratory excavations are shown on Plate 2 – Geotechnical Map. Logs of the borings are presented in Appendix A – Field Exploration.

The result of the subsurface soil conditions are presented on Plate 3 – Geotechnical Section.

GEOTECHNICAL LABORATORY TESTING

Laboratory testing was performed on bulk and undisturbed samples collected during the previous subsurface exploration performed by Others. Testing was performed on soil samples and included the following tests:

- Moisture and density
- Maximum density and optimum moisture content
- Sieve analysis; and
- Corrosivity.

Laboratory test results from the previous investigations are presented in Appendix B of this report.

It is recommended that samples be obtained at the completion of rough grading and remolded direct shear, consolidation and expansion index be performed to confirm the foundation recommendations provided in this report.

GEOLOGIC FINDINGS

Regional Geologic Setting

According to the geologic maps, we note that the subject property underlain by Monzogranite to granodiorite bedrock (Kpvg) that consists of pale gray, massive, medium-grained monzogranite rock.

Subsurface Materials

Majority of the materials encountered during the subsurface investigation performed by others consist of alluvium ranging from about 2 to 16 feet in thickness underlain by monzogranite bedrock to the to total depth of the exploration.

In general, the alluvium consists light brown to red brown, slightly moist to damp, medium dense to dense, silty sands.

The bedrock consists of pale brown to pale gray, fine- to- medium grained, dense to very dense Monzogranite.

Groundwater

Groundwater was not encountered in the exploratory excavations to the maximum depth explored of approximately 23 feet below existing ground surface at the time the field study was performed for this report.

No groundwater data was found during a literature search pertaining to the subject property. There are no known shallow groundwater bearing soil or rock formations beneath the subject property. No evidence of onsite springs was found during the field study. Based on anticipated lot grading and the inferred groundwater depths, groundwater should not be a factor for project design or long-term performance.

Surface water was not observed on the subject site at the time the field study was performed for this report.

Based on results of our subsurface exploration and experience, variations in the continuity and nature of surface and subsurface conditions should be anticipated. Due to uncertainty involved in the nature and depositional characteristics of earth materials at the site, care should be exercised in extrapolating or interpolating subsurface conditions between and beyond the exploratory excavation locations.

Groundwater conditions may vary across the site due to stratigraphic and hydrologic conditions and may change over time as a consequence of seasonal and meteorological fluctuations, or activities by humans at this site and nearby sites. However, based on the above findings, groundwater is unlikely to impact the proposed development.

GEOLOGIC HAZARDS

Faulting and Seismicity

The site is not located within an Alquist-Priolo Earthquake Fault Zone, and no known active faults are shown on the reviewed geologic maps crossing the site, however, the site is located in the seismically active region of Southern California. The nearest known active fault is the Elsinore fault system, which is located approximately 1.2 mile from the site, and capable of generating a maximum earthquake magnitude of 7.9.

Liquefaction and Seismic Settlement

Liquefaction occurs when the pore pressures generated within a soil mass approach the effective overburden pressure. Liquefaction of soils may be caused by cyclic loading such as that imposed by ground shaking during earthquakes. The increase in pore pressure results in a loss of strength, and the soil then can undergo both horizontal and vertical movements, depending on the site conditions. Other phenomena associated with soil liquefaction include sand boils, ground oscillation, and loss of foundation bearing capacity. Liquefaction is generally known to occur in loose, saturated, relatively clean, fine-grained cohesionless soils at depths shallower than approximately 50 feet. Factors to consider in the evaluation of soil liquefaction potential include groundwater

conditions, soil type, grain size distribution, relative density, degree of saturation, and both the intensity and duration of ground motion.

Based on our review of the County of Riverside Map My County website, approximately the southern ¾ of the site is located within a moderate liquefaction hazard zone. Based on lack of shallow groundwater and the presence of shallow bedrock and our liquefaction analysis as presented within Appendix D of this report, it is our professional opinion that the potential for liquefaction to occur is low.

Landslides

The subject site is not located within an earthquake-induced landslide zone. Field reconnaissance did not disclose the presence of older, existing landslides on or near the subject property. In addition, due to the relatively gentle sloping of the site, the potential for landslides to impact the proposed development is considered low.

Flooding

The Federal Emergency Management Agency (FEMA) has prepared flood insurance rate maps (FIRMs) for use in administering the National Flood Insurance Program. Based on our review of the FEMA flood map, the site is located in an area identified as Area of Minimal Flood Hazard (Zone X).

Tsunami and Seiches

Tsunamis are waves generated by massive landslides near or under sea water. The site is not located on any State of California – County of Riverside Tsunami Inundation Map for Emergency Planning. The potential for the site to be adversely impacted by earthquake-induced tsunamis is considered to be negligible because the site is located several miles inland from the Pacific Ocean shore, at an elevation exceeding the maximum height of potential tsunami inundation.

Seiches are standing wave oscillations of an enclosed water body after the original driving force has dissipated. The potential for the site to be adversely impacted by earthquake-induced seiches is considered to be negligible due to the lack of any significant enclosed bodies of water located in the vicinity of the site.

GEOTECHNICAL ENGINEERING FINDINGS

Expansive Soil

Based on our evaluation and experience with similar material types, the soil encountered near the ground surface at the site exhibit a very low expansion potential.

Soil Corrosion

The potential for the on-site materials to corrode buried steel and concrete improvements was evaluated. Laboratory testing was performed on representative soil samples to evaluate pH, minimum resistivity, and soluble chloride and sulfate contents. The results of our corrosivity testing is presented within Appendix B of this report. General recommendations to address the corrosion potential of the on-site soils are provided below. Imported fill materials, if used, should be tested to evaluate whether their corrosion potential is more severe than those assumed.

Structural Concrete

Laboratory tests indicate that the potential of sulfate attack on concrete in contact with the on-site soils is “negligible” or “S0” exposure in accordance with ACI 318, Table 19.3.1.1. Therefore, restriction on the type of cement, water to cement ratio, and compressive strength is not required.

Ferrous Metal

The results of the laboratory chemical tests performed on a sample of soil collected within the site indicate that the on-site soils are mildly corrosive to ferrous metals. Consequently, metal structures which will be in direct contact with the soil (i.e., underground metal conduits, pipelines, metal sign posts, etc.) and/or in close proximity to the soil (wrought iron fencing, etc.) may be subject to corrosion. The use of special coatings or cathodic protection around buried metal structures has been shown to be beneficial in reducing corrosion potential. Additional provisions will be required to address high chloride contents of the soil per the 2019 CBC to protect the concrete reinforcement. The laboratory testing program performed for this project does not address the potential for corrosion to copper piping. In this regard, a corrosion engineer should be consulted to perform more detailed testing and develop appropriate mitigation measures (if necessary).

The above discussion is provided for general guidance in regards to the corrosiveness of the on-site soils to typical metal structures used for construction. Detailed corrosion testing and recommendations for protecting buried ferrous metal and/or copper elements are beyond our purview. If detailed testing is

required, a corrosion engineer should be consulted to perform the testing and develop appropriate mitigation measures.

Preliminary Infiltration Testing

Two (2) infiltration tests were performed others previously in general conformance with the County of Riverside requirements. The borings were excavated to a depth of 5 and 10 feet below the existing grade using a hollow-stem-auger drill rig. The result of our infiltration testing is summarized in the table below, which includes a factor of safety of 3.

Preliminary Infiltration Rates Summary

Boring No.	Depth Below Existing Grade (feet)	Factored Infiltration Rate (inches/hour)
I-1	5	0.18
I-2	5	0.23

Based on our infiltration testing and due to the presence of very dense bedrock underlying the site, infiltration within the site soils is deemed not feasible from a geotechnical standpoint. Alternate methods of disposing of stormwater should be considered by the project civil engineer.

Excavation Characteristics

The native soil materials underlying the site can be excavated with conventional grading equipment (i.e., backhoes, excavators, or loaders). However, the bedrock materials may be difficult to excavate and will heavy duty equipment or jack hammers.

GEOTECHNICAL ENGINEERING CONLUSIONS AND RECOMMENDATIONS

Conclusions

The conclusions and recommendations presented in this report are based on information provided to this firm, the results of the field and laboratory data obtained from ten (10) exploratory excavations located on the subject property, experience gained from work conducted by this firm on projects within the general vicinity of the subject site, the project description and assumptions presented in the ‘Proposed Development’ section of this report, engineering analyses, and professional judgement.

Based on a review of the field and laboratory data and the engineering analysis, the proposed development is feasible from a geotechnical standpoint. The

subject property can be developed without adverse impact onto or from adjoining properties providing the recommendations contained within this report are adhered to during project design and construction.

The field observations indicate that the upper 3 feet of the site soils are considered loose and compressible and are not considered suitable for the support of structural fills, foundations, slab-on-grade floor slabs, hardscape, and/or pavement without removal and replacement as compacted fill. On this basis, it is recommended that the upper 3 feet of the site soils be removed and replaced as engineered fill in order to densify the material and to reduce the potential for additional settlement to occur. Additionally, new foundations should not span a cut/fill transition. Wherever a cut/fill transition occurs, the cut portion of the pad should be excavated to at least 3 feet below the bottom of footing and the excavated material be placed as engineered fill to create a uniform blanket of engineered fill and minimize differential movement.

The actual conditions of the near-surface supporting material across the site may vary. The nature and extent of variations of the surface and subsurface conditions between the exploratory excavations may not become evident until construction. If variations of the material become evident during construction of the proposed development, NTS should be notified so that the project Geotechnical Consultant can reevaluate the characteristics of the material and the conclusions and recommendations of this report, and, if needed, revise the conclusions and recommendations presented herein.

Preliminary recommendations for site grading, foundations, slab support, and spa design are presented in the subsequent paragraphs.

Site Preparation

Site preparation should begin with the removal of utility lines, concrete, vegetation, and other deleterious debris from areas to be graded. Tree stumps and roots should be removed to such a depth that organic material is generally not present. Clearing and grubbing should extend to the outside edges of the proposed excavation and fill areas. We recommend that unsuitable materials such as organic matter or oversized material be selectively removed and disposed offsite. The debris and unsuitable material generated during clearing and grubbing should be removed from areas to be graded and disposed at a legal dump site away from the project areas.

Grading

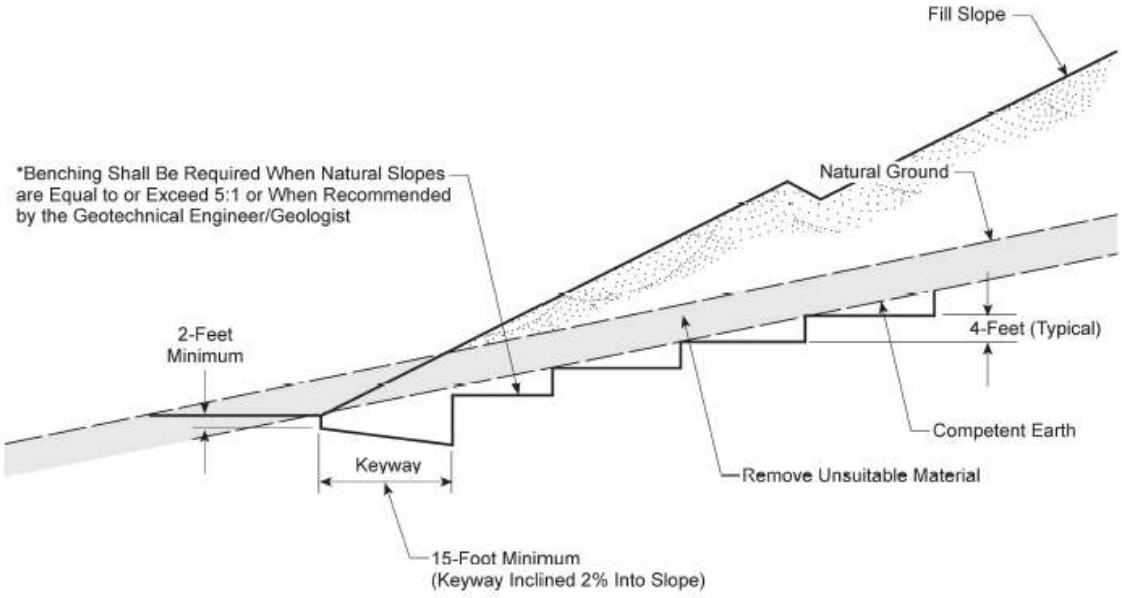
It should be noted that the recommendations provided herein are based on our subsurface exploration and knowledge of the on-site geology. Actual removals

may vary in configuration and volume based on observations of geologic materials and conditions encountered during grading. The bottom of all corrective grading removals should be observed by a representative of NTS to verify the suitability of in-place soil prior to performing scarification and recompaction.

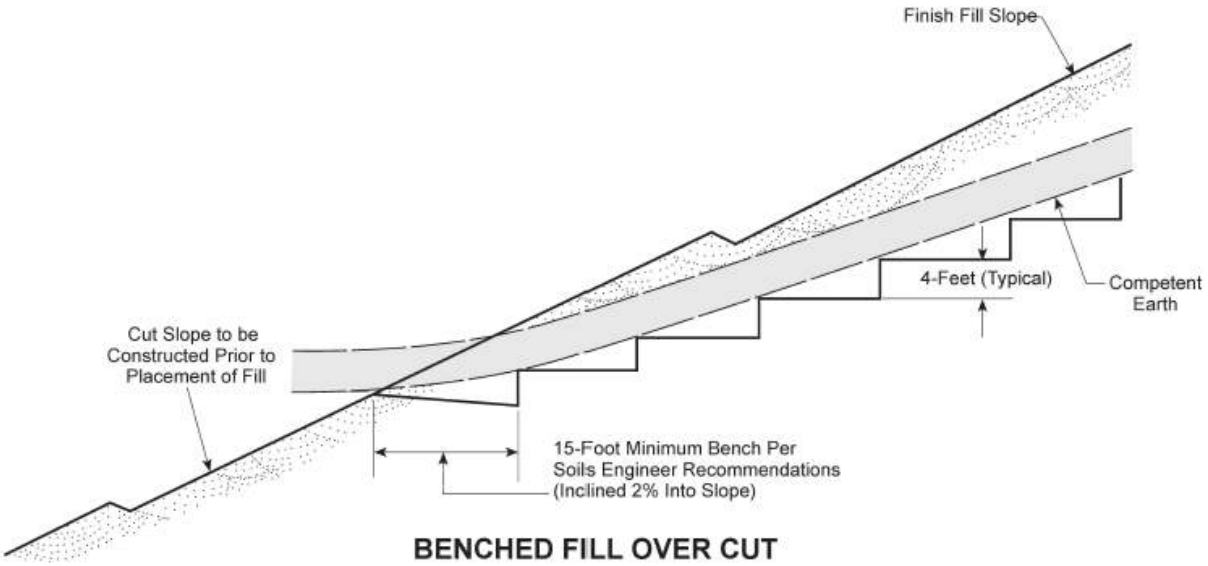
The need for corrective grading, i.e., removal of existing soil materials from areas to receive fill, where exposed at design grade in cut and fill areas

Fill Support Benches:

Benches should be excavated through any non-engineered fill, topsoil, or loose soil wherever the toe of a fill slope is located at a natural ground surface having a gradient of 5 horizontal to 1 vertical, or steeper, or in flatter areas where recommended by the geotechnical consultant. Horizontal benches should also be excavated at the daylight line between cut and fill portions of all graded slopes. The bottom of these keys and initial benches should be 15 feet in minimum width, and any non-engineered fill, topsoil, or native soil should be completely removed to expose undisturbed, in-place rock unit materials. Further benching should be performed uphill from these keys or initial benches simultaneously with fill placement to remove surficial soil materials and provide additional level surfaces for fill support where the natural ground surface is 5 horizontal to 1 vertical, or steeper. Benching detail is provided in the figure below.



BENCHED FILL OVER NATURAL



BENCHED FILL OVER CUT

Warehouse Building Pad:

The proposed warehouse building pad should be supported on engineered fill, a minimum of 4 feet below the footing or 6 feet from existing grade, whichever is deeper.

Other Buildings Pads:

All the other building pads planned onsite should also be supported on engineered fill, a minimum of 3 feet below the footing or 5 feet from existing grade, whichever is deeper.

Pavement:

New pavement should be supported on engineered fill, a minimum of 2 feet below the proposed pavement section (i.e., below the aggregate base section).

Further subexcavation may be necessary depending on the conditions of the underlying soils. The actual depth of removal should be determined at the time of grading by the project geotechnical engineer. The determination will be based on soil conditions exposed within the excavations. At minimum, any undocumented fill, topsoil or other unsuitable materials should be removed and replaced as properly compacted fill.

In-place density tests may be taken in the removal bottom areas where appropriate to provide data to help support and document the engineer's decision.

It is imperative that no clearing and/or grading operations be performed without the presence of a representative of the geotechnical engineer. An on-site, pre-job meeting with the developer, the contractor and the geotechnical engineer should occur prior to all grading-related operations. Operations undertaken at the site without the geotechnical engineer present may result in exclusions of affected areas from the final compaction report for the project.

Grading of the subject site should be performed, at a minimum, in accordance with these recommendations and with applicable portions of the CBC. The following recommendations are presented for your assistance in establishing proper grading criteria.

Materials for Fill

On-site soils with an organic content of less than 3 percent by volume (or 1 percent by weight) are suitable for use as fill. Soil material to be used as fill should not contain contaminated materials, rocks, or lumps over 6 inches in

largest dimension, and not more than 40 percent larger than ¾ inch. Utility trench backfill material should not contain rocks or lumps over 3 inches in largest dimension. Larger chunks, if generated during excavation, may be broken into acceptably sized pieces or may be disposed offsite.

Any imported fill material should consist of granular soil having a “low” expansion potential (that is, expansion index of 50 or less). Import material should also have low corrosion potential (that is, chloride content less than 500 parts per million [ppm], soluble sulfate content of less than 0.1 percent, and pH of 5.5 or higher). Materials to be used as fill should be evaluated by a representative of NTS prior to importing or filling.

Compacted Fill

Prior to placement of compacted fill, the contractor should request an evaluation of the exposed excavation bottom by NTS. Unless otherwise recommended, the exposed ground surface should then be scarified to a depth of at least 8 inches and watered or dried, as needed, to achieve generally consistent moisture contents near optimum moisture content. The scarified materials should then be compacted to 90 percent relative compaction in accordance with the latest version of ASTM Test Method D1557.

Compacted fill should be placed in horizontal lifts of approximately 6 to 8 inches in loose thickness. Prior to compaction, each lift should be watered or dried as needed to achieve near optimum moisture condition, mixed, and then compacted to a relative compaction of 90 percent as evaluated by ASTM D1557. Successive lifts should be treated in a like manner until the desired finished grades are achieved.

Personnel from NTS should observe the excavations so that any necessary modifications based on variations in the encountered soil conditions can be made. All applicable safety requirements and regulations, including CalOSHA requirements, should be met.

Temporary Excavations

Temporary excavations for the demolishing, earthwork, footing and utility trench are expected. We anticipate that unsurcharged excavations with vertical side slopes less than 5 feet high will generally be stable; however, sloughing of cohesionless sandy materials encountered at the site should be expected.

Where the space is available, temporary, unsurcharged excavation sides over 5feet in height should be sloped no steeper than an inclination of 1H:1V (horizontal:vertical). Where sloped excavations are created, the tops of the slopes should be barricaded so that vehicles and storage loads do not encroach within the imaginary zone of 1:1 as measured from the bottom of the excavated

slopes. A greater setback may be necessary when considering heavy vehicles, such as concrete trucks and cranes. NTS should be advised of such heavy vehicle loadings so that specific setback requirements can be established. If the temporary construction slopes are to be maintained during the rainy season, berms are recommended to be graded along the tops of the slopes in order to prevent runoff water from entering the excavation and eroding the slope faces. Where space for sloped excavations is not available, temporary shoring may be utilized.

Personnel from NTS should observe the excavation so that any necessary modifications based on variations in the encountered soil conditions can be made. All applicable safety requirements and regulations, including CalOSHA requirements, should be met.

Slope Construction

Slopes should not be steeper than 2(h):1(v). Should steeper inclinations of slopes be required for the project, additional analysis may be warranted. Fill slopes should be overfilled during construction and then cut back to expose fully compacted soil. A suitable alternative would be to compact the slopes during construction and then roll the final slopes to provide dense, erosion-resistant surfaces.

Where fills are to be placed against existing slopes steeper than 5(h):1(v), and the depth of fill exceeds 5 feet, the existing slopes should be benched into competent bearing materials to provide a series of level benches to seat the fill and to remove potential loose soil or fill soil. The benches should be in accordance with the recommendations provided in the Grading section of this report.

In addition, a shear key should be constructed across the toe of fill slopes. The shear key should be a minimum of 15 feet wide and should penetrate a minimum of 2 feet beneath the toe of the slope into firm and competent bedrock.

Slope Protection

Inasmuch as the native materials are susceptible to erosion by wind and running water, it is our recommendation that the slopes at the project be planted as soon as possible after completion. The use of succulent ground covers, such as iceplant or sedum, is not recommended. If watering is necessary to sustain plant growth on slopes, then the watering operation should be monitored to assure proper operation of the water system and to prevent over watering.

Measures should be provided to prevent surface water from flowing over slope faces.

Rodent infestation can also be a serious issue with respect to slope stability. Rodent tunneling and burrowing alters the strength of the soil and can allow water to infiltrate the soil, resulting in ultimate slope failure. Rodent burrows can also provide direct access for surface water to the slope face, causing surficial slope "blowouts". Although a maintenance issue, we recommend that measures be taken to prevent rodent infestation in slopes.

Slope Structural Setback

As per section 1808.7.2 of the 2019 CBC, which references Figure 1808.7.1 of the 2019 CBC, the distance between the face of the footing from the face of descending slopes should be at least the smaller of H/3 and 40 feet, where H is the height of the slope. Footings should be deepened as necessary to meet this requirement.

The distance between the face of the structure and the toe of ascending slopes should be at least the smaller of H/2 and 15 feet. The building should be setback from ascending slopes to meet this requirement.

Seismic Design

Our recommendations for seismic design parameters have been developed in accordance with 2019 CBC and ASCE 7-16 (ASCE, 2016) standards. The applicable site class is C based on the results of our field investigation. The table presents the seismic design parameters for the site that are obtained from USGS Design Ground Motions website and are based on the ASCE 7-16 and 2019 California Building Code.

2019 CBC and ASCE 7-16 Seismic Design Parameters

Seismic Item	Design Values[a]	2016 ASCE 7-16 or 2019 CBC Reference
Site Class based on soil profile (ASCE 7-16 Table 20.3-1)	C	ASCE 7-16 Table 20.3-1
Short Period Spectral Acceleration S_s	1.598	CBC Figures 1613.2.1 (1-8)
1-sec. Period Spectral Acceleration S_1	0.598	CBC Figures 1613.2.1 (1-8)
Site Coefficient F_a (2019 CBC Table 1613.2.3(1))	1.2	CBC Table 1613.2.3 (1)
Site Coefficient F_v (2019 CBC Table 1613.2.3(2))	1.402	CBC Table 1613.2.3 (2)
Short Period MCE* Spectral Acceleration S_{MS} $S_{MS} = F_a S_s$	1.917	CBC Equation 16-36
1-sec. Period MCE Spectral Acceleration S_{M1} $S_{M1} = F_v S_1$	0.838	CBC Equation 16-37
Short Period Design Spectral Acceleration S_{DS} $S_{DS} = 2/3S_{Ms}$	1.278	CBC Equation 16-38
1-sec. Period Design Spectral Acceleration S_{D1} $S_{D1} = 2/3S_{M1}$	0.559	CBC Equation 16-39
MCE[b] Peak Ground Acceleration (PGA)	0.699	ASCE 7-16 Figures 22-9 to 22-13
Site Coefficient F_{PGA} (ASCE 7-16 Table 11.8-1)	1.2	ASCE 7-16 Table 11.8-1
Modified MCE[b] Peak Ground Acceleration (PGA_M)	0.839	ASCE 7-16 Equation 11.8-1
Seismic Design Category	D	ASCE 7-16 Tables 11.6.1 and 11.6.2

(a) Design Values Obtained from USGS Earthquake Hazards Program website that are based on the ASCE-7-16 and 2019 CBC and site coordinates of N33.596774° and W117.226484°.

(b) MCE: Maximum Considered Earthquake.

It should be recognized that much of southern California is subject to some level of damaging ground shaking as a result of movement along the major active (and potentially active) fault zones that characterize this region. Design utilizing the 2019 CBC is not meant to completely protect against damage or loss of function. Therefore, the preceding parameters should be considered as minimum design criteria.

Foundation Design and Construction

The proposed improvements may be safely founded on shallow foundations, either individual spread footings and/or continuous wall footings, bearing on competent engineered fill.

The footings should be designed in accordance with the following recommendations:

Foundation Design Parameters

Bearing Material	▪ Competent engineered fill ▪ See Grading section
Minimum Footing Size	▪ Width: 18 inches ▪ Embedment: A minimum of 24 inches
Allowable Bearing Capacity	▪ An allowable bearing capacity of 2,500 psf for the minimum footing size given above. ▪ The above value may be increased by 1/3 for temporary loads such as wind or earthquake.
Settlement	▪ Total static settlement is estimated to be 1 inch with differential settlement estimated to be approximately ½ inch over a span of 30 feet.
Allowable Lateral Passive Resistance	▪ 300 pcf (equivalent fluid pressure)
Allowable Coefficient of Friction	▪ 0.35

Slab-On-Grade Design and Construction

The slab-on-grade should be designed and constructed with the minimum recommendations presented below, however, final design of the slab should be determined by the project structural engineer.

Minimum Thickness: The minimum slab thickness should be 5 inches.

Minimum Slab Reinforcement: Minimum slab reinforcement shall not be less than No. 4 bars placed at 18 inches on center. Welded wire mesh is not recommended. Care should be taken to position the reinforcement bars in the center of the slab.

Slab Subgrade:

- The upper 24 inches of the slab subgrade should be moisture conditioned to near optimum moisture content and compacted to a minimum relative compaction of compacted to 90 percent relative compaction in accordance with the latest version of ASTM D1557 prior to placement of vapor retarder.

- A moisture vapor retarder should be placed direct blow the slab in accordance with the “Moisture Vapor Retarder” section below.

Moisture Vapor Retarder

A vapor retarder, such as a 10-mil-thick moisture vapor retarder that meets the requirements of ASTM E1745 Class C (Stego Wrap or equivalent) should be placed directly over the prepared soil subgrade to provide protection against vapor transmission through concrete floor slabs thatare anticipated to receive carpet, tile or other moisture sensitive coverings. The use of moisture vapor retarder should be determined by the project architect. At minimum, the vapor retarder should be installed as follows:

- Per the manufacture’s specifications as well as with the applicable recognized installation procedures such as ASTM E1643;
- Joints between the sheets and the openings for utility piping should be lapped and taped. If the barrier is not continuously placed across footings/ribs, the barrier should at minimum be lapped into the side of the footing/rib trenches down to the bottom of the trench; and,
- Punctures in the vapor retarder should be repaired prior to concrete placement.

It should be noted that the moisture retarder is intended only to reduce moisture vapor transmissions from the soil beneath the concrete and is consistent with the current standard of the industry in the building construction in Southern California. It is not intended to provide a “waterproof” or “vapor proof” barrier or reduce vapor transmission from sources above the retarder (i.e., concrete). The evaluation of water vapor from any source and its effect on any aspect of the proposed building space above the slab (i.e., floor covering applicability, mold growth, etc.) is beyond our purview and the scope of this report.

Pole Foundations

It is expected that the canopy structures and light poles will be supported on pole foundations. As a minimum, the pole foundations should be at least 18 inches in diameter and at least 4 feet deep; however, the actual dimensions should be determined by the project structural engineer based on the following design parameters.

Bearing Materials: The pole foundations may bear into competent bearing soils approved by a representative from NTS.

Bearing Values: End-bearing capacity may be combined to determine the allowable bearing capacities of the pole foundations. An allowable bearing pressure of 3,000 pounds per square foot (psf) may be used for pole foundations

at least 18 inches in diameter and embedded a minimum of 4 feet below the lowest adjacent grade.

Lateral Load Design: Lateral loads may be resisted by passive resistance within the adjacent earth materials. For passive resistance, an allowable passive earth pressure of 300 pounds per foot of pile diameter per foot of depth into competent bearing material may be used; however, passive resistance should be disregarded within the upper foot due to possible disturbance during drilling. The passive resistance value may be applied over an area equivalent to two pile diameters.

Retaining Walls Design

The following design parameters may be utilized by the structural engineer to design the proposed retaining walls at the subject project. We understand that the retaining walls could retain over 6 feet of soil.

Foundation Recommendations

Retaining walls foundation may be sized based on the recommendations presented in “Foundation Design and Construction” section of this report.

Lateral Earth Pressure

The values presented below assume that the supported grade is level and that surcharge loads are not applied. In addition, the recommended design lateral earth pressure is calculated assuming that a drainage system will be installed behind the retaining walls and that external hydrostatic pressure will not develop. Where adequate drainage is not provided behind the walls, further evaluation should be conducted by the project geotechnical engineer and the lateral earth pressures will need to be adjusted accordingly.

Unrestrained Wall:	40 pcf for level backfill
Unrestrained Wall	60 pcf for 2:1 backfill

The unrestrained values are applicable only when the walls are designed and constructed as cantilevered walls allowing sufficient wall movement to mobilize “active” pressure conditions. This wall movement should be less than 0.01 H (H = height of wall) for the unrestrained values to be applicable.

Vertical surcharge loads within 1:1 project from the bottom of the wall distributed over retained soils should be considered as additional uniform horizontal pressure acting on the wall.

Seismic Earth Pressure

Given the general seismicity and the fact that the basement walls are retaining more than 6 feet of earth, it is recommended that the walls also be designed for seismic earth pressure. The seismic earth pressure distribution may be considered to be a triangle with the maximum pressure at the bottom. The total seismic earth pressure may be represented by an equivalent fluid pressure (EFP) of 25 pcf.

Drainage

The backdrain system should consist of 4-inch perforated pipe surrounded by at least one cubic foot of ¾" – 1.5" open graded gravel wrapped in Mirafi 140N fabric or equivalent. The perforated pipe should consist of SDR-35 or Schedule 40 PVC pipe or approved equivalent laid on at least 2 inch of crushed rock with the perforations laid down. The back drain gradient should not be less than 1 percent. The perforated pipe should outlet into area drains or other suitable outlet points at runs 200 feet or less, if practical. If the back drains cannot be outleted by gravity flow, a sump pump system will need to be designed and constructed. Redundant back-up pumps or components are recommended. Design of the system is outside of the purview of NTS.

Waterproofing

The back side of the retaining walls should be waterproofed prior to placement of subdrains or backfill. Waterproofing is outside of our purview and should be designed by a waterproofing consultant.

Wall Backfill

Backfill behind the wall may consist of onsite soil granular fill material approved by NTS. If select backfill is used, then all select backfill within 2 feet of final grade should consist of free-draining granular material (i.e., SE 30 sand or crushed rock). Crushed rock, if used, should be completely wrapped in filter fabric (Mirafi 140N or equivalent) to minimize the potential for migration of fines into the rock. The select backfill should be moisture conditioned to near optimum moisture content and compacted to achieve at least 90 percent relative compaction in accordance with ASTM D1557. The upper two feet of backfill should consist of fine-grained native soils, moisture conditioned to 4 percent above optimum moisture content and compacted to 90 percent relative compaction in order to cap the select backfill zone.

The select backfill should extend horizontally a minimum of H/2 behind the wall, where H is the retained height.

Utility Trench Backfill Considerations

New utility line pipeline trenches should be backfilled with select bedding materials beneath and around the pipes (pipe zone) and compacted soil above the pipe bedding. Recommendations for the types of the materials to be used and the proper placement of these materials are provided in the following sections.

Pipe Zone (Bedding and Shading)

The pipe bedding and shading materials should extend from at least 6 inches below the pipes to at least 12 inches above the crown of the pipes. Pipe bedding and shading should consist of either clean sand with a sand equivalent (SE) of at least 30, or crushed rock. If crushed rock is used, it should consist of ¾-inch crushed rock that conforms to Table 200-1.2.1 (A) of the 2018 "Greenbook." Pipe bedding and shading should also meet the minimum requirements of the City of Los Angeles. If the requirements of the City are more stringent, they should take precedence over the geotechnical recommendations. Sufficient laboratory testing should be performed to verify the bedding and shading meets the minimum requirements of the Greenbook and City of Wildomar grading codes.

Granular pipe bedding and shading material should be properly placed in thicknesses not exceeding 3 feet, and then sufficiently flooded or jetted in place. Crushed rock, if used, should be capped with filter fabric (Mirafi 160N, or equivalent; Mirafi 140N filter fabric is suitable if available) to prevent the migration of fines into the rock.

Trench Backfill

All existing soil material within the limits of the site are considered suitable for use as trench backfill above the pipe bedding and shading zone if care is taken to remove all significant organic and other decomposable debris, moisture condition the soil materials as necessary, and separate and selectively place and/or stockpile any inert materials larger than 6 inches in maximum diameter.

Imported soils are not anticipated for backfill since the on-site soils are suitable. However, if imported soils are used, the soils should consist of clean, granular materials with physical and chemical characteristics similar to or better than those described herein for on-site soils. Any imported soils to be used as backfill should be evaluated and approved by NTS prior to placement.

Soils to be used as trench backfill should be moistened, dried, or blended as necessary to achieve near optimum moisture content, placed in lifts which, prior to compaction shall not exceed the thickness specified in Section 306-12.3 of the 2018 "Greenbook" for various types of equipment, and mechanically

compacted/densified to at least 90 percent relative compaction as determined by ASTM Test Method D 1557. Jetting is not permitted in this trench zone.

No rock or broken concrete greater than 6 inches in maximum diameter should be utilized in the trench backfills.

Asphalt Concrete Pavement Design

In accordance with Chapter 600 of the Caltrans Highway Design Manual, we have performed pavement structural design utilizing assumed traffic indices (TI) of 4.5, 5.5 and 7 and assumed R-value of 30. Based on our analysis, we have developed the pavement structural sections presented in the following table. We note that the assumed TI's should be reviewed by a traffic engineer to confirm their applicability to the project. The assumed R-value should be confirmed by testing at the completion of rough grading.

Asphalt Concrete Pavement Structural Sections

Location	Traffic Index	Asphalt Concrete (in.)	Aggregate Base (in.)*
Parking Stalls	4.5	3.0	4.0
Driveways	5.5	4.0	5.0
Fire lane	7.0	4.0	10.0

The planned pavement structural sections should consist of the following:

- Aggregate Base materials (AB) consisted of either Crushed Aggregate Base (CAB) or Crushed Miscellaneous Base (CMB).
- Asphalt Concrete (AC) material of a type meeting the minimum City of Wildomar standards.
- The subgrade soils should be moisture conditioned to 2 percent above optimum moisture content to a depth of at least 18 inches and compacted to 90 percent relative compaction.
- The AB and AC should be compacted to at least 95 percent relative compaction.

Exterior Flatwork/Hardscape Design Considerations

For exterior flatwork and hardscape planned as part of the proposed development, the following design may be considered by the project civil engineer. These recommendations may be considered as minimal design based

on the soils conditions encountered during our investigation. Final design of the proposed flatwork and hardscape area should be provided by the project civil engineer. Based on the conditions encountered, we recommend that the subgrade for the subject concrete flatwork and hardscape be moisture conditioned to near optimum to a depth of 18 inches below finish subgrade elevation and compacted to 90 percent relative compaction. A Type II/V cement may be used from a geotechnical perspective. Our flatwork and hardscape design considerations are presented in the table below.

Concrete Flatwork Table

Description	Subgrade Preparation (1)	Minimum Concrete Thickness	Cut-Off Barrier Or Edge Thickness	Joint Spacing (Maximum)	Concrete(3)
Concrete Sidewalks and Walkways (4)	1) 2 percent above optimum to 18"(1), 2) 2" of sand or well graded rock (i.e., Class II base or equiv.) above moisture conditioned subgrade.	4 inches	Not Required	5 feet	Type II/V

(1) The moisture content of the subgrade must be verified by the geotechnical consultant prior to sand/rock placement.
(2) Reinforcement to be placed at or above the mid-point of the slab (i.e., a minimum of 2.0 to 2.5 inches above the prepared subgrade).
(3) The site has negligible levels of sulfates as defined by the CBC. Concrete mix design is outside the geotechnical engineer's purview.
(4) Where flatwork is adjacent a stucco surface, a ¼" to ½" foam separation/expansion joint should be used.
(5) If dowels are placed in cored holes, the core holes shall be placed at alternating in-plane angles (i.e., not cored straight into slab).

Planters and Trees

Where new trees or large shrubs are to be located in close proximity to new concrete flatwork, rigid moisture/root barriers should be placed around the perimeter of the flatwork to at least 12 inches in depth in order to offer protection to the adjacent flatwork against potential root and moisture damage. Existing mature trees near flatwork areas should also incorporate a rigid moisture/root barrier placed at least 2 feet in depth below the top of the flatwork.

Drainage Control

The control of surface water is essential to the satisfactory performance of the site improvements. Surface water should be controlled so that conditions of uniform moisture are maintained beneath the improvements, even during periods of heavy rainfall. The following recommendations are considered minimal:

- Ponding and areas of low flow gradients should be avoided.
- If bare soil within 5 feet of the structure is not avoidable, then a gradient of 5 percent or more should be provided sloping away from the improvement. Corresponding paved surfaces should be provided with a gradient of at least 2 percent.
- The remainder of the unpaved areas should be provided with a drainage gradient of at least 2 percent.
- Positive drainage devices, such as graded swales, paved ditches, and/or catch basins should be employed to accumulate and to convey water to appropriate discharge points.
- Concrete walks and flatwork should not obstruct the free flow of surface water.
- Brick flatwork should be sealed by mortar or be placed over an impermeable membrane.
- Area drains should be recessed below grade to allow free flow of water into the basin.
- Enclosed raised planters should be sealed at the bottom and provided with an ample flow gradient to a drainage device. Recessed planters and landscaped areas should be provided with area inlet and subsurface drain pipes.
- Planters should not be located adjacent to the structures wherever possible. If planters are to be located adjacent to the structures, the planters should be positively sealed, should incorporate a subdrain, and should be provided with free discharge capacity to a drainage device.
- Planting areas at grade should be provided with positive drainage. Wherever possible, the grade of exposed soil areas should be established above adjacent paved grades. Drainage devices and curbing should be provided to prevent runoff from adjacent pavement or walks into planted areas.
- Gutter and downspout systems should be provided to capture discharge from roof areas. The accumulated roof water should be conveyed to off-site disposal areas by a pipe or concrete swale system.
- Landscape watering should be performed judiciously to preclude either soaking or desiccation of soils. The watering should be such that it just sustains plant growth without excessive watering. Sprinkler systems should be checked.

Review, Observation, and Testing

The recommendations presented in this report are contingent upon review of final plans and specifications for the project by NTS. NTS Geotechnical, Inc. should review and verify in writing the compliance of the final grading plan and the final foundation plans with the recommendations presented in this report.

It is recommended that NTS be retained to provide Geotechnical Consulting services during the earthwork operations and foundation installation process. This is to observe compliance with the design concepts, specifications and recommendations and to allow for design changes in the event that subsurface conditions differ from those anticipated during our subsurface investigation.

It is the responsibility of the owner and their representative to bring any deviations or unexpected conditions observed during construction to the attention of NTS Geotechnical, in order for supplemental recommendations can be made with a minimum delay to the project. Construction should be observed and/or testing at the following stages by NTS Geotechnical, Inc.:

- Continuous observation during the excavation and recompaction for the structures.
- During preparation of subgrade for slab-on-grade.
- During installation of foundations.
- Installation of drainage for new retaining walls.
- Backfill of retaining walls.
- Grading for new parking lots.
- Testing of aggregate base for the new parking lot.
- Testing of asphalt concrete for the new parking lot.
- Backfill of utility trenches.
- When unusual conditions are encountered.

If any of these inspections to verify site geotechnical conditions are not performed by NTS Geotechnical, liability for the safety and stability of the project is limited only to the actual portions of the project that is observed and approved by NTS Geotechnical.

LIMITATIONS

All parties reviewing or utilizing this report should recognize that the findings, conclusions, and recommendations presented represent the results of our professional geological and geotechnical engineering efforts and judgments. Due to the inexact nature of the state of the art of these professions and the possible occurrence of undetected variables in subsurface conditions, we cannot guarantee that the conditions actually encountered during grading and site construction will be identical to those observed, sampled, and interpreted during our study, or that there are no unknown subsurface conditions which could have an adverse effect on the use of the property. We have exercised a degree of care comparable to the standard of practice presently maintained by other professionals in the fields of geotechnical engineering and engineering geology, and believe that our findings present a reasonably representative description of

geotechnical conditions and their probable influence on the grading and use of the property.

Our conclusions and recommendations are based on the assumption that our firm will act as the geotechnical engineer of record during construction and grading of the project to observe the actual conditions exposed, to verify our design concepts and the grading contractor's general compliance with the project geotechnical specifications, and to provide our revised conclusions and recommendations should subsurface conditions differ significantly from those used as the basis for our conclusions and recommendations presented in this report. Since our conclusions and recommendations are based on a limited amount of current and previous geotechnical exploration and analysis, all parties should recognize the need for possible revisions to our conclusions and recommendations during grading of the project.

It should be further noted that the recommendations presented herein are intended solely to minimize the effects of post-construction soil movements. Consequently, minor cracking and/or distortion of all on-site improvements should be anticipated.

This report has not been prepared for the use by other parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

REFERENCES

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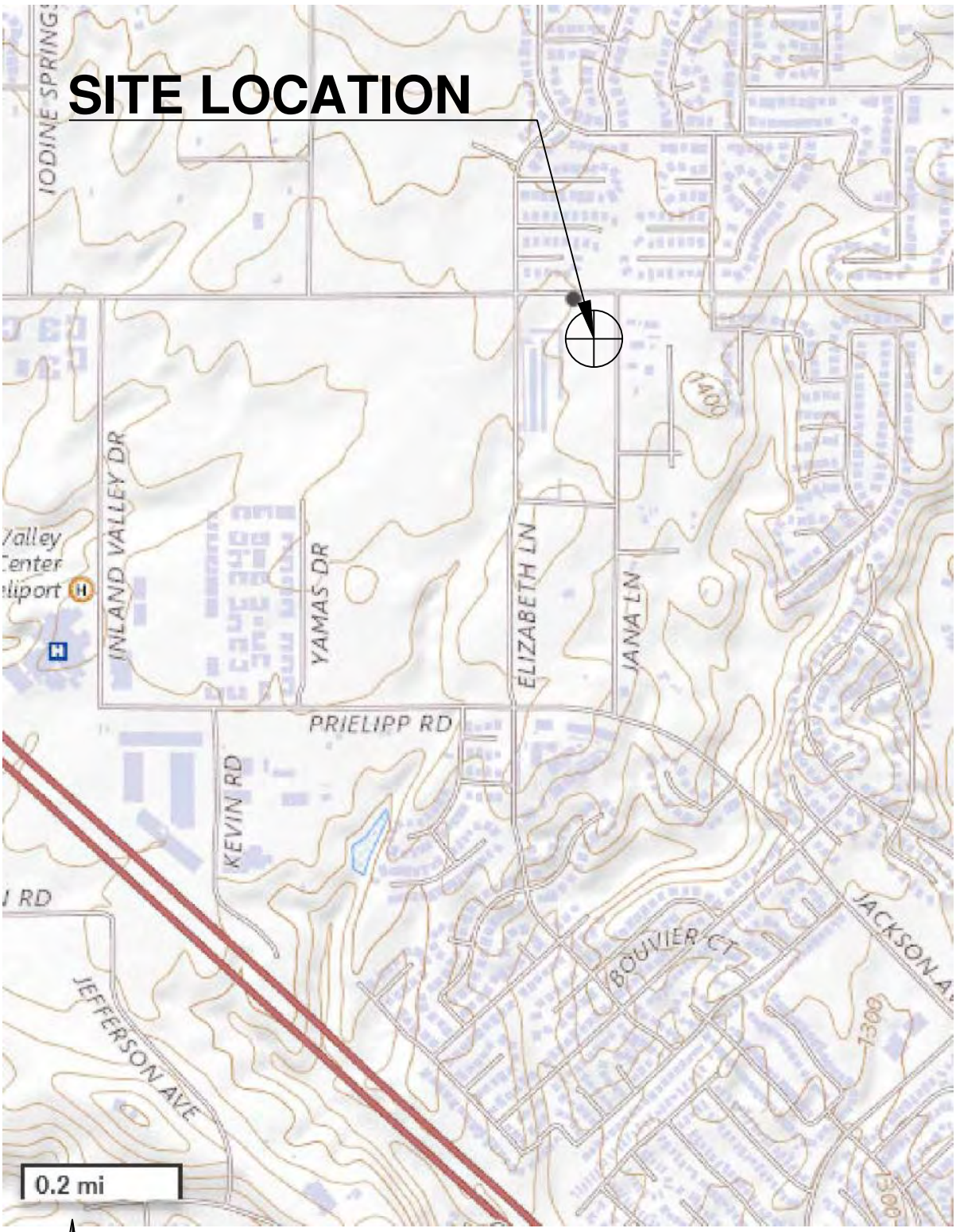
United States Geological Survey (USGS), 2008, Unified Hazard Tool, Dynamic: Conterminous U.S. 2014 (update) (v4.2.0), Retrieved May 14, 2020, from: https://earthquake.usgs.gov/hazards/interactive/



LOCATION MAP

NTS GEOTECHNICAL	Date: October 17, 2022	Plate 1
	Project No.: 22504	

NWC OF JANA LN, & CLINTON KEITH RD.,
WILDOMAR, CA 92595

All improvements are to be maintained by the property owner.

NODE 102
= 6.713 CFS
=10.946 CFS

1370.16

N1°09'35"W 605.15'

B-1 B-2 B-3 B-4 B-5 B-6 B-7

1 1'

QSR #1

QSR #2

CARWASH

OFFICE/WAREHOUSE

A-1

4.16

N88°43'42"E 274.72' R/W

CLINTON KEITH RD

CL CLINTON KEITH ROAD

NODE 101

N49°21'37"E

EX. R/W

N1°08'55"W 582.29'

EX. R/W

CL JANA LANE

JANA LANE

SITE PLAN

NORTH

CERTIFICATION OF LANDSCAPE DESIGN

PROJ

L-1	CO
L-2	PR
L-3	PR

Proje

OWNER:
SATER BI
4300 EDI
CHINO, C
TEL: (90
FAX: (90

LANDSCA
PHILMAY
215 N. Z
UPLAND,
TEL.: (9
FAX.: (9

TOTAL

Scope Of

NEW CONSTRUCTION
DRIVE-THRU, CARW
QSR AND AN OFFIC
SIGNAGE, FUEL PUM
ARE UNDER SEPARA

Project D

PROJECT ADDRESS:

APN#:
LOT SIZE (GROSS):
LOT SIZE (NET):
ZONING:
CONSTRUCTION TYP
OCCUPANCY:
FIRE SPRINKLER:
FIRE ALARM:

DEVELOPMENT REQ

NTS GEOTECHNICAL

0 50'

GEOTECHNICAL LEGEND

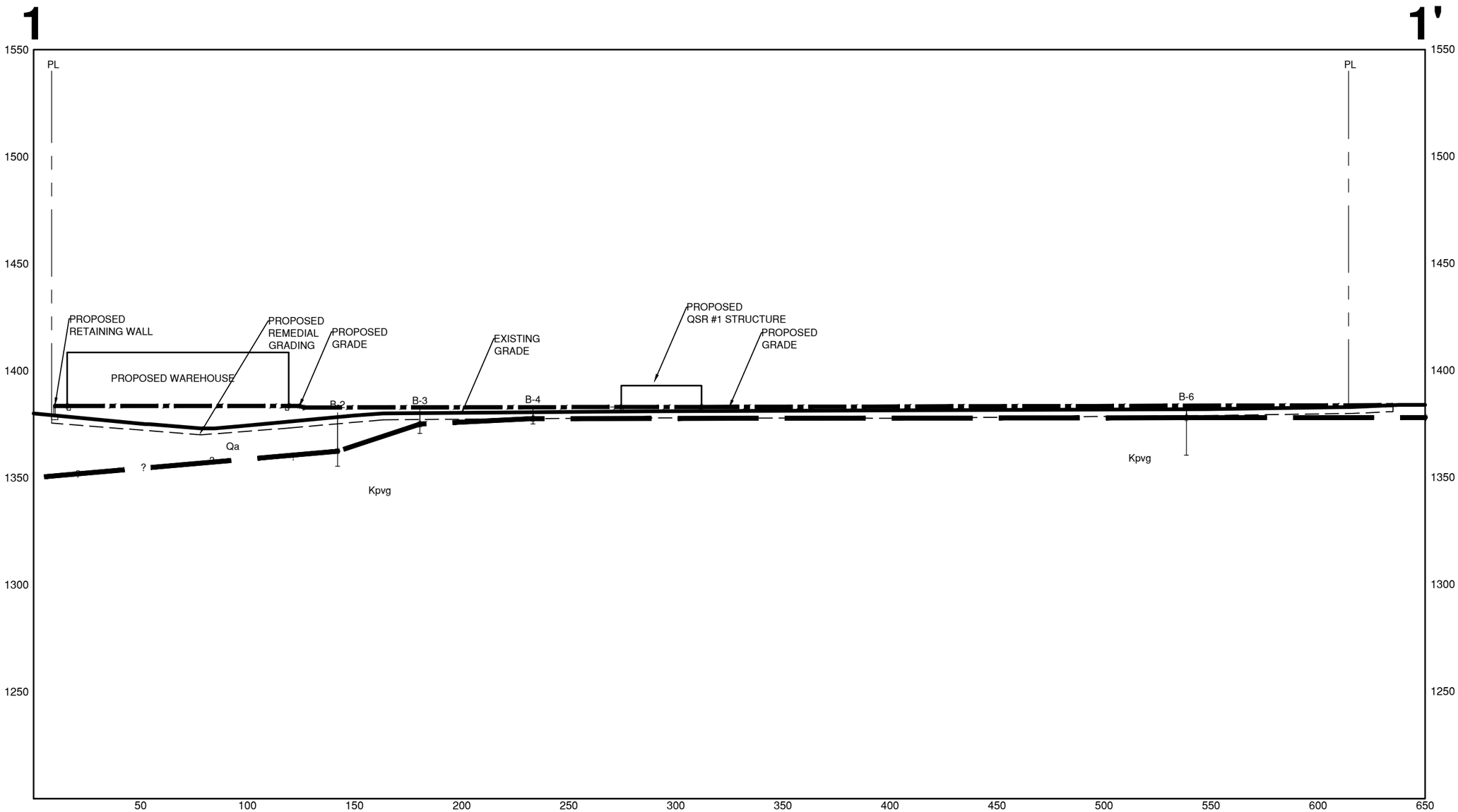
B-1 ● APPROXIMATE LOCATION OF BORINGS BY GEO-CAL

B-1 ◒ APPROXIMATE LOCATION OF BORINGS BY SOIL EXPLORATION

1 1' GEOTECHNICAL SECTION

GEOTECHNICAL MAP

Date: 10/17/2022	Project No.: 22504	Plate: 2



DRAWING: c:\users\info\nts geotechnical\projects - general\2022\22504 - swc jona ln & clinton keith rd, wildomar\reports\plates\plate 3 - geotechnical section.dwg PLOTTED: 10/17/2022 9:26 PM BY: Nadim Sumra

0 50'

Geotechnical Section

NTS GEOTECHNICAL

Date:	October 17, 2022
Project No.:	22504

Plate 3

NTS GEOTECHNICAL

APPENDIX A

Field Exploration

GEOTECHNICAL BORING LOGS

Drill Hole No. B-1

Date: 2/25/21 **Project No.** 20237-01

Drilling Company: Larry Harklerode **Type of Rig:** B-53

Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1	Alluvium					SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, dense
2							
3							
4		X	11/18/18		9.6		
5	Bedrock					Kpvg	**MONZOGRANITE:** Pale brown, fine to medium grained, medium dense
6		X	25/21/35		7.4		Pale gray, very dense
7							
8							
9							
10							
11		X	17/43/50/4"				Very dense
12							
13							
14							
15							
16		X	35/50/4"				
17							
18							
19							
20							
21		X	38/50/4"				Very dense
22							
23							
24							
25		X	48/50/3"				Very dense

TOTAL DEPTH = 25'
NO GROUNDWATER
NO CAVING
BORING BACKFILLED

GEOTECHNICAL BORING LOGS

Drill Hole No. B-2

Date: 2/25/21 **Project No.** 20237-01
Drilling Company: Larry Harklerode **Type of Rig:** B-53
Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1	Alluvium					SM	**SILTY SAND:** Light brown, fine to medium grained, slightly moist, dense
2	Bedrock					Kpvg	**MONZOGRANITE:** Pale gray, fine to medium grained, very dense
3		X	50/4"		6.8		
4							
5							
6		X	50/1"		2.8		Very dense
7							
8							
9							
10							
11		X	50/3.5"				
12							
13							
14							
15							
16		X	50/2"				Very dense
17							
18							
19							
20							
21		X	50/3"				
22							
23							
24							
25		X	50/3"				Very dense

TOTAL DEPTH = 25'
NO GROUNDWATER
NO CAVING
BORING BACKFILLED

GEOTECHNICAL BORING LOGS

Drill Hole No. B-3

Date: 2/25/21 **Project No.** 20237-01

Drilling Company: Larry Harklerode **Type of Rig:** B-53

Hole Diameter: 8" **Drive Weight:** 140 lbs. **Drop:** 30" **Elevation:** Existing Ground

DEPTH (feet)	TYPE OF TEST	SAMPLE TEST	BLOWS PER 6 INCH	DRY DENSITY (%)	MOISTURE (%)	SOIL CLASSIFICATION USCS	GEOTECHNICAL DESCRIPTION LOGGED BY: GL SAMPLED BY: GL
1	Alluvium					SM	**SILTY SAND:** Light brown, fine to medium grained, dry, very dense
2							
3		■	30/50/4"	95.4	12.1		Slightly moist, very dense
4							
5							
6	Bedrock	☒	35/50/2.5"		6.3	Kpvg	**MONZOGRANITE:** yellow, fine to medium grained, very dense
7							
8							
9							
10							
11		☒	28/25/32				Pale gray, fine to medium grained, very dense
12							
13							
14							
15		☒	35/50/4"				Very dense
16							TOTAL DEPTH = 15'
17							NO GROUNDWATER
18							NO CAVING
19							BORING BACKFILLED
20							
21							
22							
23							
24							
25							

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Environmental & Geotechnical Engineering
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San Bernardino, CA 92407
(909) 880-1146 FAX (909) 880-1557 email: info@geo-cal.com

LOG OF BORING B-1

Project:

24831 Clinton Keith Rd.
Wildomar, CA

Date:	**6-23-21.**	Total Depth:	**10.5 ft**
Drilled By:	**Cal-Pac Drilling**	Groundwater Depth:	Not Encountered
Equipment:	**Mobil B-61**		
Hole Size:	**6″ HSA**		
Logged By:	**Todd Wyland, RCE**		

*Automatic Hammer
140 lbs 30-Inch Drop

**
SA=Sieve Analysis
MDC=(ASTM D 1557)
COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	1A (0′-5′)	B		4.9	MDC SA			(SM) Silty Sand, fine to medium, traces coarse and subrounded gravel to 3/4″, light red brown
5	1-1	R	37 50/5″	4.3	128			(SM) Silty Sand, fine to medium, traces coarse and subrounded gravel to 3/4″, light red brown, very dense
								Weathered Bedrock recovered as (SW-SM) Sand, fine to coarse with silt, gray.
10	1-2	S	50/6″	4.6				Very dense
								End of Boring
								Total Depth 10.5 ft. No Groundwater No Fill. No Refusal Boring Backfilled w/ drill spoils Weathered Bedrock at Approximately 7 ft.
15								
20								
25								
30								

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LOG OF BORING B-2

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	6-23-21.	Total Depth:	23 ft
Drilled By:	Cal-Pac Drilling	Groundwater Depth:	Not Encountered
Equipment:	Mobil B-61		
Hole Size:	6" HSA		
Logged By:	Todd Wyland, RCE		

*Automatic Hammer 140 lbs 30-Inch Drop

** SA=Sieve Analysis MDC=(ASTM D 1557) COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0								Fill
	2A (0'-5')	B		4.9		SA MDC		(SM) Silty Sand, fine to medium, trace coarse 3/8" and light brown red.
5	2-1	R	7 17 24	8.7	120			(SM) Silty Sand, fine to medium, light brown dense.
10	2-2	S	5 11 16	11.1				(SM) Silty Sand, fine, trace medium, mica, dark to down, medium dense.
15	2-3	S	8 9 16	13.2				(SM) Silty Sand, fine, trace medium, mica, dark to down, medium dense. Weathered Bedrock
20		S	-					Lost Sampler
	2-4	S	50/0"					No Recovery, very dense End of Boring
25								Refusal @ 23' Fill to 1 ft (estimated) No Groundwater Weathered Bedrock estimated at 16 ft Boring Backfilled w/Drill Spoils
30								

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LOG OF BORING B-3
(PB-1)

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	6-23-21.	Total Depth:	9.5 ft
Drilled By:	Cal-Pac Drilling	Groundwater Depth:	Not Encountered
Equipment:	Mobil B-61		
Hole Size:	8″ HSA		
Logged By:	Todd Wyland, RCE		

*Automatic Hammer 140 lbs 30-Inch Drop

** SA=Sieve Analysis MDC=(ASTM D 1557) COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	3A (0′-5′)	B		4.9				(SM) Silty Sand, fine to medium, traces coarse and gravel 1/2", brown
5								Weathered Bedrock
	3-1	R	9 15 18	5.1 5.5	114 118	SA SA		(SW) Well Graded Sand, fine to coarse, trace gravel to 3/8", gray, medium dense End of Boring
10								Total Depth 9.5 ft.
								3″-Diameter perc pipe packed with gravel to the surface No Fill No groundwater No Refusal
15								
20								
25								
30								

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LOG OF BORING B-4
(PB-2)

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	**6-23-21.**
Drilled By:	**Cal-Pac Drilling**
Equipment:	**Mobil B-61**
Hole Size:	**6″ HSA**
Logged By:	**Todd Wyland, RCE**
Total Depth:	**5.5 ft**
Groundwater Depth:	Not Encountered

*Automatic Hammer
140 lbs 30-Inch Drop

**
SA=Sieve Analysis
MDC=(ASTM D 1557)
COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	4A (0′-5′)	B		4.8				(SM) Silty Sand, fine to medium, brown
5	4-1	R	20 50/3″	5.8	129.5	SA		Weathered Bedrock (SW-SM) Well graded Sand, fine to coarse with silt, very dense at 5.5 ft white and less weathered End of Boring
								Total Depth 5.5 ft.
10								No Fill, No Groundwater, No Refusal 3″-Diameter perc pipe packed with gravel to the surface Weathered Bedrock at 3ft.(estimated) Persistent Bedrock at 5.5 ft.
15								
20								
25								
30								

753

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LOG OF BORING B-5
(PB-3)

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	**6-23-21.**
Drilled By:	**Cal-Pac Drilling**
Equipment:	**Mobil B-61**
Hole Size:	**6″ HSA**
Logged By:	**Todd Wyland, RCE**
Total Depth:	**6.5 ft**
Groundwater Depth:	Not Encountered

*Automatic Hammer
140 lbs 30-Inch Drop

**
SA=Sieve Analysis
MDC=(ASTM D 1557)
COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	5A (0′-4′)	B		5.5		COR		(SM) Silty Sand, fine to medium, brown
5	5-1	R	16 25 31	4.8	134	SA		Weathered Bedrock (SW-SM) Well Graded Sand, fine to coarse with silt and gravel to 3/8″, dark gray, dense End of Boring
10								Total Depth 6.5 ft. 3″-Diameter perc pipe packed with gravel to the surface No Fill No Groundwater No Refusal Weathered Bedrock at 4 ft. (estimated)
15								
20								
25								
30								

Geo-Cal, inc.
Environmental & Geotechnical Engineering
4370 Hallmark Parkway, Suite 101
San Bernardino, CA 92407
(909) 880-1146 FAX (909) 880-1557 email: info@geo-cal.com

LOG OF BORING B-6

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	6-23-21.	Total Depth:	21.5 ft
Drilled By:	Cal-Pac Drilling	Groundwater Depth:	Not Encountered
Equipment:	Mobil B-61		
Hole Size:	6" HSA		
Logged By:	Todd Wyland, RCE		

*Automatic Hammer 140 lbs 30-Inch Drop

** SA=Sieve Analysis MDC=(ASTM D 1557) COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	6-A (0'-5')	B		5.6				(SM) Silty Sand, fine to medium trace, gravel to 3/4', brown
5	6-1	R	8 18 24	4.1				Weathered Bedrock (SM) Silty Sand, fine to medium, mica, dark gray, dense
10	6-2	S	11 16 18	6.8	126			(SM) Silty Sand, fine to medium, mica, dark gray, dense
15	6-3	S	24 50/6"	4.8				(SM) Silty Sand, fine to medium, mica, dark gray, very dense
20	6-4	S	9 20 38	3.4				(SP-SM) Sand, fine to medium, with silt, gray, very dense
								End of Boring
25								Total Depth 21.5 ft. No Fill No Groundwater No Refusal Weathered Bedrock at 4 ft(Estimated) Boring Backfilled w/ drill spoils
30								

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LOG OF BORING B-7

Project:
24831 Clinton Keith Rd.
Wildomar, CA

Date:	**6-23-21.**
Drilled By:	**Cal-Pac Drilling**
Equipment:	**Mobil B-61**
Hole Size:	**6" HSA**
Logged By:	**Todd Wyland, RCE**
Total Depth:	**16 ft**
Groundwater Depth:	Not Encountered

*Automatic Hammer
140 lbs 30-Inch Drop

**
SA=Sieve Analysis
MDC=(ASTM D 1557)
COR= Caltrans Corossivity

Depth in Feet	Sample ID	Sample Type R=Ring S=SPT, B=Bulk	Blow Count*/6"	Moisture Content (%)	Dry Density (pcf)	Lab Tests **	Graphic	Description
0	7A (0′-5′)							(SM) Silty Sand, fine to medium, light red brown, medium dense
5	7-1	S	5 9 25	4.2				Weathered Bedrock reducing to (SW) Sand, fine to coarse, gray, dense
10	7-2	S	32 50/3"					(SW) Sand, fine to coarse, gray, very dense
15	7-3	S	26 50/6"					(SW) Sand, fine to coarse, gray, very dense
								End of Boring
20								Total Depth 16 ft. No Groundwater No Fill Weathered Bedrock @ 6′ No Refusal Boring Backfilled with Drill Spoils
25								
30								

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Environmental & Geotechnical Engineering

Exploratory Trench No. T-1

Project:
New Development of A Beyond Market w/Gas Station & Drive-Thru, Plus a Carwash

Location:
24831 Clinton Keith Rd.
Wildomar, CA

Excavation Method: Mini Excavator w/ 12" bucket

Logged By: Henry Olivier, P.G

Date: 6/23/2021

Total Depth: 9.5 Ft.

Groundwater: Not Encountered

Depth (Ft.)	Description	Graphic
	Top Soil: Silty Sand (SM), fine grained, relatively loose, brown, gravelley, random cobbles (6"-diameter), dry, with rootlets.	
	Weathered Rock (DG), possibly weathered Granodiorite, medium to coarse grain size, dense, relatively friable, gray, dry.	
	Same, but more dense, less weathered, less friable, with caliche stingers	
5'		
10'	Digging refusal at 9.5 ft bgs using mini excavator	
15'		

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Exploratory Trench No. T-2

Project:
New Development of A Beyond Market w/Gas Station & Drive-Thru, Plus a Carwash

Location:
24831 Clinton Keith Rd.
Wildomar, CA

Excavation Method: Mini Excavator w/ 12" bucket

Logged By: Henry Olivier, P.G

Date: 6/23/2021

Total Depth: 4 Ft.

Groundwater: Not Encountered

Depth (Ft.)	Description	Graphic
	Top Soil: Silty Sand (SM) with sparse cobbles (≥ 6"), loose to medium dense, light brown, dry, w/ rootlets	
	Weathered Rock (DG), possibly weathered Granodiorite, medium to coarse grain, dense, dry	
	Refusal at 4 ft.	
5'		
10'		
15'		

Geo-Cal, inc.
Environmental & Geotechnical Engineering

Exploratory Trench No. T-3

Project:
New Development of A Beyond Market w/Gas Station & Drive-Thru, Plus a Carwash

Location:
24831 Clinton Keith Rd.
Wildomar, CA

Excavation Method: Mini Excavator w/ 12" bucket

Logged By: Henry Olivier, P.G

Date: 6/23/2021

Total Depth: 4 Ft.

Groundwater: Not Encountered

Depth (Ft.)	Description	Graphic
	Top Soil: Silty Sand (SM) with sparse cobbles (≥ 6"), loose to medium dense, light brown, dry, w/ rootlets	
	Weathered Rock (DG), possibly weathered Granodiorite, medium to coarse grain, dense, dry	
	Refusal at 4 ft.	
5'		
10'		
15'		

Geo-Cal, inc.
Environmental & Geotechnical Engineering

Exploratory Trench No. T-4

Project:
New Development of A Beyond Market w/Gas Station & Drive-Thru, Plus a Carwash

Location:
24831 Clinton Keith Rd.
Wildomar, CA

Excavation Method: Mini Excavator w/ 12" bucket

Logged By: Henry Olivier, P.G

Date: 6/23/2021

Total Depth: 10.5 Ft.

Groundwater: Not Encountered

Depth (Ft.)	Description	Graphic
	Top Soil: Silty Sand (SM) with sparse cobbles (≥ 6"), loose , light brown, dry, w/rootlets	
	Gravelly Sand (SP), fine to medium, with random coarse gravel and cobbles (≥ 6"), dense, brown, dry	
5'	Silty Sand (SM), with gravel and sparse cobbles, brown, dense, dry	
10'		
	Digging Refusal at 10.5 ft bgs using mini excavator	
15'		

NTS GEOTECHNICAL

APPENDIX B

Geotechnical Laboratory Testing

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **Soil Exploration Company**
7535 Jurupa Ave., Suite C
Riverside, CA 92504
Tel:(909)374-5429 E-Mail: SoilExploration@yahoo.com

PROJECT: **Beyond Food Mart / 20237-01**
MATRIX:SOIL DATE RECEIVED:03/03/21
SAMPLING DATE:02/25/21 DATE ANALYZED:03/03&04/21
REPORT TO:Mr. GENE K. LUU DATE REPORTED:03/08/21

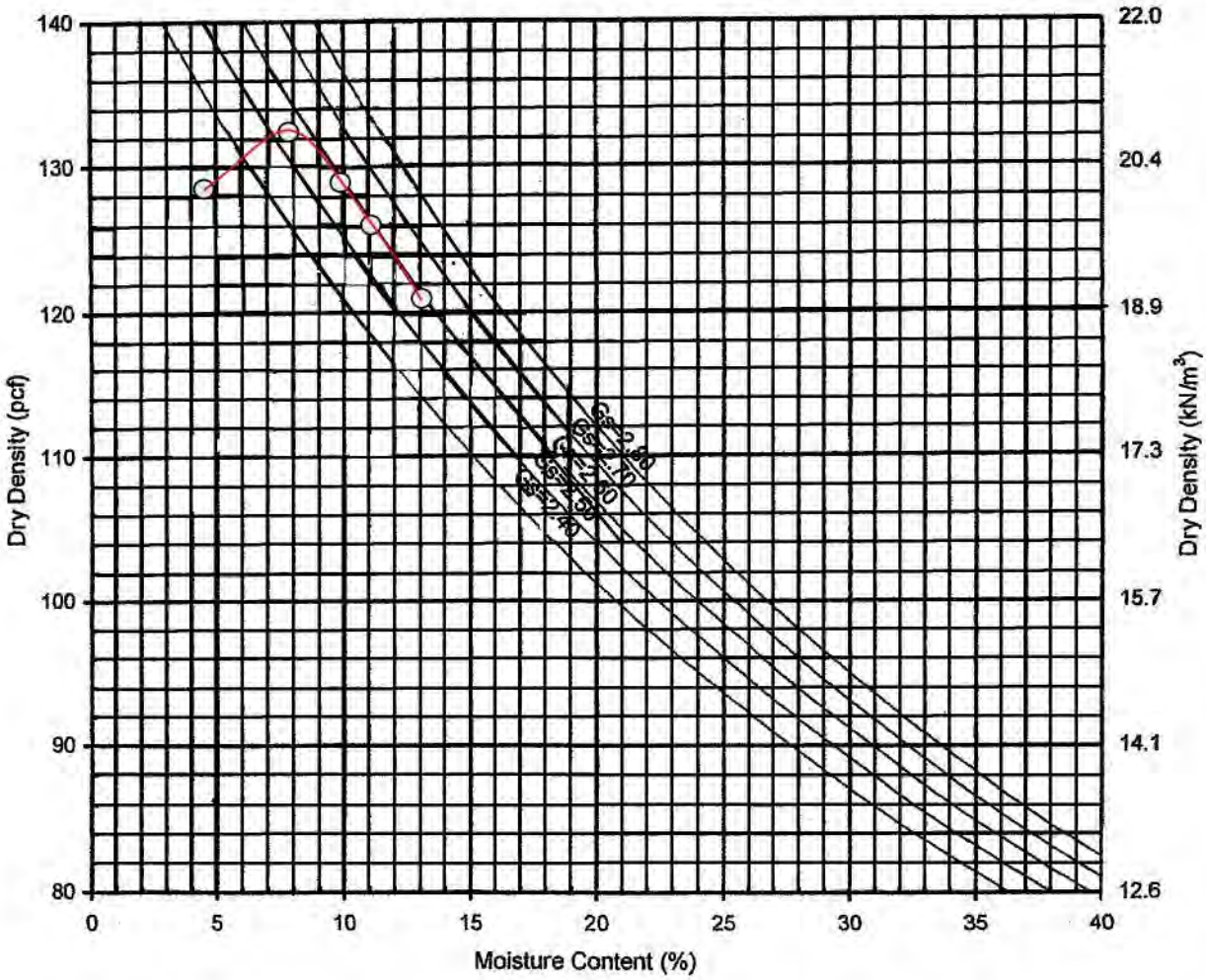
SAMPLE I.D.: **B-1 @ 0-5'** LAB I.D.: 210303-2

PARAMETER	SAMPLE RESULT	UNIT	PQL	DF	TEST METHOD
RESISTIVITY	11100	OHMS-CM	100000*	--	CALTRANS
SULFATE	13.3	mg/Kg	10	1	EPA 9038
CHLORIDE	20.0	mg/Kg	10	1	EPA 9253
pH	7.45	pH/UNIT	--	--	EPA 9045C

COMMENTS
DF = DILUTION FACTOR
PQL = PRACTICAL QUANTITATION LIMIT
ACTUAL DETECTION LIMIT = DF X PQL
mg/Kg = MILLIGRAM PER KILOGRAM = PPM
OHMS-CM = OHMS-CENTIMETER
RESISTIVITY = 1/CONDUCTIVITY
* = HIGH LIMIT
pH ANALYSIS CONDUCTED ON 1;1 SOIL/DEIONIZED WATER EXTRACTION

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

MOISTURE DENSITY CURVE



Boring	Depth(ft)	Classification	γ_{max} (pcf)	w_{opt} (%)
B-1 + B-2	0'-5'	(SM) Silty Sand, Fine to medium, trace coarse	132	8.0

MOISTURE DENSITY CURVE (MDC) ASTM D 1557	
Project:	24831 Clinton Keith Rd
Location:	Wildomar, CA

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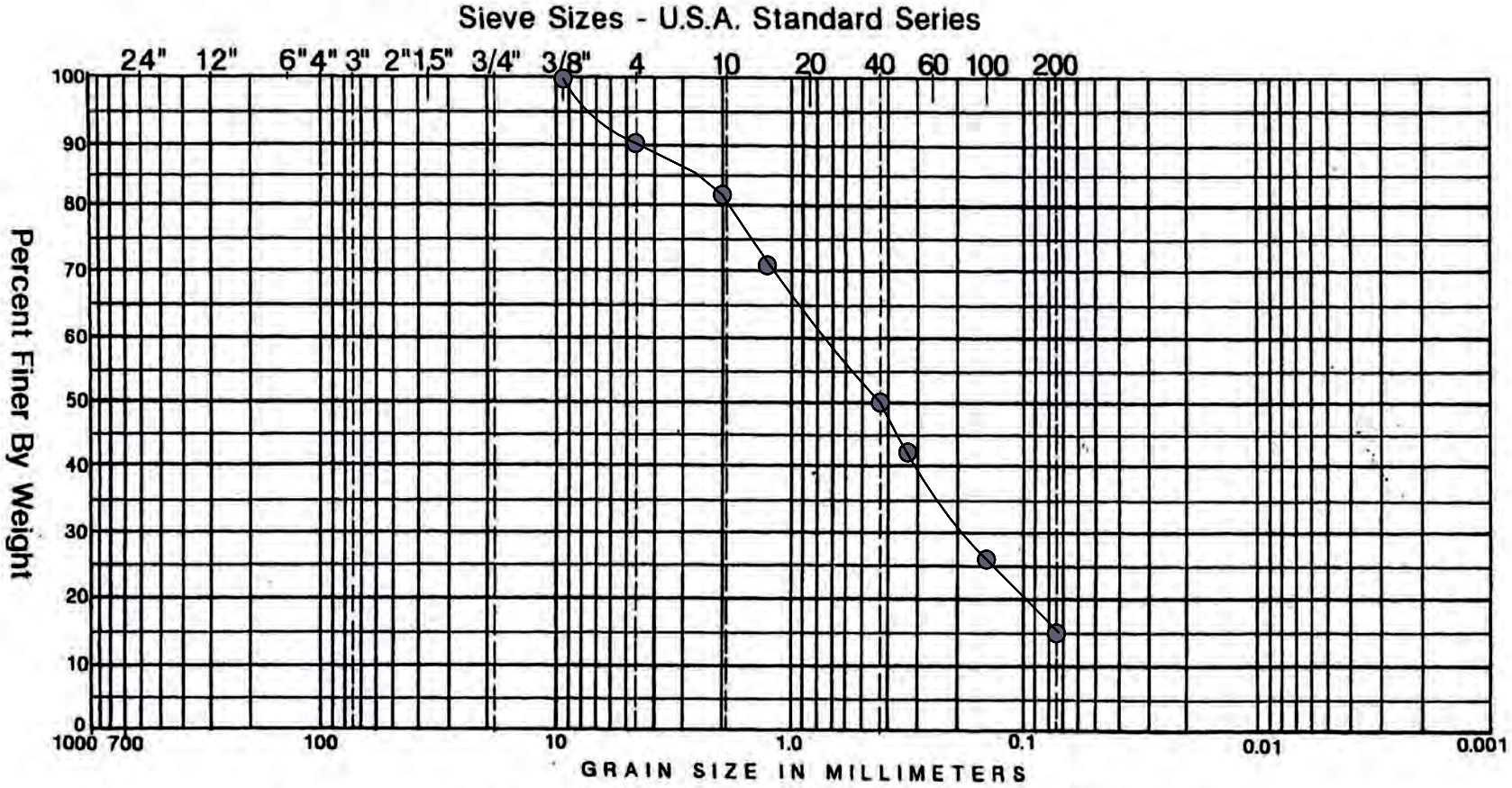
Environmental & Geotechnical Engineering

Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-1 + B-2	0'-5'	(SM) Silty Sand, fine to medium, traces coarse and gravel to 3/8"
			15% fines

24831 Clinton Keith Rd
Wildomar, CA

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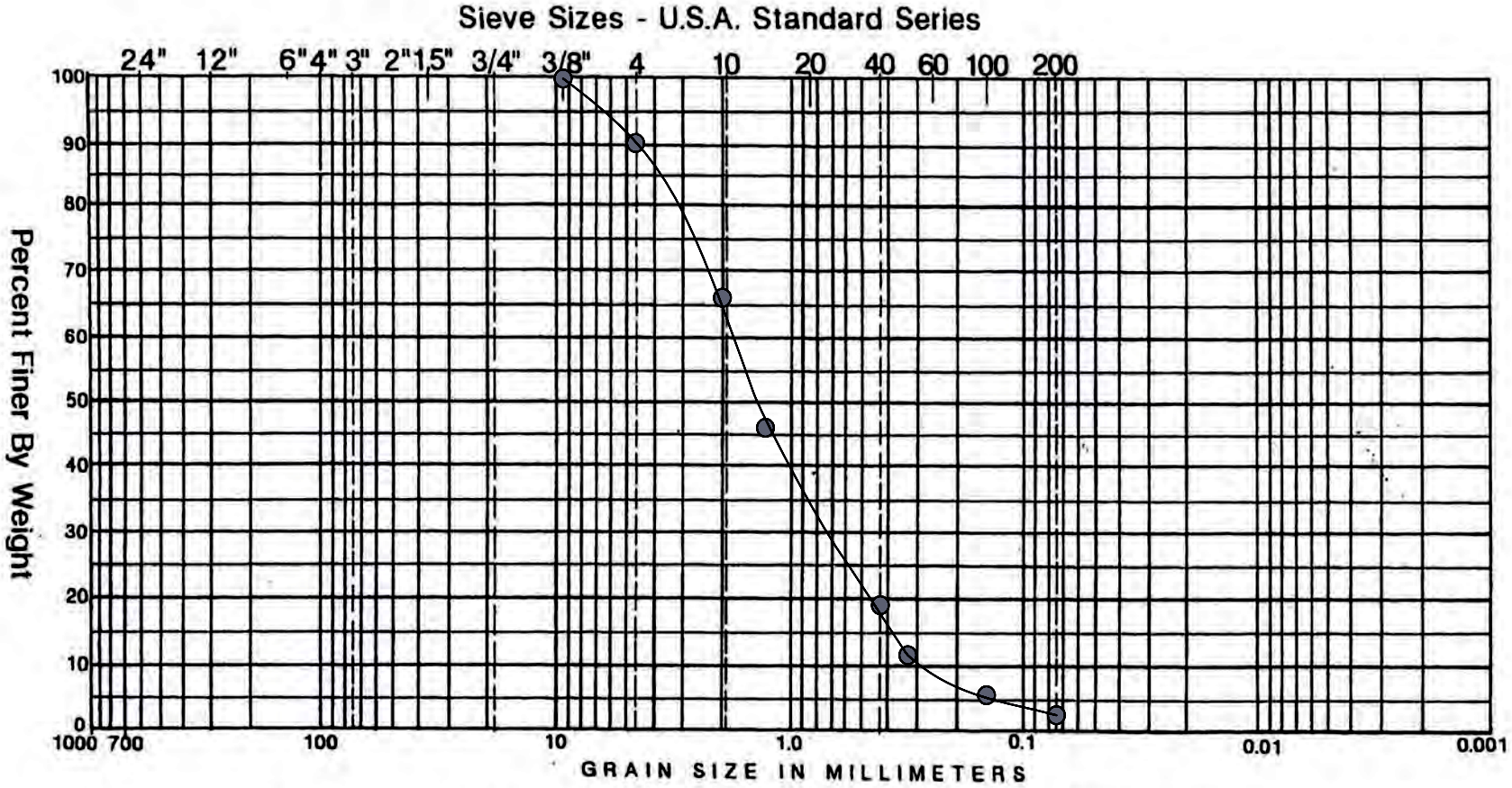
Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-3 (PB-1)	8.5'-9.0'	(SW) Well graded Sand, fine to coarse, trace gravel to 3/8" 2% fines,
			D10=0.29mm,
			Note: Sample Scalped at 3/8'

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Wildomar, CA

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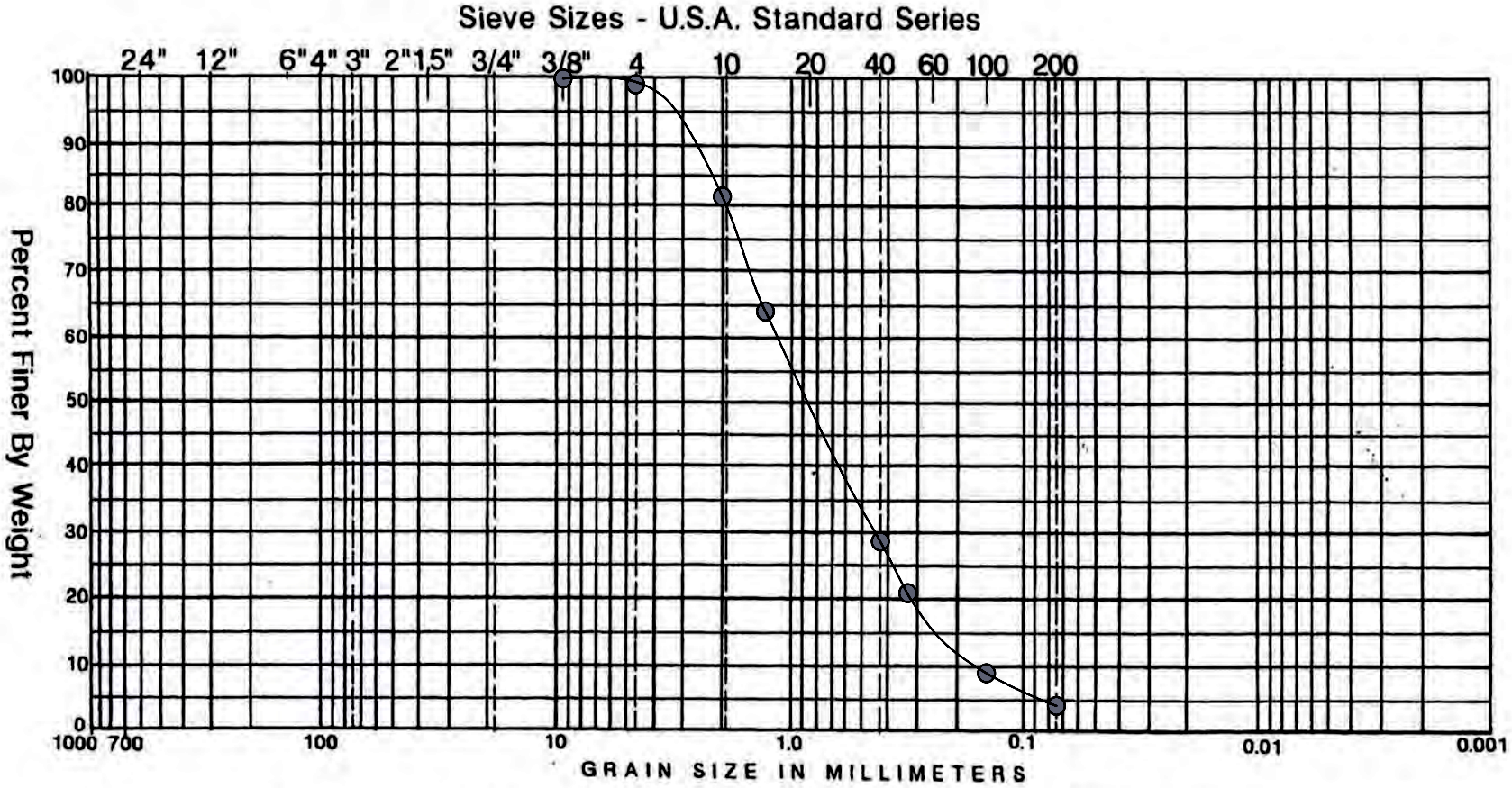
Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-3 (PB-1)	9.0'-9.5'	(SW) Well Graded Sand, fine to coarse, 4% fines, D_{10}=0.18 mm

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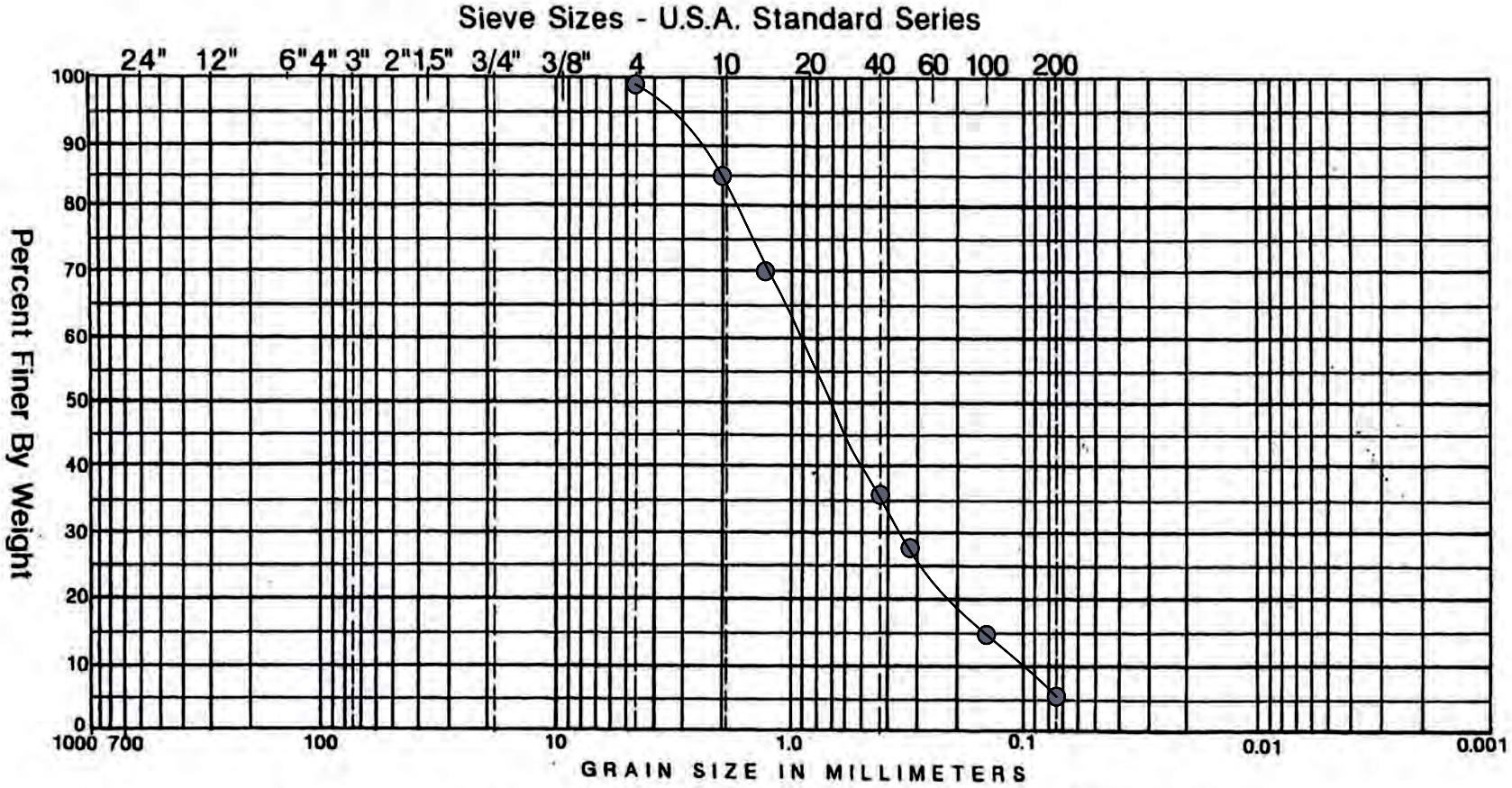
Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-4 (PB-2)	5.0'-5.5'	(SW-SM) Well Graded Sand, fine to coarse with silt, **6% fines D10=0.1mm**

24831 Clinton Keith Rd
Wildomar, CA

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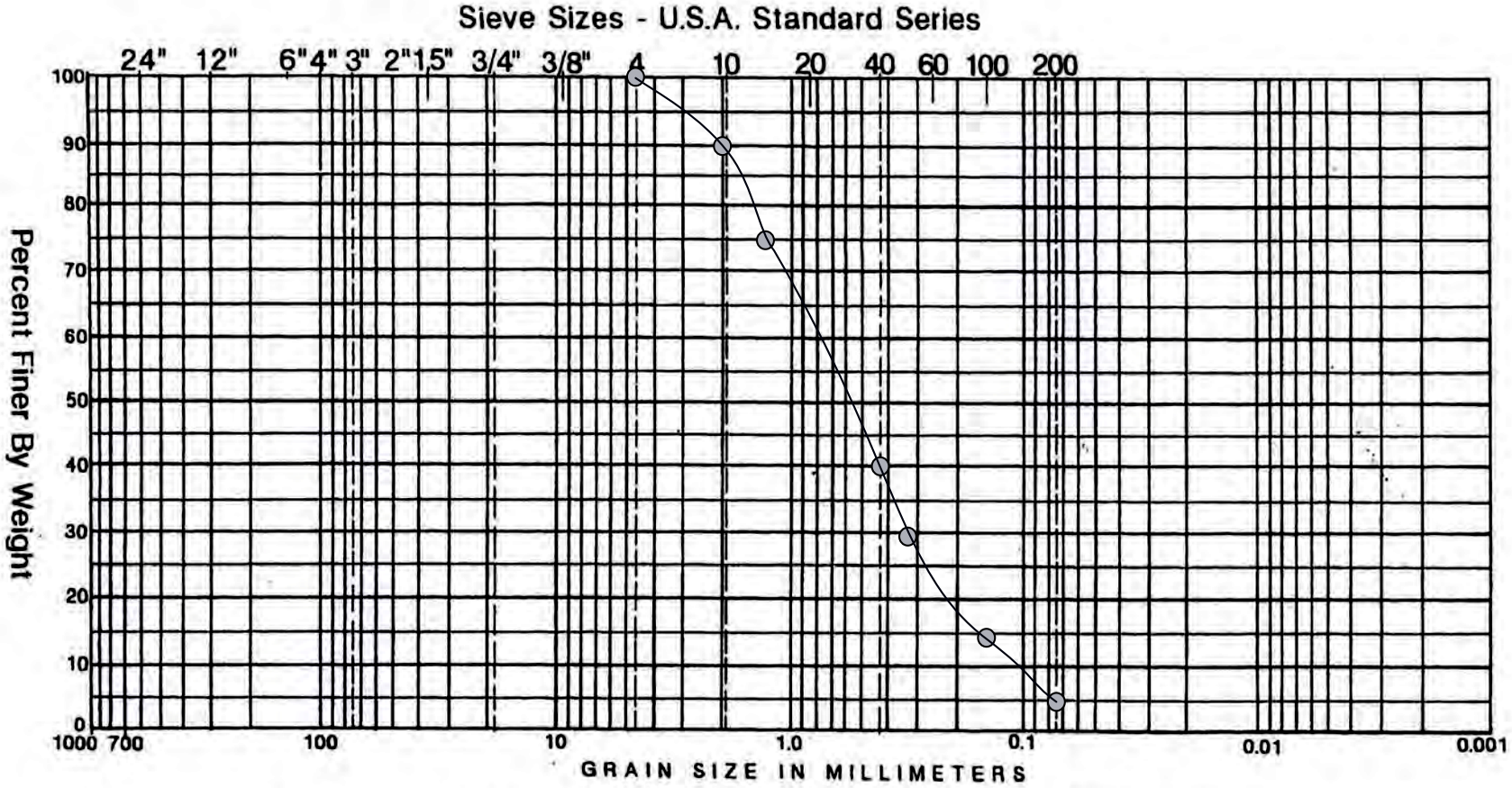
Sieve Analysis Results



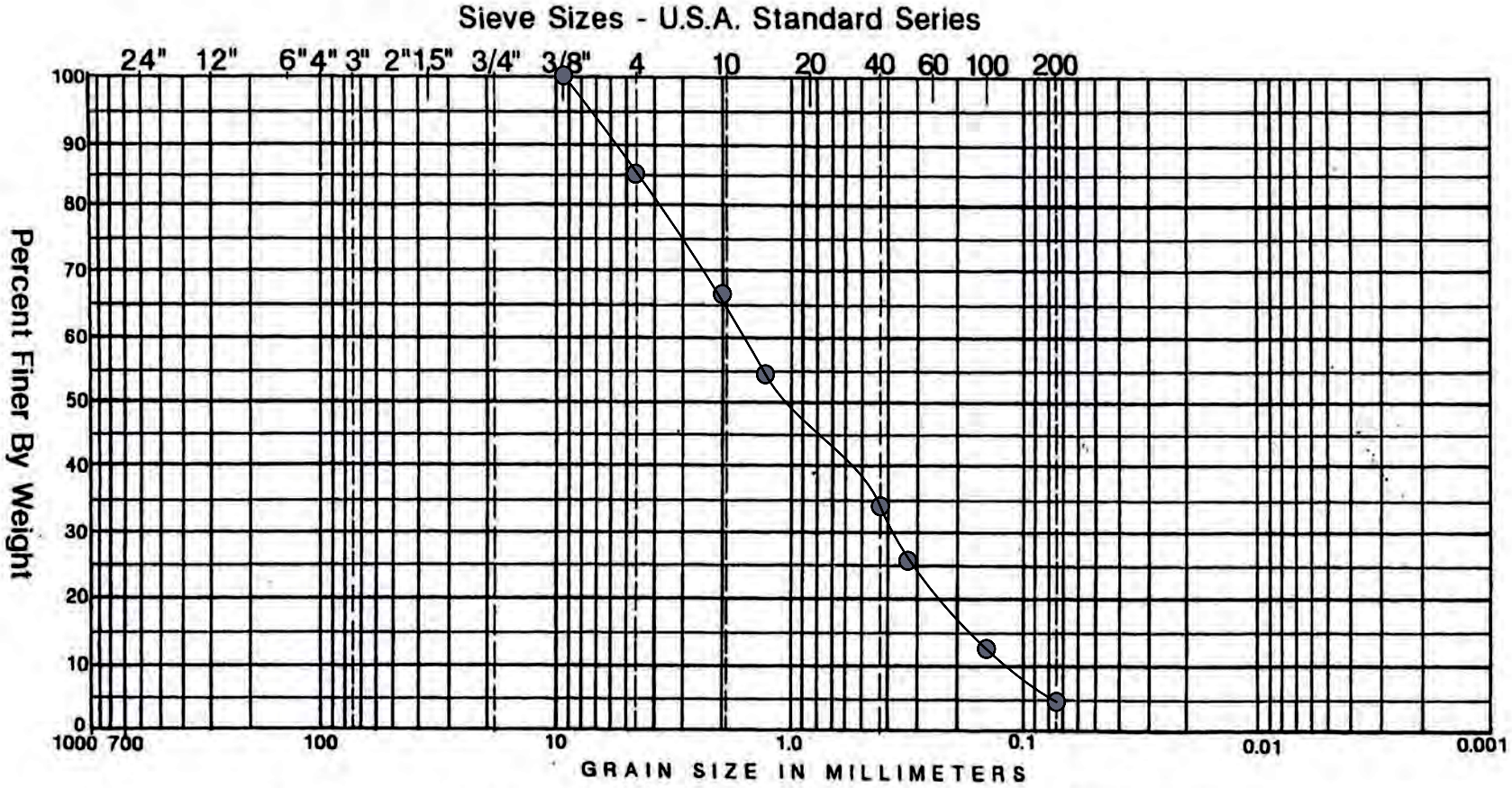
Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
○	B-5	5.5'-6.0'	(SP-SM) Poorly graded sand, fine to medium with silt, trace coarse
	(PB-3)		5% fines. D_{10}=0.12mm

24831 Clinton Keith Rd
Wildomar, CA

Geo-Cal, inc.
Environmental & Geotechnical Engineering

Sieve Analysis Results



Cobbles & Boulders	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Boring	Depth	Classification
●	B-5 (PB-3)	6.0'-6.5'	(SW-SM) Well graded Sand, fine to coarse with silt and gravel to 3/8",
			5% fines, D10=0.14 mm
			Note: Sample Scalped at 3/8"

24831 Clinton Keith Rd
Wildomar, CA

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NTS GEOTECHNICAL

APPENDIX C

Liquefaction Analysis

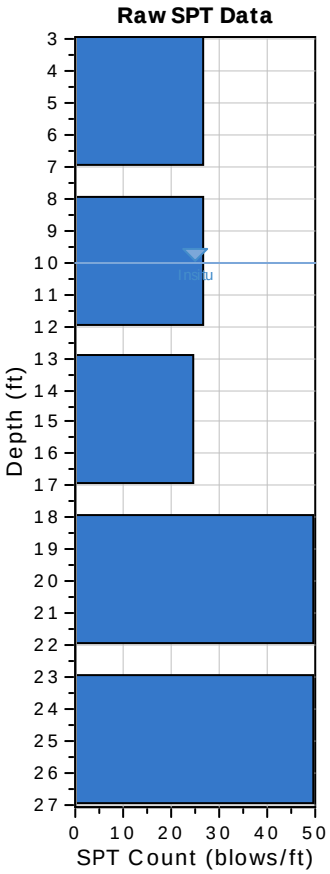
SPT BASED LIQUEFACTION ANALYSIS REPORT

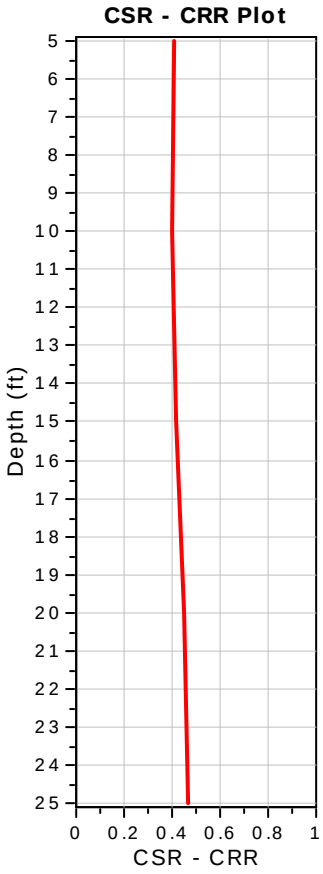
Project title : 24831 Clinton Keith Rd **SPT Name: B-2**

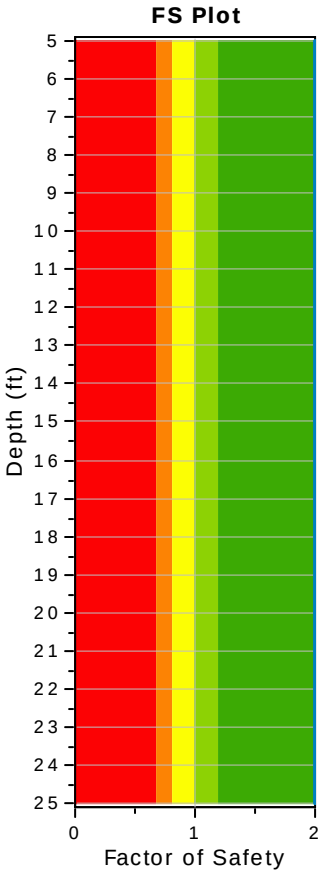
Location : Wildomar, CA

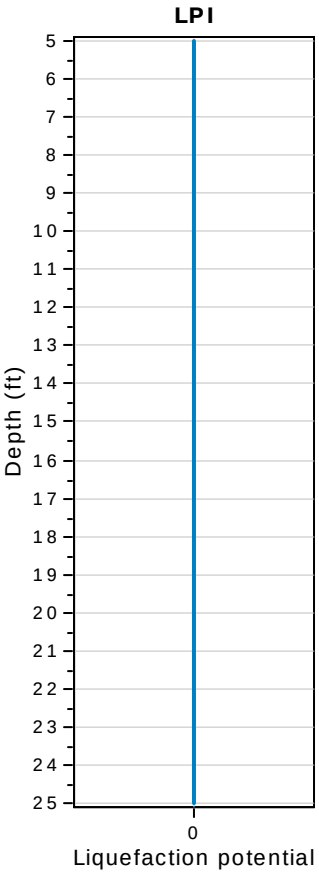
:: Input parameters and analysis properties ::

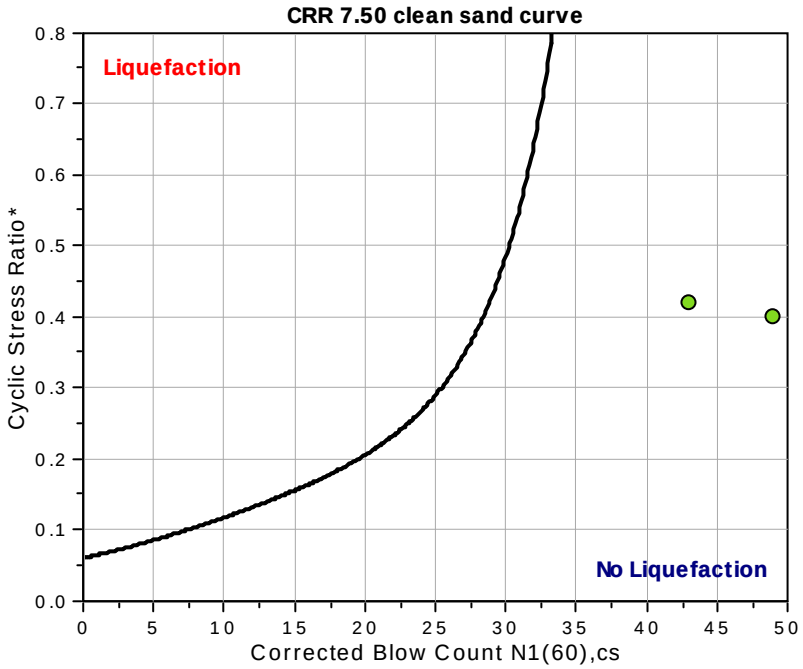
Analysis method:	Boulanger & Idriss, 2014	G.W.T. (in-situ):	10.00 ft
Fines correction method:	Boulanger & Idriss, 2014	G.W.T. (earthq.):	50.00 ft
Sampling method:	Sampler wo liners	Earthquake magnitude M_w:	7.00
Borehole diameter:	200mm	Peak ground acceleration:	0.84 g
Rod length:	3.30 ft	Eq. external load:	0.00 tsf
Hammer energy ratio:	1.28		











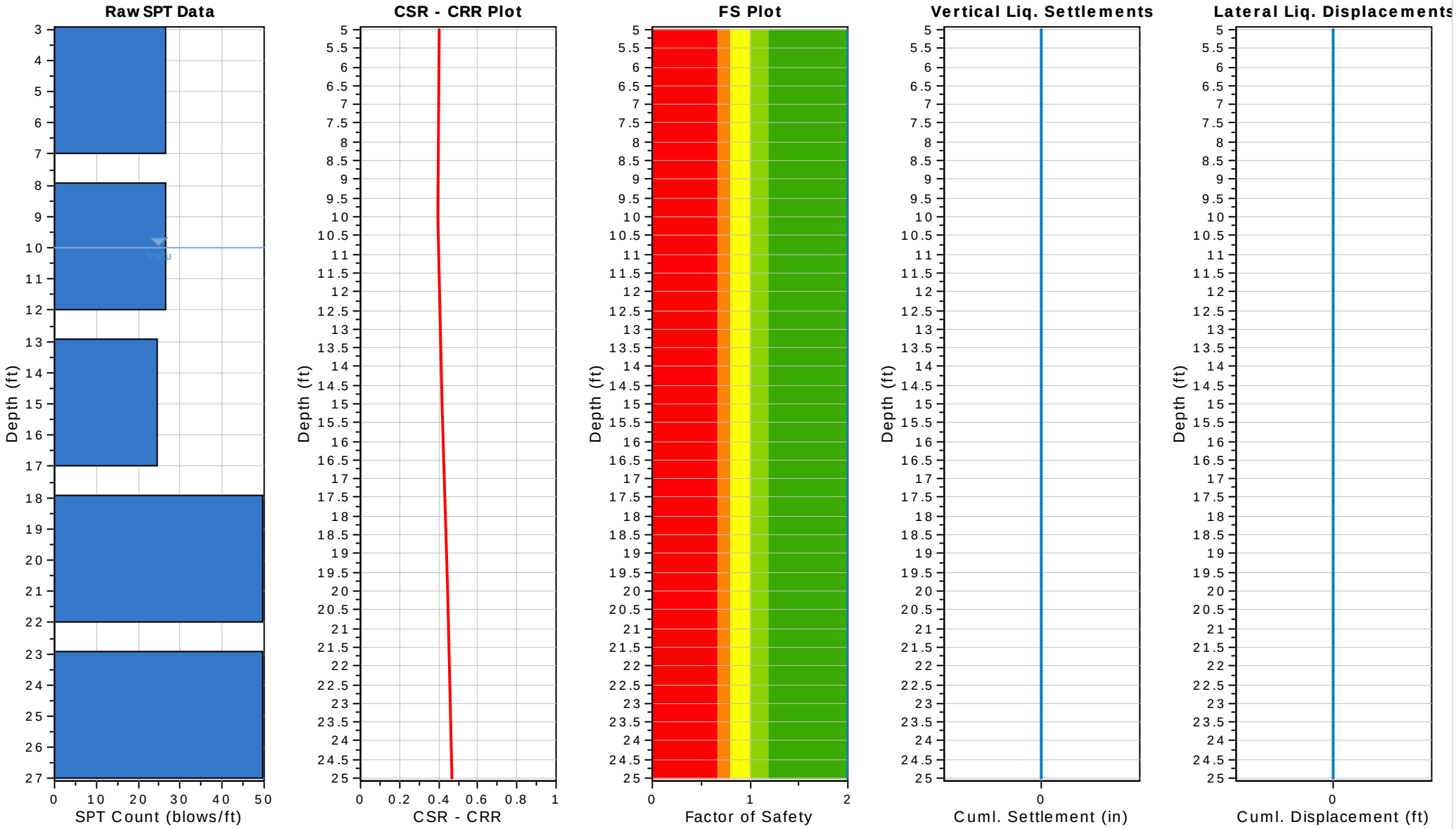
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

:: Overall Liquefaction Assessment Analysis Plots ::



:: Field input data ::

Test Depth (ft)	SPT Field Value (blows)	Fines Content (%)	Unit Weight (pcf)	Infl. Thickness (ft)	Can Liquefy
5.00	27	15.00	130.00	5.00	Yes
10.00	27	15.00	130.00	5.00	Yes
15.00	25	15.00	130.00	5.00	Yes
20.00	50	6.00	130.00	5.00	Yes
25.00	50	6.00	130.00	5.00	Yes

Abbreviations

Depth: Depth at which test was performed (ft)
SPT Field Value: Number of blows per foot
Fines Content: Fines content at test depth (%)
Unit Weight: Unit weight at test depth (pcf)
Infl. Thickness: Thickness of the soil layer to be considered in settlements analysis (ft)
Can Liquefy: User defined switch for excluding/including test depth from the analysis procedure

:: Cyclic Resistance Ratio (CRR) calculation data ::

Depth (ft)	SPT Field Value	Unit Weight (pcf)	σ_v (tsf)	u_o (tsf)	σ'_{vo} (tsf)	m	C_N	C_E	C_B	C_R	C_S	$(N_1)_{60}$	FC (%)	$\Delta(N_1)_{60}$	$(N_1)_{60cs}$	$CRR_{7.5}$
5.00	27	130.00	0.33	0.00	0.33	0.26	1.36	1.28	1.15	0.75	1.20	49	15.00	3.26	52	4.000
10.00	27	130.00	0.65	0.00	0.65	0.26	1.14	1.28	1.15	0.85	1.20	46	15.00	3.26	49	4.000
15.00	25	130.00	0.97	0.16	0.82	0.28	1.07	1.28	1.15	0.85	1.20	40	15.00	3.26	43	4.000
20.00	50	130.00	1.30	0.31	0.99	0.26	1.02	1.28	1.15	0.95	1.20	85	6.00	0.03	85	4.000
25.00	50	130.00	1.63	0.47	1.16	0.26	0.98	1.28	1.15	0.95	1.20	82	6.00	0.03	82	4.000

Abbreviations

σ_v: Total stress during SPT test (tsf)
u_o: Water pore pressure during SPT test (tsf)
σ'_{vo}: Effective overburden pressure during SPT test (tsf)
m: Stress exponent normalization factor
C_N: Overburden corretion factor
C_E: Energy correction factor
C_B: Borehole diameter correction factor
C_R: Rod length correction factor
C_S: Liner correction factor
$N_{1(60)}$: Corrected N_{SPT} to a 60% energy ratio
$\Delta(N_1)_{60}$ Equivalent clean sand adjustment
$N_{1(60)cs}$: Corected $N_{1(60)}$ value for fines content
$CRR_{7.5}$: Cyclic resistance ratio for M=7.5

:: Cyclic Stress Ratio calculation (CSR fully adjusted and normalized) ::

Depth (ft)	Unit Weight (pcf)	$\sigma_{v,eq}$ (tsf)	$u_{o,eq}$ (tsf)	$\sigma'_{vo,eq}$ (tsf)	r_d	α	CSR	MSF_{max}	$(N_1)_{60cs}$	MSF	$CSR_{eq,M=7.5}$	K_{sigma}	CSR^*	FS	
5.00	130.00	0.33	0.00	0.33	0.99	1.00	0.542	2.20	52	1.21	0.447	1.10	0.406	2.000	●
10.00	130.00	0.65	0.00	0.65	0.97	1.00	0.532	2.20	49	1.21	0.439	1.10	0.399	2.000	●
15.00	130.00	0.97	0.00	0.97	0.95	1.00	0.520	2.20	43	1.21	0.429	1.02	0.419	2.000	●
20.00	130.00	1.30	0.00	1.30	0.93	1.00	0.508	2.20	85	1.21	0.419	0.94	0.446	2.000	●
25.00	130.00	1.63	0.00	1.63	0.90	1.00	0.494	2.20	82	1.21	0.408	0.87	0.467	2.000	●

:: Cyclic Stress Ratio calculation (CSR fully adjusted and normalized) ::

Depth (ft)	Unit Weight (pcf)	$\sigma_{v,eq}$ (tsf)	$u_{o,eq}$ (tsf)	$\sigma'_{vo,eq}$ (tsf)	r_d	α	CSR	MSF_{max}	$(N_1)_{60cs}$	MSF	$CSR_{eq,M=7.5}$	K_{sigma}	CSR^*	FS

Abbreviations

$\sigma_{v,eq}$: Total overburden pressure at test point, during earthquake (tsf)
$u_{o,eq}$: Water pressure at test point, during earthquake (tsf)
$\sigma'_{vo,eq}$: Effective overburden pressure, during earthquake (tsf)
r_d: Nonlinear shear mass factor
α: Improvement factor due to stone columns
CSR : Cyclic Stress Ratio
MSF : Magnitude Scaling Factor
$CSR_{eq,M=7.5}$: CSR adjusted for M=7.5
K_{sigma}: Effective overburden stress factor
CSR^*: CSR fully adjusted (user FS applied)***
FS: Calculated factor of safety against soil liquefaction

*** User FS: 1.00

:: Liquefaction potential according to Iwasaki ::

Depth (ft)	FS	F	wz	Thickness (ft)	I_L
5.00	2.000	0.00	9.24	5.00	0.00
10.00	2.000	0.00	8.48	5.00	0.00
15.00	2.000	0.00	7.71	5.00	0.00
20.00	2.000	0.00	6.95	5.00	0.00
25.00	2.000	0.00	6.19	5.00	0.00

Overall potential I_L : 0.00

I_L = 0.00 - No liquefaction
I_L between 0.00 and 5 - Liquefaction not probable
I_L between 5 and 15 - Liquefaction probable
I_L > 15 - Liquefaction certain

:: Vertical settlements estimation for dry sands ::

Depth (ft)	$(N_1)_{60}$	τ_{av}	p	G_{max} (tsf)	α	b	γ	ε_{15}	N_c	ε_{Nc} weight factor	ε_{Nc} (%)	Δh (ft)	ΔS (in)
5.00	49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000
10.00	46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000
15.00	40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000
20.00	85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000
25.00	82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	5.00	0.000

Cumulative settlemetns: 0.000

Abbreviations

τ_{av}: Average cyclic shear stress
p: Average stress
G_{max}: Maximum shear modulus (tsf)
a, b: Shear strain formula variables
γ: Average shear strain
ε_{15}: Volumetric strain after 15 cycles
N_c: Number of cycles
ε_{Nc}: Volumetric strain for number of cycles N_c (%)
Δh: Thickness of soil layer (in)
ΔS: Settlement of soil layer (in)

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Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

No historical Conditions

Appendix 5: LID Feasibility Supplemental Information

Information that supports or supplements the determination of LID technical feasibility documented in Section D

Proprietary Biofiltration Criteria

The applicant shall provide documentation of compliance with each criterion in this checklist as part of the project submittal. Proprietary Biofiltration BMPs shall not be proposed if the BMP will accept undeveloped off-site tributary flows, where potential silt/sediment could clog or otherwise negatively impact the BMP.

1	**All BMPs must be sited/designed with the max. feasible infiltration/evapotranspiration[6].**	
	Requirement	Response
1a	What was the development status of the site prior to project application (i.e. raw ungraded land, or redevelopment with existing graded conditions)? – There will be more expectations to infiltrate if the project is a new development.	Raw ungraded land
1b	History of design discussions/coordination for the site proposed project, resulting in the final design determination (i.e. infiltration vs. flow-thru):	Biofiltration
1c	The consideration of site design alternatives to achieve infiltration or partial infiltration on site;	To infiltrate and retain all onsite water flow
1d	The physical impairments (i.e., fire road egress, public safety considerations, sewer lines, etc.) and public safety concerns (impermeable liners only to avoid geotech or contamination issues);	Roads, residential buildings, water lines, sewer lines, curb, sidewalk, and storm drain lines
1e	The extent low impact development BMP requirements were included in the project site design (site design worksheets can be attached).	Site design worksheets attached in appendix 6
1f	When in the development process (e.g. entitlement or plan check, with dates of geotechnical work and development approval dates) did a geotechnical engineer analyze the site for infiltration feasibility?	Entitlement; July 7, 2021
1g	What was the scope of the geotechnical testing?	Soils and Foundation Evaluations and infiltration testing
1h	What are Public Health and Safety requirements	None

[6] To address San Diego Regional Board letter dated April 28, 2017 regarding documentation to support infeasibility to retain or infiltrate storm water on-site. This document will be used to meet the Regional Board requirements for documentation. As such, not apply or non-responses will not be accepted.

	that affect infiltration locations?	
1i	What are the conclusions and recommendations from the geotechnical engineer, in regards to infiltrating/retaining on-site or allowing some or all of the flows to flow-thru as a proprietary BMP?	Infiltration is feasible and will not increase the risk of geologic hazards
1j	How will the proposed proprietary biofiltration BMPs achieve maximum feasible retention (evapotranspiration and infiltration) of the water quality volume, as required by MS4 Permits?	evapotranspiration and infiltration with any overflow being directed into the public storm drain system

2	**Proprietary Biofiltration BMP sizing (all proprietary/compact BMPs require TAPE approval)[7]**	
	Requirement	Response
2a	Use Table F-1 and F-2 of the WQMP template to identify and list all the pollutants of concern.	N/A
2b	Attached Active Technology Acceptance Protocol-Ecology (TAPE) certification, with General Use Level Designation (GULD) for all of applicable pollutants of concern	N/A
2c	The most restrictive loading rates outlined in TAPE GULD approval[8] for all of the pollutants of concern.	
2d	Attach calculations, and all relevant steps to show that the sizing of the proprietary BMP is based on the flowrate (or volume) used to obtain TAPE/GULD approval (the most restrictive rate).	N/A
2e	Are the infiltration rates are outlet controlled (e.g., via an underdrain and orifice/weir) or controlled by the infiltration rate of the media? Faster infiltration rates thru the media tend to reduce O&M issues.	N/A
2f	Does the water surface drains to at least 12 inches below the media surface within 24 hours from the end of storm event flow to preserve plant health and promote healthy soil structure?	N/A

[7] Full scale field testing data that has been verified by Washington Department of Ecology and General Use Level Designation is required. https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies. Otherwise, the County has no obligation to accept the use of any other proprietary flow-thru BMP. Additional guidance can be found at the end of this checklist from the San Diego BMPDM Appendix F.1 for other verified third-party, field scale testing performance criteria that does not meet the Washington Department of Ecology standards.

[8] E.g. if the BMP was certified/verified with 100 gallons per minute treatment rate, the BMP shall be sized with no more than the equivalent rate).

3	**Biofiltration BMPs must be designed to promote appropriate biological activity to support and maintain treatment processes.**	
	Requirement	Response
3a	Plants tolerant of project climate, design ponding depths and the treatment media composition.	Provide documentation justifying plant selection.[9]
3b	Plants that minimize irrigation requirements.	Provide documentation describing irrigation requirements for establishment and long term operation.
3c	Plant location and growth will not impede expected long-term media filtration rates and will enhance long-term infiltration rates to the extent possible.	Provide documentation justifying plant selection.[4]
3d	If plants are not applicable to the biofiltration design, other biological processes are supported as needed to sustain treatment processes (e.g., biofilm in a subsurface flow wetland). TAPE GULD approval that identifies approval with and without plants can be submitted for approval.	For biofiltration designs without plants, describe the biological processes that will support effective treatment and how they will be sustained.P

4	**Biofiltration BMPs must be designed with a hydraulic loading rate to prevent erosion, scour, and channeling within the BMP. Erosion, scour, and/or channeling can disrupt treatment processes and reduce effectiveness.**	
	Requirement	Response
4a	What pre-treatment devices (e.g. vegetated buffers, catch basin inserts) and designs (e.g. forebay berms with cutouts) are proposed?	catch basin inserts
4b	Adequate scour protection has been provided for both sheet flow and pipe inflows to the BMP.	Yes
4c	Where scour protection has not been provided, flows into and within the BMP are kept to non-erosive velocities.	3.24 cfs
4d	The BMP is used in a manner consistent with manufacturer guidelines and conditions of its third-party certification (e.g. maximum tributary area, maximum inflow velocities, etc.).	N/A
4e	To preserve permeability, the media should have substantial void ratios and avoidance of choking layers.	40% voids

[9] See Appendix E.20 of the San Deigo BMPDM for initial plan list for consideration for Riverside County.

5	**Biofiltration BMP must include operation and maintenance design features and planning considerations for continued effectiveness of pollutant removal and flow control functions. Biofiltration BMPs require regular maintenance in order provide ongoing function as intended. Additionally, it is not possible to foresee and avoid potential issues as part of design; therefore, plans must be in place to correct issues if they arise.**	
	Requirement	Response
5a	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, media above gravel that has 40% voids to store and infiltrate
5b	The maintenance plan specific for the proprietary BMP specific inspection activities, regular/periodic maintenance activities and specific corrective actions relating to scour, erosion, channeling, media clogging, vegetation health, and inflow and outflow structures.	This is in addition to the O&M Plan described in the WQMP guidance document, Section 5.
5c	Adequate site area and features have been provided for BMP inspection and maintenance access.	BMPs to be maintained by HOA
5d	For proprietary biofiltration BMPs, the BMP maintenance plan is consistent with manufacturer guidelines and conditions of its third-party certification (i.e., maintenance activities, frequencies).	Yes
5e	Describe all portions of the BMP that may potentially clog or present an O&M issue.	Trash and debris preventing water to infiltrate into the through media into gravel storage
5f	Describe design features to address each of the potential clogging or O&M issues.	HOA to maintain and clean BMPs

By signing below, the preparer certifies all the information provided with this submittal and submittals related to proprietary BMPs for the project is accurate, and relevant information to assess the long term operation and maintenance of this proprietary BMP was not omitted with this submittal.

Prepared by: _____

Title: _____

Signature: _____

_____

Date:

Appendix 6: LID BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation to supplement Section D

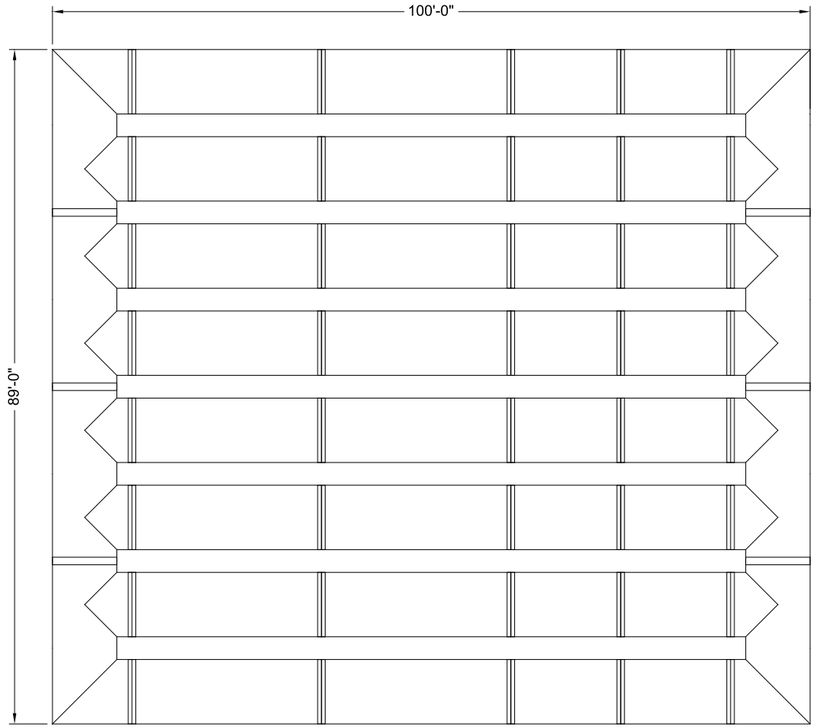
PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20 & HS25
- APPROX. LINEAR FOOTAGE = 842 lf.

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = N/A
- PIPE STORAGE VOLUME = 47,779 cf.
- BACKFILL STORAGE VOLUME = 0 cf.
- TOTAL STORAGE PROVIDED = 47,779 cf.

PIPE DETAILS
- DIAMETER = 102 IN.
- CORRUGATION = 5x1
- GAGE = 16
- COATING = ALT2
- WALL TYPE = Solid
- BARRELL SPACING = 36 IN.

BACKFILL DETAILS
- WIDTH AT ENDS = 12 IN.
- ABOVE PIPE = 0 IN.
- WIDTH AT SIDES = 12 IN.
- BELOW PIPE = 0 IN.



NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE $2\frac{2}{3}$" x $\frac{1}{2}$" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

ASSEMBLY
SCALE: 1" = 20'

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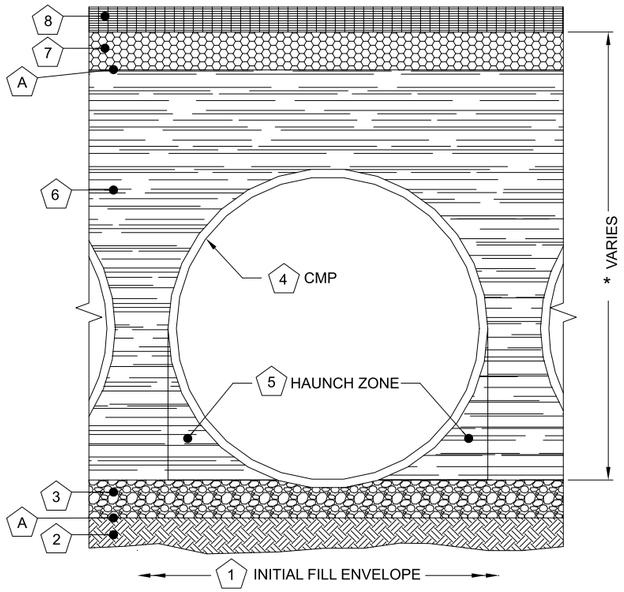
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH® CMP DETENTION SYSTEMS
CONTECH **DYODS** DRAWING

DYO14466 Jana
jana
Rancho Cucamonga, CA
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
9116	14466	3/18/2022
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: D1		



	DETENTION SYSTEMS - CMP DETENTION / CMP DRAINAGE			
	Material Location	Description	Material Designation	Designation
8	Rigid or Flexible Pavement (if applicable)			
7	Road Base (if applicable)			
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45	Engineer Decision for consideration to prevent soil migration into varying soil types
6	Backfill	Well graded granular material which may contain small amounts of silt or clay.	AASHTO M 145- A-1, A-2, A-3	Placed in 8" +/- loose lifts and compacted to 90% Standard Proctor Per AASHTO T 99
3	Bedding Stone	Well graded granular bedding material w/maximum particle size of 3"	AASHTO M43 - 3,357,4,467, 5, 56, 57	Engineer to determine if bedding is required. Pipe may be placed on the trench bottom of a relatively loose, native suitable well graded & granular material. For Arch pipes it is recommended to be shaped to a relatively flat bottom or fine-grade the foundation to a slight v-shape. Unsuitable material should be over-excavated and re-placed with a 4"-6" layer of well graded & granular stone per the material designation. See AASHTO 26.3.8.1 / 26.5.3 Bedding info.
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45	Engineer Decision for consideration to prevent soil migration into varying soil types
*	*Note: Backfill using controlled low-strength material (CLSM, "flash fill" or "flowable fill") when the spacing between the pipes will not allow for placement and adequate compaction of the backfill.*			

1 MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT

FOUNDATION/BEDDING PREPARATION

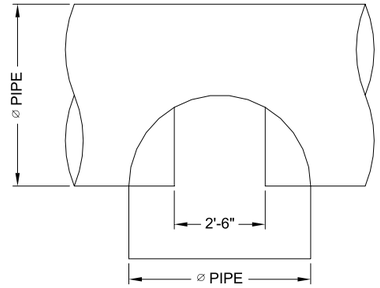
2 PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER.

5 HAUNCH ZONE MATERIAL SHALL BE PLACED AND UNIFORMALLY COMPACTED WITHOUT SOFT SPOTS.

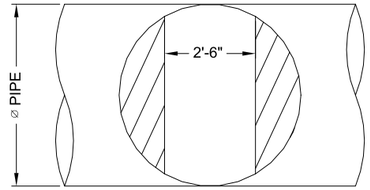
BACKFILL

WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO LIFT (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE DETENTION SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON THE PIPE.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.



PLAN

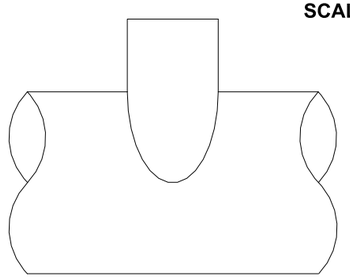


FRONT

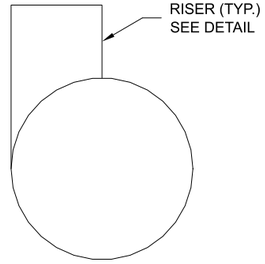
NOTE:
MANWAY DETAIL APPLICABLE FOR CMP SYSTEMS WITH DIAMETERS 48" AND LARGER. MANWAYS MAY BE REQUIRED ON SMALLER SYSTEMS DEPENDING ON ACTUAL SITE SPECIFIC CONDITIONS.

TYPICAL MANWAY DETAIL

SCALE: N.T.S.



ELEVATION

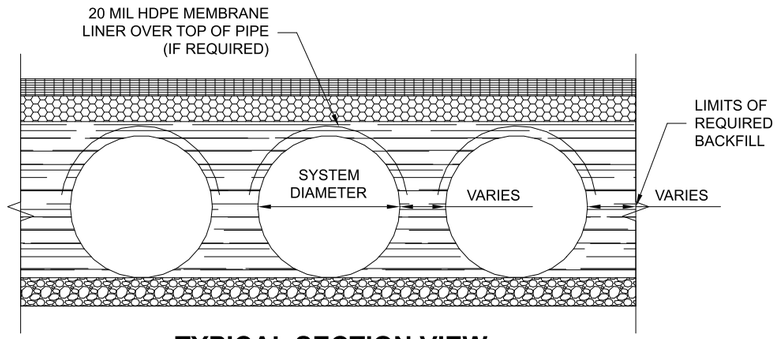


END

NOTE:
LADDERS ARE OPTIONAL AND ARE NOT REQUIRED FOR ALL SYSTEMS.

TYPICAL RISER DETAIL

SCALE: N.T.S.



TYPICAL SECTION VIEW

LINER OVER ROWS
SCALE: N.T.S.

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, AN HDPE MEMBRANE LINER IS RECOMMENDED WITH THE SYSTEM. THE IMPERMEABLE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

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CONTECH CMP DETENTION SYSTEMS
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DYO14466 Jana
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SHEET NO.: D2		

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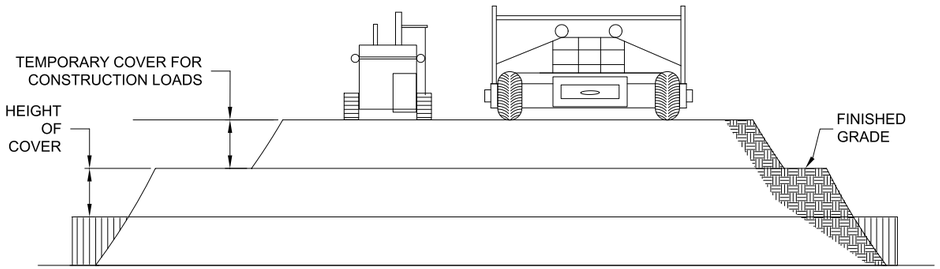


CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM

SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

POLYMER COATED: AASHTO M-245 OR ASTM A-762

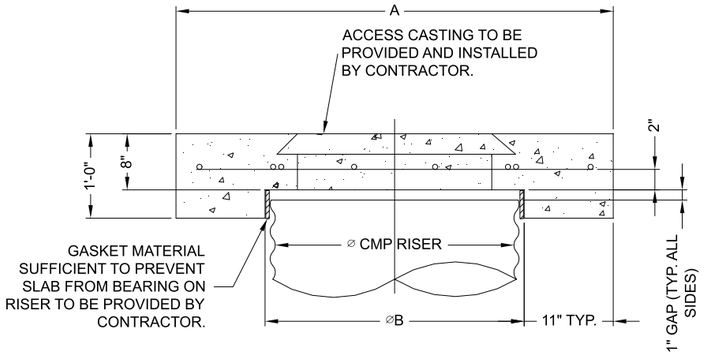
ALUMINUM: AASHTO M-196 OR ASTM B-745

HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSP'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

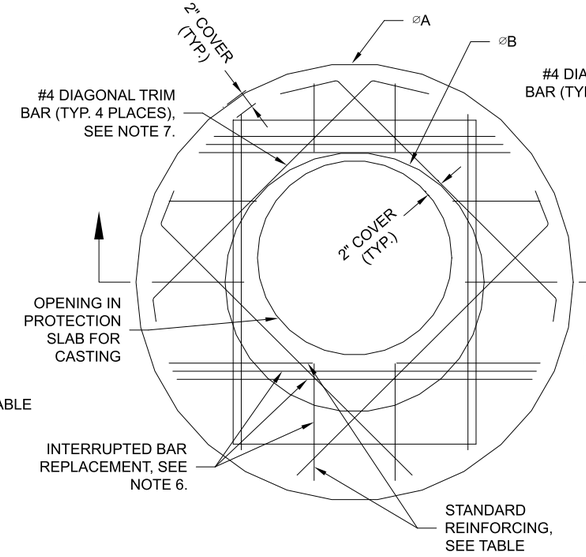
NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.



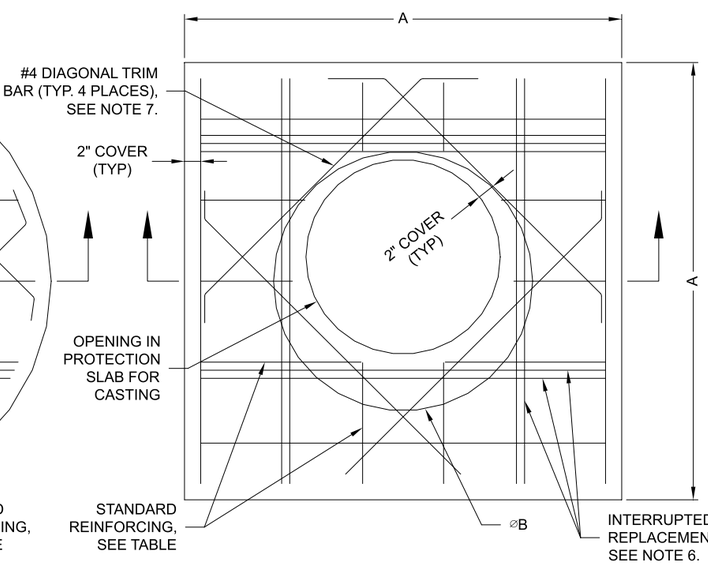
SECTION VIEW

REINFORCING TABLE				
⌀ CMP RISER	A	⌀ B	REINFORCING	**BEARING PRESSURE (PSF)
24"	⌀ 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	⌀ 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	⌀ 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	⌀ 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	⌀ 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:

1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL

SCALE: N.T.S.

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DATE	REVISION DESCRIPTION	BY

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9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH® CMP DETENTION SYSTEMS
CONTECH **DYODS** DRAWING

DYO14466 Jana
jana
Rancho Cucamonga, CA
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
9116	14466	3/18/2022
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: D3		

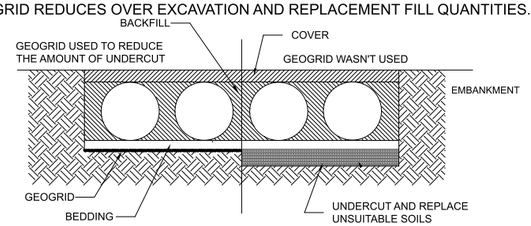
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

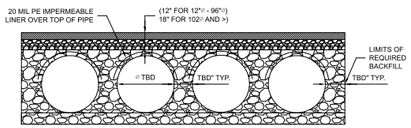


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

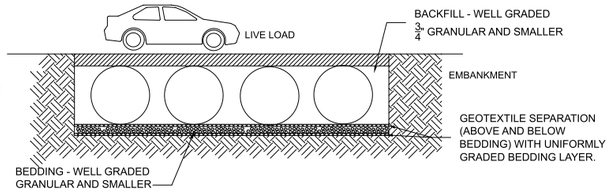
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

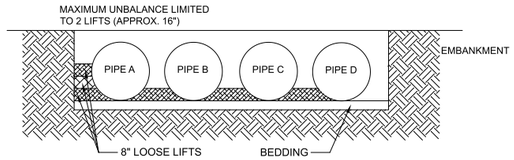
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



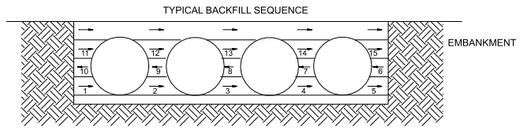
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

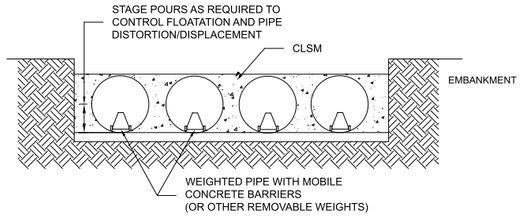


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

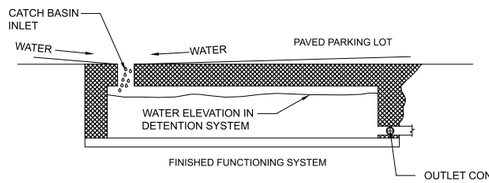


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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CONTECH CMP DETENTION SYSTEMS

CONTECH **DYODS** DRAWING

DYO14466 Jana
jana
Rancho Cucamonga, CA
DETENTION SYSTEM

PROJECT No.:	SEQ. No.:	DATE:
9116	14466	3/18/2022
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.: D4		

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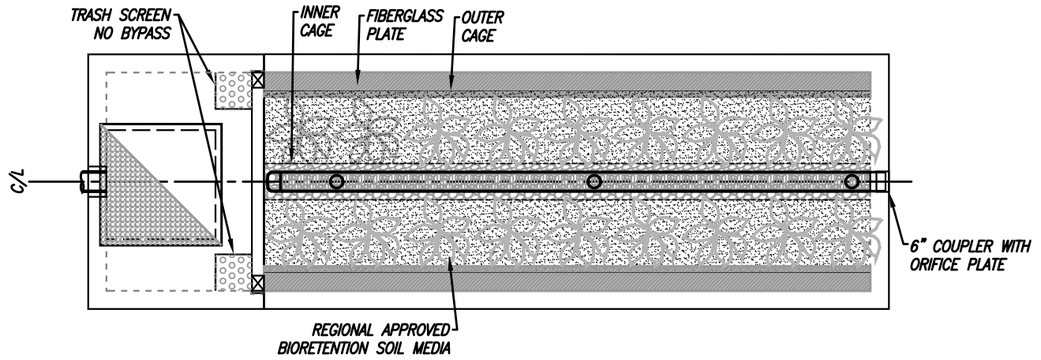
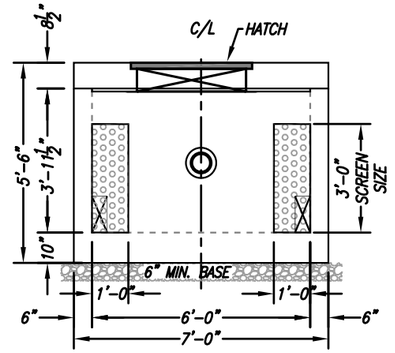
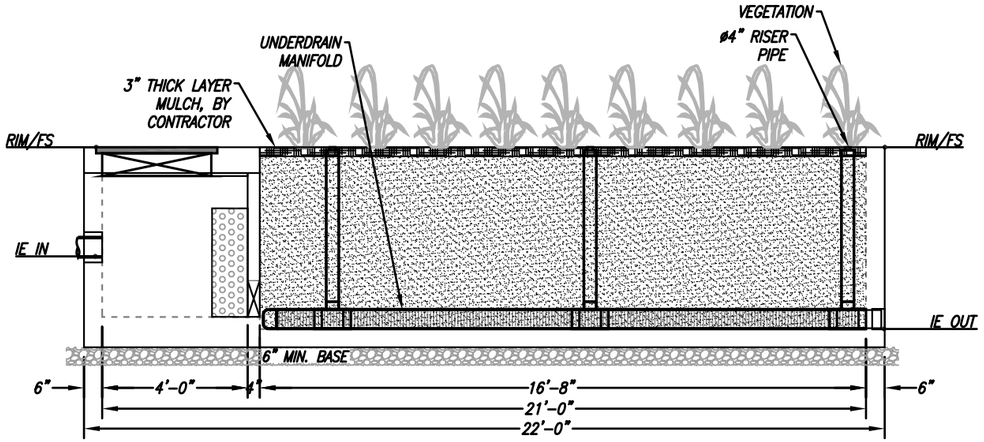
SITE SPECIFIC DATA			
PROJECT ID			
PROJECT NAME			
PROJECT LOCATION			
STRUCTURE ID			
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
---		---	
TREATMENT HGL AVAILABLE (FT)			---
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			OFFLINE
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE	N/K	N/K	N/K
INLET PIPE			
OUTLET PIPE	-5.00	PVC-SDR35	6"
	PRETREATMENT	BIOFILTRATION	N/A
RIM ELEVATION	0.00	0.00	0.00
SURFACE LOAD	PEDESTRIAN	OPEN PLANTER	N/A
FRAME & COVER	36" X 36"	N/A	N/A
LA COUNTY MEDIA MIX VOLUME (CY)			---
GRAVEL LAYER WITHIN MEDIA CHAMBER (CY)			---
ORIFICE DIAMETER (IN)			---
NOTES: PRELIMINARY, NOT FOR CONSTRUCTION.			



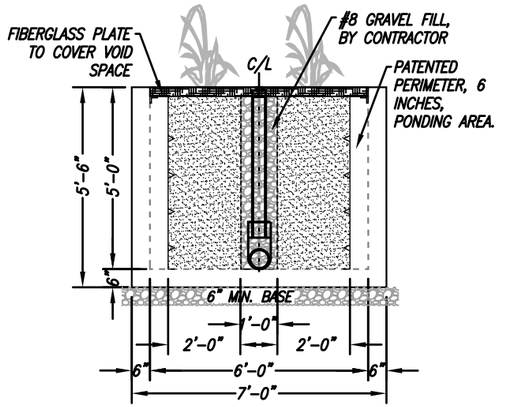
PLAN VIEW



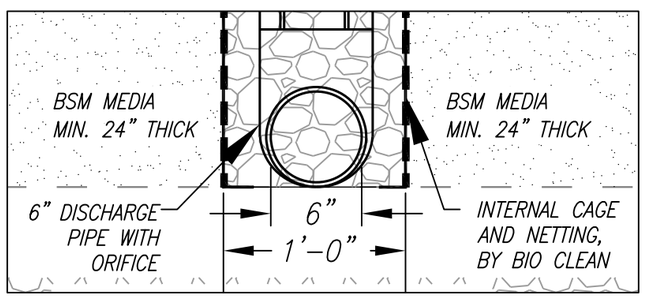
INLET VIEW



ELEVATION VIEW



OUTLET VIEW



INTERNAL CAGE DETAILS

REQUIRED HORIZ. MEDIA THICKNESS (INCHES)	24
TREATMENT VOLUME (CF)	2400
TARGETED DRAINDOWN DURATION (HR)	24
WETLANDMEDIA INFILTRATION RATE (IN/HR)	12
OR	
WETLANDMEDIA LOADING RATE (GPM/SF)	0.12
DISCHARGE RATE (CFS)	0.028
REQUIRED TOTAL MEDIA SURFACE AREA (SF)	103.89
PROVIDED TOTAL MEDIA SURFACE AREA (SF)	104.00
NUMBER OF ROW(S)	1

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 MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S 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 FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
3. 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 GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON-SHRINK GROUT PER MANUFACTURER'S STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES.
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. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION.

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 MANUFACTURER.

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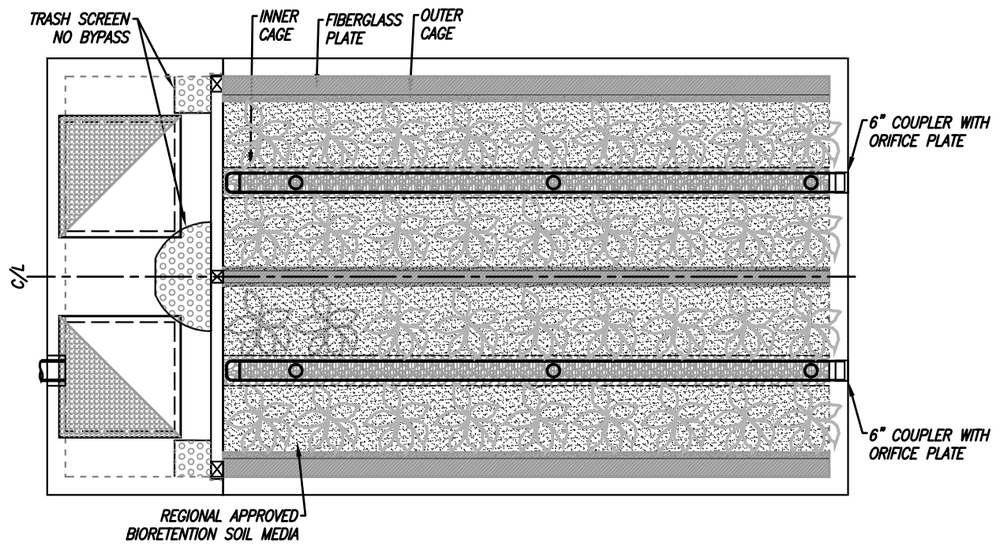
Bio Clean
A Forterra Company

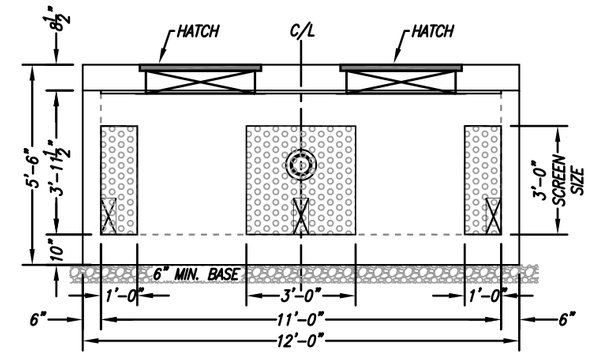
WetlandMOD-6- XX -V
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

HANNIS8L7S7101/25

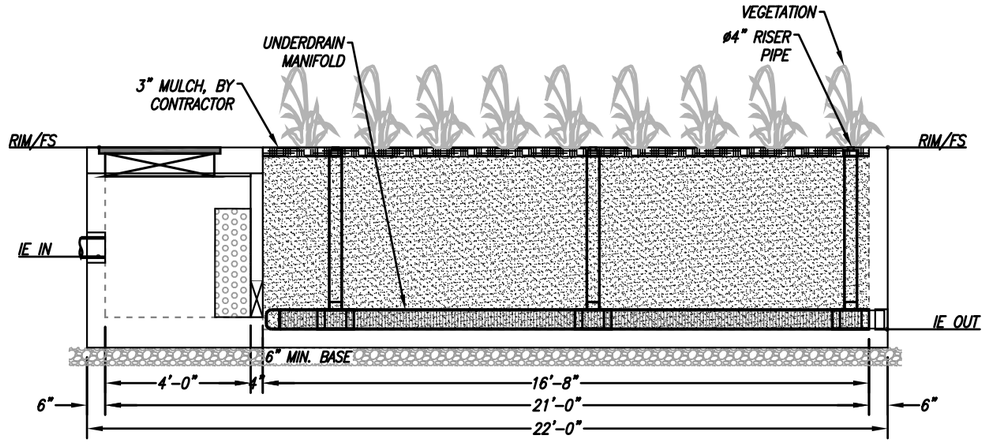
SITE SPECIFIC DATA			
PROJECT ID			
PROJECT NAME			
PROJECT LOCATION			
STRUCTURE ID			
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
---		---	
TREATMENT HGL AVAILABLE (FT)			---
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			OFFLINE
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE	N/K	N/K	N/K
INLET PIPE			
OUTLET PIPE	-5.00	PVC-SDR35	6"
	PRETREATMENT	BIOFILTRATION	N/A
RIM ELEVATION	0.00	0.00	0.00
SURFACE LOAD	PEDESTRIAN	OPEN PLANTER	N/A
FRAME & COVER	36" X 36"	N/A	N/A
LA COUNTY MEDIA MIX VOLUME (CY)			---
GRAVEL LAYER WITHIN MEDIA CHAMBER (CY)			---
ORIFICE DIAMETER (IN)			---
NOTES: PRELIMINARY, NOT FOR CONSTRUCTION.			



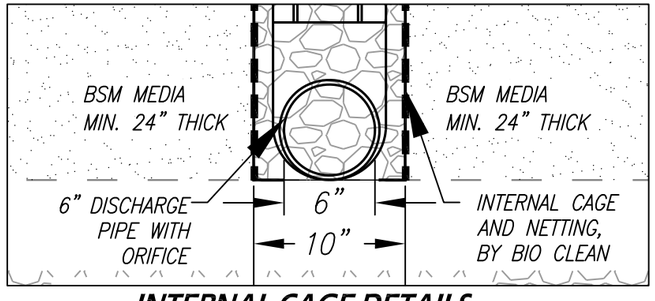
PLAN VIEW



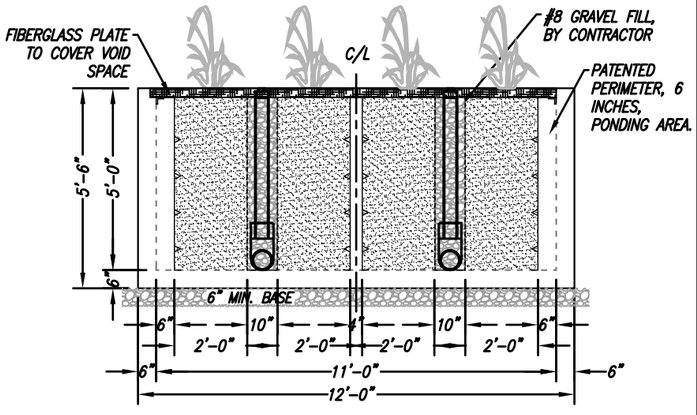
INLET VIEW



ELEVATION VIEW



INTERNAL CAGE DETAILS



OUTLET VIEW

REQUIRED HORIZ. MEDIA THICKNESS (INCHES)	24
TREATMENT VOLUME (CF)	2400
TARGETED DRAINDOWN DURATION (HR)	24
WETLANDMEDIA INFILTRATION RATE (IN/HR) OR	12
WETLANDMEDIA LOADING RATE (GPM/SF)	0.12
DISCHARGE RATE (CFS)	0.028
REQUIRED TOTAL MEDIA SURFACE AREA (SF)	103.89
PROVIDED TOTAL MEDIA SURFACE AREA (SF)	104.00
NUMBER OF ROW(S)	1

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 MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S 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 FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
3. 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 GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON-SHRINK GROUT PER MANUFACTURER'S STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES.
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. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION.

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 MANUFACTURER.

THE PRODUCT DESCRIBED 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 DRAWING IS THE SOLE PROPERTY OF MODULAR WETLANDS SYSTEMS. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MODULAR WETLANDS SYSTEMS IS PROHIBITED.

Bio Clean
A Forterra Company

WetlandMOD-11- XX -V
STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

10/25/19CSINGH

EXHIBIT A:

Isohyetal Map for the 85th Percentile 24-hour Storm Event

R 07 W | R 06 W | R 05 W | R 04 W | R 03 W | R 02 W | R 01 W | R 01 E | R 02 E | R 03 E | R 04 E | R 05 E

T 01 S
T 02 S
T 03 S
T 04 S
T 05 S
T 06 S
T 07 S
T 08 S

0.85 MiraLoma
0.61 RiversideNorth
0.54 RiversideSouth
0.68 PigeonPass
0.66 MorenoEast
0.85 Beaumont
0.88 PradoDam
0.51 Woodcrest
0.50 LakeMathews
0.68 PerrisReservoir
0.87 VistaGrandeGS
0.70 SanJacintoNWS
1.18 Idyllwild
0.58 SunCity
0.68 Winchester
0.70 ElsinoreNWS
1.11 ElCarisoStation
0.90 HurkeyCreek
0.77 WildomarLaCresta
0.52 SkinnerLake
0.65 Anza
0.77 SantaRosaPlateau
1.00 TemeculaNWS
0.64 AguangaValley

SITE

Santa Ana River Watershed
Santa Margarita Watershed

JURUPA VALLEY | EASTVALE | NORCO | CORONA | RIVERSIDE | MORENO VALLEY | CALIMESA | BEAUMONT | SAN JACINTO | PERRIS | CANYON LAKE | LAKE ELSINORE | MENIFEE | HEMET | MURRIETA | TEMECULA

N

Rain Gage Locations

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Isohyetal Map for the 85th Percentile 24 hour Storm Event

July 201

Santa Margarita Watershed

BMP Design Volume, V_{BMP} (Rev. 03-2012)

Legend: Required Entries / Calculated Cells

(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)

Company Name	Blue Engineering & Consulting, Inc.	Date	3/17/2022
Designed by	Angel Cesar	County/City Case No	
Company Project Number/Name	Jana Rd Commercial Development		
Drainage Area Number/Name	1		

Enter the Area Tributary to this Feature A_T = 4.04 acres

85th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E

Site Location

Township: 6S

Range: 4W

Section: 23

Enter the 85th Percentile, 24-hour Rainfall Depth D_{85} = 0.68

Determine the Effective Impervious Fraction

Type of post-development surface cover (use pull down menu): Mixed Surface Types

Effective Impervious Fraction I_f = 0.67

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 = 0.47

Determine Design Storage Volume, V_{BMP}

Calculate V_U, the 85% Unit Storage Volume $V_U = D_{85} \times C$

V_u = 0.32 (in*ac)/ac

Calculate the design storage volume of the BMP, V_{BMP}.

$$V_{BMP}\ (ft^3) = \frac{V_U\ (in\text{-}ac/ac) \times A_T\ (ac) \times 43{,}560\ (ft^2/ac)}{12\ (in/ft)}$$

V_{BMP} = 4,693 ft^3

Notes:

Bioretention Facility - Design Procedure	BMP ID 1	Legend:	Required Entries / Calculated Cells

Company Name: Blue Engineering & Consulting, Inc. Date: 3/17/2022

Designed by: Angel Cesar County/City Case No.:

Design Volume

Enter the area tributary to this feature	A_T=	4.04	acres
Enter V_{BMP} determined from Section 2.1 of this Handbook	V_{BMP}=	4,693	ft^3

Type of Bioretention Facility Design

○ Side slopes required (parallel to parking spaces or adjacent to walkways)

◉ No side slopes required (perpendicular to parking space or Planter Boxes)

Bioretention Facility Surface Area

Depth of Soil Filter Media Layer	d_S =	3.0	ft
Top Width of Bioretention Facility, excluding curb	w_T =	100.0	ft
Total Effective Depth, d_E			
$d_E = [(0.3) \times d_S + (0.4) \times 1] + 0.5$	d_E =	1.80	ft
Minimum Surface Area, A_m			
$A_M\ (ft^2) = \frac{V_{BMP}\ (ft^3)}{d_E\ (ft)}$	A_M =	2,608	ft^2
Proposed Surface Area	A=	2,608	ft^2
Minimum Required Length of Bioretention Facility, L	L =	26.1	ft

Bioretention Facility Properties

Side Slopes in Bioretention Facility	z =	1	:1
Diameter of Underdrain		18	inches
Longitudinal Slope of Site (3% maximum)		0	%
6" Check Dam Spacing		0	feet
Describe Vegetation:			

Notes:

Bio Clean

A Forterra Company

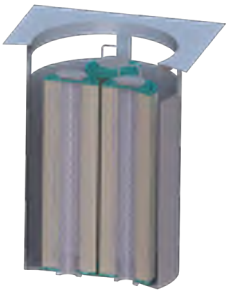
Catch Basin Inlet Filters

A Stormwater Trash Capture Solution

793

OVERVIEW

The Bio Clean Catch Basin Inlet Filters are insertable systems designed to capture fine to coarse sediments, floatable trash, debris, total suspended solids (TSS), nutrients, metals, and hydrocarbons conveyed in stormwater runoff. The filter system is available in four different model types:

Full Capture Type	Multi-Level Screen Type	Kraken Filter Type	Media Filter Type
			
California Water Board Certified	Verified by the New Jersey Corporation for Advanced Technology	Advanced Pollutant Removal	Design for Industrial Applications
TESTING HIGHLIGHT: California Water Board 100% of Trash	TESTING HIGHLIGHT: NJDEP Testing Protocol 86.6% of TSS (Down to 100 Micron)	TESTING HIGHLIGHT: Third Party Testing 85% of TSS & 72% of TP	TESTING HIGHLIGHT: Port of San Diego Field Testing 82% of TSS

The Catch Basin Inlet Filters are an effective and economical solution to help property owners, developers, and municipalities meet local, state, and federal water quality requirements and regulations, as each filter can be custom built to meet specific project needs, and screen size and media type can be modified to remove specific pollutants.

Constructed of 100% high-grade stainless steel, it is built to last longer than any other filter brand, and the non-clogging screens provide higher levels of filtration and water flow. The filter is equipped with unimpeded high flow bypass to prevent backflow during the largest storm events.

ADVANTAGES

- 1-YEAR WARRANTY
- WORKS IN ANY SIZE CATCH BASIN
  *SOME DEPTH RESTRICTIONS MAY APPLY.
- NO NETS OR GEOFABRICS
- 15+ YEARS USER LIFE
- EASIEST TO MAINTAIN TROUGH SYSTEM ALLOWS FOR 15-MINUTE OR LESS SERVICE TIME
- MEETS LEED REQUIREMENTS
- STAINLESS STEEL AND FIBERGLASS CONSTRUCTION

APPLICATIONS

The Catch Basin Inlet Filters have been successfully used on numerous new construction and retrofit projects. The system's superior durability and customization make it ideal for a wide range of stormwater applications. Each filter fits within a shallow catch basin, giving them the ability to integrate with versatile curb inlet trough systems.

- Parking Lot Curb Inlets
- Parking Lot Grate Inlets
- Roadway Curb Inlets
- Roadway Grate Inlets
- Bioswale Bypass Structures
- Stormwater Pretreatment

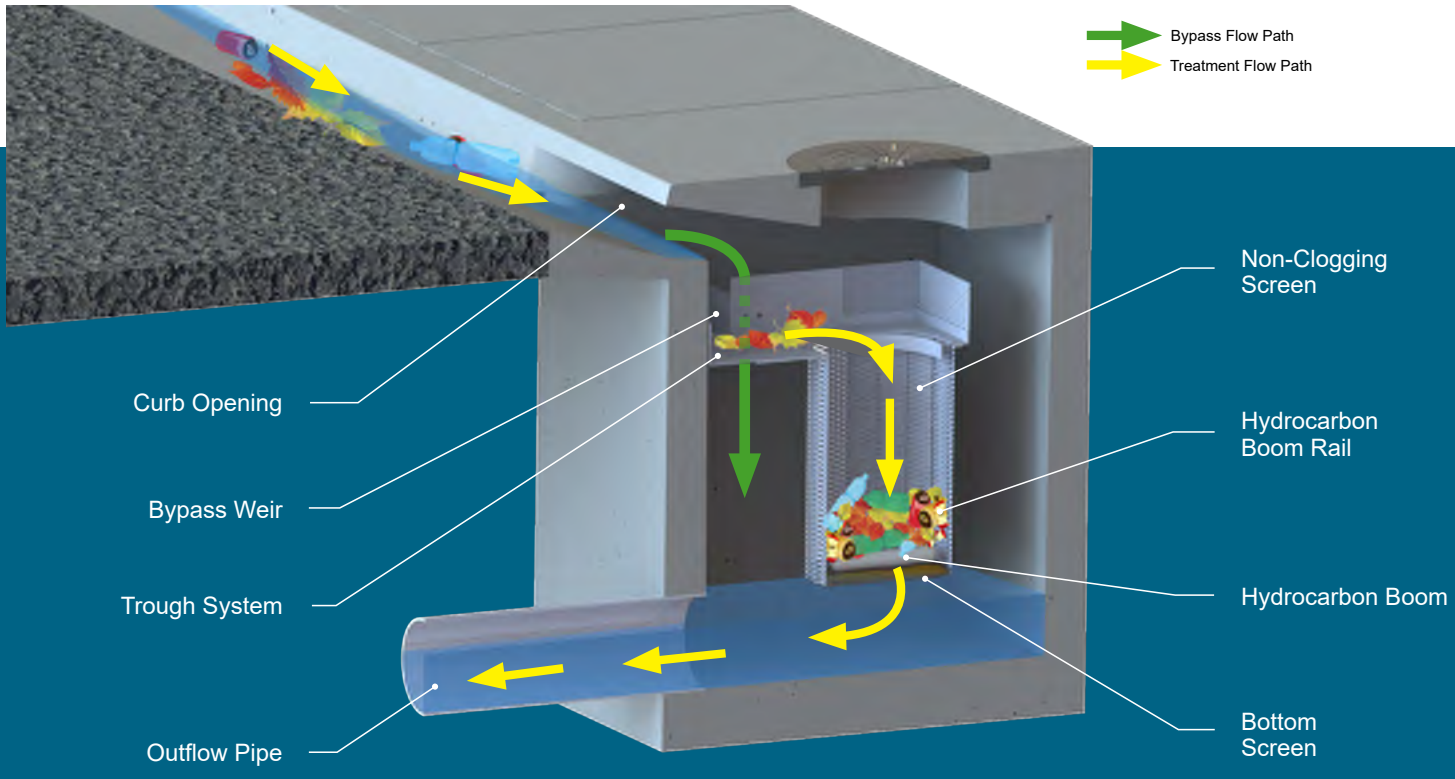
CURB INLET APPLICATION

The curb inlet application or shelf system, provides easy access for maintenance from the surface without having to enter the catch basin. Maintenance service takes about 15 minutes and requires no confined space entry.

Each Catch Basin Inlet Filter is designed to be insertable and the expandable trough system is designed to convey water quality design flows through the filter basket while allowing peak flows to bypass over the trough without resuspending captured pollutants. The modular design of the trough system makes it adaptable to any size* or type of curb inlet catch basin.

*SOME DEPTH RESTRICTIONS MAY APPLY.

OPERATION



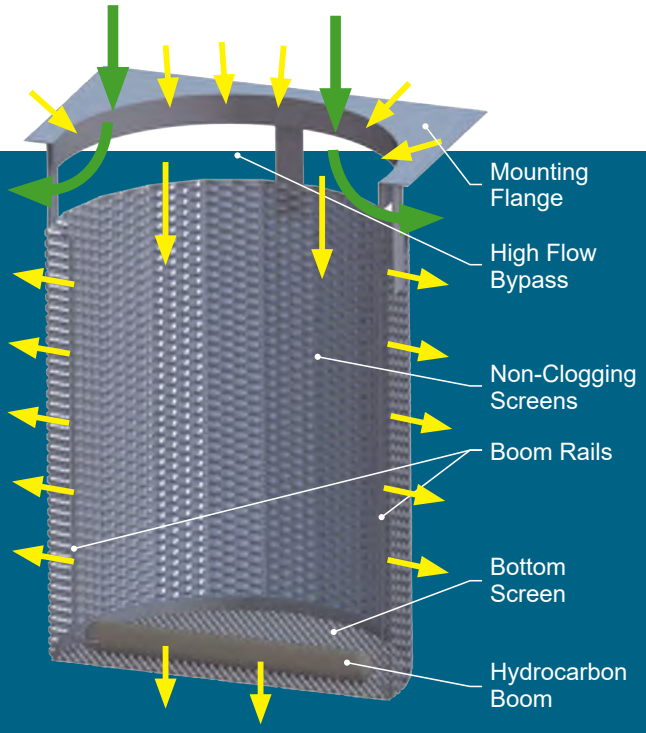
FULL CAPTURE TYPE

The Full Capture type inlet filter is California Full Capture approved and allows for a higher flow of water, making it more applicable for demanding applications. The screen has a specialized design that efficiently caputres all trash, but also makes cleaning more efficient while maintaining its ability to meet demanding flow requirements.

PERFORMANCE

100% REMOVAL OF TRASH

OPERATION



SPECIFICATIONS

MODEL #	TREATMENT FLOW (cfs)	BYPASS FLOW (cfs)
BIO-CURB-FULL	2.85	UNLIMITED
BIO-GRATE-FULL-12-12-12	1.55	1.55
BIO-GRATE-FULL-18-18-18	4.32	3.68
BIO-GRATE-FULL-24-24-24	7.67	4.83
BIO-GRATE-FULL-30-30-24	12.97	6.21
BIO-GRATE-FULL-25-38-24	13.53	6.59
BIO-GRATE-FULL-36-36-24	19.64	7.60
BIO-GRATE-FULL-48-48-18	25.59	10.13

Note: Curb inlet application teatment flow rate limited to the weir capacity - actual flow rates of the filter basket is greater than 2.85 cfs.
Various depth filter baskets available. Treatment and bypass flow rates include a safety factor of 2.

INSTALLATION

CURB INLET FILTER

Bio Clean's Curb Inlet Filters are easily installed under catch basin access for ease of maintenance.

GRATE INLET FILTER

Grate Inlet Filters can be quickly installed directly under grated inlets with no special equipment.

MAINTENANCE

CURB INLET FILTER

Filters can be lifted out by hand for routine maintenance and inspections.

GRATE INLET FILTER

Bio Clean
A Forterra Company
5796 Armada Drive Suite 250
Carlsbad, CA 92008
855.566.3938
stormwater@forterrabp.com
biocleanenvironmental.com

11192020v1

Appendix 7: Hydromodification

Supporting Detail Relating to compliance with the Hydromodification Performance Standards

SMRHM

PROJECT REPORT

General Model Information

Project Name:	Jana1
Site Name:	Jana
Site Address:	
City:	
Report Date:	10/13/2022
Gage:	Wildomar / North Murrieta
Data Start:	1949/10/01
Data End:	2011/09/30
Timestep:	15 Minute
Precip Scale:	1.000
Version Date:	2021/06/14

POC Thresholds

Low Flow Threshold for POC1:	10 Percent of the 2 Year
High Flow Threshold for POC1:	10 Year

Landuse Basin Data

Predeveloped Land Use

DMA 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C D,Shrub,Mod(5-10%)	4.15
Pervious Total	4.15

Impervious Land Use	acre
Sidewalks,Flat(0-5%)	0.01
Impervious Total	0.01
Basin Total	4.16

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

DMA 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
C D,Grass,Flat(0-5%)	0.817
Pervious Total	0.817

Impervious Land Use	acre
Roads,Flat(0-5%)	2.341
Roof Area	0.626
Sidewalks,Flat(0-5%)	0.276
Impervious Total	3.243
Basin Total	4.06

Element Flows To:

Surface	Interflow	Groundwater
Vault 1	Vault 1	

Mitigated Routing

Vault 1

Width: 95 ft.
Length: 100 ft.
Depth: 5 ft.
Infiltration On
Infiltration rate: 3
Infiltration safety factor: 1
Total Volume Infiltrated (ac-ft.): 154.788
Total Volume Through Riser (ac-ft.): 8.269
Total Volume Through Facility (ac-ft.): 163.057
Percent Infiltrated: 94.93
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 5 ft.
Riser Diameter: 48 in.
Orifice 1 Diameter: 2 in. Elevation:0 ft.
Orifice 2 Diameter: 3 in. Elevation:1 ft.
Orifice 3 Diameter: 6 in. Elevation:2 ft.
Element Flows To:
Outlet 1 Outlet 2

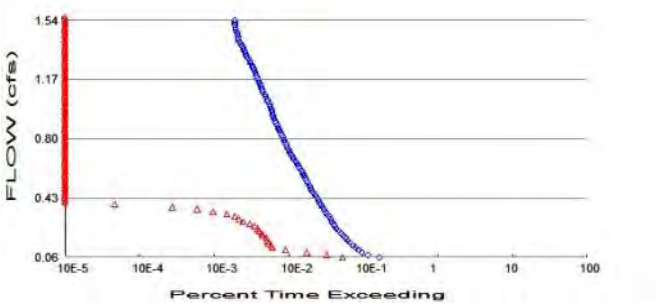
Vault Hydraulic Table

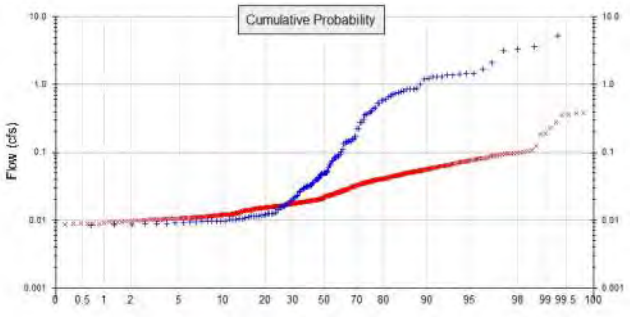
Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.218	0.000	0.000	0.000
0.0556	0.218	0.012	0.025	0.659
0.1111	0.218	0.024	0.036	0.659
0.1667	0.218	0.036	0.044	0.659
0.2222	0.218	0.048	0.051	0.659
0.2778	0.218	0.060	0.057	0.659
0.3333	0.218	0.072	0.062	0.659
0.3889	0.218	0.084	0.067	0.659
0.4444	0.218	0.096	0.072	0.659
0.5000	0.218	0.109	0.076	0.659
0.5556	0.218	0.121	0.080	0.659
0.6111	0.218	0.133	0.084	0.659
0.6667	0.218	0.145	0.088	0.659
0.7222	0.218	0.157	0.092	0.659
0.7778	0.218	0.169	0.095	0.659
0.8333	0.218	0.181	0.099	0.659
0.8889	0.218	0.193	0.102	0.659
0.9444	0.218	0.206	0.105	0.659
1.0000	0.218	0.218	0.108	0.659
1.0556	0.218	0.230	0.169	0.659
1.1111	0.218	0.242	0.195	0.659
1.1667	0.218	0.254	0.217	0.659
1.2222	0.218	0.266	0.235	0.659
1.2778	0.218	0.278	0.251	0.659
1.3333	0.218	0.290	0.266	0.659
1.3889	0.218	0.302	0.280	0.659
1.4444	0.218	0.315	0.293	0.659
1.5000	0.218	0.327	0.305	0.659
1.5556	0.218	0.339	0.317	0.659

1.6111	0.218	0.351	0.328	0.659
1.6667	0.218	0.363	0.339	0.659
1.7222	0.218	0.375	0.350	0.659
1.7778	0.218	0.387	0.360	0.659
1.8333	0.218	0.399	0.369	0.659
1.8889	0.218	0.411	0.379	0.659
1.9444	0.218	0.424	0.388	0.659
2.0000	0.218	0.436	0.397	0.659
2.0556	0.218	0.448	0.636	0.659
2.1111	0.218	0.460	0.740	0.659
2.1667	0.218	0.472	0.822	0.659
2.2222	0.218	0.484	0.892	0.659
2.2778	0.218	0.496	0.954	0.659
2.3333	0.218	0.508	1.011	0.659
2.3889	0.218	0.521	1.064	0.659
2.4444	0.218	0.533	1.114	0.659
2.5000	0.218	0.545	1.161	0.659
2.5556	0.218	0.557	1.206	0.659
2.6111	0.218	0.569	1.249	0.659
2.6667	0.218	0.581	1.290	0.659
2.7222	0.218	0.593	1.329	0.659
2.7778	0.218	0.605	1.368	0.659
2.8333	0.218	0.617	1.405	0.659
2.8889	0.218	0.630	1.441	0.659
2.9444	0.218	0.642	1.476	0.659
3.0000	0.218	0.654	1.510	0.659
3.0556	0.218	0.666	1.543	0.659
3.1111	0.218	0.678	1.576	0.659
3.1667	0.218	0.690	1.607	0.659
3.2222	0.218	0.702	1.639	0.659
3.2778	0.218	0.714	1.669	0.659
3.3333	0.218	0.727	1.699	0.659
3.3889	0.218	0.739	1.728	0.659
3.4444	0.218	0.751	1.757	0.659
3.5000	0.218	0.763	1.785	0.659
3.5556	0.218	0.775	1.813	0.659
3.6111	0.218	0.787	1.840	0.659
3.6667	0.218	0.799	1.867	0.659
3.7222	0.218	0.811	1.894	0.659
3.7778	0.218	0.823	1.920	0.659
3.8333	0.218	0.836	1.946	0.659
3.8889	0.218	0.848	1.971	0.659
3.9444	0.218	0.860	1.996	0.659
4.0000	0.218	0.872	2.021	0.659
4.0556	0.218	0.884	2.046	0.659
4.1111	0.218	0.896	2.070	0.659
4.1667	0.218	0.908	2.094	0.659
4.2222	0.218	0.920	2.117	0.659
4.2778	0.218	0.932	2.141	0.659
4.3333	0.218	0.945	2.164	0.659
4.3889	0.218	0.957	2.186	0.659
4.4444	0.218	0.969	2.209	0.659
4.5000	0.218	0.981	2.231	0.659
4.5556	0.218	0.993	2.253	0.659
4.6111	0.218	1.005	2.275	0.659
4.6667	0.218	1.017	2.297	0.659
4.7222	0.218	1.029	2.318	0.659
4.7778	0.218	1.042	2.340	0.659

4.8333	0.218	1.054	2.361	0.659
4.8889	0.218	1.066	2.382	0.659
4.9444	0.218	1.078	2.402	0.659
5.0000	0.218	1.090	2.423	0.659
5.0556	0.218	1.102	2.999	0.659
5.1111	0.000	0.000	4.035	0.000

Analysis Results
POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 4.15
Total Impervious Area: 0.01

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0.817
Total Impervious Area: 3.243

Flow Frequency Method: Cunnane

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.554991
5 year	1.299065
10 year	1.538686
25 year	3.310194

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	0.077822
5 year	0.099462
10 year	0.201221
25 year	0.366835

Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0555	3539	1136	32	Pass
0.0705	2524	705	27	Pass
0.0855	2070	383	18	Pass
0.1004	1864	197	10	Pass
0.1154	1715	133	7	Pass
0.1304	1579	125	7	Pass
0.1454	1452	118	8	Pass
0.1604	1352	113	8	Pass
0.1754	1268	109	8	Pass
0.1903	1181	97	8	Pass
0.2053	1094	95	8	Pass
0.2203	1028	88	8	Pass
0.2353	964	83	8	Pass
0.2503	898	75	8	Pass
0.2652	857	65	7	Pass
0.2802	815	53	6	Pass
0.2952	786	47	5	Pass
0.3102	751	41	5	Pass
0.3252	707	32	4	Pass
0.3402	671	21	3	Pass
0.3551	644	13	2	Pass
0.3701	612	6	0	Pass
0.3851	588	1	0	Pass
0.4001	557	0	0	Pass
0.4151	538	0	0	Pass
0.4300	518	0	0	Pass
0.4450	491	0	0	Pass
0.4600	467	0	0	Pass
0.4750	438	0	0	Pass
0.4900	423	0	0	Pass
0.5049	413	0	0	Pass
0.5199	392	0	0	Pass
0.5349	374	0	0	Pass
0.5499	362	0	0	Pass
0.5649	352	0	0	Pass
0.5799	339	0	0	Pass
0.5948	326	0	0	Pass
0.6098	308	0	0	Pass
0.6248	297	0	0	Pass
0.6398	284	0	0	Pass
0.6548	271	0	0	Pass
0.6697	253	0	0	Pass
0.6847	243	0	0	Pass
0.6997	233	0	0	Pass
0.7147	223	0	0	Pass
0.7297	216	0	0	Pass
0.7447	206	0	0	Pass
0.7596	200	0	0	Pass
0.7746	194	0	0	Pass
0.7896	190	0	0	Pass
0.8046	182	0	0	Pass
0.8196	176	0	0	Pass
0.8345	169	0	0	Pass

0.8495	165	0	0	Pass
0.8645	158	0	0	Pass
0.8795	152	0	0	Pass
0.8945	148	0	0	Pass
0.9095	142	0	0	Pass
0.9244	137	0	0	Pass
0.9394	134	0	0	Pass
0.9544	131	0	0	Pass
0.9694	131	0	0	Pass
0.9844	127	0	0	Pass
0.9993	122	0	0	Pass
1.0143	120	0	0	Pass
1.0293	113	0	0	Pass
1.0443	111	0	0	Pass
1.0593	106	0	0	Pass
1.0743	104	0	0	Pass
1.0892	97	0	0	Pass
1.1042	96	0	0	Pass
1.1192	93	0	0	Pass
1.1342	91	0	0	Pass
1.1492	89	0	0	Pass
1.1641	86	0	0	Pass
1.1791	83	0	0	Pass
1.1941	80	0	0	Pass
1.2091	78	0	0	Pass
1.2241	75	0	0	Pass
1.2391	73	0	0	Pass
1.2540	70	0	0	Pass
1.2690	67	0	0	Pass
1.2840	66	0	0	Pass
1.2990	62	0	0	Pass
1.3140	59	0	0	Pass
1.3289	57	0	0	Pass
1.3439	56	0	0	Pass
1.3589	54	0	0	Pass
1.3739	52	0	0	Pass
1.3889	50	0	0	Pass
1.4039	47	0	0	Pass
1.4188	46	0	0	Pass
1.4338	46	0	0	Pass
1.4488	45	0	0	Pass
1.4638	44	0	0	Pass
1.4788	42	0	0	Pass
1.4937	42	0	0	Pass
1.5087	41	0	0	Pass
1.5237	41	0	0	Pass
1.5387	41	0	0	Pass

Rational Method

Data for Rational Method is not available.

Model Default Modifications

Total of 0 changes have been made.

PERLND Changes

No PERLND changes have been made.

IMPLND Changes

No IMPLND changes have been made.

Appendix
Predeveloped Schematic

Mitigated Schematic

Predeveloped UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1949 10 01        END    2011 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                    UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                              ***
WDM         26   Jana1.wdm
MESSU       25   PreJana1.MES
            27   PreJana1.L61
            28   PreJana1.L62
            30   POCJana11.dat
END FILES

OPN SEQUENCE
    INGRP               INDELT 00:15
      PERLND      38
      IMPLND      10
      COPY       501
      DISPLY       1
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title----------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
    1        DMA  1                     MAX                     1    2   30    9
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  501         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                          User  t-series Engl Metr ***
                                       in  out           ***
   38     C/D,Shrub,Mod(5-10%)    1    1    1    1   27    0
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************ Active Sections ****************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
   38         0    0    1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags **************************** PIVL  PYR
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
   38         0    0    4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO
```

```
  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
   38         0    0    0    1    0    0    0    0    1    0    0
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
   38             0       4.5      0.04       350       0.1         2      0.95
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
   38            40        35         3         2      0.15      0.15         0
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                              ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
   38             0       0.7       0.3       1.2      0.45         0
  END PWAT-PARM4
  MON-LZETPARM
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
   38       0.5  0.5  0.5  0.6 0.65 0.65 0.65 0.65 0.65 0.65 0.55  0.5
  END MON-LZETPARM
  MON-INTERCEP
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
   38      0.13 0.13 0.13 0.14 0.15 0.15 0.15 0.15 0.15 0.15 0.14 0.13
  END MON-INTERCEP

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
               ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS      AGWS      GWVS
   38             0         0      0.01         0       0.5       0.3      0.01
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                  in  out           ***
   10     Sidewalks,Flat(0-5%)    1    1    1   27    0
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL   ***
   10         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    *********
   10         0    0    4    0    0    0    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
   10         0    0    0    0    0
  END IWAT-PARM1
```

```
  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
   10            100      0.05       0.1       0.1
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
   10              0         0
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
   10             0         0
  END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->                 <--Area-->     <-Target->   MBLK   ***
<Name>   #                 <-factor->     <Name>   #   Tbl#   ***
DMA  1***
PERLND  38                       4.15     COPY   501     12
PERLND  38                       4.15     COPY   501     13
IMPLND  10                       0.01     COPY   501     15

******Routing******
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
COPY   501 OUTPUT MEAN   1 1   48.4        DISPLY   1     INPUT  TIMSER 1



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                ***
    # -  #<------------------><---> User T-series  Engl Metr LKFG           ***
                                      in  out                               ***
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************ Active Sections ****************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ****************** PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                 ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
            FG FG FG FG  possible  exit  *** possible  exit      possible  exit
             *  *  *  *    *  *  *  *  *       *  *  *  *  *         ***
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN     DELTH     STCOR        KS      DB50       ***
  <------><--------><--------><--------><--------><--------><-------->      ***
```

```
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                        ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
          *** ac-ft     for each possible exit        for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
FTABLES
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    1              PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    1              IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    1              PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    1              IMPLND   1 999 EXTNL  PETINP

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
COPY   501 OUTPUT MEAN   1 1     48.4      WDM    501 FLOW     ENGL      REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>            <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK       12
PERLND     PWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   12

  MASS-LINK       13
PERLND     PWATER IFWO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   13

  MASS-LINK       15
IMPLND     IWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   15


END MASS-LINK

END RUN
```

Mitigated UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1949 10 01        END    2011 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                    UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                              ***
WDM         26   Jana1.wdm
MESSU       25   MitJana1.MES
            27   MitJana1.L61
            28   MitJana1.L62
            30   POCJana11.dat
END FILES

OPN SEQUENCE
    INGRP              INDELT 00:15
      PERLND      41
      IMPLND       1
      IMPLND       5
      IMPLND      10
      RCHRES       1
      COPY         1
      COPY       501
      DISPLY       1
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title----------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
    1        Vault  1                   MAX                    1    2   30    9
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  501         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                          User  t-series Engl Metr ***
                                          in  out           ***
   41     C/D,Grass,Flat(0-5%)    1    1    1    1   27    0
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
   41         0    0    1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
```

```
    <PLS > ***************** Print-flags ***************************** PIVL  PYR
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
   41         0    0    4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
   41         0    0    0    1    0    0    0    0    1    0    0
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
   41              0       4.8     0.045       400      0.05         2      0.95
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
   41             40        35         3         2      0.15      0.15         0
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                              ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
   41              0       0.8      0.25         2       0.7         0
  END PWAT-PARM4
  MON-LZETPARM
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
   41       0.4  0.4  0.4 0.45  0.5 0.55 0.55 0.55 0.55 0.55 0.45  0.4
  END MON-LZETPARM
  MON-INTERCEP
    <PLS >      PWATER input info: Part 3         ***
    # -  #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
   41      0.12 0.12 0.12 0.11  0.1  0.1  0.1  0.1  0.1  0.1 0.11 0.12
  END MON-INTERCEP

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
               ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS      AGWS      GWVS
   41              0         0      0.01         0       0.5       0.3      0.01
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                     in  out           ***
    1     Roads,Flat(0-5%)        1    1    1   27    0
    5     Roof Area               1    1    1   27    0
   10     Sidewalks,Flat(0-5%)    1    1    1   27    0
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************* Active Sections ****************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL   ***
    1         0    0    1    0    0    0
    5         0    0    1    0    0    0
   10         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    *********
    1         0    0    4    0    0    0    1    9
```

```
    5         0    0    4    0    0    0    1    9
   10         0    0    4    0    0    0    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
    1         0    0    0    0    0
    5         0    0    0    0    0
   10         0    0    0    0    0
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
    1            100      0.05       0.1       0.1
    5            100      0.05       0.1       0.1
   10            100      0.05       0.1       0.1
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
    1              0         0
    5              0         0
   10              0         0
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
    1              0         0
    5              0         0
   10              0         0
  END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->                  <--Area-->     <-Target->   MBLK   ***
<Name>   #                  <-factor->     <Name>   #   Tbl#   ***
DMA  1***
PERLND  41                       0.817     RCHRES   1      2
PERLND  41                       0.817     RCHRES   1      3
IMPLND   1                       2.341     RCHRES   1      5
IMPLND   5                       0.626     RCHRES   1      5
IMPLND  10                       0.276     RCHRES   1      5

******Routing******
PERLND  41                       0.817     COPY     1     12
IMPLND   1                       2.341     COPY     1     15
IMPLND   5                       0.626     COPY     1     15
IMPLND  10                       0.276     COPY     1     15
PERLND  41                       0.817     COPY     1     13
RCHRES   1                           1     COPY   501     17
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
COPY   501 OUTPUT MEAN   1 1   48.4        DISPLY   1     INPUT  TIMSER 1



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
```

```
    RCHRES       Name        Nexits   Unit Systems   Printer                ***
    # -  #<------------------><---> User T-series  Engl Metr LKFG           ***
                                        in  out                             ***
    1     Vault  1               2    1    1    1   28    0    1
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************ Active Sections ****************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
    1         1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ****************** PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
    1         4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                    ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
           FG FG FG FG  possible  exit  *** possible  exit      possible  exit
            *  *  *  *    *  *  *  *  *       *  *  *  *  *        ***
    1        0  1  0  0    4  5  0  0  0       0  0  0  0  0        2  2  2  2  2
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN     DELTH     STCOR        KS      DB50       ***
  <------><--------><--------><--------><--------><--------><--------><------>***
    1               1      0.02       0.0       0.0       0.5       0.0
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                       ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
          *** ac-ft     for each possible exit        for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
    1            0         4.0  5.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
FTABLES
  FTABLE      1
   92    5
     Depth      Area    Volume  Outflow1  Outflow2  Velocity  Travel Time***
      (ft)   (acres) (acre-ft)   (cfs)     (cfs)   (ft/sec)    (Minutes)***
  0.000000  0.218090  0.000000  0.000000  0.000000
  0.055556  0.218090  0.012116  0.025585  0.659722
  0.111111  0.218090  0.024232  0.036182  0.659722
  0.166667  0.218090  0.036348  0.044314  0.659722
  0.222222  0.218090  0.048464  0.051170  0.659722
  0.277778  0.218090  0.060581  0.057209  0.659722
  0.333333  0.218090  0.072697  0.062670  0.659722
  0.388889  0.218090  0.084813  0.067691  0.659722
  0.444444  0.218090  0.096929  0.072365  0.659722
  0.500000  0.218090  0.109045  0.076754  0.659722
  0.555556  0.218090  0.121161  0.080906  0.659722
  0.611111  0.218090  0.133277  0.084855  0.659722
  0.666667  0.218090  0.145393  0.088628  0.659722
  0.722222  0.218090  0.157509  0.092247  0.659722
  0.777778  0.218090  0.169626  0.095730  0.659722
  0.833333  0.218090  0.181742  0.099090  0.659722
  0.888889  0.218090  0.193858  0.102339  0.659722
  0.944444  0.218090  0.205974  0.105489  0.659722
  1.000000  0.218090  0.218090  0.108547  0.659722
  1.055556  0.218090  0.230206  0.169088  0.659722
  1.111111  0.218090  0.242322  0.195829  0.659722
  1.166667  0.218090  0.254438  0.216951  0.659722
```

1.222222	0.218090	0.266554	0.235135	0.659722
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1.333333	0.218090	0.290787	0.266347	0.659722
1.388889	0.218090	0.302903	0.280229	0.659722
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1.555556	0.218090	0.339251	0.317421	0.659722
1.611111	0.218090	0.351367	0.328703	0.659722
1.666667	0.218090	0.363483	0.339548	0.659722
1.722222	0.218090	0.375599	0.350007	0.659722
1.777778	0.218090	0.387716	0.360121	0.659722
1.833333	0.218090	0.399832	0.369925	0.659722
1.888889	0.218090	0.411948	0.379447	0.659722
1.944444	0.218090	0.424064	0.388712	0.659722
2.000000	0.218090	0.436180	0.397740	0.659722
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2.111111	0.218090	0.460412	0.740799	0.659722
2.166667	0.218090	0.472528	0.822405	0.659722
2.222222	0.218090	0.484644	0.892347	0.659722
2.277778	0.218090	0.496761	0.954784	0.659722
2.333333	0.218090	0.508877	1.011850	0.659722
2.388889	0.218090	0.520993	1.064820	0.659722
2.444444	0.218090	0.533109	1.114523	0.659722
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3.333333	0.218090	0.726967	1.699304	0.659722
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4.277778	0.218090	0.932941	2.141083	0.659722
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4.388889	0.218090	0.957173	2.186945	0.659722
4.444444	0.218090	0.969289	2.209506	0.659722
4.500000	0.218090	0.981405	2.231832	0.659722
4.555556	0.218090	0.993521	2.253930	0.659722
4.611111	0.218090	1.005637	2.275806	0.659722
4.666667	0.218090	1.017753	2.297468	0.659722
4.722222	0.218090	1.029869	2.318921	0.659722
4.777778	0.218090	1.041986	2.340172	0.659722
4.833333	0.218090	1.054102	2.361227	0.659722
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5.055556	0.218090	1.102566	2.999507	0.659722

```
  END FTABLE  1
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    1              PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    1              IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    1              PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    1              IMPLND   1 999 EXTNL  PETINP

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
RCHRES   1 HYDR   RO     1 1        1      WDM   1000 FLOW     ENGL      REPL
RCHRES   1 HYDR   O      1 1        1      WDM   1002 FLOW     ENGL      REPL
RCHRES   1 HYDR   O      2 1        1      WDM   1003 FLOW     ENGL      REPL
RCHRES   1 HYDR   STAGE  1 1        1      WDM   1001 STAG     ENGL      REPL
COPY     1 OUTPUT MEAN   1 1     48.4      WDM    701 FLOW     ENGL      REPL
COPY   501 OUTPUT MEAN   1 1     48.4      WDM    801 FLOW     ENGL      REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>             <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK        2
PERLND     PWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    2

  MASS-LINK        3
PERLND     PWATER IFWO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    3

  MASS-LINK        5
IMPLND     IWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    5

  MASS-LINK       12
PERLND     PWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   12

  MASS-LINK       13
PERLND     PWATER IFWO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   13

  MASS-LINK       15
IMPLND     IWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   15

  MASS-LINK       17
RCHRES     OFLOW  OVOL   1                 COPY           INPUT  MEAN
  END MASS-LINK   17


END MASS-LINK

END RUN
```

Disclaimer

Legal Notice

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Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

How to use this worksheet (also see instructions in Section H of the 2018 SMR WQMP Template):

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your WQMP Exhibit.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in your WQMP. Use the format shown in Table H.1 of this WQMP Template. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternative BMPs for those shown here.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	**... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE**		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on WQMP Drawings**	**3** **Permanent Controls—List in WQMP Table and Narrative**	**4** **Operational BMPs—Include 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.

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE …	… THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on WQMP Drawings**	**3** **Permanent Controls—List in WQMP Table and Narrative**	**4** **Operational BMPs—Include 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.	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://www.rcwatershed.org/about/materials-library/#1450469138395-bb76dd39-d810 ❑ Provide IPM information to new owners, lessees and operators.

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE …	… THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on WQMP Drawings**	**3** **Permanent Controls—List in WQMP Table and Narrative**	**4** **Operational BMPs—Include 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://www.rcwatershed.org/about/materials-library/#1450469201433-f5f358c9-6008
❑ **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://www.rcwatershed.org/about/materials-library/#1450389926766-61e8af0b-53a9 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

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE …	… THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on WQMP Drawings**	3 **Permanent Controls—List in WQMP Table and Narrative**	4 **Operational BMPs—Include in WQMP Table and Narrative**
❑ **H.** Industrial processes.	❑ Show process area.	❑ 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://www.rcwatershed.org/about/materials-library/#1450389926766-61e8af0b-53a9
❑ **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

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE …	… THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on WQMP Drawings**	**3** **Permanent Controls—List in WQMP Table and Narrative**	**4** **Operational BMPs—Include 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://www.rcwatershed.org/about/materials-library/#1450389926766-61e8af0b-53a9 ❑ Car dealerships and similar may rinse cars with water only.

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on WQMP Drawings**	3 **Permanent Controls—List in WQMP Table and Narrative**	4 **Operational BMPs—Include 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; "Outdoor Cleaning Activities;" and "Professional Mobile Service Providers" for many of the Potential Sources of Runoff Pollutants. Brochures can be found at: http://www.rcwatershed.org/about/materials-library/#1450389926766-61e8af0b-53a9

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on WQMP Drawings**	3 **Permanent Controls—List in WQMP Table and Narrative**	4 **Operational BMPs—Include 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.

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STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on WQMP Drawings**	3 **Permanent Controls—List in WQMP Table and Narrative**	4 **Operational BMPs—Include 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

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STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE …	… THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on WQMP Drawings**	3 **Permanent Controls—List in WQMP Table and Narrative**	4 **Operational BMPs—Include 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.	

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include 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 Mechanisms

Operation and Maintenance Plan

Project Title: Jana Rd Commercial Development

Original Date Prepared: March 18, 2022
Revision Date(s): _____
Revision Date(s): _____
Revision Date(s): _____
Revision Date(s): _____

Contact Information:

Prepared for: Beyond Food Mart Inc
4301 Edison Ave
Chino, CA 91710
(760) 810-8548

Prepared by: Blue Engineering and Consulting, Inc
9320 Baseline Rd., Ste. D
Rancho Cucamonga, CA 91739
(909)-248-6557

Contact: Angel Cesar, P.E.

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I. Inspection and Maintenance Log

Date	Observations/Actions	Inspector

II. Updates, Revisions and Errata

See Appendix 2

III. Introduction

The proposed project Jana Rd Commercial Development is a 4 acres site located on the southwest corner of Clinton Keith Rd & Jana Ln in the City of Wildomar, County of Riverside, State of California. The site is currently undeveloped and bordered by commercial storage unit commercial development on its west and south borders. The proposed project contains a Foodmart 7250 sq feet, carwash tunnel 1790 sq ft, office warehouse with office 14,500 sq ft (3720 sq ft office) and two QSR 2000 and 1800 sq ft.

IV. Responsibility for Maintenance

General

Funding will be provided by the owner:

Michael Ramirez

Beyond Food Mart Inc

4301 Edison Ave, Chino, CA 91710

(760) 810-8548

Records

Maintenance records are to be inserted chronologically in Appendix 1 of this O&M Plan

Safety

All maintenance procedures shall comply with the latest OSHA standards.

Replacement Cost

The Modular wet-lands and Storage tanks are bioretention manufactured BMPs. When the bmp constant fails to infiltrate the mitigated volume within the allowable time The cost to replace the infiltration basin would be the cost to remove approximately the top 2 feet of soil and replace with native as a minimal compaction to allow for infiltration. That cost can vary depending on time, approximation of native sand. Replacement cost can be $10,000-$30,000.

V. Summary of Drainage Management Areas and Stormwater BMPs.

Drainage Areas

See Appendix 5 of this O&M Plan for WQMP Site map.

DMA Name or ID	Surface Type(s)	Area (Sq.Ft.)	Area (Acres)
A	Roofs/Conc/Asphalt and landscaping	175,982	4.04

Geo-location of the BMPs using latitude and longitude coordinates.

BMP No. or ID	BMP Identifier and Description	Corresponding plan Sheet(s)	Latitude	Longitude
1	Modular Wet-lands	WQMP Site Map		
2	Detention tanks	WQMP Site Map		

IB #1	Pervious	35,947 sf (0.82 ac)		
	Impervious	140,074 sf (3.22 ac)		

Structural Post-Construction BMPs

See Appendix 5 of this O&M Plan for WQMP Site map.

Self-Retaining Areas or Other

VI. Stormwater BMP Design Documentation

“As-Built” Drawings of each Stormwater BMP

See Appendix 6 of this O&M Plan for “as-built” drawings.

Manufacturer’s Data, Manuals, and Maintenance Requirements

Not applicable, there are no manufactured stormwater BMPs.

Specific Operation and Maintenance Concerns and Troubleshooting

Not applicable.

VII. Maintenance Schedule or Matrix

Maintenance Schedule

Schedule	Inspection and Maintenance Activity
Semi-monthly including just before the annual storm season and following rainfall events.	• Routine maintenance and inspection. • Remove debris and litter from the entire basin to minimize filter clogging and to improve aesthetics. • Check for obvious problems and repair as needed. Address odor, insects, and overgrowth issues associated with stagnant or standing water in the basin bottom. There should be no long-term ponding water. • Check for erosion and sediment laden areas in the basins. Repair as needed. Clean forebay of debris, litter, sediment, etc upon discovery. • Revegetate side slopes where needed.
Annually. Schedule these inspections within 72 hours after a significant rainfall and prior to the rainy season (October 1st). "Significant rainfall" is defined as 0.5 inches or greater of rainfall: http://www.wrh.noaa.gov/forecast/wxtables/	• Inspection of hydraulic and structural facilities. Examine the inlet for blockage, the embankment and spillway integrity, as well as damage to any structural element. • Check side slopes and embankments for erosion, slumping and overgrowth. • Inspect the sand media at the filter drain to verify it is allowing acceptable infiltration. Scarify the top 3 inches by raking the filter drain's sand surface annually. • Check the filter drain underdrains for damage or clogging. Repair as needed. • Repair basin inlets, outlets, forebays, and energy dissipaters whenever damage is discovered. • No water should be present 72 hours after an event. No long tern standing water should be present at all. No algae formation should be visible. Correct problem as needed.
Every 5 years or sooner depending on the observed drain times (no more than 72 hours to empty the basin)	• Remove the top 3 inches of sand from the filter drain and backfill with 3 inches of new sand to return the sand layer to its original depth. When scarification or removal of the top 3 inches of sand is no longer effective, remove and replace sand filter layer.

VII.B Service Agreement Information

See Appendix 8 of this O&M Plan for service agreement information with any contractors regarding the O&M of BMPs at the site, if any.

Appendix 1: Inspection and Maintenance Logs

Insert Additional Inspection or Maintenance Logs Here

Date	Observations/Actions	Inspector

Appendix 2: Updates, Revisions, and Errata

Insert Additional Updates, Revisions, and Errata Logs Here

Revision Number	Date	Brief Description of Update/Revision/Errata, include section and page number	Prepared and Approved by

Appendix 3: Maintenance and Recording Mechanism

Copy of Covenant Agreement Establishing Notification Process And Responsibility For Water Quality Management Plan Implementation And Maintenance

Notification Process and Responsibility

1. Name: _____
   Title: _____
   Phone No.: _____

   WQMP Responsibilities:
   (1) Routine inspections to evaluate BMP effectiveness.
   (2) Identifying when BMPs require maintenance.
   (3) Working with qualified contractors to maintain the BMP.
   (4) Recordkeeping of inspections and maintenance activities.

2. Name: _____
   Title: _____
   Phone No.: _____

   WQMP Responsibilities:
   (1) Cleaning, repairing, servicing, and maintenance of BMP.

3. Name: _____
   Title: _____
   Phone No.: _____

   WQMP Responsibilities:
   (1) In event of failure, and with City Engineer's authorization, modify or replace with an upgraded BMP to prevent future failure.
   (2) Notify successors of BMPs and maintenance requirements.

Appendix 4: Training Records

Insert Training Records with Brief Discussion Here

Appendix 5: Site Plan and Details

WQMP Site Map and BMP Details

Appendix 6: “As-Built” Drawings

Insert “As-Builts” Here When Available

Appendix 7: Manufacturer Information

Brochures, Manuals, and Maintenance Requirements

Appendix 8: Service Agreement Information

Insert Contractor Information (if any)

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

Saltwater Pools

- Salt water pools, although different from regular pools, are in fact, sanitized using chlorine. A salt-chlorine generator separates the chlorine and sodium molecules in salt and reintroduces them into the pool water. The same harmful effects of chlorine still apply.
- A salt water pool is still maintained with chemicals such as Muriatic acid, soda ash and sodium carbonate to help keep a proper pH, total Alkalinity, Calcium Hardness and Stabilizer levels.

- It may be illegal to discharge salt water to land. The salt may kill plants and the build-up of salt in soil puts animals, plants, and groundwater at risk. Consult your city representatives to determine local requirements regarding salt water drainage.

NEVER put unused chemicals into the trash, onto the ground or down a storm drain.

IMPORTANT: The discharge of pollutants into the street, gutter, storm drain system or waterways - without a permit or waiver - is strictly prohibited by local ordinances, state and federal law. Violations may result in monetary fines and enforcement actions.

Helpful telephone numbers and links

Riverside County Water Agencies:

City of Banning	(951) 922-3130
City of Beaumont/Cherry Valley	(951) 845-9581
City of Blythe	(760) 922-6161
City of Coachella	(760) 398-3502
City of Corona	(951) 736-2263
City of Hemet	(951) 765-3710
City of Norco	(951) 270 5607
City of Riverside Public Works	(951) 351-6140
City of San Jacinto	(951) 654-4041
Coachella Valley Water District	(760) 398-2651
Desert Water Agency (Palm Springs)	(760) 323-4971
Eastern Municipal Water District	(951) 928-3777
Elsinore Valley Municipal Water District	(951) 674 3146
Elsinore Water District	(951) 674-2168
Farm Mutual Water Company	(951) 244-4198
Idyllwild Water District	(951) 659-2143
Indio Water Authority	(760) 391-4129
Jurupa Community Services District	(951) 685-7434
Lee Lake Water	(951) 658-3241
Mission Springs Water	(760) 329-6448
Rancho California Water District	(951) 296-6900
Ripley, CSA #62	(760) 922-4951
Riverside Co. Service Area #51	(760) 227-3203
Rubidoux Community Services District	(951) 684-7580
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(951) 789-5000
Yucaipa Valley Water District	(909) 797-5117

CALL 1-800-506-2555 to:

- Report clogged storm drains or illegal storm drain disposal from residential, industrial, construction and commercial sites into public streets, storm drains and/or water bodies.
- Find out about our various storm drain pollution prevention materials.
- Locate the dates and times of Household Hazardous Waste (HHW) Collection Events.
- Request adult, neighborhood, or classroom presentations.
- Locate other County environmental services.
- Receive grasscycling information and composting workshop information.

Or visit our
Riverside County Flood Control and Water Conservation District
website at: www.rcflood.org

Other links to additional storm drain pollution information:

- County of Riverside Environmental Health: www.rivcoeh.org
- State Water Resources Control Board: www.waterboards.ca.gov
- California Stormwater Quality Association: www.casqa.org
- United States Environmental Protection Agency (EPA): www.epa.gov/compliance/assistance (compliance assistance information)

Riverside County's, "Only Rain Down the Storm Drain" Pollution Prevention Program gratefully acknowledges the Bay Area Stormwater Management Agencies Association and the Cleaning Equipment Trade Association for information provided in this brochure.

Guidelines for Maintaining your...

Swimming Pool, Jacuzzi and Garden Fountain

Where does the water go?

Pool, Jacuzzi and Fountain wastewater and rain water runoff (also called stormwater) that reach streets can enter the storm drain and be conveyed directly into local streams, rivers and lakes.

A storm drain's purpose is to prevent flooding by carrying rain water away from developed areas. Storm drains are not connected to sanitary sewers systems and treatment plants!

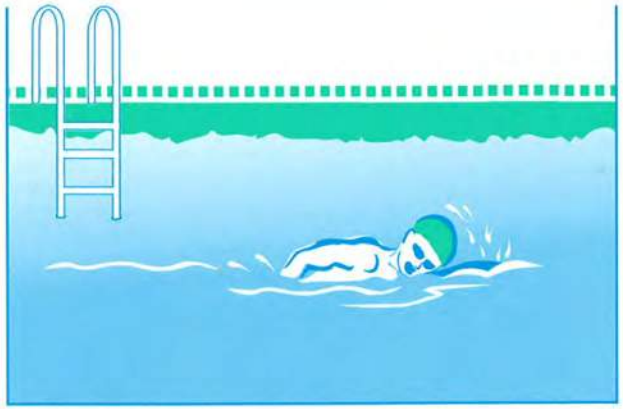
Wastewater, from residential swimming pools, Jacuzzis, fishponds and fountains, often contains chemicals used for sanitizing or cleansing purposes. Toxic chemicals (such as chlorine or copper-based algaecides) may pollute the environment when discharged into a storm drain system.

The Cities and County of Riverside have adopted ordinances that prohibit the discharge of wastewater to the street and storm drain system.

Discharge Regulations

Regulatory requirements for discharging wastewater from your pool may differ from city to city. Chlorinated water should not be discharged into the street, storm drain or surface waters. Check with your water agency to see if disposal to the sanitary sewer line is allowed for pool discharges (see reverse for Riverside County sewer agencies).

If allowed, a hose can be run from the pool Jacuzzi, or fountain to the private sewer cleanout, washing machine drain or a sink or bathtub.



If you cannot discharge to the sewer, you may drain your fountain, pool, or jacuzzi to your landscaping by following these guidelines:

First, reduce or eliminate solids (e.g. debris, leaves or dirt) in the pool water and allow the chemicals in the pool water to dissipate before draining the pool (this could take up to 7 days, verify using a home pool test kit).

Second, slowly drain to a landscaped area away from buildings or structures. Control the flow to prevent soil erosion; it may take more than one day to empty. Do not allow sediment to enter the street, gutter or storm drain.

Maintenance & Chemicals

Cleaning Filters

Filter rinse water and backwash must be discharged to the sanitary sewer, on-site septic tank and drain field system (if properly designed and adequately sized), or a seepage pit. Alternatively, rinse water or backwash may be diverted to landscaped or dirt areas. Filter media and other non-hazardous solids should be picked up and disposed of in the trash.

Algaecides

Avoid using copper-based algaecides unless absolutely necessary. Control algae with chlorine, organic polymers or other alternatives to copper-based pool chemicals. Copper is a heavy metal that can be toxic to aquatic life when you drain your pool.

Chemical Storage and Handling

- Use only the amount indicated on product labels
- Store chlorine and other chemicals in a covered area to prevent runoff. Keep out of reach of children and pets.
- Chlorine kits, available at retail swimming pool equipment and supply stores, should be used to monitor the chlorine and pH levels before draining your pool.
- Chlorine and other pool chemicals should never be allowed to flow into the gutter or storm drain system.

Take unwanted chemicals to a Household Hazardous Waste (HHW) Collection Event. There's no cost for taking HHW items to collection events – it's FREE! Call **1-800-506-2555** for a schedule of HHW events in your community.

The Complete Guide to Residential Recycling

Southwest Riverside County

Canyon Lake, Hemet, Lake Elsinore, Menifee, Murrieta, Perris, San Jacinto, Temecula, Wildomar

Used Oil and Filters

Used Oil and Filters

Recycling used motor oil and filters is easy!
Simply take them to one of the certified collection centers below. **It's free!**

RECYCLE USED OIL

RECYCLE USED OIL FILTERS

You can also find Certified Collection Centers on the Cal Recycle Website:
www.calrecycle.ca.gov/recycle

Hemet

AutoZone #2820
1550 W. Florida Ave.
(951) 929-0807

AutoZone #5556
3100 E. Florida Ave.
(951) 652-1308

EZ Lube #112
532 W. Florida Ave.
(951) 766-1996

Firestone Store #2233
350 W. Florida St.
(951) 929-2424

Inland Chevrolet
350 Carriage Circle
(951) 658-4401

Integrity Tire
3223 W. Florida Ave.
(951) 658-3145

Jiffy Lube #3187
330 N Sanderson Ave.
(951) 487-2001

Masterlube #101
3615 W. Florida St.
(951) 766-7055

O'Reilly Autoparts #1332
849 W. Florida Ave.
(951) 929-2210

Pep Boys #866
2050 W. Florida Ave.
(951) 766-1477

Ramona Tire
2350 W. Menlo Ave.
(951) 925-6659

Synfast Oil Change
3615 W. Florida Ave.
(951) 766-7055

Valvoline Instant Oil Change
532 W. Florida Ave.
(951) 766-1996

Idyllwild

Idyllwild Garage
25015 Hwy. 243
(951) 659-2613

Lake Elsinore

AutoZone #5558
30870 Riverside Dr.
(951) 674-7806

AutoZone #5559
32231 Mission Trail
(951) 245-1012

Express Tire
300 Diamond Dr.
(951) 674-0794

EZ Lube #96
29285 Central Ave.
(951) 253-5200

Firestone Store #2238
31748 Mission Trail
(951) 674-0633

Jiffy Lube #2681
311 Summerhill Dr.
(951) 471-8445

O'Reilly Autoparts #1429
31660 Grape St.
(951) 245-8389

Valvoline Instant Oil Change
29285 Central Ave.
(951) 253-5200

Menifee

AutoZone #5561
30123 Antelope Rd.
(951) 301-7240

One Stop Lube & Oil Center
26825 Newport Rd.
(951) 301-7479

Murrieta

AutoZone #5566
40950 California Oaks Rd.
(951) 677-6206

Express Tire
40615 California Oaks Rd.
(951) 696-5200

EZ Lube #115
40430 California Oaks Rd.
(951) 696-2882

Mountain View Tire and Service
27584 Clinton Keith Rd.
(888) 860-0535

Murrieta Volkswagen
41300 Date St.
(951) 634-5434

O'Reilly Autoparts #1430
40951 California Oaks Rd.
(951) 696-2991

Valvoline Instant Oil Change
40430 California Oaks Rd.
(951) 696-2882

Perris

AutoZone #5570
401 E. 4th St.
(951) 657-0696

AutoZone #5571
1675 Perris Blvd.
(951) 943-5998

Jiffy Lube #3294
118 E. Ramona Expressway
(951) 943-2200

Jiffy Lube #3361
3150 Case Rd., Bldg. J.
(951) 284-0922

O'Reilly Autoparts #1046
119 W. Nuevo Rd.
(951) 657-1488

San Jacinto

AutoZone #5581
1540 San Jacinto Ave.
(951) 654-2216

Jiffy Lube #3186
635 S. State St.
(951) 487-2001

Ramona Auto Services, Inc.
2447 S. San Jacinto Ave.
(951) 925-5117

Temecula

AutoZone #5582
31837 US Hwy. 79
(951) 302-8334

AutoZone #5936
40345 Winchester Rd.
(951) 296-3973

DCH Acura of Temecula
26705 Ynez Rd.
(951) 491-2451

Used Oil and Filters

Temecula

DCH Chrysler Jeep Dodge of Temecula
26845 Ynez Rd.
(951) 491-2151

DCH Honda of Temecula
26755 Ynez Rd.
(951) 491-2351

Express Tire
40915 Winchester Rd.
(951) 296-6699

Express Tire
44092 Margarita Rd.
(951) 302-5033

Express Tire
29095 Front St.
(951) 695-0555

EZ Lube #85
30625 Highway 79 South
(951) 553-7399

Jiffy Lube #1878
30690 Rancho California Rd.
(951) 694-5460

John Hine Temecula Mazda
42050 DLR Dr.
(951) 553-2000

O'Reilly Autoparts #0483
41125 Winchester Rd., #C1
(951) 296-5530

O'Reilly Autoparts #4291
33417 Temecula Pkwy.
(951) 302-1351

Paradise Chevrolet Cadillac
27360 Ynez Rd.
(951) 506-0058

Pep Boys #800
40605 Winchester Rd.
(951) 695-2322

Precision Tune Auto Care
26673 Ynez Rd., #A
(951) 699-6969

Promethean Biofuels Cooperative
27635 Diaz Rd.
(626) 232-7608

Quality Nissan
41895 Motor Car Pkwy.
(951) 676-6601

Ramona Auto Services, Inc.
40385 Winchester Rd.
(951) 719-1600

Ramona Auto Services, Inc.
31955 Via Rio Rd.
(951) 303-3584

Ramona Tire
40385 Winchester Rd.
(951) 719-1600

Rancho Car Wash and Quick Lube
27378 Jefferson Ave.
(951) 296-5644

Temecula Hyundai
27430 Ynez Rd.
(951) 699-6807

Temecula Quick Lube
29764 Rancho California Rd.
(951) 587-6624

Valvoline Instant Oil Change
30625 Highway 79 South
(951) 553-7399

Wildomar

Grease Monkey
32120 Clinton Keith Rd.
(951) 609-3000

Jiffy Lube #3412
32374 Clinton Keith Rd.
(951) 678-5300

Winchester

Mountain View Tire/Goodyear
30664 Benton Rd.
(877) 872-1021

Curbside pickup of used oil is available in some cities in Riverside County. Contact your waste hauler for more information. Waste hauler contact information is provided on the back page of this guide.

You may not need to change your oil every 3000 miles! Save time, money, and the environment by visiting **www.checkyournumber.org** to find out what your manufacturer recommended oil change interval is.

Locations marked with a also accept oil filters.

Please DO NOT drop off oil when the location is closed. **For more information about used oil collection centers call 800-350-4OIL.**

Household Hazardous Waste

Examples of household waste that are considered hazardous include:

- Batteries (all types)
- Electronic Waste
- Paint
- Used Oil and Antifreeze
- Sharps/ Needles

Permanent Household Hazardous Waste Collection Centers

Lake Elsinore Area (Closed January and December)

Lake Elsinore Regional Permanent HHW Collection Facility
512 N. Langstaff Street, Lake Elsinore, 92530
Open first Saturday of the month*, 9:00 a.m. to 2:00 p.m.
*Except holiday weekends and during inclement weather.

Riverside Area

Agua Mansa Regional Permanent HHW Collection Facility
1780 Agua Mansa Road, Riverside, 92509
Open non-holiday Saturdays*, 9:00 a.m. to 2:00 p.m.
*Except during inclement weather.

Regional ABOP Collection Centers (Antifreeze, Batteries, Oil and Oil Filters, and Latex Paint ONLY)

Murrieta Area

County Road Yard
25315 Jefferson Avenue, Murrieta, 92562
Open Non-Holiday Saturdays, 9:00 a.m. to 2:00 p.m.

These sites accept residential waste only. For more information, contact the Riverside County Household Hazardous Waste Department Hotline at **800-304-2226 or 951-486-3200, or visit, www.rivcowm.org/opencms/hhw/index.html**

Household Hazardous Waste

Below is a list of materials accepted at permanent HHW collection sites.*

Chemicals and Cleaners

Adhesives
Air Freshener
Aluminum Cleaners
Ammonia
Antifreeze
Brake Fluid
Carburetor Cleaner
Caulking
Chlorine Bleach
Chrome Polish
Disinfectant
Drain Cleaner
Engine Degreaser
Fertilizer
Fiberglass and Resins
Flea Powder
Floor / Surface Cleaners
Fungicides
Furniture Polish
Gas / Diesel Fuel
Glue
Gun Cleaner
Hair Dye
Hobby Chemicals
Insecticides / Pesticides
Kerosene / Lamp Oil
Lighter Fluid
Motor Oil
Mercury Devices
Oven Cleaner
Paint - Latex / Oil Based
Paint Stripper / Thinner
Photo Chemicals
Pool / Spa Chemicals
Rodent Bait / Poison
Roof Coating
Shoe Dye
Spot Remover
Transmission Fluid
Turpentine
Varnish
Weed Killer / Herbicide
Wood Preservative

Aerosols and Tanks

Aerosol Insecticides
Aerosol Cans
BBQ Propane Tanks
Camp Propane Tanks

E-Waste and Batteries

Batteries (all types)
Electronic Devices
Fluorescent Bulbs / Tubes
Old TVs and Computers

Medical Waste

Sharps / Needles

Please DO NOT bring the following types of materials (If you have any of these wastes please call (951) 486-3200):

Unacceptable Materials

Business, Non-Profit, or Out-of-County Waste
Explosives / Ammunition
Radioactive or Remediation Materials
Medical / Infectious Waste (Except Sharps)
Asbestos
Appliances
Tires
55 or 30 Gallon Drums
Compressed Gas Cylinders >40 lbs
Trash

*Maximum Chemical Load: 5 Gallons or 50lbs per trip. Residential waste only, no business waste accepted.

Recycling

What can go into your curbside recycling bins? Not sure what you can recycle? Check out the list below.

Paper and Cardboard

- Books and Coloring Books
- Cardboard
- Cardstock and Construction Paper
- Office Paper
- Egg Cartons
- Clean Food Boxes
- Junk Mail and Envelopes
- Magazines and Newspapers
- Notebook Paper
- Paper Bags
- Telephone Books

Metal

- Aluminum and Steel Cans
- Clean Aluminum Foil
- Scrap Metal

Glass Jars and Bottles

- Glass Jars
- Beverage Bottles

Plastic Bottles and Grocery Bags

- Plastic Milk Jugs
- Plastic Beverage Containers
- Plastic Grocery Bags

Used Tires

Used tires are accepted at various locations in Riverside County. There is generally a fee to dispose of tires. The following locations accept tires:

Badlands Landfill

31125 Ironwood Ave., Moreno Valley, 92553

Lamb Canyon Landfill

16411 Lamb Canyon Rd., Beaumont, 92223

Visit www.rivcowm.org/opencms/landfill_info/landfill_fees.html for information on current landfill pricing.

BAS Recycling, Inc.

14050 Day St., Moreno Valley, 92553
(909) 383-7050
Call facility for pricing.

Electronic Waste Recyclers

Badlands, Lamb Canyon, and El Sobrante Landfills accept up to 2 CRT devices (e.g. computer monitors or TVs) per day for recycling at **no cost** during operating hours. The following recyclers also accept electronic waste:

The Green Guys Recycling, Hemet - (951) 757-9156
Starsurplus.com, Murrieta - (951) 677-5696
XIT Communications, Murrieta - (951) 691-5138
CR&R, Perris - (800) 755-8112
Tire Stop & Recycling, Sun City - (951) 928-9600
GKAT, INC. dba Temecula Recycling, Temecula - (951) 693-1500
Heavy Metal Scrap & Recycling, Inc., Temecula - (951) 693-4677

Other Recycling Facilities

For a complete list of recycling facilities visit www.calrecycle.ca.gov and click on the “Recycle Tab.”
Earth911.com also provides valuable information and resources about recycling and recycling facilities.

Reycling Centers

Recycling Centers

What should you do with those empty cans and bottles? Below is a list of centers that accept beverage containers for recycling*.

Hemet

EarthWize Recycling
1231 S. Sanderson Ave.
(909) 933-2773

Menlo Recycle Center
445 E. Menlo Ave.
(951) 766-8520

NexCycle
1295 S. State St.
(800) 969-2020

NexCycle
3125 W. Florida Ave.
(800) 969-2020

rePlanet
43396 US Hwy 74
(877) 737-5263

The Green Guys Recycling
100 N. State St., #101
(951) 757-9156

Valley Metals
342 N. Juanita St.
(951) 925-8577

Lake Elsinore

Cans Plus Recycling
29170 Riverside Dr., #1
(951) 245-1178

Downtown Elsinore Recycling
217 N. Main St.
(323) 204-8308

Lake Elsinore Recycling Center
1315 W. Flint St.
(951) 579-4102

Love Earth Recycling
31949 Corydon Rd., #160
(951) 230-6580

NexCycle
31564 Grape St.
(909) 796-2210

rePlanet
32281 Mission Tr.
(951) 520-1700

rePlanet
16750 Lakeshore Dr.
(877) 737-5263

Menifee

rePlanet
30125 Antelope Rd.
(951) 520-1700

rePlanet
25904 Newport Rd.
(877) 737-5263

Neill's Recycling
26026 Sherman Rd.
(951) 514-8656

NexCycle
27220 Sun City Blvd.
(909) 796-2210

Tire Stop and Recycling
27491 Ethanac Rd.
(888) 515-1376

Murrieta

EarthWize Recycling
27826 Clinton Keith Rd.
(909) 933-2773

Go Green Murrieta Recycling
40645 Cal. Oaks Rd.
(818) 220-9540

Murrieta Recycling
38365 Innovation Ct., #1102-1105
(951) 894-3094

rePlanet
40473 Murrieta Hot Springs Rd.
(951) 520-1700

rePlanet
23801 Washington Ave.
(951) 520-1700

rePlanet
4100 Cal. Oaks Rd.
(951) 520-1700

rePlanet
39140 Winchester Ave.
(951) 520-1700

rePlanet
28047 Scott Rd.
(877) 737-5263

SA Recycling
41400 Date St.
(951) 677-8586

Perris

A-1
24440 Hwy 74
(951) 940-4224

Ecology Auto Parts
23332 Cajalco Rd.
(951) 657-7725

Go Green Recycling
164 Malbert St., #A-2
(951) 487-5875

Harb Family Market Recycling
22707 San Jacinto Ave.
(951) 657-7733

4th Street Recycling
510 W. 4th St.
(323) 204-8308

Menlo Recycle Center
151 W. 7th St.
(951) 657-8200

RecycleWise
200 Sinclair St. #4
(951) 443-1894

Recycling Depot
1320 W. Oleander Ave.
(951) 442-5221

rePlanet
47 W. Nuevo Rd.
(877) 737-5263

San Jacinto

CA Recycling
762 S. San Jacinto Ave.
(951) 651-0010

rePlanet
1271 N. State St.
(877) 737-5263

San Jacinto Recycling Center
658 W. Esplanade Ave.
(951) 654-1399

Temecula

Heavy Metal Scrap Reycling Inc.
43136 Rancho Way
(951) 693-4677

NexCycle
29530 Rancho California Rd.
(909) 796-2210

NexCycle
26419 Ynez Rd.
(909) 796-2210

rePlanet
30530 Rancho California Rd.
(951) 520-1700

rePlanet
33293 Temecula Pkwy.
(951) 520-1700

rePlanet
31813 Temecula Pkwy.
(877) 737-5263

Temecula Recycling
27635 Diaz Rd., #120
(951) 693-1500

Wildomar

rePlanet
23893 Clinton Keith Rd.
(951) 520-1700

rePlanet
30712 Benton Rd.
(877) 737-5263

*Some recycling centers may accept other recyclable materials. It is advisable to call the center and confirm this, as well as operating hours, before visiting.

Fore more information about local recycling centers visit the **CalRecycle** website: **www.calrecycle.ca.gov**

Types of Plastic

Confused about the types of plastic and if they can be recycled? Many plastic containers display an identification code that indicates what they are made from. Below are the 7 codes.

#1: Polyethylene Terephthalate (PETE or PET)
Used to create 2-liter soda bottles, water bottles, cooking oil bottles, peanut butter jars.
The most commonly accepted plastic for recycling.

#2: High Density Polyethylene
Used to create detergent bottles, milk and water jugs, grocery bags, yogurt cups.
Commonly accepted for recycling. Bags can be recycled at some large grocery stores.

#3: Polyvinyl Chloride
Used to create plastic pipes, outdoor furniture, shrink-wrap, liquid detergent containers, flooring, showercurtains.
Not currently accepted for recycling.

#4: Low Density Polyethylene
Used to create food storage containers, cellophane wrap, dry cleaning bags, produce bags, trash can liners.
Not commonly recycled, some large grocery stores accept LDPE bags.

#5: Polypropylene
Used to create ketchup bottles, aerosol caps, drinking straws, yogurt containers.
Not commonly accepted for recycling.

#6: Polystyrene
Also known as "Styrofoam." Used to make coffee cups, take-out food packaging, egg cartons, and packaging "peanuts."
Sometimes accepted for recycling and made into the same products.

#7: Other
All other plastic resins or a mixture of resins used to make reusable water bottles, Tupperware, biodegradable and compostable plastics.
Not commonly accepted for recycling.

Composting Basics

Got food scraps and yardwaste? Below is a quick guide to Backyard Composting.

1. Select a good spot for composting

- Sun or shade
- Convenient to kitchen or garden, and close to a source of water
- Keep away from structures and wood, as moisture can hasten decay
- Place only on bare ground, as organisms from soil are needed

2. Know the Ingredients

Nitrogen - Green materials - grass clippings, fresh leaves and twigs, vegetable and fruit trimmings, coffee grounds and filters, and non-meat eating animal manures.

Carbon - Brown materials that have released their nitrogen - dry and brittle leaves and grasses, straw, wood chips, corn stalks, shredded newspaper, paper towels, napkins, and cardboard.

Water - The correct moisture level should be about the same as a damp wrung out sponge. A few drops should fall when squeezed in your hand.

Air - Oxygen is very important to the bacteria, fungi, and microorganisms that are working in the pile to breakdown the organic material.

Do Not Add - Meat, dairy products, fats, oils, waste from meat eating animals (dogs and cats), thorny plant material, or diseased plant material.

2. Know the Methods

Aerobic - Pile equal parts green and brown material on ground or in a bin in a 3'x3'x3' heap, water well, and cover with a tarp, carpet or opaque plastic sheet. The pile will heat up (120 to 160 degrees), and needs to be turned after a few days, once it has cooled. Turn the pile weekly and continue composting until the pile has a dark rich look like chocolate cake and the things you put in don't look like their original form. After the compost is done, water well, cover, and let it rest for one to two weeks to make sure it is completely done and the nitrogen has a chance to stabilize. If the compost is used too soon it could rob nutrients from the surrounding plants. Remove large chunks and add them to the next compost pile.

Anerobic - Similar to the Aerobic method, but there is no need to actively turn the material. It may take longer (1-2 years), but is still beneficial to your garden. Just pile the stuff, water, cover, and wait.

For more detailed information on composting, free workshops, or other methods, such as **Vermicomposting**, visit www.rivcowm.org and search for composting.

Source Reduction

The best way to reduce waste is to prevent it!

Buy Responsibly

Reduce packaging waste - Look for products that reduce packaging, or purchase in bulk to reduce the amount of packaging needed.

Look for products containing recycled material - Recycled paper products, motor oil, and even pens and pencils are just a few examples of products that reduce waste.

Consider reusable products - Buy reusable water bottles and sturdy utensils and plates that can be washed and used again.

Get it "For Here," or bring your own - Many coffee shops will provide drinks to their customers in ceramic mugs rather than paper cups if requested. Just ask! Reusable tumblers are also a great alternative to paper cups, and many establishments will even give a small discount to those who bring their own!

Borrow, rent, or share - Why buy something if you are only going to use it once? Items such as tools, party decorations, and even newspapers and magazines can be shared with your friends, family, and/or community.

Purchase rebuilt, remanufactured, or refurbished - Many electronics such as cell phones, computers, and media players can be purchased "refurbished" at a sometimes substantial price reduction. This conserves the resources needed to manufacture a new product.

Choose Non-Toxic

Choose products that contain only non-toxic materials, or try one of these **homemade alternatives**:

- Instead of glass cleaner, dilute 1 cup of vinegar in 1 quart of water.
- To open clogged drains, flush with a mixture of boiling water, and equal parts baking soda and vinegar.

For more information on non-toxic alternatives, visit the California Coastal Commission website:
http://www.coastal.ca.gov/ccbn/lesstoxic.html

Source Reduction

Plastic bags and junk mail contribute to a significant amount of un-needed waste. You can lessen their impact by Reducing, Reusing, and Recycling.

Plastic Bags

Reduce: BYOB (Bring Your Own Bag) - Use reusable canvas or cloth bags rather than plastic bags, and keep them in your car. Not all items need a bag, just say "no, thank you."

Reuse - Plastic grocery bags can serve multiple purposes, such as trash can liners or for pet waste.

Recycle - If you find that you must use a plastic bag, recycle it when you are finished. Most large supermarkets and pharmacies offer free recycling of plastic bags.

Junk Mail Reduction

You can reduce the amount of unwanted junk mail in your mailbox by simply mailing a postcard to the following addresses, requesting your name be removed from their mailing list. Be sure to include your full name, your address(es), your signature, and the date.

Mail Preference Service
Attn.: Dept. 10088342
PO Box 282
Carmel, NY 10512

ADVO
Consumer Assistance
PO Box 249
Windsor, CT 06095

Harte-Hanks Circulation
C/O Pennysaver
2830 Orbiter St.
Brea, CA 92821

Valpak Direct Marketing Systems, Inc.
8605 Largo Lakes Dr.
Largo, FL 33773

Credit Card Junk Mail
Call (888)5-OPT OUT (888-567-8688)

City / County Resources

City of Canyon Lake - Waste and Recycling | (800) 755-8112
http://www.cityofcanyonlake.com/recycling.asp

City of Hemet - Integrated Waste Management | (951) 765-3712
http://www.cityofhemet.org/index.aspx?nid=93

City of Lake Elsinore - Recycling | (951) 674-3124
http://www.lake-elsinore.org/index.aspx?page=751

City of Menifee - Public Works Department | (951) 672-6777
http://www.cityofmenifee.us/index.aspx?nid=99

City of Murrieta - Trash & Recycling | (951) 461-6007
http://www.murrieta.org/services/trash

City of Perris - Waste & Recycling | (951) 943-6100
http://www.cityofperris.org/residents/waste-recycle.html

City of San Jacinto - Waste & Recycling | (951) 487-7330
http://www.san-jacinto.ca.us/residents/waste.html

City of Temecula - Trash & Recycling | 951-694-6444
http://www.cityoftemecula.org/temecula/residents/trashrecycling/recycling.htm

City of Wildomar - Trash Hauling and Recycling | (951) 677-7751
http://www.cityofwildomar.org/trash-hauling-recycling.asp

County of Riverside - Riverside County Waste Management Department
http://www.rivcowm.org | (951) 486-3200

Western Riverside Council of Governments
http://www.wrcog.cog.ca.us | (800) 350-4645

Waste Haulers

Waste Management, Inc. - (951) 280-5400 - www.wm.com
Serves: Menifee, Murrieta, and Wildomar

CR&R Disposal - (951) 943-1991 - www.crrwasteservices.com
Serves: Canyon Lake, Hemet, Lake Elsinore, Perris, San Jacinto, and Temecula

The Complete Guide to Residential Recyling is sponsored by:

water efficient
L A N D S C A P E S

In California, the largest use of all urban water is watering landscapes. When a landscape or irrigation system is poorly designed or poorly maintained, or the landscape consists of plants not suited to the dry and often hot California climate, water demand increases as a result of excessive evaporation, leaks, and runoff. Water consumption can be greatly reduced with careful planning, good plant selection, efficient irrigation systems, and good water management and maintenance practices.

Since California experiences frequent and sometimes prolonged droughts together with an ever increasing demand, there is a great need for us to use water efficiently. But this doesn't mean we have to give up our gardens. We can use water more efficiently and still have colorful, esthetically pleasing landscapes—including some turf areas for recreation.

This brochure is intended to help you create a landscape that is not only water efficient, but attractive, colorful, and low maintenance. The designs illustrated here are typical back yards, but the principles of water efficient gardening apply to front yards as well.

Planning ahead

Planning is the key to a successful water wise landscape. It is very tempting to go to a garden center and buy plants because they catch your eye, but not knowing where to place them and how much water they need are the beginnings of an unnecessarily high water using landscape. By planning ahead, costly mistakes can be avoided.

Contact your local water provider to see if they offer any services such as water audits or landscape planning. Some agencies offer landscaping classes and provide water conservation devices. Some also have demonstration gardens where you can witness water efficient gardens in person, see how attractive they can be, and get ideas for your own site.

To get started, measure the landscape and draw the area and any existing landscape features to scale. This will give you an idea of the numbers of plants you will need, the size of the lawn and how much irrigation pipe, sprinkler heads, and mulch you will need to buy.

Consider the size, sun exposure, and slope of the area to be landscaped. Avoid lawns on slopes that are difficult to mow and water. If possible, reduce slopes in the landscape that encourage runoff and waste water.

Think about who will use the landscape and how they will use it. These factors determine the type of plants required and how it will be maintained. Don't forget the need for shade and privacy screening.

When drawing the actual planting plan, avoid the temptation to place too many plants for the area. A crowded garden will use more water, cost more, be prone to diseases, and require more maintenance.

Consult books such as *Sunset Western Landscaping Book* about garden design. Many books available are very good for useful advice and ideas. Some are written with the dry west in mind and focus on landscaping with the proper types of plants for warm, dry climates.

If this phase of the project is too difficult, hire a licensed landscape architect or designer. A landscape architect might be able to design the irrigation system for you or you can consult with an irrigation design specialist. Be sure to keep a copy of the landscape plans for future reference.

How much grass do you need?

Lawns use more water than any other part of a landscape and they cover large amounts of acreage statewide. Oftentimes lawns are installed because an alternative was never considered. There are alternatives to lawns, so in the planning stage decide if lawn is really a requirement in your yard. Think of who will use it and how often, who will mow it, fertilize it, remove the thatch, etc.

Perhaps a lawn is not needed at all. If a grass area is really just space filler, consider alternatives such as hardscapes, rock gardens or an unthirsty groundcover. This is especially important on areas with slopes that tend to shed water faster than it can soak in. Water draining into street gutters and storm drains often discharges directly into streams and this runoff from landscapes frequently contains fertilizers, pesticides, and other pollutants.

If you choose to plant a turf area after considering these factors, minimize the size of the lawn and choose a grass type that doesn't require lots of water and fertilizer.

Warm season grasses such as Hybrid Bermuda Grass and St. Augustine Grass use much less water than cool-season grass such as Kentucky Bluegrass. Certain Dwarf Tall Fescues use somewhat less water than Bluegrass.

Warm season grasses typically have a short winter dormant period, but winter dormancy occurs when many people are not actively using their gardens and even dormant, warm season grass provides a usable surface for people and pets. If the look of dormant grass is objectionable, it can be overseeded with another type of grass for the winter.

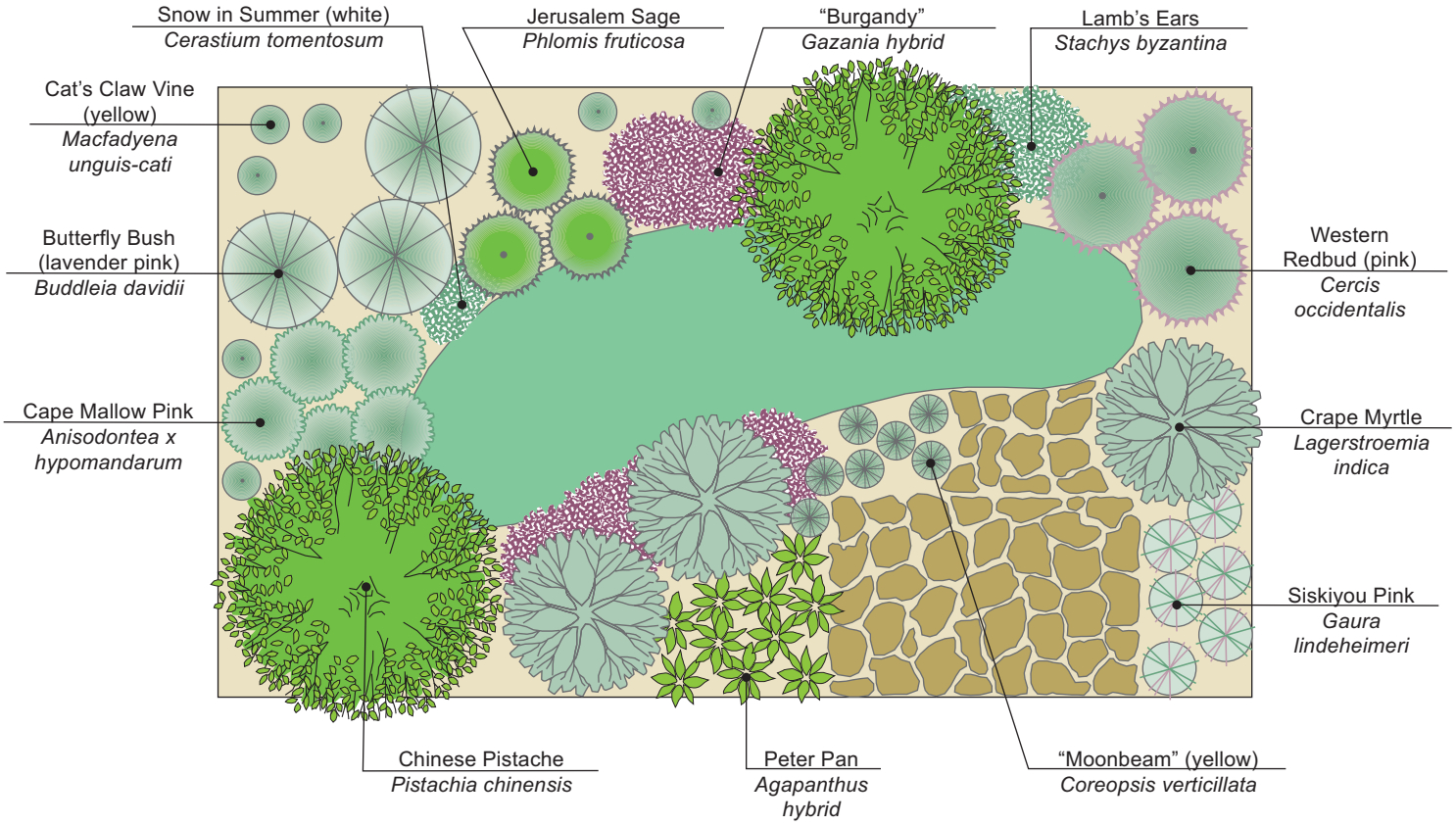
Good choices make good landscapes

Once a decision regarding the turf area has been made, choose trees and large shrubs next. Make these choices carefully, they are the "backbone" of any landscape and poor choices will result in high water use, poor performance, and frequently costly maintenance or removal.

When selecting trees and large shrubs, choose varieties that will still fit into your yard when they mature. Learn what your climate zone is and buy plants that are suited to it. Choose deciduous trees for shade and evergreen trees for screening.

water efficient landscape

What's right about this landscape?
Warm-season grass, permeable surface patio, water efficient plants with nearly year-round color, mulch in shrub areas, deciduous trees for summer shade and winter sun, a California native, shrubs attractive to hummingbirds and butterflies. This garden, with a landscaped area of 1,800 sq. ft., requires about 5,800 gallons of water to irrigate for the month of July in the Central Valley. A smaller lawn would make this landscape even more water efficient. A landscape of the same size with thirsty plants and a bluegrass lawn would require an additional 2,000 to 3,000 gallons of water for the month of July.



Try to group plants by water requirements, such as very low (e.g. drought tolerant California natives, such as Blue Oaks, Western Redbud), low (e.g. Rosemary, Lavender), medium (e.g. Photinia, Euonymus), and high (e.g. Australian Tree Fern, Umbrella Sedge). Keep the high water-using plants to a minimum as focal points.

For help with selecting trees, shrubs, and groundcovers consult a good gardening encyclopedia such as *Sunset Western Garden Book*, your local Cooperative Extension, or a reputable nursery. Your local Urban Forester or tree foundation can give valuable advice about which trees grow well in your area.

Another excellent reference is *A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California*, which is available on the Department of Water Resources Web site at:
http://www.owue.water.ca.gov/docs/wucols00.pdf

Beginning on page 45, this publication gives the water needs of landscape plants in the six major climate regions of California. Guides of this type are valuable in the design stage by aiding in the selection of plants for groupings with similar water needs. These groupings of plants of similar water requirements are also known as hydrozones.

Irrigation

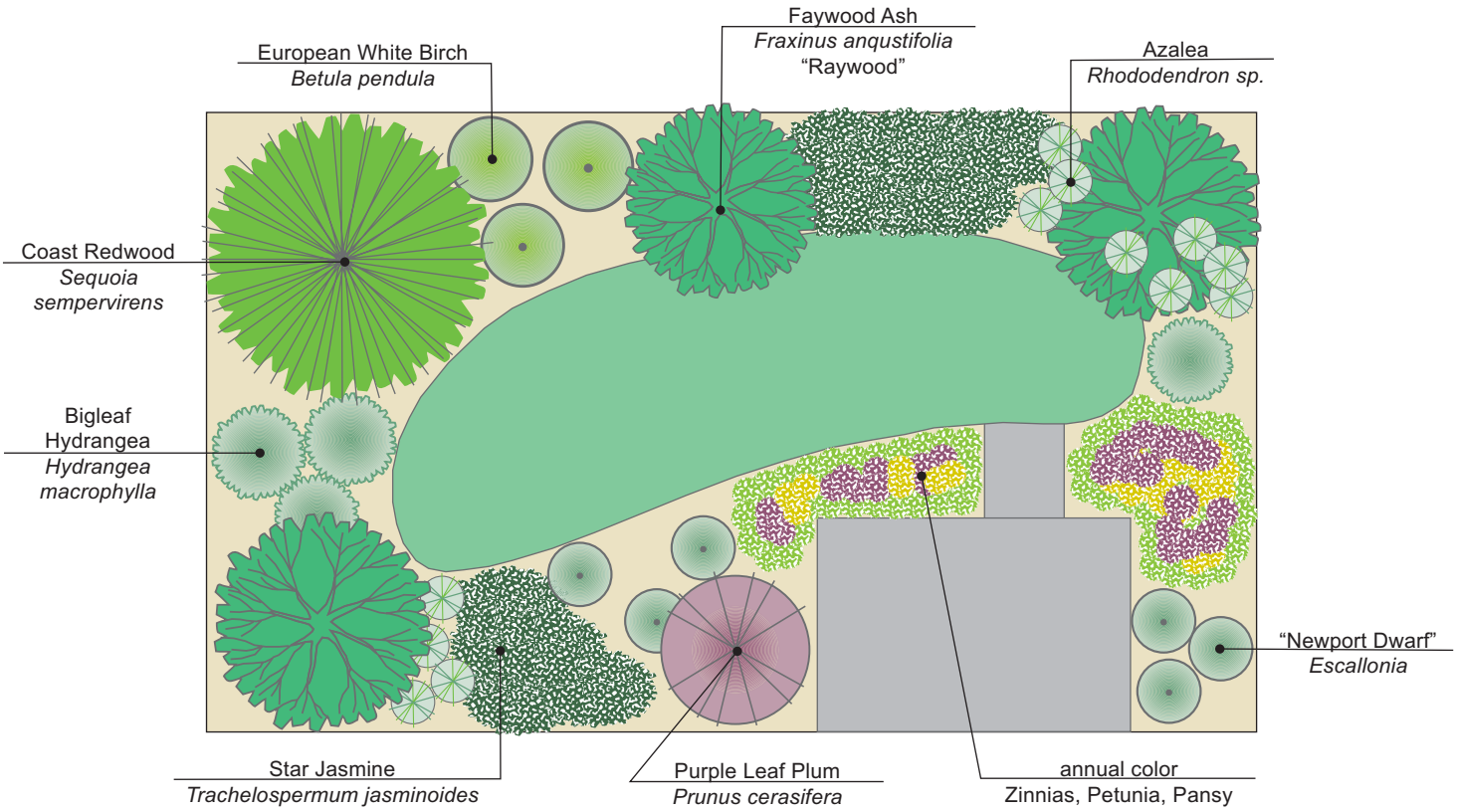
After the plants are chosen, design and install an efficient irrigation system—one that will deliver a sufficient amount of water where it's needed. If you need information or help to design an irrigation system, ask at an irrigation supply store or hire a licensed landscape contractor who specializes in irrigation systems to design and install it.

Several of the major irrigation equipment manufacturers sell inexpensive irrigation design manuals online and at supply stores. A good irrigation design manual will

typical landscape

What's wrong with this landscape? (from a water conservation point of view)
Large lawn with cool-season grass, impervious patio, and a lot of high water using plants (Hydrangea, Azaleas, Birches, Annual color and Coast Redwood). This garden, with a 1,600 sq. ft. landscaped area, requires about 8,400 gallons of water to irrigate for the month of July in the Central Valley. This landscape requires over 2,500 gallons of water more per month (in July) than the previous example.

What could be a better version?
Although this landscape uses several water efficient plants, the water use is still high. Smaller lawn, warm season grass, less high water using plants, mulch, and avoiding large trees in smaller yards make landscapes much more resource efficient. For example, Redwoods need a lot of moisture and grow too large.



address important aspects of sprinkler design such as sprinkler layout, water pressure, choosing the right sprinkler for the job, head to head coverage, and matching precipitation rates. Some manufacturers offer free irrigation design services.

Always be sure to keep a drawing of the sprinkler layout and a list of parts used (including brand names and model numbers) for future reference. This will make any future repairs or additions much easier.

Use sprinklers that will apply water evenly. Use stream rotors on lawns and bubblers in shrub and tree areas. The better quality pop-up spray sprinklers work well in smaller areas, but avoid using sprinklers that create a fine mist because much of that water is lost to evaporation and overspray.

Check the operating pressure with a pressure gauge at an outdoor faucet so that you can select the right sprinkler for the job. Sprinklers are labeled to show how far they spray at different pressures. Operation at too high of pressure will create a lot of water-wasting mist and too little pressure will cause uneven coverage.

Microspray and drip irrigation are other good choices for tree and shrub areas. Microspray and drip also work well on container gardens and window boxes. Microspray and drip systems apply water slowly and just where it's needed.

When you water, apply it infrequently, deeply (throughout the root zone), and evenly. This will encourage deep rooting, which will make plants better able to withstand hot, dry spells.

Lawns require water about once or twice a week in warm weather. Trees and shrubs require watering less frequently. Because of this shrubs and trees should always be on separate zones from turf.

In the spring, fall, and winter all plants need much less water than is required in summer. Consequently, watering time should be much shorter and less frequently in the off peak seasons.

One way to make watering much easier is by using an irrigation controller, also called a sprinkler timer or clock. Timers can save gardeners a lot of time by watering automatically, but they can waste a lot of water if not reprogrammed to water less as the seasons change.

If an irrigation controller is to be used, be sure to purchase one with multiple functions. Buy one with extra stations in case you need to add irrigation zones later. Most importantly, adjust the timer monthly, weekly if needed, so that the irrigation time set for the summer is not set during the rest of the year.

During hot or cool spells most controllers can be easily adjusted without disturbing the original program. By using the "seasonal adjust" or "budget adjust" feature, frequent changes to the amount of time watering can easily be accomplished simply by pushing a button.

The amount of water applied can be increased or decreased in 10% increments. When considering that July is usually the peak demand for water, it can be considered to be the 100% mark.

For example, during April the irrigation could be turned on and the controller set for 60% of the amount it will be watered in July. This can be accomplished by pushing the seasonal adjust button until the display shows 60%. The controller can be adjusted upwards gradually as the weather warms.

Likewise in fall, the season adjust can be adjusted downward beginning in August for most areas of California. This can continue through October or November. By November the irrigation system can be turned off in most places in the state.

Rainfall may be enough for most areas, but if supplemental irrigation is required during the winter, use the manual “on” switch to run the irrigation when the landscape shows signs of water stress. The controller can also be reprogrammed to run less frequently than it would during the rest of the year. Consider installing a rain shut-off switch to prevent watering while it’s raining.

Use a soil probe or large screwdriver to check the soil moisture. It may look dry on the surface, but be moist underneath. If the soil is still moist, plants probably won’t need to be irrigated yet. Always observe how a change in the irrigation schedule affects the landscape.

water wise plants

There are many water wise plants to choose from that thrive in California’s mostly moderate climate. These include both many attractive natives and plants introduced from other Mediterranean-like climates. These unthirsty plants enable any gardener to create a water conserving landscape. In addition to the plants shown in these water efficient landscape designs, here is a list of a few more of the many water wise plants available.

SHRUBS

Blue Hibiscus, *Alyogyne huegelii*
Coyote Brush, *Baccharis pilularis*
Barberry, *Berberis x stenophylla*
Bush Anemone, *Carpenteria californica*
Bush Morning Glory, *Convolvulus cneorum*
Smoke Tree, *Cotinus coggygria*
Euryops, *Euryops pectinatus*
Pineapple Guava, *Feijoa sellowiana*
Texas Ranger, *Leucophyllum sp.*
Pomegranate, *Punica granatum*

TREES

Madrone, *Arbutus menziesii*
Bottle Tree, *Brachychiton populneus*
Pindo Palm, *Butia capitata*
Australian Beefwood, *Casuarina stricta*
Honey Locust, *Gleditsia triacanthos*
Sweet Bay, *Laurus nobilis*
Interior Live Oak, *Quercus wislizenii*
Locust, *Robinia x ambigua*
Texas Mountain Laurel, *Sophora secundiflora*
Chaste Tree, *Vitex agnus-castus*

GROUNDCOVERS

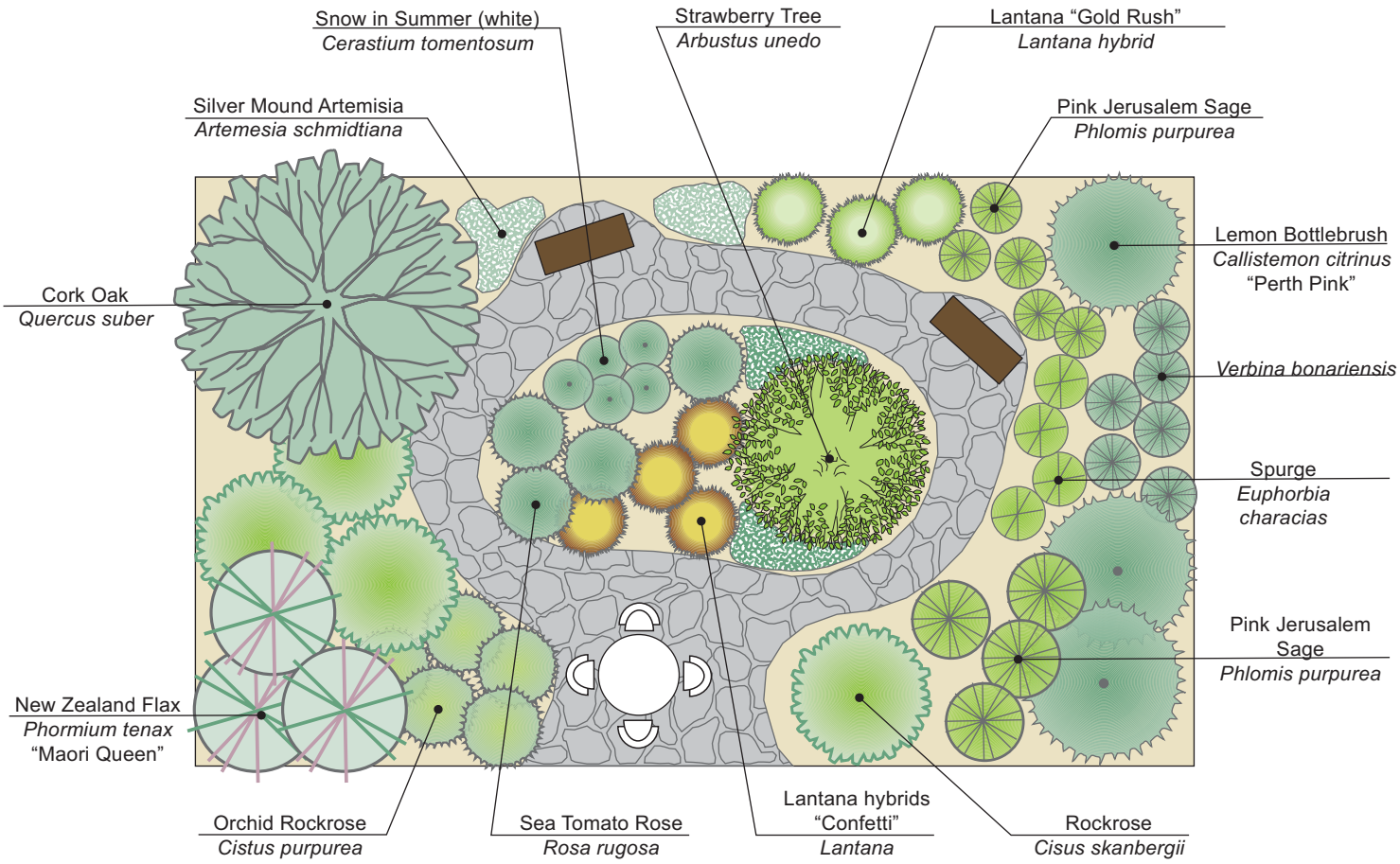
Bearberry, *Arctostaphylos uva-ursi*
Carmel Creeper, *Ceanthous griseus horizontalis*
Red Spike Ice Plant, *Cephalophylum sp.*
Chamomile, *Chamaemelum nobile*
Creeping Coprosma, *Coprosma x kirkii*
Trailing Lantana, *Lantana montedivensis*
Creeping Mahonia, *Mahonia repens*
Pork and Beans, *Sedum rubrotinctum*
Australian Bluebell Creeper, *Sollya heterophylla*
Wooly Thyme, *Thymus pseudolanuginosus*

PERENNIALS

Yarrow, *Achillea millefolium*
Columbine, *Aquilegia hybrids*
Wormwood, *Artemisia* "Powis Castle"
Italian Arum, *Arum italicum*
Cast Iron Plant, *Aspidistra elatior*
Fortnight Lily, *Dietes iridioides*
Siberian Wallflower, *Erysimum x allionii*
Blanketflower, *Gaillardia grandiflora*
Sunrose, *Helianthemum nummularium*
Crown Pink, *Lychnis coronaria*

strolling garden

Turfless is effortless—well, almost.
If you don't need grass, just a quiet place to enjoy nature and be outside, try installing a strolling garden. Many water efficient plants are not fussy and don't require a lot of maintenance. Occasional pruning to rejuvenate and improve shape is all that many of these plants need. Unthirsty plants, organic mulch, and a permeable gravel path make this garden a real water saver. This garden, with a landscaped area of about 900 sq. ft., requires about 1,550 gallons for July in the Central Valley and only about 1,000 gallons on the Coast during July.



Some features to look for in irrigation controllers are:

- multiple independent programs (for different types of plant zones)
- several start times, cycle and soak (for heavy or compacted soil or sloped areas)
- nonvolatile memory and battery backup (to keep the schedule current after a power failure)
- water budgeting in percentage (%) increments (to water according to what the plants really need)
- rain shut-off device (to save water when the landscape is watered by rain)

These irrigation guidelines are general and may not always reflect the needs of your particular site.

The fun part

Once the irrigation system is installed, the lawn, trees, and shrubs can be planted. If your site has very sandy or heavy clay soil, amend the soil to increase the fertility and water holding capacity or to improve drainage. Plant shrubs according to the plan so that their leaves will just touch once they become established. This will ensure that the ground will be shaded by foliage but there will be adequate air circulation. This "room to breathe" will make appreciating the foliage and flowers much easier.

Set all shrubs and tree root balls somewhat high in the planting hole so that the top of the root ball will not settle below grade.

If young trees need staking, use two or three stakes tied loosely and just high enough on the trunk to keep the trunk from bending over. Remove them once the trees can stand on their own. While stakes can support a newly planted tree, if left too long, they will actually cause the tree to grow weakly. Shorten the staking poles so that they will not rub the bark of the new tree.

New lawns can be seeded, hydroseeded or planted with sod. There are advantages to all of these methods; therefore, budget, time of year, and availability of products will determine the right grass planting method for your landscape. A good landscaping book will outline the steps to preparing, planting, and maintaining a lawn.

After the plants are planted, cover the ground around trees and shrubs with a two-to-three-inch layer of organic mulch, keeping it away from the plant stems. Mulch will keep the soil cool and moist in warm weather and insulate it during winter. Mulch also has the added benefit of controlling weeds and enriching the soil by adding organic matter.

Routine maintenance keeps a landscape looking great

Regular maintenance of a landscape will keep it looking great and resource efficient. By working on small tasks on a continuous basis the large tasks will be limited.

- Check the irrigation system frequently for leaks, broken sprinklers, and clogged emitters; repair with the correct parts.
- Adjust the sprinklers as needed. If water runs off the landscaped area before the irrigation cycle is complete, adjust the timer to run several times with a shorter duration each time. For example, instead of running it for 15 minutes continuously, adjust the timer to run three times that day for 5 minutes each time, with an interval in between to let the water soak in. This is especially important on slopes and high traffic areas.
- Check the soil moisture depth with a soil probe or large screwdriver. If you use a screwdriver, push it in to the soil until you feel resistance. That is the approximate depth of where the soil is dry. If the moisture extends well below the root zone cut back on the water somewhat by shortening the time of an irrigation cycle or adding more time between cycles.
- Observe how a decrease in water affects the landscape and make adjustments as needed.
- Refresh the mulch layer in the spring.
- Prune only when necessary to shape the plant or remove dead or diseased parts.
- If fertilizer is necessary, use a balanced fertilizer, avoiding high Nitrogen mixtures that will cause excessive growth and could impact groundwater quality.
- When you mow, "grasscycle" the clippings. The clippings left behind on the grass will break down without causing a buildup of thatch.
- Aerate lawns occasionally to improve water infiltration.
- In times of drought, deep soak shrubs and trees only after they show signs of water stress, and water only in off peak hours. If a drought becomes severe, community leaders may ask people to stop watering their lawns, but any trees planted in lawn areas will still need an occasional soaking to survive. Deep soak these trees as you would any other tree in the landscape by drip, bubbler or garden hose.

If a garden is comprised mostly of water efficient plants, the landscape can be sustained on minimal irrigation through a drought and will be able to recover when water conditions improve.

The big picture

If good horticultural practices are followed, the dependence on chemicals in the garden can be reduced significantly. Mulching and grasscycling can greatly reduce the need for chemical fertilizers. Likewise, when less water is used, fertilizers and pesticides are not washed away. Less water controls excessive growth and reduces the amount of succulent new growth that is attractive to insect pests.

Since too much water causes many problems with plants, it makes sense to be water wise. It will save money and time, as well as give the gardener the satisfaction of doing his or her part in solving California's real water challenge.

State of California
The Resources Agency
Department of Water Resources
OFFICE OF WATER USE EFFICIENCY
P.O. Box 942836
Sacramento, CA 94236-0001

Phone: (916) 651-9676
Web site: www.owue.water.ca.gov/landscape
e-mail: landscape@water.ca.gov

(A copy of this brochure is available in PDF format at
www.owue.water.ca.gov/landscape/pubs/pubs.cfm)

This brochure was written by Julie Saare-Edmonds, landscape specialist for DWR's Office of Water Use Efficiency. Design and layout was provided by Alice Dyer of DWR's Division of Planning and Local Assistance.

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For Information:

To report illegal dumping or a clogged storm drain
1-800-506-2555

Hazardous Materials Disposal,
Recycling/Disposal Vendors call:
951-486-3200 or 1-800-506-2555

County Code Enforcement Offices
(unincorporated area)
Lake Elsinore/Mead Valley.....951-245-3186
Jurupa Valley.....951-275-8739
Moreno Valley/Banning 951-485-5840
Murrieta So. County 951-600-6140
Thousand Palms District 760-343-4150

Environmental Crimes
1-800-304-6100

Spill Response Agency
1-800-304-2226 or 951-358-5172

Recycling and Hazardous Waste Disposal
1-800-366-SAVE

For pollution prevention brochures or to obtain information on other County Environmental Services, call 1-800-506-2555

Popular links:
www.rcflood.org
www.cabmphandbooks.com
www.cfpub.epa.gov/npdes

ONLY RAIN DOWN THE STORM DRAIN
POLLUTION PREVENTION PROGRAM
1-800-506-2555

Riverside County's "Only Rain Down the Storm Drain" Pollution Prevention Program members include:

Banning
Beaumont
Calimesa
Canyon Lake
Cathedral City
City of Riverside
Corona
Coachella
Coachella Valley Water District
Desert Hot Springs
Hemet
Indian Wells
Indio
Lake Elsinore
La Quinta
Menifee
Murrieta
Moreno Valley
Norco
Palm Desert
Palm Springs
Perris
Rancho Mirage
Riverside County
San Jacinto
Temecula
Wildomar

Stormwater Pollution

What you should know for...

Automotive Maintenance and Car Care

Best Management Practices (BMPS) for:

- Auto Body Shops
- Auto Repair Shops
- Car Dealerships
- Gas Stations
- Fleet Service Operations

Stormwater Pollution...What You Should Know

Riverside County has three major river systems, or watersheds, that are important to our communities and the environment. Improper automotive maintenance, storage and washing activities can cause pollution that endangers the health of these rivers.

Pollutants that can collect on the ground from automotive repair, storage and washing areas such as antifreeze, oil, grease, gas, lubricants, soaps and dirt can be washed into the street by rain, over-irrigation or wash water runoff. Once these pollutants are in the streets they can be carried to these rivers by the storm drain system. Unlike the sewer system, the storm drain system carries water (and pollution) to our rivers without treatment. Pollution from storm drains is a form of storm water pollution.

A common storm water pollution problem associated with automotive shops and businesses is the activity of hosing down service bays without proper capture of runoff water, illegal dumping of fluids to the street or storm drain inlets and not properly storing hazardous materials. Examples of pollutants that can be mobilized by these activities include oil and grease from cars, copper and asbestos from worn break linings, zinc from tires and toxics from spilled fluids.

The Cities and County of Riverside have adopted ordinances, in accordance with state and federal law, which prohibit the discharge of pollutants into the storm drain system or local lakes, rivers or streams. This brochure provides common practices that can prevent storm water pollution and keep your shop in compliance with the law.

Best Management Practices for Auto Body & Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations

Changing Automotive Fluids

- Locate storm drains on or near your property. Do not allow material to flow to these drains.
- Collect, and separately recycle motor oil, antifreeze, transmission fluid and gear oil. Combining waste fluid prevents recycling.
- Drain brake fluid and other non-recyclables into a proper container and handle as a hazardous waste.
- Use a recyclable radiator flushing fluid and discard safely.

Only rain is allowed down the storm drain! Don't be an offender!! Violations of local ordinances are prosecuted to the fullest extent of the law.

Identify specific activities with the potential to cause spills or release pollutants such as oil, grease, fuel, etc. Post signs and train employees on how to prevent and clean up spills during activities.

YOU can prevent Stormwater Pollution following these practices...

Working on Transmissions, Engines and Miscellaneous Repairs

- Keep a drip pan or a wide low-rimmed container under vehicles to catch fluids whenever you unclip hoses, unscrew filters, or change parts, to contain unexpected leaks.
- Drain all fluids from wrecked vehicles into proper containers before disassembly or repair.
- Store batteries indoors, on an open rack.
- Return used batteries to a battery vendor.
- Contain cracked batteries to prevent hazardous spills.
- Catch metal filings in an enclosed unit or on a tarpaulin.
- Sweep filing areas to prevent washing metals into floor drains.

Cleaning Parts

- Clean parts in a self-contained unit, solvent sink, or parts washer to prevent solvents and grease from entering a storm drain.

Fueling Vehicles

- Clean-up minor spills with a dry absorbent, rather than allowing them to evaporate.
- Use a damp cloth and a damp mop to keep the area clean rather than a hose or a wet mop.

Keeping your shop or work area pollutant clean and environmentally safe

- Never hose down your work area, as pollutants could be washed into the storm drain.
- Sweep or vacuum the shop floor frequently.
- Routinely check equipment. Wipe up spills and repair leaks.
- Use large pans or an inflatable portable berm under wrecked cars.
- Avoid spills by emptying and wiping drip pans, when they are half-full.
- Keep dry absorbent materials and/or a wet/dry vacuum cleaner on hand for mid-sized spills.
- Train your employees to be familiar with hazardous spill response plans and emergency procedures.
- Immediately report hazardous material spills that have entered the street or storm drain to OES and local authorities.

Outdoor Parking and Auto Maintenance

- Use covered or controlled areas to prevent offsite spills.
- Sweep-up trash and dirt from outdoor parking and maintenance areas. Do not hose down areas. All non-stormwater discharges to the street of storm drain are prohibited.

Storing and Disposing of Waste

- Store recyclable and non-recyclable waste separately.
- Place liquid waste (hazardous or otherwise) in proper containers with secondary containment.
- Cover outdoor storage areas to prevent contact with rain water.
- Collect used parts for delivery to a scrap metal dealer.

Washing vehicles and steam cleaning equipment

- For car washing, minimize wash water used and use designated areas. Never discharge wash water to the street, gutters or storm drain.
- Be sure to keep waste water from engine parts cleaning or steam cleaning from being discharged to the street, gutter or storm drain.
- Wash vehicles and steam clean with environmentally friendly soaps and polishes.

Selecting and Controlling Inventory

- Purchase recyclable or non-toxic materials.
- Select "closed-loop" suppliers and purchase supplies in bulk.

Caltrans
I Pledge to Protect Every Drop
ILLEGAL DUMPING IS RUBBISH
Properly dump your garbage to reduce California's stormwater pollution!
Five easy tips to reduce pollutants:
APPLIANCES
When illegally dumped, appliances can release toxins that get washed away with rain and end up in our water bodies, polluting our water.
TIP 1: Donate or recycle appliances.
TIP 2: Properly dispose at your local dump.
FURNITURE
When dumped on the side of the roadway all furniture not only causes a safety hazard, but can also breakdown and get into local water bodies, causing pollution.
TIP 3: Contact local waste management for bulky pick-up or locate a dump for drop-off.
VEGETATION
Improperly dumped vegetation can flow to waterways, creating an imbalance of nitrates in water and thus harm aquatic life.
TIP 4: Tarp loads to reduce biodegradable waste on highways.
TIP 5: Use a green waste bin or consider composting biodegradable waste.
Don't risk a $10k fine & up to 6 months in jail
Simple changes in disposal of rubbish can help keep California's highways, waterways and bodies of water clean!
FOLLOW US ON SOCIAL MEDIA
#ProtectEveryDrop
FIND US ONLINE
www.protecteverydrop.com

Caltrans

I Pledge to Protect Every Drop

STORMWATER POLLUTION

Metal Pollution Is More Common Than You Think

- Clean waterways start with clean storm drains.
- Clean storm drains start with clean highways.
- Clean highways start with you.

DID YOU KNOW?

- Metals add to stormwater pollution by entering our waterways via stormwater runoff. They can cause a variety of negative effects on our health and the environment.
- Vehicle tires and brakes are a source of metal pollution.
- Road and highway runoff flow into storm drains often leading directly to waterways.

COMMON METALS IN HIGHWAY RUNOFF

- Lead: leaded gasoline, lubricating oils and grease
- Zinc: tire wear, motor oil and grease
- Copper: brakes and engine wear

REDUCE POLLUTION AT THE SOURCE

Take steps to reduce metal pollution from stormwater

- Maintain your vehicle and protect the quality of our water. Well-maintained vehicles pollute less; even a small leak of oil, antifreeze or other toxic auto fluids can find their way into a storm drain.
- Consider alternative transportation. Exercise your commuting options by carpooling, using public transportation or riding a bicycle. Fewer vehicles on California's highways and roadways reduce pollution that can flow into storm drains.
- Learn More! Go online and check out tips and simple solutions to prevent stormwater pollution at www.protecteverydrop.com.

WWW.PROTECTEVERYDROP.COM

-A CLEAN CAR GOES FAR-

WASH YOUR CAR TO
KEEP OUR WATERWAYS CLEAN &
PROTECT WATER QUALITY

PROTECT OUR WATER

Pollutants from storm drains make their way to our waterways, including streams, rivers, lakes & the ocean.

SPOT THE SPOTS

Dirty vehicles carry pollutants.

WHEN IT RAINS

Rain washes pollutants off your vehicle & onto roadways. These pollutants go into storm drains & flow into waterways.

WASH GRIME AWAY

Washing your car regularly at a facility that recycles water helps reduce pollutants from entering the storm drain and ultimately our water ways.

WASH, PROTECT, REPEAT

Do your part to reduce pollution & protect water quality!

rcwatershed.org

RIVERSIDE COUNTY

WATERSHED PROTECTION

27 Cities + One County + Two Districts = A Team Effort.

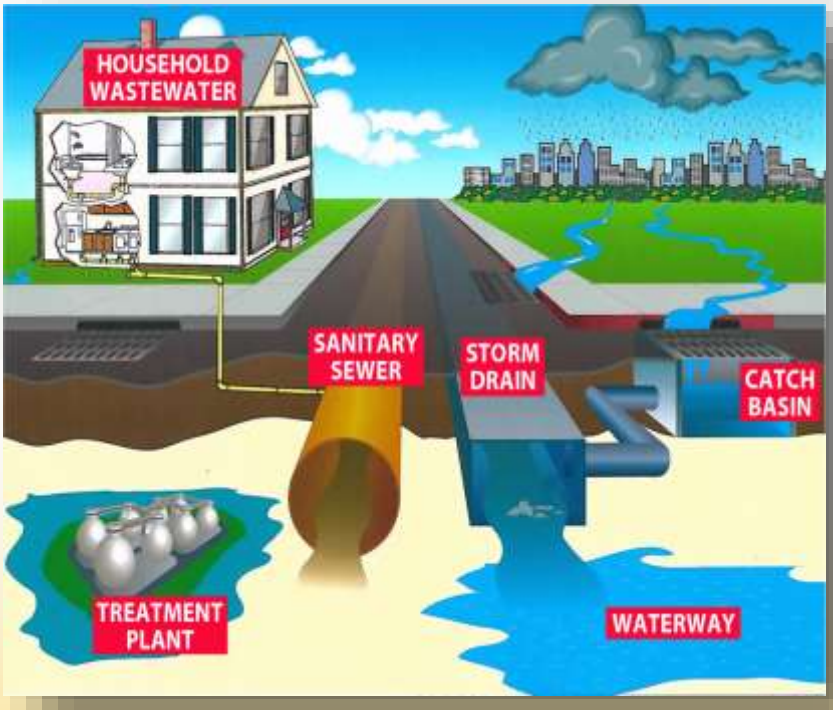
Water pollution degrades surface waters which can cause them to be unsafe for drinking, fishing, swimming, and other activities. The Riverside County Watershed Protection program was established to reduce the pollution carried by stormwater into local creeks and waterways that lead to the ocean. The program is managed by the Riverside County Flood Control & Water Conservation District in partnership with 27 Cities, the County of Riverside and the Coachella Valley Water District.

What is a watershed and how do I affect it?

A watershed is an area of land that catches and drains water into a creek, stream or tributary and eventually ends up in a large body of water such as our lakes, rivers or the ocean. As stormwater flows over land and across the watershed into a waterway, it carries urban runoff such as used motor oil and grease, pesticides, trash and other harmful debris. This is where the public comes in. The more we can prevent polluting the watershed, the healthier our waterways will be and the habitat it supports.

What is stormwater?

Stormwater runoff is any water, either through rain, sprinklers, or irrigation of yards/gardens, that falls and is transported over land and pavement into local waterbodies through the storm drain system. All water that flows into a storm drain is deposited into creeks, rivers or the ocean without treatment.



Is there a difference between the storm drain and sewer system?

Yes, an important difference. Stormwater and all the pollutants that flow from our homes, parking lots and streets to the gutter into the storm drains flow directly into our creeks and other water bodies untreated. Water and pollutants that flow into the sanitary sewer, such as water from our sinks, bathtubs and toilets, are sent to a wastewater treatment facility before the water is discharged to the Bay or Ocean.

Doo Good

Pick up dog doo. Protect streams

Dog doo can pollute our waterways. Rain flows across yards and trails, collecting in storm drains that lead directly to streams without being treated!

Bacteria Problems

A single gram of dog doo can contain 23 million fecal coliform bacteria and can spread diseases like Giardia and Salmonella.

Bacteria from dog doo accounts for up to **20%** of the bacteria in urban waterways.

Nutrient Problems

Nutrients like nitrogen and phosphorus that are found in dog doo act like a fertilizer in streams. They cause algae to grow which reduces the available oxygen for fish. The more poop, the bigger the potential problem. Locally there are over **90,000** dogs that make **11,700 tons** of poop a year.

Be a "Doo Gooder"

You can make a difference by being a responsible pet owner. Being a "Doo Gooder" means being a model for others and picking up your dog doo. Here are **5 tips** every dog owner should know:

- Be prepared: carry poop bags with you.
- Take extra bags so you don't run out and you can help someone else in need.
- Make sure the bag ends up in a trash can.
- When you hike, never leave a bag on the trail – take it with you.
- Scoop your poop at home or hire someone to keep your yard healthy and to protect streams.

rcwatershed.org

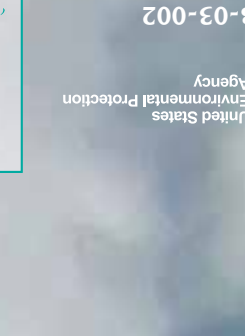
RIVERSIDE COUNTY
WATERSHED PROTECTION

OUR MISSION

"To protect, preserve and enhance the quality of Riverside County Watersheds by fostering a community-wide commitment to clean water."

@RivCoWatershed

After the Storm



What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.

- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

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January 2003

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United States Environmental Protection Agency

THE YEAR OF CLEAN WATER

Celebrate the Environment

A Citizen's Guide to Understanding Stormwater

Stormwater Pollution Solutions

Residential

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

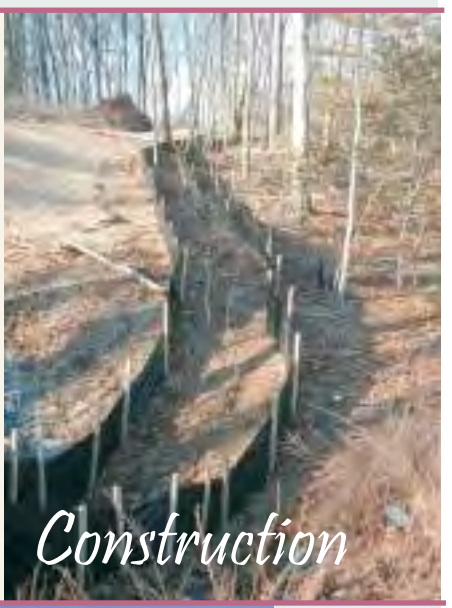
Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



Construction

Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

Automotive Facilities

Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

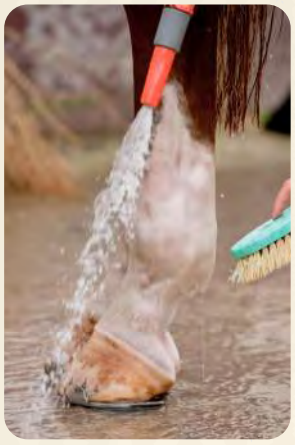
Tips for Horse Care and Barn Keeping

Stormwater Pollution What you should know…

If not properly managed, rainfall and runoff that come into contact with manure, horse care products, and wash water can carry nutrients, sediment, bacteria, salts, and toxic pollutants to storm drains and streams, negatively affecting water quality and the environment. Listed below are some environmentally responsible steps to keep in mind when caring for your horses, barns and pastures.

Grooming

- Only use pest control and grooming products *(saddle and tack cleaning and conditioning products, shampoos and conditioners, show shine, hoof polish, etc.)* where needed and avoid use in areas exposed to runoff. Spot-apply pesticides and fungicides to avoid over use and keep from areas exposed to stormwater. Follow instructions on products, use sparingly and clean up spills.
- Store all pest control, grooming, and horse and tack care products in covered areas where they will not come into contact with stormwater, and post signs reminding boarders and staff not to dump any excess products. For proper disposal of unused horse care products, please call **1-800-304-2226** or visit the Riverside County Waste Management Department at **www.rivcowm.org.**
- For indoor wash stalls, ensure that floor drains are connected to septic system or drain to areas where the washwater can soak into the ground. Outside, ensure that washwater can seep into the ground. Always prevent washwater from entering a storm drain or stream. Creating a small berm around the area can prevent washwater from leaving the area.
- Conserving water is an important way to protect streams. Conserve water by using a spray nozzle with an automatic shut-off. Turn off the water when not in use.



Manure Management

Store manure in a covered, enclosed compost bin located in an area that will not result in any drainage or runoff. Where enclosed bins aren't feasible, manure storage sites should be located under a covered area on a nearly flat surface, 50 - 100 feet from any stream or storm drain.

Pasture Management

- Sweep or shovel horse holding areas daily to reduce the tracking of manure and soil. ***Do not wash down these areas!***
- Fencing horses out of streams is important to protect surface waters. Locate paddock areas and fencing so horses are kept away from streams. Wherever possible, choose paddock areas where runoff will drain into the ground.
- Plant or allow vegetation to grow around the perimeter of paddock areas to provide for natural filtration of runoff.

Grazing

Over-grazing in a paddock or pasture can lead to exposed soil and soil erosion, which increases runoff to streams and surface waters; allow about one acre per horse and rotate pasturing where possible.

Responsibility for water quality begins with **YOU**

Using and Disposing of Manure and Bedding

- Compost used bedding and manure. See ***http://compostingcouncil.org*** for more information.
- Composted bedding and manure may be donated to local greenhouses, nurseries, botanical parks, topsoil companies or composting centers.
- Contact your municipality regarding disposal programs and requirements.
- Always protect stables, storage, and compost stockpiles from runoff by keeping them out of stream courses.

Barn and Stable Design

Have your engineer check with your City or County building department for information about stable design requirements and best practices, such as good surfacing materials, manure and care product storage areas, and locating wash and storage areas away from areas that could affect water quality.

Resources

Contact your city or county stormwater representative for any applicable local ordinances.

For more information, Please call Riverside County's "Only Rain Down the Storm Drain" at 1-800-506-2555 or visit the website at rcstormwater.org

IRRIGATION RUNOFF

STORMWATER FACT SHEET

Report Irrigation Runoff or Stormwater Pollution:
800.506.2555

RIVERSIDE COUNTY
WATERSHED PROTECTION

OVERWATERING

Overwatering causes irrigation runoff that may contain pollutants such as pesticides, herbicides, fertilizers, pet waste, yard waste, and sediments which can be hazardous to residents and harmful to our environment. Runoff can also serve as a transport mechanism for other pollutants already on the ground or in the curb gutter. Irrigation runoff entering the storm drain system is an illicit discharge.

BEST PRACTICES

Urban runoff begins when yards and landscaped areas are over-irrigated. Irrigation systems require regular maintenance and visual inspection of the system should be performed to prevent over-spray, leaks, and other problems that result in runoff to storm drains, curbs and gutters.

You can **prevent pollution** by conserving water on your property. Water during cooler times of the day (before 10am and after 6pm).

- Adjust sprinklers to stop overspray and runoff.
- Make needed repairs immediately.
- Use drip irrigation, soaker hoses, or micro-spray systems.
- Use an irrigation timer to pre-set watering times.
- Use a control nozzle or similar mechanism when watering by hand.
- Switch to a water-wise landscape - native plants need less fertilizers, herbicides, pesticides and water.

PROTECT OUR WATERSHED

Many people think that when water flows into a storm drain it is treated, but the storm drain system and the sanitary sewer system are not connected. Everything that enters storm drains flows untreated directly into our creeks, rivers, lakes, beaches and ultimately the ocean. Storm water often contains pollutants, including chemicals, trash, and automobile fluids, all of which pollute our watershed and harm fish and wildlife.

Whether at home or work, you can help reduce pollution and improve water quality by using the above Best Management Practices (BMP's) as part of your daily clean up and maintenance routine.

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!

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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.

Vortex Separator MP-51

Description

Vortex separators: (alternatively, swirl concentrators) are gravity separators, and in principle are essentially wet vaults. The difference from wet vaults, however, is that the vortex separator is round, rather than rectangular, and the water moves in a centrifugal fashion before exiting. By having the water move in a circular fashion, rather than a straight line as is the case with a standard wet vault, it is possible to obtain significant removal of suspended sediments and attached pollutants with less space. Vortex separators were originally developed for combined sewer overflows (CSOs), where it is used primarily to remove coarse inorganic solids. Vortex separation has been adapted to stormwater treatment by several manufacturers.

California Experience

There are currently about 100 installations in California.

Advantages

- May provide the desired performance in less space and therefore less cost.
- May be more cost-effective pre-treatment devices than traditional wet or dry basins.
- Mosquito control may be less of an issue than with traditional wet basins.

Limitations

- As some of the systems have standing water that remains between storms, there is concern about mosquito breeding.
- It is likely that vortex separators are not as effective as wet vaults at removing fine sediments, on the order 50 to 100 microns in diameter and less.
- The area served is limited by the capacity of the largest models.
- As the products come in standard sizes, the facilities will be oversized in many cases relative to the design treatment storm, increasing the cost.
- The non-steady flows of stormwater decreases the efficiency of vortex separators from what may be estimated or determined from testing under constant flow.
- Do not remove dissolved pollutants.

Design Considerations

- Service Area
- Settling Velocity
- Appropriate Sizing
- Inlet Pipe Diameter

Targeted Constituents

☑	Sediment	▲
☑	Nutrients	●
☑	Trash	
☑	Metals	●
	Bacteria	
☑	Oil and Grease	
☑	Organics	

Legend ***(Removal Effectiveness)***

● Low ■ High

▲ Medium

- A loss of dissolved pollutants may occur as accumulated organic matter (e.g., leaves) decomposes in the units.

Design and Sizing Guidelines

The stormwater enters, typically below the effluent line, tangentially into the basin, thereby imparting a circular motion in the system. Due to centrifugal forces created by the circular motion, the suspended particles move to the center of the device where they settle to the bottom. There are two general types of vortex separation: free vortex and dampened (or impeded) vortex. Free vortex separation becomes dampened vortex separation by the placement of radial baffles on the weir-plate that impede the free vortex-flow pattern

It has been stated with respect to CSOs that the practical lower limit of vortex separation is a particle with a settling velocity of 12 to 16.5 feet per hour (0.10 to 0.14 cm/s). As such, the focus for vortex separation in CSOs has been with settleable solids generally 200 microns and larger, given the presence of the lighter organic solids. For inorganic sediment, the above settling velocity range represents a particle diameter of 50 to 100 microns. Head loss is a function of the size of the target particle. At 200 microns it is normally minor but increases significantly if the goal is to remove smaller particles.

The commercial separators applied to stormwater treatment vary considerably with respect to geometry, and the inclusion of radial baffles and internal circular chambers. At one extreme is the inclusion of a chamber within the round concentrator. Water flows initially around the perimeter between the inner and outer chambers, and then into the inner chamber, giving rise to a sudden change in velocity that purportedly enhances removal efficiency. The opposite extreme is to introduce the water tangentially into a round manhole with no internal parts of any kind except for an outlet hood. Whether the inclusion of chambers and baffles gives better performance is unknown. Some contend that free vortex, also identified as swirl concentration, creates less turbulence thereby increasing removal efficiency. One product is unique in that it includes a static separator screen.

- Sized is based on the peak flow of the design treatment event as specified by local government.
- If an in-line facility, the design peak flow is four times the peak of the design treatment event.
- If an off-line facility, the design peak flow is equal to the peak of the design treatment event.
- Headloss differs with the product and the model but is generally on the order of one foot or less in most cases.

Construction/Inspection Considerations

No special considerations.

Performance

Manufacturer's differ with respect to performance claims, but a general statement is that the manufacturer's design and rated capacity (cfs) for each model is based on and believed to achieve an aggregate reduction of 90% of all particles with a specific gravity of 2.65 (glacial sand) down to 150 microns, and to capture the floatables, and oil and grease. Laboratory tests of

two products support this claim. The stated performance expectation therefore implies that a lesser removal efficiency is obtained with particles less than 150 microns, and the lighter, organic settleables. Laboratory tests of one of the products found about 60% removal of 50 micron sand at the expected average operating flow rate

Experience with the use of vortex separators for treating combined sewer overflows (CSOs), the original application of this technology, suggests that the lower practical limit for particle removal are particles with a settling velocity of 12 feet per hour (Sullivan, 1982), which represents a particle diameter of 100 to 200 microns, depending on the specific gravity of the particle. The CSO experience therefore seems consistent with the limited experience with treating stormwater, summarized above

Traditional treatment technologies such as wet ponds and extended detention basins are generally believed to be more effective at removing very small particles, down to the range of 10 to 20 microns. Hence, it is intuitively expected that vortex separators do not perform as well as the traditional wet and dry basins, and filters. Whether this matters depends on the particle size distribution of the sediments in stormwater. If the distribution leans towards small material, there should be a marked difference between vortex separators and, say, traditional wet vaults. There are little data to support this conjecture

In comparison to other treatment technologies, such as wet ponds and grass swales, there are few studies of vortex separators. Only two of manufactured products currently available have been field tested. Two field studies have been conducted. Both achieved in excess of 80% removal of TSS. However, the test was conducted in the Northeast (New York state and Maine) where it is possible the stormwater contained significant quantities of deicing sand. Consequently, the influent TSS concentrations and particle size are both likely considerably higher than is found in California stormwater. These data suggest that if the stormwater particles are for the most part fine (i.e., less than 50 microns), vortex separators will not be as efficient as traditional treatment BMPs such as wet ponds and swales, if the latter are sized according to the recommendations of this handbook.

There are no equations that provide a straightforward determination of efficiency as a function of unit configuration and size. Design specifications of commercial separators are derived from empirical equations that are unique and proprietary to each manufacturer. However, some general relationships between performance and the geometry of a separator have been developed. CSO studies have found that the primary determinants of performance of vortex separators are the diameters of the inlet pipe and chamber with all other geometry proportional to these two.

Sullivan et al. (1982) found that performance is related to the ratios of chamber to inlet diameters, D2/D1, and height between the inlet and outlet and the inlet diameter, H1/D1, shown in Figure 3. The relationships are: as D2/D1 approaches one, the efficiency decreases; and, as the H1/D1 ratio decreases, the efficiency decreases. These relationships may allow qualitative comparisons of the alternative designs of manufacturers. Engineers who wish to apply these concepts should review relevant publications presented in the References.

Siting Criteria

There are no particularly unique siting criteria. The size of the drainage area that can be served by vortex separators is directly related to the capacities of the largest models.

Additional Design Guidelines

Vortex separators have two capacities if positioned as in-line facilities, a treatment capacity and a hydraulic capacity. Failure to recognize the difference between the two may lead to significant under sizing; i.e., too small a model is selected. This observation is relevant to three of the five products. These three technologies all are designed to experience a unit flow rate of about 24 gallons/square foot of separator footprint at the peak of the design treatment event. This is the horizontal area of the separator zone within the container, not the total footprint of the unit. At this unit flow rate, laboratory tests by these manufacturers have established that the performance will meet the general claims previously described. However, the units are sized to handle 100 gallons/square foot at the peak of the hydraulic event. Hence, in selecting a particular model the design engineer must be certain to match the peak flow of the design event to the stated treatment capacity, not the hydraulic capacity. The former is one-fourth the latter. If the unit is positioned as an off-line facility, the model selected is based on the capacity equal to the peak of the design treatment event.

Maintenance

Maintenance consists of the removal of accumulated material with an eductor truck. It may be necessary to remove and dispose the floatables separately due to the presence of petroleum product.

Maintenance Requirements

Remove all accumulated sediment, and litter and other floatables, annually, unless experience indicates the need for more or less frequent maintenance.

Cost

Manufacturers provide costs for the units including delivery. Installation costs are generally on the order of 50 to 100 % of the manufacturer's cost. For most sites the units are cleaned annually.

Cost Considerations

The different geometry of the several manufactured separators suggests that when comparing the costs of these systems to each other, that local conditions (e.g., groundwater levels) may affect the relative cost-effectiveness.

References and Sources of Additional Information

Field, R., 1972, The swirl concentrator as a combined sewer overflow regulator facility, EPA/R2-72-008, U.S. Environmental Protection Agency, Washington, D.C.

Field, R., D. Averill, T.P. O'Connor, and P. Steel, 1997, Vortex separation technology, Water Qual. Res. J. Canada, 32, 1, 185

Manufacturers technical materials

Sullivan, R.H., et al., 1982, Design manual – swirl and helical bend pollution control devices, EPA-600/8-82/013, U.S. Environmental Protection Agency, Washington, D.C.

Sullivan, R.H., M.M. Cohn, J.E. Ure, F.F. Parkinson, and G. Caliana, 1974, Relationship between diameter and height for the design of a swirl concentrator as a combined sewer overflow regulator, EPA 670/2-74-039, U.S. Environmental Protection Agency, Washington, D.C.

Sullivan, R.H., M.M. Cohn, J.E. Ure, F.F. Parkinson, and G. Caliana, 1974, The swirl concentrator as a grit separator device, EPA670/2-74-026, U.S. Environmental Protection Agency, Washington, D.C.

Sullivan, R.H., M.M. Cohn, J.E. Ure, F.F. Parkinson, and G. Caliana, 1978, Swirl primary separator device and pilot demonstration, EPA600/2-78-126, U.S. Environmental Protection Agency, Washington, D.C.

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

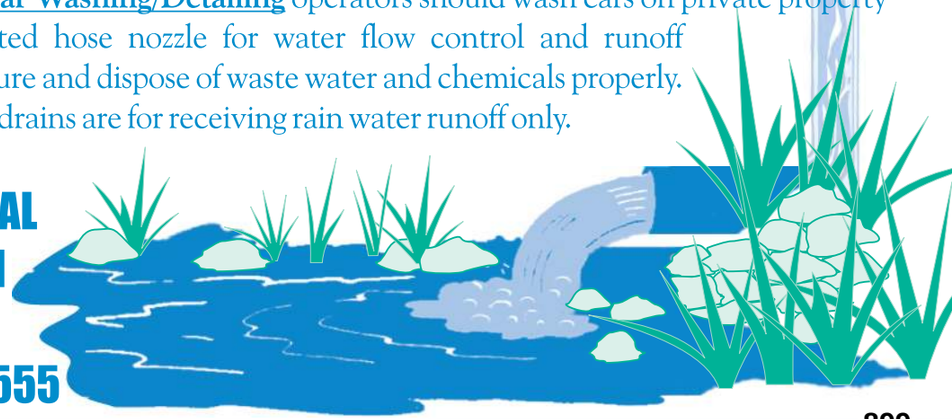
Do you know where street flows actually go?

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.

Appendix 8

Preliminary Hydrology Study

PRELIMINARY HYDROLOGY STUDY

JANA LN COMERCIAL DEVELOPMENT

Wildomar, CA

PREPARED FOR:

Beyond Food Mart Inc

4301 Edison Ave,

Chino, CA 91710

(760) 810-8548

PREPARED BY:

BLUE ENGINEERING & CONSULTING, INC

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ANGEL CESAR, RCE 87222

March 2022

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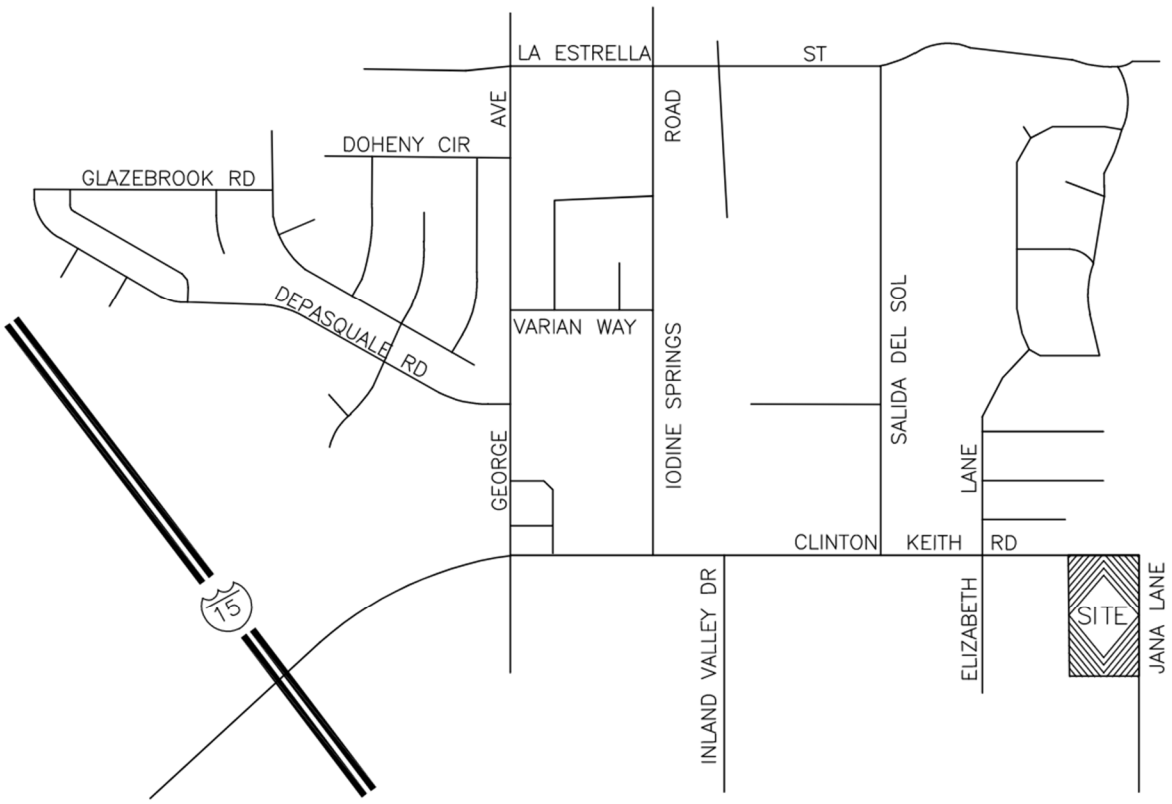
- Pre-Development Exhibit
- Post Development Exhibit
- Soil Map
- Rain Maps

APPENDIX 9

CIVILCADD/CIVILDESIGN Rational Method Hydrology
- Pre-Development 10 yr. and 100 yr.
- Post Development 10 yr. and 100 yr.

CIVILCADD/CIVILDESIGN Unit Hydrograph Analysis
- Pre – Development 100 yr.
  1 hr., 3 hr., 6 hr., 24 hr.
- Post – Development 100 yr.
  1 hr., 3 hr., 6 hr., 24 hr.

CIVILCADD/CIVILDESIGN Flood Hydrograph Routing Program
- Post – Mitigation 100 yr.
  1 hr., 3 hr., 6 hr., 24 hr.



VICINITY MAP
N.T.S.

I. INTRODUCTION

The proposed project Jana Rd Commercial Development is a 4 acres site located on the southwest corner of Clinton Keith Rd & Jana Ln in the City of Wildomar, County of Riverside, State of California (see attached vicinity map). The site is currently undeveloped and bordered by commercial storage unit commercial development on its west and south borders. The proposed project contains a Foodmart 7250 sq feet, carwash tunnel 1790 sq ft, office warehouse with office 14,500 sq ft (3720 sq ft office) and two QSR 2000 and 1800 sq ft.

II. DESCRIPTION OF THE EXISTING PRE-DEVELOPMENT ONSITE CONDITIONS

The subject site consists of a rectangular-shaped parcel, approximately 4 acres in size. The site is currently undeveloped. Ground surface cover consists of exposed soil and shrubs.

The site topography varies throughout the property. The site currently has a high point at approximately the northeast corner and the general drainage is from north to south, and slightly from east to west. Much of the existing topography drains into a storm drain channel. There is an estimated 14 feet of elevation differential across the site.

The project site will remain as one parcel to be developed into mix commercial. Phasing is not anticipated for this project. This hydrology report considers the project in its ultimate condition.

III. POST DEVELOPMENT PROPOSED OFFSITE HYDROLOGY

The project will not receive any offsite flows per the offsite development of the surrounding streets along Jana Ln on the east or Clinton Keith Rd on the north. Offsite flows will also be directed around the site along the proposed curb and gutter along these streets. Water flow will continue south along Jana Ln to an existing catch basin into the existing storm drain line on Jana Ln.

IV. POST DEVELOPMENT PROPOSED ONSITE HYDROLOGY

The proposed project generally maintains the existing drainage pattern. Runoff from the proposed development will be collected in an on-site catch basin and retained with the implementation of a Biofiltration system. Overflow from our system connects to an overflow storm drainpipe that runs through the southern part of the site towards the southeast corner.

The underground biofiltration system was evaluated and found to be an appropriate solution for the mitigation of the required quality volume. The on-site catch basin will be designed to capture drainage from the project site. The lowest pipe out of the system will direct flow to a storage tank the water will be directed into the WetlandMOD for filtration before going into an overflow pipe.

The initial size of the system was determined calculating the difference between the 100yr 24 hr Pre-Development flood volume – 100yr 24yr post-Development flood volume. This gave us the minimum storage size needed for the basin. Calculations using Civil Design could now be performed to test the size of the basin and confirm the basin would not overtop and the outflow would not exceed the pre-development condition.

Hydrologic calculations for the project were performed using CIVILCADD/CIVIL DESIGN Engineering Software, Version 7.1. Peak Flow and Time of Concentration values for each storm event were obtained for the pre-developed and post-developed condition using the "Riverside County Rational Hydrology Program option within the software, as preferred by the City of Wildomar.

The run-off index, time of concentration, pervious fraction and other pertinent information obtained from the rational analysis was then used to generate a post-development Unit Hydrograph for each respective drainage area, as applicable. This was done to compare the existing and proposed condition hydrology mitigation requirements for the rain events of 100-year design storms. The events were split up into 1 hr., 3 hr., 6 hr. and 24 hr. The Unit Hydrograph Analysis was performed using the CIVILCADD/CIVILDESIGN Engineering Software previously mentioned.

As appropriate, the resulting Unit Hydrograph was then imported into the CIVILCADD/CIVIL DESIGN Routing Software to perform basin routing and outflow analysis of each detention basin. The design of the basin follows the requirement to reduce post-development Q max to pre-development levels.

Design Parameters

- The drainage area is in Soil Group D according to the USDA NRCS Soil Survey.
- Antecedent Moisture Content (AMC) of I was used for 2-year and 5-year, II was used for 10-year and III was used for 100-year return frequency storm calculation.
- The onsite drainage area was analyzed for 10-year and 100-year storm event using Rational Method Analysis per Riverside County Hydrology Manual and CIVILCADD/CIVILDESIGN.
- The drainage area is located within a valley area.
- The rainfall depth of a 2-yr 1-hr storm event is 0.545 in. according to RCFC & WCD Plate D4-3.
- The rainfall depth of a 2-yr 3-hr storm event is 0.972 in. according to RCFC & WCD Plate D5-1.
- The rainfall depth of a 2-yr 6-hr storm event is 1.38 in. according to RCFC & WCD Plate D5-3.
- The rainfall depth of a 2-yr 24-hr storm event is 2.45 in. according to RCFC & WCD Plate D5-5.
- The rainfall depth of a 100-yr 1-hr storm event is 1.51 in. according to RCFC & WCD Plate D4-4.
- The rainfall depth of a 100-yr 3-hr storm event is 2.48 in. according to RCFC & WCD Plate D5-2.
- The rainfall depth of a 100-yr 6-hr storm event is 3.44 in. according to RCFC & WCD Plate D5-4.
- The rainfall depth of a 100-yr 24-hr storm event is 6.35 in. according to RCFC & WCD Plate D5-6.
- The impervious that was used for predevelopment is assumed to be 0%.
- The impervious that was used for Commercial subarea type is 90%.

V. HYDROLOGIC RESULTS

Table 1.1a Riverside County Rational Hydrology

Pre-Development Calculations					Post-Development Calculations (Pre-mitigation)				
Drainage area	Area (ac)	Frequency	Tc (min)	Q (cfs)	Drainage area	Area (ac)	Frequency	Tc (min)	Q (cfs)
DA-1	4.16	10 yr	14.30	6.713	DA-1	4.04	10 yr	13.07	8.442
		100 yr		10.946			100 yr		13.072

Table 1.1b Summary of Riverside County Rational Hydrology

	Acres	10 yr	100 yr
Pre-Development	4.16	6.713	10.946
Post Development	4.04	8.442	13.072
Mitigated Flow		1.729	2.126

Table 1.2a Riverside County Unit Hydrograph Analysis

Pre-Development Unit Hydrograph								
Event	2 yr Pre Peak Flow (cfs)	Run-off Volume (cf)	5 yr Pre Peak Flow (cfs)	Run-off Volume (cf)	10 yr Pre Peak Flow (cfs)	Run-off Volume (cf)	100 yr Pre Peak Flow (cfs)	Run-off Volume (cf)
1 hr	2.381	3,875	3.851	7,199	5.563	12,018	9.62	21,905
3 hr	1.809	4,462	2.906	8,167	4.362	17,482	7.499	34,761
6 hr	1.664	5,101	2.672	9,281	4.059	20,693	6.966	46,570
24 hr	0.291	4,036	0.782	9,108	1.705	28,064	3.289	75,280

Post-Development Unit Hydrograph								
Event	2 yr Pre Peak Flow (cfs)	Run-off Volume (cf)	5 yr Pre Peak Flow (cfs)	Run-off Volume (cf)	10 yr Pre Peak Flow (cfs)	Run-off Volume (cf)	100 yr Pre Peak Flow (cfs)	Run-off Volume (cf)
1 hr	3.787	6,947	5.475	10,031	6.911	12,985	11.304	21,702
3 hr	2.838	11,921	3.998	16,516	5.036	20,874	8.104	35,044
6 hr	2.626	16,803	3.661	22,933	4.599	28,620	7.354	47,826
24 hr	1.097	29,462	1.505	40,447	2.003	50,264	3.360	85,082

Table 1.2b Summary of Riverside County Unit Hydrograph Analysis

	1 hr	3 hr	6 hr	24 hr
100yr Pre-Unit Hydrograph	9.62	7.499	6.966	3.289
100 yr Post-Unit Hydrograph	11.304	8.104	7.354	3.360
Mitigated Flow	1.684	0.605	0.388	0.071

Table 1.3 Basin Volumes

Depth (ft)	Volume (ac.–ft)	Outfall (cfs)
0	0	0
1	0.137	0.118
2	0.274	0.170
4	0.548	0.244
6	0.823	2.414
8	1.097	4.459

Table 1.4 Riverside County Flood Hydrograph routing

Post-Mitigation Calculations				
Event	2 yr Pre Peak Flow (cfs)	5 yr Pre Peak Flow (cfs)	10 yr Pre Peak Flow (cfs)	100 yr Post Peak Flow (cfs)
1 hr	0.123	0.148	0.172	0.224
3 hr	0.161	0.19	0.216	1.493
6 hr	0.187	0.222	0.511	2.684
24 hr	0.224	0.778	1.255	2.462

	1 hr	3 hr	6 hr	24 hr
100 yr Pre-Mitigation	11.304	8.104	7.354	3.360
100 yr Post-Mitigation	0.224	1.493	2.684	2.462
Mitigated Flow	<11.080>	<6.611>	<4.670>	<0.898>

Table 1.5 Conclusion Comparison

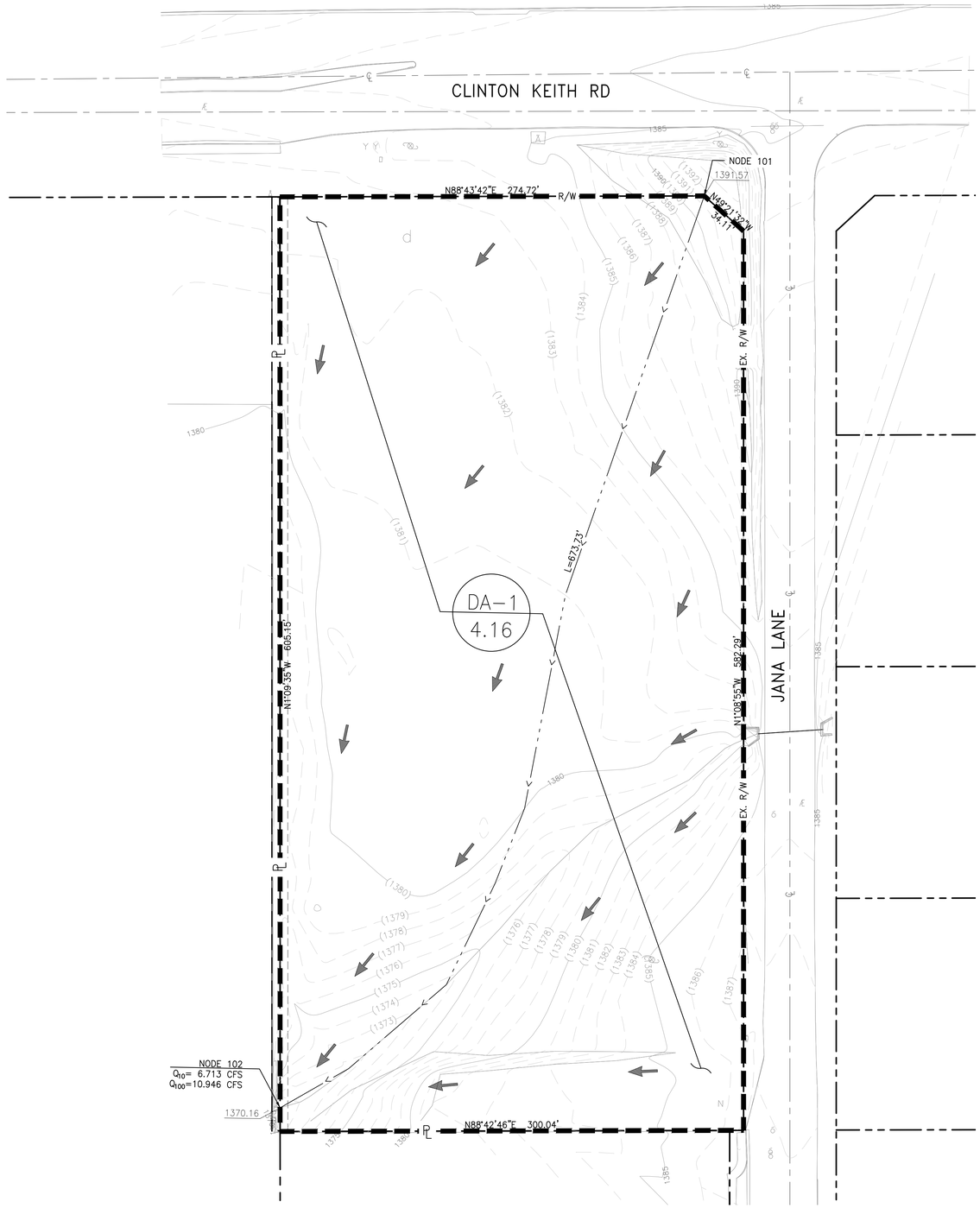
Event	100 yr Pre-Development (cfs)	100 yr Post Mitigation (cfs)	Change from Pre (cfs)	% Change from Pre
1 hr	9.62	0.224	<9.396>	-97.67%
3 hr	7.499	1.493	<6.006>	-80.09%
6 hr	6.966	2.684	<4.282>	-61.47%
24 hr	3.289	2.462	<0.827>	-25.14%

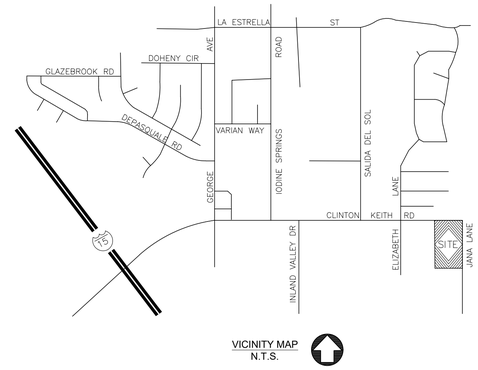
V. CONCLUSION

The proposed project will increase the post Q amount compared to predevelopment levels. To mitigate this increase of flow coming from the project, a underground biofiltration system with the capacity to store up to a volume of 20,125 c.f. is being proposed. Routing of the flow through the basin did show a reduction of flow to predevelopment levels for all storm events.

HYDROLOGY MAP

Pre-Development Exhibit
Post Development Exhibit
Soil Map
Rain Maps





VICINITY MAP
N.T.S.

LEGEND

- FLOW LINE
- FLOW DIRECTION
- DRAINAGE AREA BOUNDARY
- # / X.XX — DRAINAGE AREA DESIGNATION / DRAINAGE AREA

0 20 40 80 Feet
1:40

DESIGNED BY: MG	SEAL-DESIGN ENGINEER	BLUE Engineering & Consulting, Inc	CITY OF WILDOMAR 24831 CLINTON KEITH RD, WILDOMAR, CA 92595	PRE-DEVELOPMENT HYDROLOGY EXHIBIT	CUP:
DRAWN BY: CG	REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA	9320 BASELINE RD. STE. D - RANCHO CUCAMONGA, CA 91701 PHONE: 909-248-6557 - INFO@BLUECIVILENG.COM WWW.BLUECIVILENG.COM			LDP:
CHECKED BY: AC		PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE		JANA RD COMMERCIAL DEVELOPMENT CONDITIONAL USE PERMIT	DATE: October 20, 2022
					SHEET 6 OF 7 SHEETS
					PROJECT NUMBER:

REV.	REVISION DESCRIPTION	BY	DATE

Plans Prepared On: 10/20/2022

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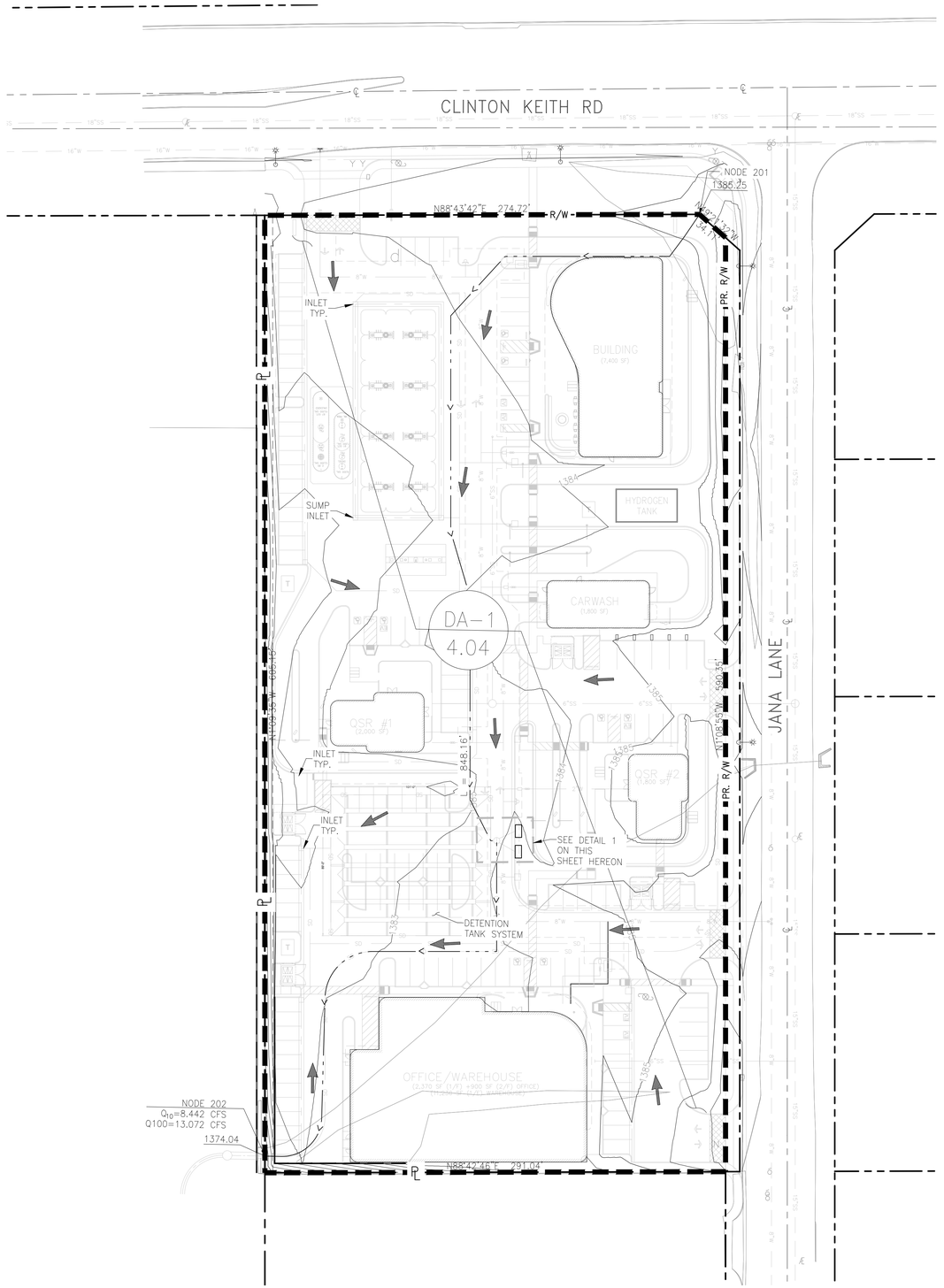
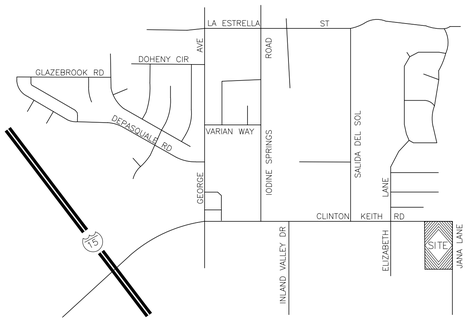
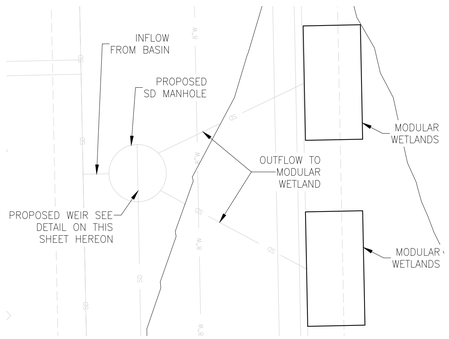
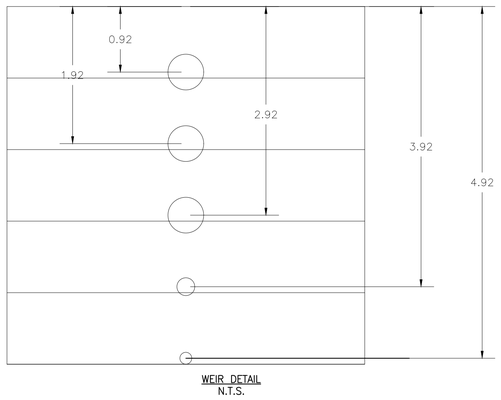




VICINITY MAP
N.T.S.





WEIR DETAIL
N.T.S.

LEGEND

- FLOW LINE
- FLOW DIRECTION
- DRAINAGE AREA BOUNDARY
- # / X.XX — DRAINAGE AREA DESIGNATION
- DRAINAGE AREA

NOTE: ALL INLETS HAVE TRASH CAPTURE FILTERS

ENGINEERED SOIL MEDIA REQUIREMENTS

THE ENGINEERED SOIL MEDIA SHALL BE COMPROMISED OF 85 PERCENT MINERAL COMPONENT AND 15 PERCENT ORGANIC COMPONENT, BY VOLUME, DRUM MIXED PRIOR TO PLACEMENT. THE MINERAL COMPONENT SHALL BE CLASS A SANDY LOAM TOPSOIL THAT MEETS THE RANGE SPECIFIED IN THE TABLE BELOW. THE ORGANIC COMPONENT SHALL BE NITROGEN STABILIZED COMPOST, SUCH THAT NITROGEN DOES NOT LEACH MEDIA.

MINERAL COMPONENT RANGE REQUIREMENTS	
Percentage Range	Component
70–80	SAND
15–20	SILT
5–10	CLAY

0 20 40 80 Feet
1:40

DESIGNED BY: MG
DRAWN BY: CG
CHECKED BY: AC

SEAL–DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
9320 BASELINE RD, STE. D - RANCHO CUCAMONGA, CA 91701
PHONE: 909-248-6557 - INFO@BLUECIVILENG.COM
WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF WILDOMAR
24831 CLINTON KEITH RD, WILDOMAR, CA 92595

REVIEWED BY: _____ DATE _____
XXXXXXXXX
P.E. NO. C-69109
EXP. DATE 6-30-2020

POST-DEVELOPMENT HYDROLOGY EXHIBIT

JANA RD COMMERCIAL DEVELOPMENT
CONDITIONAL USE PERMIT

CUP:
LDP:
DATE: October 20, 2022
SHEET 7
OF 7 SHEETS
PROJECT NUMBER:

Plans Prepared On: 10/20/2022

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Western Riverside Area, California

Jana Rd Commercial Development

March 9, 202

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Map Scale: 1:1,030 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 14, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 7, 2021—Jan 14, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CaD2	Cajalco fine sandy loam, 8 to 15 percent slopes, eroded	0.4	9.7%
MmD2	Monserate sandy loam, 8 to 15 percent slopes, eroded	0.2	4.1%
MnD2	Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded	1.6	38.8%
MnE3	Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded	0.4	9.9%
PlD	Placentia fine sandy loam, 5 to 15 percent slopes	1.6	37.5%
Totals for Area of Interest		**4.2**	**100.0%**

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Western Riverside Area, California

CaD2—Cajalco fine sandy loam, 8 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: hcrz
Elevation: 900 to 3,500 feet
Mean annual precipitation: 12 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 230 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Cajalco and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajalco

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Residuum weathered from gabbro

Typical profile

H1 - 0 to 13 inches: fine sandy loam
H2 - 13 to 22 inches: loam
H3 - 22 to 62 inches: weathered bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Honcut

Percent of map unit: 5 percent

Hydric soil rating: No

Cajalco
Percent of map unit: 5 percent
Hydric soil rating: No

Temescal
Percent of map unit: 2 percent
Hydric soil rating: No

Las posas
Percent of map unit: 2 percent
Hydric soil rating: No

Wyman
Percent of map unit: 1 percent
Hydric soil rating: No

MmD2—Monserate sandy loam, 8 to 15 percent slopes, eroded

Map Unit Setting
National map unit symbol: hcx6
Elevation: 700 to 2,500 feet
Mean annual precipitation: 10 to 18 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 220 to 280 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Monserate and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Monserate

Setting
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile
H1 - 0 to 10 inches: sandy loam
H2 - 10 to 28 inches: sandy clay loam
H3 - 28 to 45 inches: indurated
H4 - 45 to 57 inches: cemented
H5 - 57 to 70 inches: loamy coarse sand

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to duripan

Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Hanford

Percent of map unit: 5 percent
Hydric soil rating: No

Tujunga

Percent of map unit: 5 percent
Hydric soil rating: No

Greenfield

Percent of map unit: 5 percent
Hydric soil rating: No

MnD2—Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: hcx8
Elevation: 700 to 2,500 feet
Mean annual precipitation: 10 to 18 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 220 to 280 days
Farmland classification: Not prime farmland

Map Unit Composition

Monserate and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Monserate

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 10 inches: sandy loam
H2 - 10 to 18 inches: sandy clay loam
H3 - 18 to 45 inches: indurated
H4 - 45 to 57 inches: cemented
H5 - 57 to 70 inches: loamy coarse sand

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: 10 to 20 inches to duripan
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R019XD060CA - SHALLOW LOAMY (1975)
Hydric soil rating: No

Minor Components

Tujunga

Percent of map unit: 5 percent
Hydric soil rating: No

Hanford

Percent of map unit: 5 percent
Hydric soil rating: No

Greenfield

Percent of map unit: 5 percent
Hydric soil rating: No

MnE3—Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: hcx9
Elevation: 700 to 2,500 feet
Mean annual precipitation: 10 to 18 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 220 to 280 days

Farmland classification: Not prime farmland

Map Unit Composition

Monserate and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Monserate

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 10 inches: sandy loam
H2 - 10 to 18 inches: sandy clay loam
H3 - 18 to 45 inches: indurated
H4 - 45 to 57 inches: cemented
H5 - 57 to 70 inches: loamy coarse sand

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 10 to 20 inches to duripan
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R019XD060CA - SHALLOW LOAMY (1975)
Hydric soil rating: No

Minor Components

Greenfield

Percent of map unit: 5 percent
Hydric soil rating: No

Hanford

Percent of map unit: 5 percent
Hydric soil rating: No

Tujunga

Percent of map unit: 5 percent
Hydric soil rating: No

PID—Placentia fine sandy loam, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: hcxw
Elevation: 50 to 2,500 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 200 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Placentia and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Placentia

Setting

Landform: Terraces, alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 18 inches: fine sandy loam
H2 - 18 to 39 inches: clay
H3 - 39 to 57 inches: clay loam
H4 - 57 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 50.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R019XD061CA - CLAYPAN (1975)

Hydric soil rating: No

Minor Components

Greenfield

Percent of map unit: 5 percent
Hydric soil rating: No

Hanford

Percent of map unit: 5 percent
Hydric soil rating: No

Ramona

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed, ponded

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

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NOAA Atlas 14, Volume 6, Version 2
Location name: Wildomar, California, USA*
Latitude: 33.5967°, Longitude: -117.2265°
Elevation: 1384.51 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.099 (0.083-0.119)	0.133 (0.112-0.161)	0.180 (0.151-0.218)	0.220 (0.182-0.269)	0.277 (0.221-0.350)	0.322 (0.252-0.416)	0.369 (0.281-0.490)	0.419 (0.310-0.573)	0.490 (0.347-0.700)	0.547 (0.373-0.809)
10-min	0.141 (0.119-0.170)	0.191 (0.160-0.230)	0.259 (0.216-0.313)	0.316 (0.262-0.385)	0.397 (0.317-0.501)	0.461 (0.361-0.596)	0.529 (0.403-0.702)	0.601 (0.445-0.821)	0.703 (0.497-1.00)	0.784 (0.535-1.16)
15-min	0.171 (0.143-0.206)	0.231 (0.193-0.278)	0.313 (0.261-0.378)	0.382 (0.316-0.466)	0.480 (0.383-0.606)	0.558 (0.436-0.721)	0.640 (0.487-0.849)	0.727 (0.538-0.993)	0.850 (0.601-1.21)	0.948 (0.647-1.40)
30-min	0.268 (0.224-0.322)	0.361 (0.303-0.436)	0.489 (0.409-0.592)	0.598 (0.495-0.729)	0.751 (0.600-0.949)	0.873 (0.682-1.13)	1.00 (0.763-1.33)	1.14 (0.841-1.55)	1.33 (0.941-1.90)	1.48 (1.01-2.20)
60-min	0.404 (0.339-0.486)	0.545 (0.457-0.658)	0.739 (0.617-0.893)	0.902 (0.747-1.10)	1.13 (0.906-1.43)	1.32 (1.03-1.70)	1.51 (1.15-2.01)	1.72 (1.27-2.35)	2.01 (1.42-2.87)	2.24 (1.53-3.32)
2-hr	0.597 (0.501-0.719)	0.788 (0.660-0.950)	1.05 (0.874-1.26)	1.26 (1.05-1.54)	1.57 (1.25-1.98)	1.80 (1.41-2.33)	2.05 (1.56-2.72)	2.32 (1.71-3.16)	2.68 (1.90-3.82)	2.97 (2.03-4.39)
3-hr	0.741 (0.622-0.892)	0.972 (0.814-1.17)	1.28 (1.07-1.55)	1.54 (1.27-1.88)	1.90 (1.52-2.40)	2.18 (1.71-2.82)	2.48 (1.89-3.28)	2.79 (2.06-3.80)	3.21 (2.27-4.58)	3.55 (2.42-5.25)
6-hr	1.05 (0.884-1.27)	1.38 (1.15-1.66)	1.81 (1.51-2.19)	2.16 (1.79-2.64)	2.66 (2.12-3.36)	3.04 (2.38-3.93)	3.44 (2.62-4.56)	3.85 (2.85-5.26)	4.42 (3.13-6.31)	4.86 (3.32-7.20)
12-hr	1.39 (1.17-1.67)	1.84 (1.54-2.22)	2.43 (2.03-2.94)	2.91 (2.41-3.55)	3.58 (2.86-4.52)	4.09 (3.20-5.29)	4.62 (3.52-6.12)	5.16 (3.81-7.04)	5.89 (4.17-8.41)	6.47 (4.41-9.57)
24-hr	1.81 (1.60-2.09)	2.45 (2.16-2.83)	3.29 (2.90-3.81)	3.97 (3.47-4.64)	4.90 (4.15-5.91)	5.62 (4.66-6.91)	6.35 (5.14-7.99)	7.10 (5.60-9.18)	8.12 (6.15-10.9)	8.91 (6.53-12.4)
2-day	2.17 (1.92-2.51)	3.01 (2.66-3.48)	4.13 (3.64-4.79)	5.05 (4.42-5.90)	6.32 (5.35-7.62)	7.30 (6.06-8.98)	8.31 (6.74-10.5)	9.37 (7.39-12.1)	10.8 (8.20-14.6)	12.0 (8.76-16.6)
3-day	2.32 (2.05-2.67)	3.27 (2.89-3.78)	4.55 (4.00-5.27)	5.61 (4.90-6.55)	7.08 (5.99-8.53)	8.24 (6.83-10.1)	9.44 (7.65-11.9)	10.7 (8.44-13.8)	12.5 (9.45-16.8)	13.9 (10.2-19.3)
4-day	2.49 (2.20-2.88)	3.55 (3.14-4.11)	4.98 (4.39-5.77)	6.17 (5.39-7.21)	7.84 (6.63-9.45)	9.16 (7.60-11.3)	10.5 (8.54-13.3)	12.0 (9.46-15.5)	14.0 (10.6-18.9)	15.7 (11.5-21.8)
7-day	2.85 (2.52-3.30)	4.10 (3.62-4.74)	5.80 (5.10-6.72)	7.23 (6.31-8.44)	9.24 (7.82-11.1)	10.9 (9.00-13.4)	12.6 (10.2-15.8)	14.4 (11.3-18.6)	16.9 (12.8-22.8)	19.0 (13.9-26.4)
10-day	3.05 (2.69-3.52)	4.40 (3.88-5.08)	6.25 (5.50-7.24)	7.81 (6.83-9.13)	10.0 (8.50-12.1)	11.8 (9.82-14.6)	13.7 (11.1-17.3)	15.8 (12.4-20.4)	18.7 (14.1-25.1)	21.0 (15.4-29.2)
20-day	3.69 (3.26-4.26)	5.37 (4.74-6.21)	7.72 (6.80-8.95)	9.74 (8.51-11.4)	12.7 (10.7-15.3)	15.0 (12.5-18.5)	17.6 (14.2-22.1)	20.3 (16.0-26.3)	24.3 (18.4-32.7)	27.6 (20.2-38.4)
30-day	4.34 (3.84-5.01)	6.33 (5.59-7.32)	9.13 (8.04-10.6)	11.6 (10.1-13.5)	15.1 (12.8-18.2)	18.0 (14.9-22.2)	21.2 (17.1-26.7)	24.6 (19.4-31.8)	29.6 (22.4-39.8)	33.7 (24.7-46.9)
45-day	5.10 (4.51-5.89)	7.39 (6.52-8.54)	10.6 (9.37-12.3)	13.5 (11.8-15.8)	17.7 (15.0-21.4)	21.2 (17.6-26.1)	25.0 (20.3-31.5)	29.2 (23.0-37.8)	35.3 (26.8-47.6)	40.5 (29.7-56.3)
60-day	5.89 (5.21-6.80)	8.45 (7.46-9.77)	12.1 (10.7-14.0)	15.4 (13.4-17.9)	20.2 (17.1-24.3)	24.2 (20.1-29.8)	28.6 (23.2-36.1)	33.5 (26.4-43.3)	40.7 (30.8-54.8)	46.7 (34.3-65.1)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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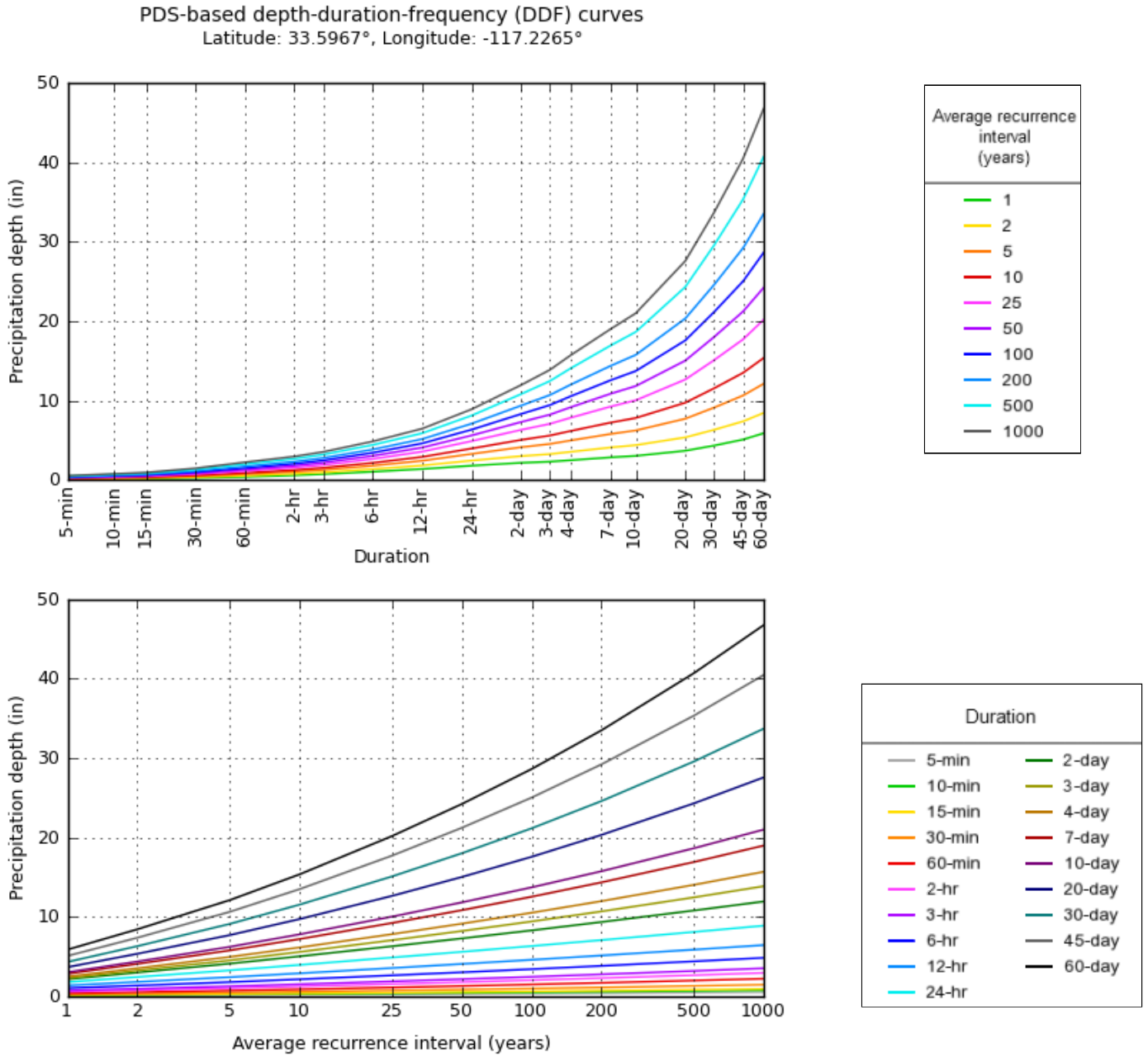
PF graphical



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Created (GMT): Fri Mar 11 21:49:32 2022

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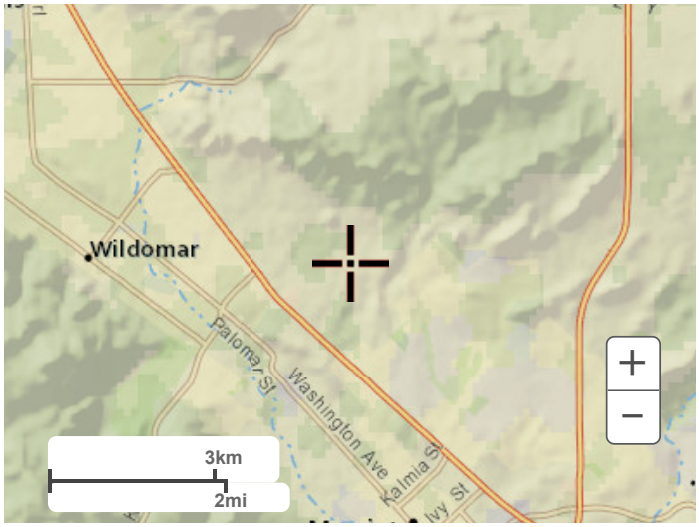
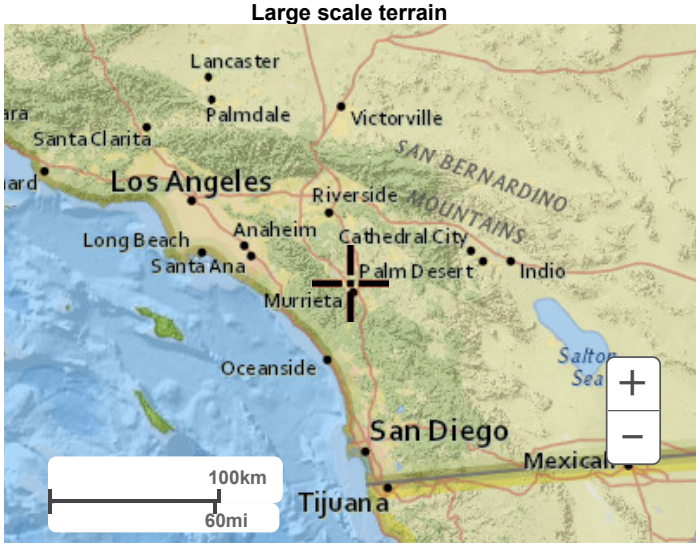
Maps & aerials

Small scale terrain



Large scale terrain



Large scale map

Large scale aerial

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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

SD LINE TO TANKS

Circular

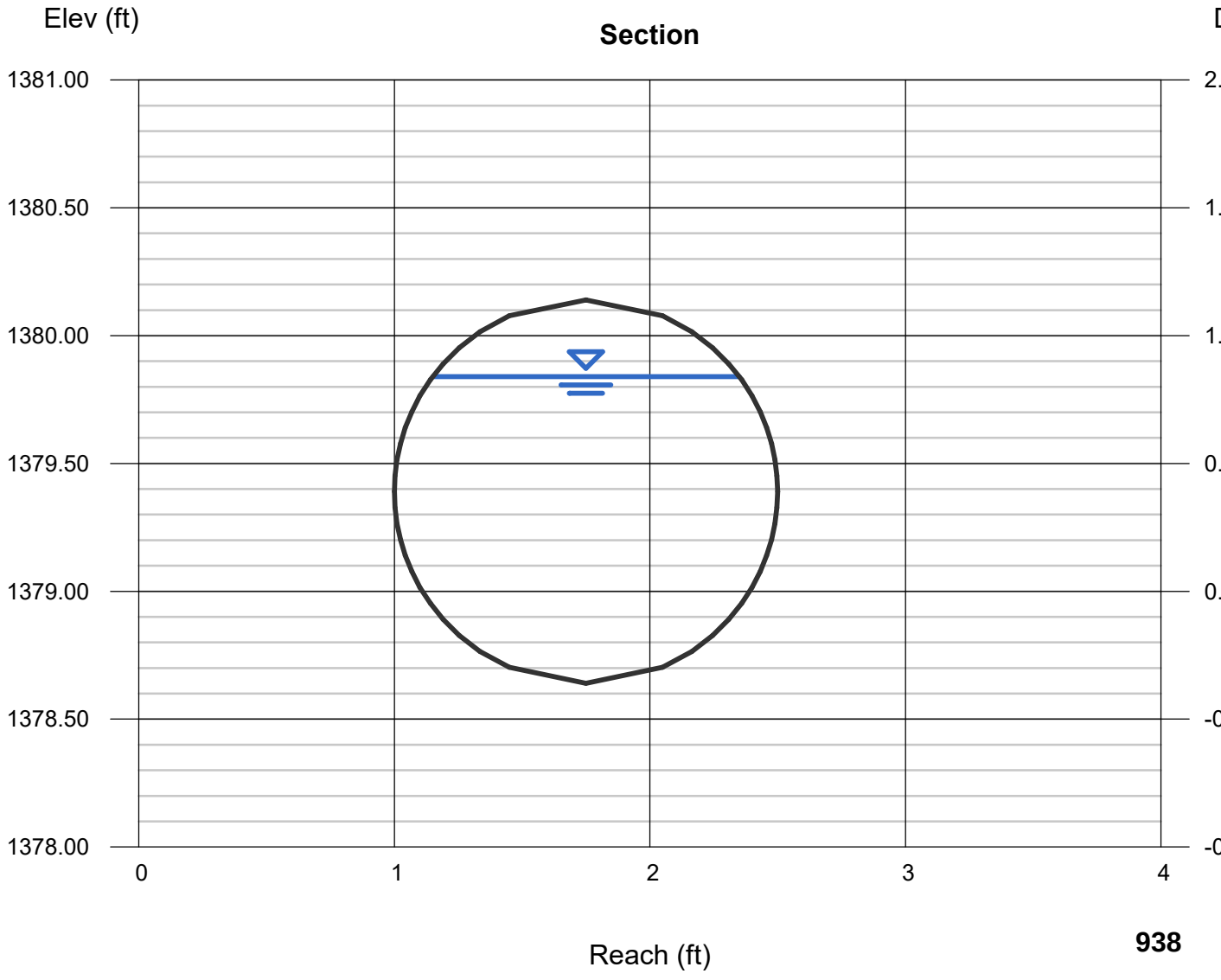
Diameter (ft)	= 1.50
Invert Elev (ft)	= 1378.64
Slope (%)	= 6.00
N-Value	= 0.025

Calculations

Compute by:	Q vs Depth
No. Increments	= 10

Highlighted

Depth (ft)	= 1.20
Q (cfs)	= 13.08
Area (sqft)	= 1.52
Velocity (ft/s)	= 8.63
Wetted Perim (ft)	= 3.32
Crit Depth, Yc (ft)	= 1.36
Top Width (ft)	= 1.20
EGL (ft)	= 2.36



Depth	Q	Area	Veloc	Wp	Yc
(ft)	(cfs)	(sqft)	(ft/s)	(ft)	(ft)
0.15	0.282	0.093	3.04	0.97	0.20
0.30	1.184	0.254	4.67	1.39	0.41
0.45	2.625	0.447	5.88	1.74	0.62
0.60	4.513	0.661	6.83	2.05	0.82
0.75	6.735	0.888	7.58	2.36	1.01
0.90	9.018	1.110	8.12	2.66	1.17
1.05	11.22	1.324	8.48	2.98	1.28
1.20	13.08	1.516	8.63	3.32	1.36
1.35	14.26	1.676	8.51	3.75	1.39
1.50	13.38	1.767	7.57	4.71	1.37

TopWidth	Energy
(ft)	(ft)
0.90	0.29
1.20	0.64
1.38	0.99
1.47	1.33
1.50	1.64
1.47	1.93
1.37	2.17
1.20	2.36
0.90	2.48
0.00	2.39

Inlet Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Typ Catch Basin Inlet

Combination Inlet

Location	= Sag
Curb Length (ft)	= 4.00
Throat Height (in)	= 6.00
Grate Area (sqft)	= 3.00
Grate Width (ft)	= 1.50
Grate Length (ft)	= 2.00

Gutter

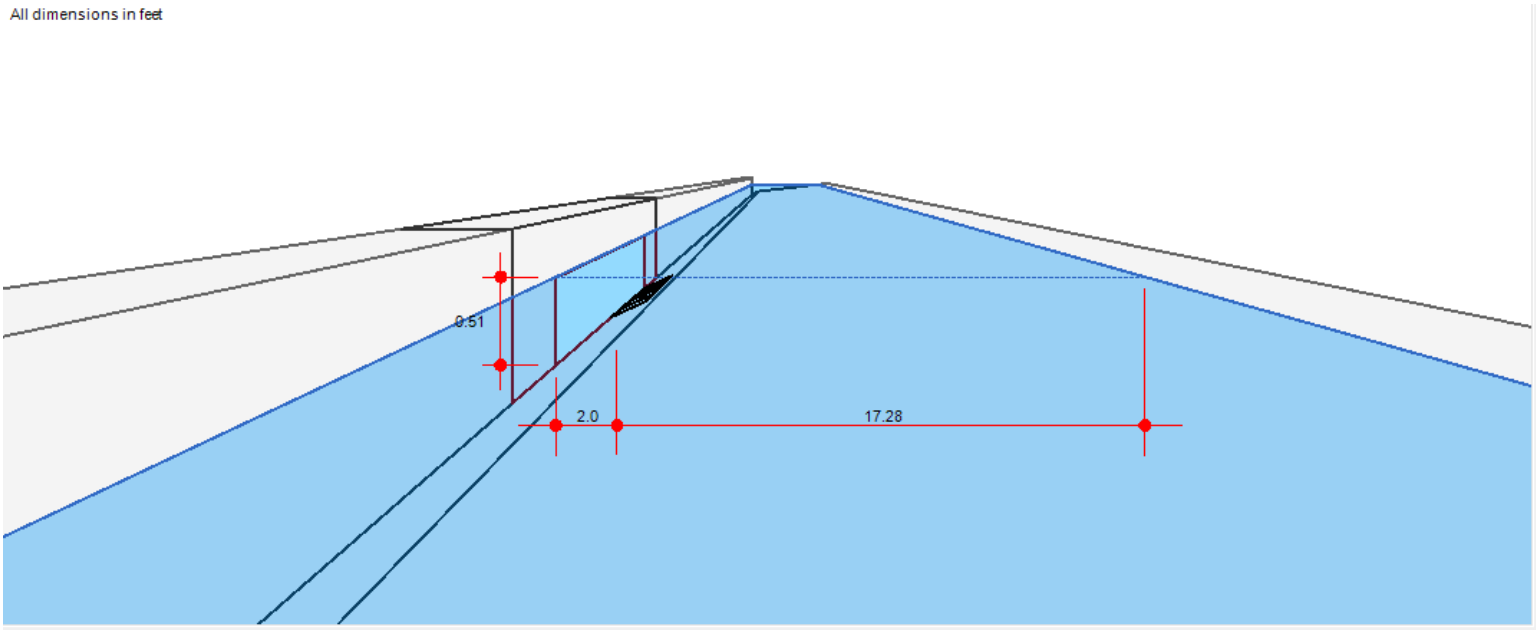
Slope, Sw (ft/ft)	= 0.080
Slope, Sx (ft/ft)	= 0.020
Local Depr (in)	= -0-
Gutter Width (ft)	= 2.00
Gutter Slope (%)	= -0-
Gutter n-value	= -0-

Calculations

Compute by:	Q vs Depth
Max Depth (in)	= 6

Highlighted

Q Total (cfs)	= 7.25
Q Capt (cfs)	= 7.25
Q Bypass (cfs)	= -0-
Depth at Inlet (in)	= 6.07
Efficiency (%)	= 100
Gutter Spread (ft)	= 19.28
Gutter Vel (ft/s)	= -0-
Bypass Spread (ft)	= -0-
Bypass Depth (in)	= -0-



User Inputs

Chamber Model:	MC-3500
Outlet Control Structure:	Yes
Project Name:	Jana Ln
Engineer:	N/A
Project Location:	California
Measurement Type:	Imperial
Required Storage Volume:	22370 cubic ft.
Stone Porosity:	40%
Stone Foundation Depth:	9 in.
Stone Above Chambers:	12 in.
Average Cover Over Chambers:	18 in.
Design Constraint Dimensions:	(89 ft. x 101 ft.)

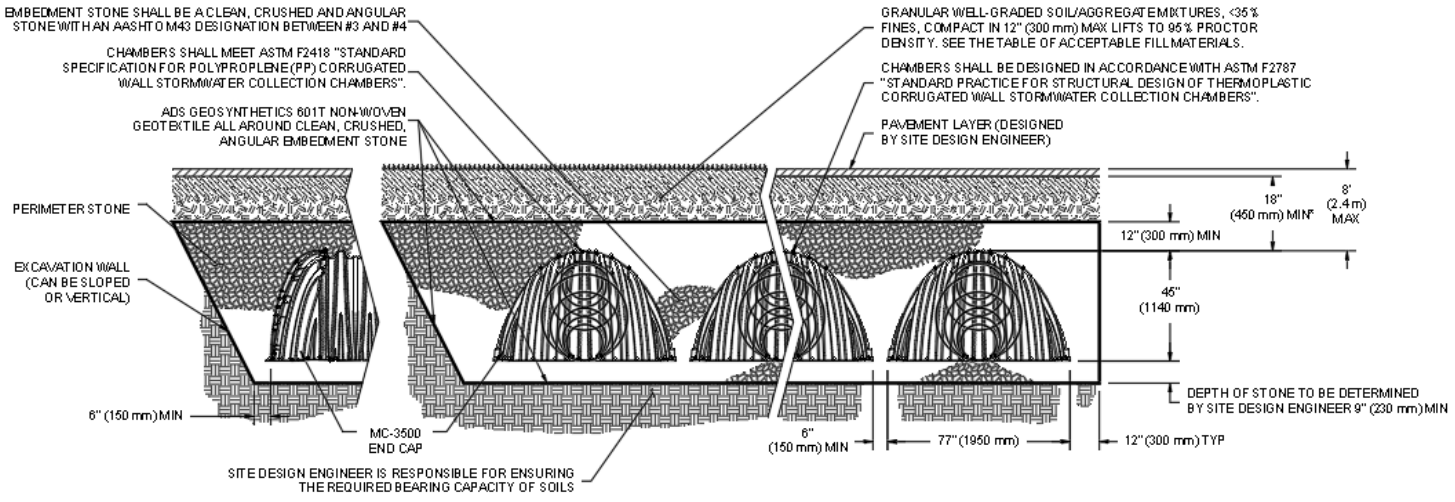
Results

System Volume and Bed Size

Installed Storage Volume:	23091.50 cubic ft.
Storage Volume Per Chamber:	109.90 cubic ft.
Number Of Chambers Required:	120
Number Of End Caps Required:	20
Chamber Rows:	10
Maximum Length:	100.02 ft.
Maximum Width:	71.27 ft.
Approx. Bed Size Required:	6818.14 square ft.

System Components

Amount Of Stone Required:	890 cubic yards
Volume Of Excavation (Not Including Fill):	1389 cubic yards
Total Non-woven Geotextile Required:	2070 square yards
Woven Geotextile Required (excluding Isolator Row):	118 square yards
Woven Geotextile Required (Isolator Row):	105 square yards
Total Woven Geotextile Required:	222 square yards



APPENDIX

CIVILCADD/CIVILDESIGN Rational Method Hydrology
Pre-Development 10 yr. and 100 yr.
Post Development 10 yr. and 100 yr.

CIVILCADD/CIVILDESIGN Unit Hydrograph Analysis
Pre – Development 100 yr.
1 hr., 3 hr., 6 hr., 24 hr.

Post – Development 100 yr.
1 hr., 3 hr., 6 hr., 24 hr.

CIVILCADD/CIVILDESIGN Flood Hydrograph Routing Program
Post – Mitigation 100 yr.
1 hr., 3 hr., 6 hr., 24 hr.

```
                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
        Rational Hydrology Study        Date: 03/11/22  File:Jana.out
------------------------------------------------------------------------
Jana Commercial Development
Pre Development
10 YR

------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

 English (in-lb) Units used in input data file

------------------------------------------------------------------------


Program License Serial Number 6481

------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) =   10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [ Elsinore-Wildomar ] area used.
10 year storm 10 minute intensity =  2.320(In/Hr)
10 year storm 60 minute intensity =  0.980(In/Hr)
100 year storm 10 minute intensity =  3.540(In/Hr)
100 year storm 60 minute intensity =  1.500(In/Hr)

Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.980(In/Hr)
Slope of intensity duration curve = 0.4800




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.000 to Point/Station      102.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   673.730(Ft.)
Top (of initial area) elevation =  1391.570(Ft.)
Bottom (of initial area) elevation =  1370.160(Ft.)
```

```
Difference in elevation =    21.410(Ft.)
Slope =    0.03178  s(percent)=       3.18
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.297 min.
Rainfall intensity =      1.951(In/Hr) for a    10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.827
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.138
Decimal fraction soil group D = 0.862
RI index for soil(AMC 2)  =  88.59
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      6.713(CFS)
Total initial stream area =        4.160(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            4.16 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  88.6
```

```
                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
        Rational Hydrology Study        Date: 03/11/22  File:Jana.out
------------------------------------------------------------------------
Jana Commercial Development
Pre Development
100 YR

------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

 English (in-lb) Units used in input data file

------------------------------------------------------------------------


Program License Serial Number 6481

------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) =  100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [ Elsinore-Wildomar ] area used.
10 year storm 10 minute intensity =  2.320(In/Hr)
10 year storm 60 minute intensity =  0.980(In/Hr)
100 year storm 10 minute intensity =  3.540(In/Hr)
100 year storm 60 minute intensity =  1.500(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.500(In/Hr)
Slope of intensity duration curve = 0.4800




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.000 to Point/Station      102.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   673.730(Ft.)
Top (of initial area) elevation =  1391.570(Ft.)
Bottom (of initial area) elevation =  1370.160(Ft.)
```

```
Difference in elevation =    21.410(Ft.)
Slope =    0.03178  s(percent)=       3.18
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.297 min.
Rainfall intensity =      2.986(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.138
Decimal fraction soil group D = 0.862
RI index for soil(AMC 3)  =  95.43
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     10.946(CFS)
Total initial stream area =        4.160(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            4.16 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  88.6
```

```
                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
        Rational Hydrology Study        Date: 03/11/22  File:JanaPost.out
------------------------------------------------------------------------
Jana Commercial Development
Post Development
10 yr


------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

 English (in-lb) Units used in input data file

------------------------------------------------------------------------


Program License Serial Number 6481

------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) =   10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [ Elsinore-Wildomar ] area used.
10 year storm 10 minute intensity =  2.320(In/Hr)
10 year storm 60 minute intensity =  0.980(In/Hr)
100 year storm 10 minute intensity =  3.540(In/Hr)
100 year storm 60 minute intensity =  1.500(In/Hr)

Storm event year =  10.0
Calculated rainfall intensity data:
1 hour intensity =  0.980(In/Hr)
Slope of intensity duration curve = 0.4800




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.000 to Point/Station      202.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   785.380(Ft.)
Top (of initial area) elevation =  1385.360(Ft.)
```

```
Bottom (of initial area) elevation =  1371.000(Ft.)
Difference in elevation =    14.360(Ft.)
Slope =    0.01828  s(percent)=       1.83
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.610 min.
Rainfall intensity =      2.361(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.138
Decimal fraction soil group D = 0.862
RI index for soil(AMC 2)  =  74.17
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      8.442(CFS)
Total initial stream area =        4.040(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            4.04 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  74.2
```

```
                Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
        Rational Hydrology Study        Date: 03/11/22  File:JanaPost.out
------------------------------------------------------------------------
Jana Commercial Development
Post Development
100 YR


------------------------------------------------------------------------
 *********   Hydrology Study Control Information **********

 English (in-lb) Units used in input data file

------------------------------------------------------------------------


Program License Serial Number 6481

------------------------------------------------------------------------
Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) =  100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [ Elsinore-Wildomar ] area used.
10 year storm 10 minute intensity =  2.320(In/Hr)
10 year storm 60 minute intensity =  0.980(In/Hr)
100 year storm 10 minute intensity =  3.540(In/Hr)
100 year storm 60 minute intensity =  1.500(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity =  1.500(In/Hr)
Slope of intensity duration curve = 0.4800




++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      201.000 to Point/Station      202.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   785.380(Ft.)
Top (of initial area) elevation =  1385.360(Ft.)
```

```
Bottom (of initial area) elevation =  1371.000(Ft.)
Difference in elevation =    14.360(Ft.)
Slope =    0.01828  s(percent)=       1.83
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.610 min.
Rainfall intensity =      3.613(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.138
Decimal fraction soil group D = 0.862
RI index for soil(AMC 3)  =  87.50
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     13.072(CFS)
Total initial stream area =        4.040(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            4.04 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  74.2
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/11/22 File: JanaPre1100.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6481

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Jana Commercial Development
Pre Development
100 yr

Drainage Area = 4.16(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.16(Ac.) = 0.007 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.191 Hr.
Lag time = 11.46 Min.
25% of lag time = 2.87 Min.
40% of lag time = 4.58 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]
4.16	0.55	2.27

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.16            1.51                  6.28

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.545(In)
Area Averaged 100-Year Rainfall =    1.510(In)

Point rain (area averaged) =    1.510(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.510(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.160           88.59         0.000
 Total Area Entered =      4.16(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
88.6  95.4      0.059     0.000        0.059       1.000      0.059
                                                 Sum (F) =   0.059
Area averaged mean soil loss (F) (In/Hr) =  0.059
Minimum soil loss rate ((In/Hr)) =  0.030
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
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   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-------------------------------------------------------------------
    1   0.083         43.630          4.970              0.208
    2   0.167         87.260         20.805              0.872
    3   0.250        130.890         28.271              1.185
    4   0.333        174.520         15.662              0.657
    5   0.417        218.150          7.643              0.320
    6   0.500        261.780          5.115              0.214
    7   0.583        305.410          3.816              0.160
    8   0.667        349.040          2.851              0.120
    9   0.750        392.670          2.284              0.096
   10   0.833        436.300          1.739              0.073
   11   0.917        479.930          1.383              0.058
   12   1.000        523.560          1.262              0.053
```

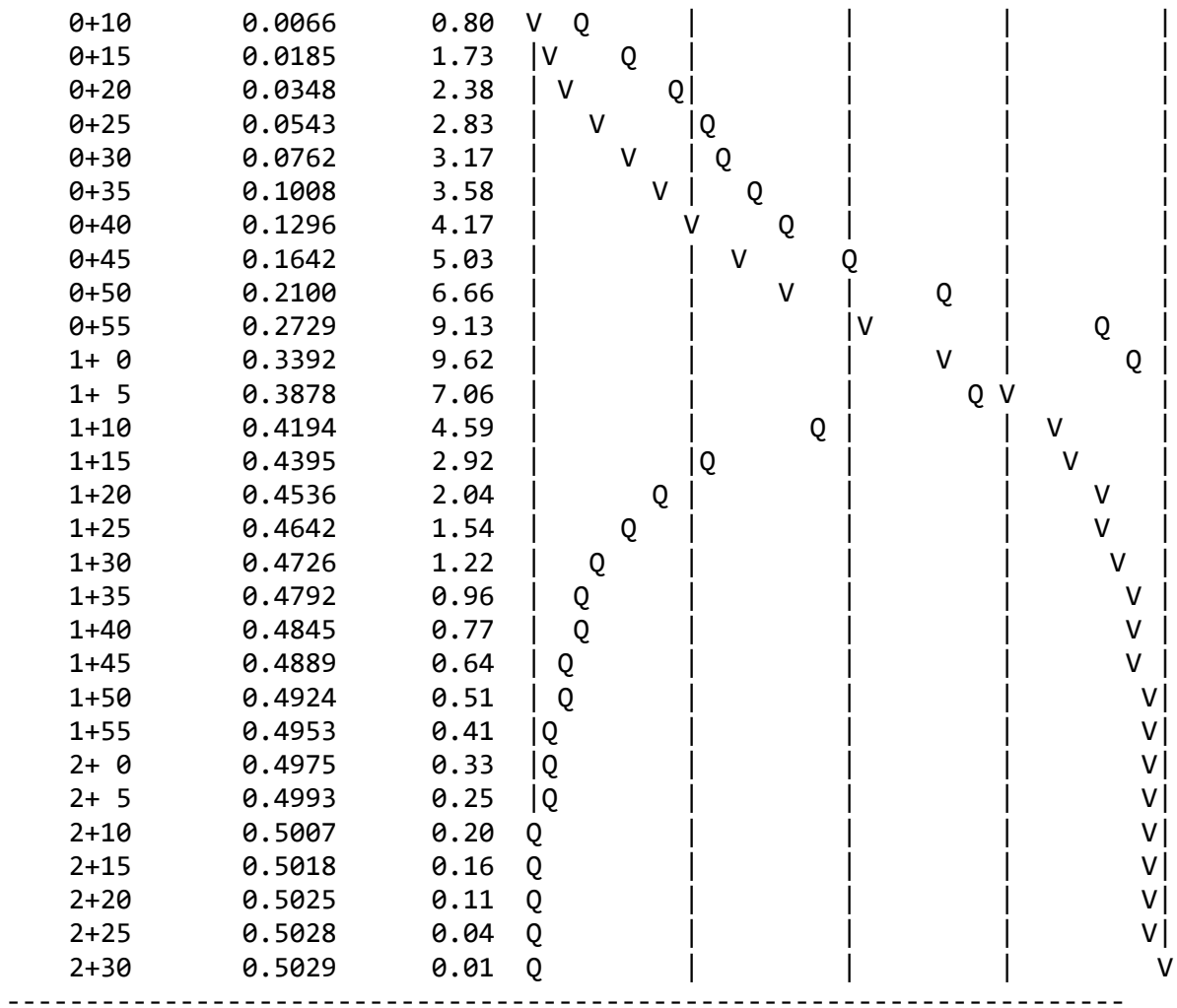
```
          13   1.083        567.190          0.983              0.041
          14   1.167        610.820          0.812              0.034
          15   1.250        654.450          0.659              0.028
          16   1.333        698.080          0.507              0.021
          17   1.417        741.710          0.436              0.018
          18   1.500        785.340          0.436              0.018
          19   1.583        828.970          0.365              0.015
                                     Sum = 100.000   Sum=       4.193
-----------------------------------------------------------------------
```

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	0.797	0.059	(0.718)	0.738
2	0.17	4.50	0.815	0.059	(0.734)	0.756
3	0.25	5.40	0.978	0.059	(0.881)	0.919
4	0.33	5.40	0.978	0.059	(0.881)	0.919
5	0.42	5.70	1.033	0.059	(0.930)	0.973
6	0.50	6.40	1.160	0.059	(1.044)	1.100
7	0.58	7.90	1.431	0.059	(1.288)	1.372
8	0.67	9.10	1.649	0.059	(1.484)	1.590
9	0.75	12.80	2.319	0.059	(2.087)	2.260
10	0.83	25.60	4.639	0.059	(4.175)	4.579
11	0.92	7.90	1.431	0.059	(1.288)	1.372
12	1.00	4.90	0.888	0.059	(0.799)	0.829
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	17.4

```
   Flood volume = Effective rainfall      1.45(In)
    times area       4.2(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
   Total soil loss =      0.06(In)
   Total soil loss =     0.021(Ac.Ft)
   Total rainfall =      1.51(In)
   Flood volume =       21905.4 Cubic Feet
   Total soil loss =         896.0 Cubic Feet
   ---------------------------------------------------------------------
    Peak flow rate of this hydrograph =      9.620(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        2.5       5.0       7.5      10.0
---------------------------------------------------------------------
  0+ 5       0.0011      0.15  Q         |         |         |         |
```


0+10 0.0066 0.80
0+15 0.0185 1.73
0+20 0.0348 2.38
0+25 0.0543 2.83
0+30 0.0762 3.17
0+35 0.1008 3.58
0+40 0.1296 4.17
0+45 0.1642 5.03
0+50 0.2100 6.66
0+55 0.2729 9.13
1+ 0 0.3392 9.62
1+ 5 0.3878 7.06
1+10 0.4194 4.59
1+15 0.4395 2.92
1+20 0.4536 2.04
1+25 0.4642 1.54
1+30 0.4726 1.22
1+35 0.4792 0.96
1+40 0.4845 0.77
1+45 0.4889 0.64
1+50 0.4924 0.51
1+55 0.4953 0.41
2+ 0 0.4975 0.33
2+ 5 0.4993 0.25
2+10 0.5007 0.20
2+15 0.5018 0.16
2+20 0.5025 0.11
2+25 0.5028 0.04
2+30 0.5029 0.01

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/11/22 File: JanaPre3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6481

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Jana Commercial Development
Pre Development
100 yr

Drainage Area = 4.16(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.16(Ac.) = 0.007 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.191 Hr.
Lag time = 11.46 Min.
25% of lag time = 2.87 Min.
40% of lag time = 4.58 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]
4.16	0.97	4.04

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.16            2.48                  10.32

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.972(In)
Area Averaged 100-Year Rainfall =    2.480(In)

Point rain (area averaged) =    2.480(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.480(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.160           88.59         0.000
 Total Area Entered =      4.16(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
88.6  95.4      0.059     0.000        0.059       1.000      0.059
                                                 Sum (F) =   0.059
Area averaged mean soil loss (F) (In/Hr) =  0.059
Minimum soil loss rate ((In/Hr)) =  0.030
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         43.630          4.970              0.208
    2   0.167         87.260         20.805              0.872
    3   0.250        130.890         28.271              1.185
    4   0.333        174.520         15.662              0.657
    5   0.417        218.150          7.643              0.320
    6   0.500        261.780          5.115              0.214
    7   0.583        305.410          3.816              0.160
    8   0.667        349.040          2.851              0.120
    9   0.750        392.670          2.284              0.096
   10   0.833        436.300          1.739              0.073
   11   0.917        479.930          1.383              0.058
   12   1.000        523.560          1.262              0.053
   13   1.083        567.190          0.983              0.041
   14   1.167        610.820          0.812              0.034
```

15	1.250	654.450	0.659	0.028
16	1.333	698.080	0.507	0.021
17	1.417	741.710	0.436	0.018
18	1.500	785.340	0.436	0.018
19	1.583	828.970	0.365	0.015
			Sum = 100.000	Sum= 4.193

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	0.387	0.059	(0.348)	0.328
2	0.17	1.30	0.387	0.059	(0.348)	0.328
3	0.25	1.10	0.327	0.059	(0.295)	0.268
4	0.33	1.50	0.446	0.059	(0.402)	0.387
5	0.42	1.50	0.446	0.059	(0.402)	0.387
6	0.50	1.80	0.536	0.059	(0.482)	0.476
7	0.58	1.50	0.446	0.059	(0.402)	0.387
8	0.67	1.80	0.536	0.059	(0.482)	0.476
9	0.75	1.80	0.536	0.059	(0.482)	0.476
10	0.83	1.50	0.446	0.059	(0.402)	0.387
11	0.92	1.60	0.476	0.059	(0.429)	0.417
12	1.00	1.80	0.536	0.059	(0.482)	0.476
13	1.08	2.20	0.655	0.059	(0.589)	0.595
14	1.17	2.20	0.655	0.059	(0.589)	0.595
15	1.25	2.20	0.655	0.059	(0.589)	0.595
16	1.33	2.00	0.595	0.059	(0.536)	0.536
17	1.42	2.60	0.774	0.059	(0.696)	0.714
18	1.50	2.70	0.804	0.059	(0.723)	0.744
19	1.58	2.40	0.714	0.059	(0.643)	0.655
20	1.67	2.70	0.804	0.059	(0.723)	0.744
21	1.75	3.30	0.982	0.059	(0.884)	0.923
22	1.83	3.10	0.923	0.059	(0.830)	0.863
23	1.92	2.90	0.863	0.059	(0.777)	0.804
24	2.00	3.00	0.893	0.059	(0.804)	0.833
25	2.08	3.10	0.923	0.059	(0.830)	0.863
26	2.17	4.20	1.250	0.059	(1.125)	1.191
27	2.25	5.00	1.488	0.059	(1.339)	1.429
28	2.33	3.50	1.042	0.059	(0.937)	0.982
29	2.42	6.80	2.024	0.059	(1.821)	1.964
30	2.50	7.30	2.172	0.059	(1.955)	2.113
31	2.58	8.20	2.440	0.059	(2.196)	2.381
32	2.67	5.90	1.756	0.059	(1.580)	1.696
33	2.75	2.00	0.595	0.059	(0.536)	0.536
34	2.83	1.80	0.536	0.059	(0.482)	0.476
35	2.92	1.80	0.536	0.059	(0.482)	0.476
36	3.00	0.60	0.179	0.059	(0.161)	0.119

```
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    27.6
      Flood volume = Effective rainfall      2.30(In)
       times area       4.2(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.18(In)
      Total soil loss =     0.062(Ac.Ft)
      Total rainfall =      2.48(In)
      Flood volume =       34761.4 Cubic Feet
      Total soil loss =        2687.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.499(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        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0005      0.07  Q         |         |         |         |
  0+10       0.0029      0.35  VQ        |         |         |         |
  0+15       0.0079      0.73  V Q       |         |         |         |
  0+20       0.0143      0.92  V  Q      |         |         |         |
  0+25       0.0215      1.06  |V  Q     |         |         |         |
  0+30       0.0301      1.25  |V  Q     |         |         |         |
  0+35       0.0399      1.42  |V   Q    |         |         |         |
  0+40       0.0504      1.53  | V   Q   |         |         |         |
  0+45       0.0615      1.61  |  V  Q   |         |         |         |
  0+50       0.0732      1.70  |  V  Q   |         |         |         |
  0+55       0.0850      1.71  |   V Q   |         |         |         |
  1+ 0       0.0966      1.69  |   V Q   |         |         |         |
  1+ 5       0.1088      1.77  |    V Q  |         |         |         |
  1+10       0.1223      1.97  |     VQ  |         |         |         |
  1+15       0.1372      2.16  |     V Q |         |         |         |
  1+20       0.1527      2.25  |      V Q|         |         |         |
  1+25       0.1685      2.30  |       VQ|         |         |         |
  1+30       0.1853      2.43  |        Q|         |         |         |
  1+35       0.2035      2.64  |         Q         |         |         |
  1+40       0.2224      2.74  |         QV        |         |         |
  1+45       0.2418      2.83  |         |QV       |         |         |
  1+50       0.2630      3.07  |         | QV      |         |         |
  1+55       0.2856      3.29  |         |  QV     |         |         |
  2+ 0       0.3086      3.33  |         |  Q V    |         |         |
  2+ 5       0.3315      3.33  |         |  Q  V   |         |         |
  2+10       0.3554      3.47  |         |  Q   V  |         |         |
  2+15       0.3820      3.87  |         |    Q   V|         |         |
  2+20       0.4124      4.41  |         |      Q  V         |         |
  2+25       0.4452      4.75  |         |        Q| V       |         |
```

```
   2+30       0.4823      5.39  |         |         |Q  V     |         |
   2+35       0.5279      6.61  |         |         |     Q   |         |
   2+40       0.5795      7.50  |         |         |        Q|         |
   2+45       0.6303      7.38  |         |         |        Q|V        |
   2+50       0.6715      5.97  |         |         |  Q      |  V      |
   2+55       0.7016      4.37  |         |      Q  |         |    V    |
   3+ 0       0.7253      3.44  |         |  Q      |         |     V   |
   3+ 5       0.7439      2.70  |         Q         |         |      V  |
   3+10       0.7571      1.92  |       Q |         |         |      V  |
   3+15       0.7665      1.36  |    Q    |         |         |       V |
   3+20       0.7735      1.03  |   Q     |         |         |       V |
   3+25       0.7791      0.81  |  Q      |         |         |        V|
   3+30       0.7835      0.65  | Q       |         |         |        V|
   3+35       0.7871      0.52  | Q       |         |         |        V|
   3+40       0.7900      0.42  |Q        |         |         |        V|
   3+45       0.7923      0.33  |Q        |         |         |        V|
   3+50       0.7940      0.26  |Q        |         |         |        V|
   3+55       0.7954      0.21  Q         |         |         |        V|
   4+ 0       0.7965      0.15  Q         |         |         |        V|
   4+ 5       0.7972      0.10  Q         |         |         |        V|
   4+10       0.7976      0.06  Q         |         |         |        V|
   4+15       0.7978      0.03  Q         |         |         |        V|
   4+20       0.7979      0.02  Q         |         |         |        V|
   4+25       0.7980      0.01  Q         |         |         |        V|
   4+30       0.7980      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

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Study date 03/11/22 File: JanaPre6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6481

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Jana Commercial Development
Pre Development
100 yr

Drainage Area = 4.16(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.16(Ac.) = 0.007 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.191 Hr.
Lag time = 11.46 Min.
25% of lag time = 2.87 Min.
40% of lag time = 4.58 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]
4.16	1.38	5.74

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.16            3.44                  14.31

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.380(In)
Area Averaged 100-Year Rainfall =    3.440(In)

Point rain (area averaged) =    3.440(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.440(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.160           88.59         0.000
 Total Area Entered =      4.16(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
88.6  95.4      0.059     0.000        0.059       1.000      0.059
                                                 Sum (F) =   0.059
Area averaged mean soil loss (F) (In/Hr) =  0.059
Minimum soil loss rate ((In/Hr)) =  0.030
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                      VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         43.630          4.970             0.208
    2   0.167         87.260         20.805             0.872
    3   0.250        130.890         28.271             1.185
    4   0.333        174.520         15.662             0.657
    5   0.417        218.150          7.643             0.320
    6   0.500        261.780          5.115             0.214
    7   0.583        305.410          3.816             0.160
    8   0.667        349.040          2.851             0.120
    9   0.750        392.670          2.284             0.096
   10   0.833        436.300          1.739             0.073
   11   0.917        479.930          1.383             0.058
   12   1.000        523.560          1.262             0.053
   13   1.083        567.190          0.983             0.041
   14   1.167        610.820          0.812             0.034
```

15	1.250	654.450	0.659	0.028
16	1.333	698.080	0.507	0.021
17	1.417	741.710	0.436	0.018
18	1.500	785.340	0.436	0.018
19	1.583	828.970	0.365	0.015
			Sum = 100.000	Sum= 4.193

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	0.206	0.059	(0.186)	0.147
2	0.17	0.60	0.248	0.059	(0.223)	0.188
3	0.25	0.60	0.248	0.059	(0.223)	0.188
4	0.33	0.60	0.248	0.059	(0.223)	0.188
5	0.42	0.60	0.248	0.059	(0.223)	0.188
6	0.50	0.70	0.289	0.059	(0.260)	0.230
7	0.58	0.70	0.289	0.059	(0.260)	0.230
8	0.67	0.70	0.289	0.059	(0.260)	0.230
9	0.75	0.70	0.289	0.059	(0.260)	0.230
10	0.83	0.70	0.289	0.059	(0.260)	0.230
11	0.92	0.70	0.289	0.059	(0.260)	0.230
12	1.00	0.80	0.330	0.059	(0.297)	0.271
13	1.08	0.80	0.330	0.059	(0.297)	0.271
14	1.17	0.80	0.330	0.059	(0.297)	0.271
15	1.25	0.80	0.330	0.059	(0.297)	0.271
16	1.33	0.80	0.330	0.059	(0.297)	0.271
17	1.42	0.80	0.330	0.059	(0.297)	0.271
18	1.50	0.80	0.330	0.059	(0.297)	0.271
19	1.58	0.80	0.330	0.059	(0.297)	0.271
20	1.67	0.80	0.330	0.059	(0.297)	0.271
21	1.75	0.80	0.330	0.059	(0.297)	0.271
22	1.83	0.80	0.330	0.059	(0.297)	0.271
23	1.92	0.80	0.330	0.059	(0.297)	0.271
24	2.00	0.90	0.372	0.059	(0.334)	0.312
25	2.08	0.80	0.330	0.059	(0.297)	0.271
26	2.17	0.90	0.372	0.059	(0.334)	0.312
27	2.25	0.90	0.372	0.059	(0.334)	0.312
28	2.33	0.90	0.372	0.059	(0.334)	0.312
29	2.42	0.90	0.372	0.059	(0.334)	0.312
30	2.50	0.90	0.372	0.059	(0.334)	0.312
31	2.58	0.90	0.372	0.059	(0.334)	0.312
32	2.67	0.90	0.372	0.059	(0.334)	0.312
33	2.75	1.00	0.413	0.059	(0.372)	0.353
34	2.83	1.00	0.413	0.059	(0.372)	0.353
35	2.92	1.00	0.413	0.059	(0.372)	0.353
36	3.00	1.00	0.413	0.059	(0.372)	0.353

37	3.08	1.00	0.413	0.059	(	0.372)	0.353
38	3.17	1.10	0.454	0.059	(	0.409)	0.395
39	3.25	1.10	0.454	0.059	(	0.409)	0.395
40	3.33	1.10	0.454	0.059	(	0.409)	0.395
41	3.42	1.20	0.495	0.059	(	0.446)	0.436
42	3.50	1.30	0.537	0.059	(	0.483)	0.477
43	3.58	1.40	0.578	0.059	(	0.520)	0.519
44	3.67	1.40	0.578	0.059	(	0.520)	0.519
45	3.75	1.50	0.619	0.059	(	0.557)	0.560
46	3.83	1.50	0.619	0.059	(	0.557)	0.560
47	3.92	1.60	0.660	0.059	(	0.594)	0.601
48	4.00	1.60	0.660	0.059	(	0.594)	0.601
49	4.08	1.70	0.702	0.059	(	0.632)	0.642
50	4.17	1.80	0.743	0.059	(	0.669)	0.684
51	4.25	1.90	0.784	0.059	(	0.706)	0.725
52	4.33	2.00	0.826	0.059	(	0.743)	0.766
53	4.42	2.10	0.867	0.059	(	0.780)	0.808
54	4.50	2.10	0.867	0.059	(	0.780)	0.808
55	4.58	2.20	0.908	0.059	(	0.817)	0.849
56	4.67	2.30	0.949	0.059	(	0.854)	0.890
57	4.75	2.40	0.991	0.059	(	0.892)	0.931
58	4.83	2.40	0.991	0.059	(	0.892)	0.931
59	4.92	2.50	1.032	0.059	(	0.929)	0.973
60	5.00	2.60	1.073	0.059	(	0.966)	1.014
61	5.08	3.10	1.280	0.059	(	1.152)	1.220
62	5.17	3.60	1.486	0.059	(	1.337)	1.427
63	5.25	3.90	1.610	0.059	(	1.449)	1.551
64	5.33	4.20	1.734	0.059	(	1.560)	1.674
65	5.42	4.70	1.940	0.059	(	1.746)	1.881
66	5.50	5.60	2.312	0.059	(	2.080)	2.252
67	5.58	1.90	0.784	0.059	(	0.706)	0.725
68	5.67	0.90	0.372	0.059	(	0.334)	0.312
69	5.75	0.60	0.248	0.059	(	0.223)	0.188
70	5.83	0.50	0.206	0.059	(	0.186)	0.147
71	5.92	0.30	0.124	0.059	(	0.111)	0.065
72	6.00	0.20	0.083	0.059	(	0.074)	0.023

(Loss Rate Not Used)

Sum = 100.0 Sum = 37.0

Flood volume = Effective rainfall 3.08(In)
times area 4.2(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.36(In)
Total soil loss = 0.123(Ac.Ft)
Total rainfall = 3.44(In)
Flood volume = 46570.2 Cubic Feet
Total soil loss = 5375.8 Cubic Feet

Peak flow rate of this hydrograph = 6.966(CFS)

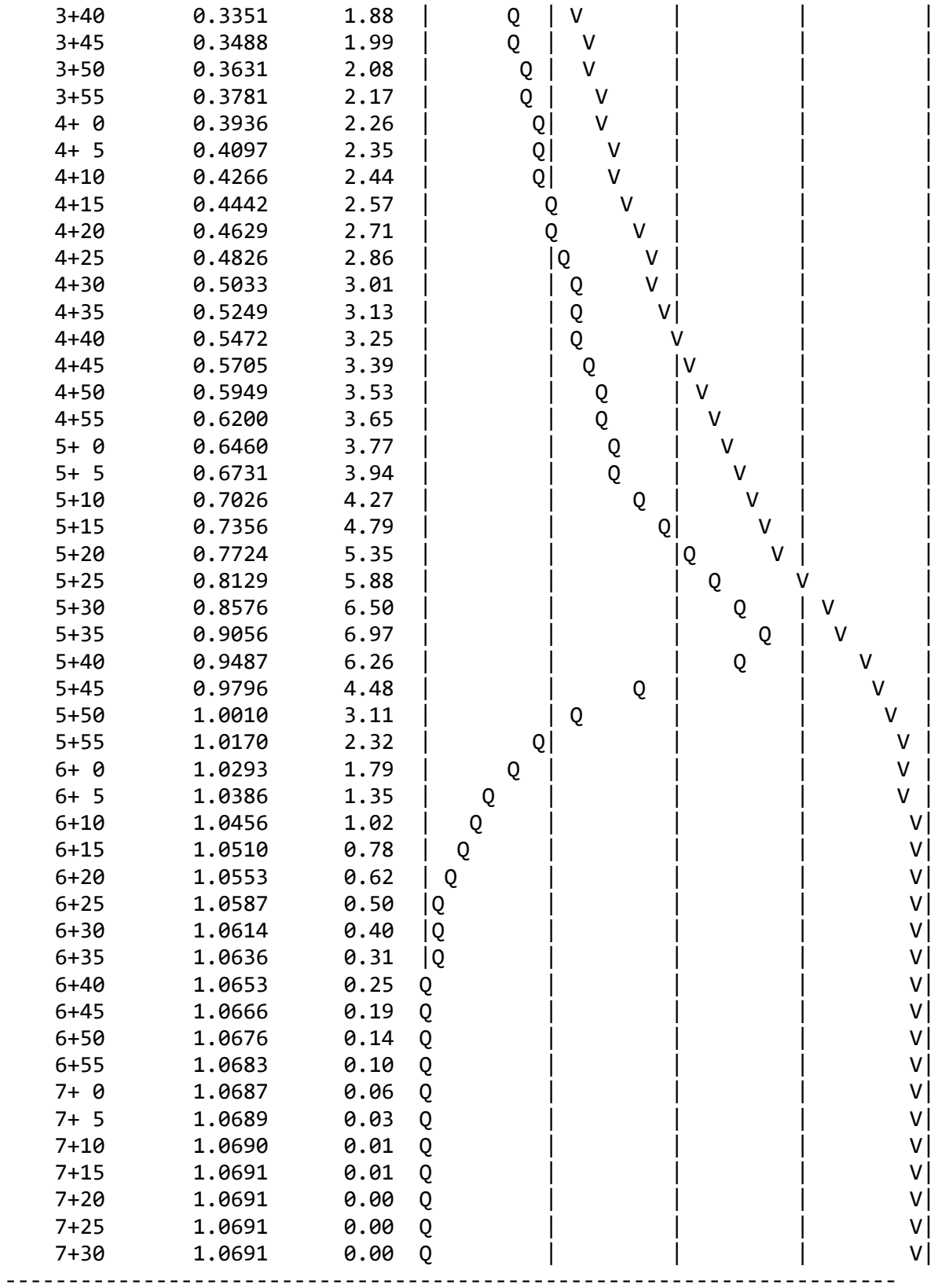
++

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	0.0002	0.03	Q				
0+10	0.0014	0.17	Q				
0+15	0.0040	0.38	VQ				
0+20	0.0076	0.52	V Q				
0+25	0.0117	0.60	V Q				
0+30	0.0162	0.65	V Q				
0+35	0.0211	0.72	V Q				
0+40	0.0266	0.79	V Q				
0+45	0.0324	0.84	V Q				
0+50	0.0383	0.87	V Q				
0+55	0.0445	0.89	V Q				
1+ 0	0.0507	0.91	V Q				
1+ 5	0.0574	0.96	VQ				
1+10	0.0644	1.02	V Q				
1+15	0.0717	1.06	V Q				
1+20	0.0791	1.08	V Q				
1+25	0.0866	1.09	VQ				
1+30	0.0942	1.10	VQ				
1+35	0.1019	1.11	VQ				
1+40	0.1096	1.12	Q				
1+45	0.1173	1.12	Q				
1+50	0.1251	1.13	Q				
1+55	0.1328	1.13	Q				
2+ 0	0.1407	1.14	QV				
2+ 5	0.1487	1.17	QV				
2+10	0.1569	1.19	QV				
2+15	0.1652	1.21	Q V				
2+20	0.1738	1.24	Q V				
2+25	0.1825	1.27	QV				
2+30	0.1913	1.28	Q V				
2+35	0.2001	1.28	Q V				
2+40	0.2090	1.29	Q V				
2+45	0.2180	1.30	Q V				
2+50	0.2272	1.34	Q V				
2+55	0.2368	1.39	Q V				
3+ 0	0.2466	1.42	Q V				
3+ 5	0.2565	1.44	Q V				
3+10	0.2666	1.46	Q V				
3+15	0.2769	1.50	Q V				
3+20	0.2876	1.56	Q V				
3+25	0.2986	1.60	Q V				
3+30	0.3100	1.66	Q V				
3+35	0.3221	1.76	Q V				


3+40 0.3351 1.88
3+45 0.3488 1.99
3+50 0.3631 2.08
3+55 0.3781 2.17
4+ 0 0.3936 2.26
4+ 5 0.4097 2.35
4+10 0.4266 2.44
4+15 0.4442 2.57
4+20 0.4629 2.71
4+25 0.4826 2.86
4+30 0.5033 3.01
4+35 0.5249 3.13
4+40 0.5472 3.25
4+45 0.5705 3.39
4+50 0.5949 3.53
4+55 0.6200 3.65
5+ 0 0.6460 3.77
5+ 5 0.6731 3.94
5+10 0.7026 4.27
5+15 0.7356 4.79
5+20 0.7724 5.35
5+25 0.8129 5.88
5+30 0.8576 6.50
5+35 0.9056 6.97
5+40 0.9487 6.26
5+45 0.9796 4.48
5+50 1.0010 3.11
5+55 1.0170 2.32
6+ 0 1.0293 1.79
6+ 5 1.0386 1.35
6+10 1.0456 1.02
6+15 1.0510 0.78
6+20 1.0553 0.62
6+25 1.0587 0.50
6+30 1.0614 0.40
6+35 1.0636 0.31
6+40 1.0653 0.25
6+45 1.0666 0.19
6+50 1.0676 0.14
6+55 1.0683 0.10
7+ 0 1.0687 0.06
7+ 5 1.0689 0.03
7+10 1.0690 0.01
7+15 1.0691 0.01
7+20 1.0691 0.00
7+25 1.0691 0.00
7+30 1.0691 0.00

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/11/22 File: JanaPre24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6481

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Jana Commercial Development
Pre Development
100 yr

Drainage Area = 4.16(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.16(Ac.) = 0.007 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.191 Hr.
Lag time = 11.46 Min.
25% of lag time = 2.87 Min.
40% of lag time = 4.58 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]
4.16	2.45	10.19

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.16            6.35                  26.42

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.450(In)
Area Averaged 100-Year Rainfall =    6.350(In)

Point rain (area averaged) =    6.350(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    6.350(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.160           88.59         0.000
 Total Area Entered =      4.16(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
88.6  95.4      0.059     0.000        0.059       1.000      0.059
                                                 Sum (F) =   0.059
Area averaged mean soil loss (F) (In/Hr) =  0.059
Minimum soil loss rate ((In/Hr)) =  0.030
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                      VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         43.630          4.970             0.208
    2   0.167         87.260         20.805             0.872
    3   0.250        130.890         28.271             1.185
    4   0.333        174.520         15.662             0.657
    5   0.417        218.150          7.643             0.320
    6   0.500        261.780          5.115             0.214
    7   0.583        305.410          3.816             0.160
    8   0.667        349.040          2.851             0.120
    9   0.750        392.670          2.284             0.096
   10   0.833        436.300          1.739             0.073
   11   0.917        479.930          1.383             0.058
   12   1.000        523.560          1.262             0.053
   13   1.083        567.190          0.983             0.041
   14   1.167        610.820          0.812             0.034
```

15	1.250	654.450	0.659		0.028
16	1.333	698.080	0.507		0.021
17	1.417	741.710	0.436		0.018
18	1.500	785.340	0.436		0.018
19	1.583	828.970	0.365		0.015
			Sum = 100.000	Sum=	4.193

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	0.051	(0.105)	0.046	0.005
2	0.17	0.07	0.051	(0.105)	0.046	0.005
3	0.25	0.07	0.051	(0.104)	0.046	0.005
4	0.33	0.10	0.076	(0.104)	0.069	0.008
5	0.42	0.10	0.076	(0.104)	0.069	0.008
6	0.50	0.10	0.076	(0.103)	0.069	0.008
7	0.58	0.10	0.076	(0.103)	0.069	0.008
8	0.67	0.10	0.076	(0.102)	0.069	0.008
9	0.75	0.10	0.076	(0.102)	0.069	0.008
10	0.83	0.13	0.102	(0.102)	0.091	0.010
11	0.92	0.13	0.102	(0.101)	0.091	0.010
12	1.00	0.13	0.102	(0.101)	0.091	0.010
13	1.08	0.10	0.076	(0.100)	0.069	0.008
14	1.17	0.10	0.076	(0.100)	0.069	0.008
15	1.25	0.10	0.076	(0.100)	0.069	0.008
16	1.33	0.10	0.076	(0.099)	0.069	0.008
17	1.42	0.10	0.076	(0.099)	0.069	0.008
18	1.50	0.10	0.076	(0.098)	0.069	0.008
19	1.58	0.10	0.076	(0.098)	0.069	0.008
20	1.67	0.10	0.076	(0.098)	0.069	0.008
21	1.75	0.10	0.076	(0.097)	0.069	0.008
22	1.83	0.13	0.102	(0.097)	0.091	0.010
23	1.92	0.13	0.102	(0.096)	0.091	0.010
24	2.00	0.13	0.102	(0.096)	0.091	0.010
25	2.08	0.13	0.102	(0.096)	0.091	0.010
26	2.17	0.13	0.102	(0.095)	0.091	0.010
27	2.25	0.13	0.102	(0.095)	0.091	0.010
28	2.33	0.13	0.102	(0.094)	0.091	0.010
29	2.42	0.13	0.102	(0.094)	0.091	0.010
30	2.50	0.13	0.102	(0.094)	0.091	0.010
31	2.58	0.17	0.127	0.093	(0.114)	0.034
32	2.67	0.17	0.127	0.093	(0.114)	0.034
33	2.75	0.17	0.127	0.093	(0.114)	0.034
34	2.83	0.17	0.127	0.092	(0.114)	0.035
35	2.92	0.17	0.127	0.092	(0.114)	0.035
36	3.00	0.17	0.127	0.091	(0.114)	0.036

37	3.08	0.17	0.127	0.091	(	0.114)	0.036
38	3.17	0.17	0.127	0.091	(	0.114)	0.036
39	3.25	0.17	0.127	0.090	(	0.114)	0.037
40	3.33	0.17	0.127	0.090	(	0.114)	0.037
41	3.42	0.17	0.127	0.090	(	0.114)	0.037
42	3.50	0.17	0.127	0.089	(	0.114)	0.038
43	3.58	0.17	0.127	0.089	(	0.114)	0.038
44	3.67	0.17	0.127	0.088	(	0.114)	0.039
45	3.75	0.17	0.127	0.088	(	0.114)	0.039
46	3.83	0.20	0.152	0.088	(	0.137)	0.065
47	3.92	0.20	0.152	0.087	(	0.137)	0.065
48	4.00	0.20	0.152	0.087	(	0.137)	0.065
49	4.08	0.20	0.152	0.087	(	0.137)	0.066
50	4.17	0.20	0.152	0.086	(	0.137)	0.066
51	4.25	0.20	0.152	0.086	(	0.137)	0.067
52	4.33	0.23	0.178	0.085	(	0.160)	0.092
53	4.42	0.23	0.178	0.085	(	0.160)	0.093
54	4.50	0.23	0.178	0.085	(	0.160)	0.093
55	4.58	0.23	0.178	0.084	(	0.160)	0.093
56	4.67	0.23	0.178	0.084	(	0.160)	0.094
57	4.75	0.23	0.178	0.084	(	0.160)	0.094
58	4.83	0.27	0.203	0.083	(	0.183)	0.120
59	4.92	0.27	0.203	0.083	(	0.183)	0.120
60	5.00	0.27	0.203	0.083	(	0.183)	0.121
61	5.08	0.20	0.152	0.082	(	0.137)	0.070
62	5.17	0.20	0.152	0.082	(	0.137)	0.071
63	5.25	0.20	0.152	0.081	(	0.137)	0.071
64	5.33	0.23	0.178	0.081	(	0.160)	0.097
65	5.42	0.23	0.178	0.081	(	0.160)	0.097
66	5.50	0.23	0.178	0.080	(	0.160)	0.097
67	5.58	0.27	0.203	0.080	(	0.183)	0.123
68	5.67	0.27	0.203	0.080	(	0.183)	0.123
69	5.75	0.27	0.203	0.079	(	0.183)	0.124
70	5.83	0.27	0.203	0.079	(	0.183)	0.124
71	5.92	0.27	0.203	0.079	(	0.183)	0.125
72	6.00	0.27	0.203	0.078	(	0.183)	0.125
73	6.08	0.30	0.229	0.078	(	0.206)	0.151
74	6.17	0.30	0.229	0.078	(	0.206)	0.151
75	6.25	0.30	0.229	0.077	(	0.206)	0.151
76	6.33	0.30	0.229	0.077	(	0.206)	0.152
77	6.42	0.30	0.229	0.077	(	0.206)	0.152
78	6.50	0.30	0.229	0.076	(	0.206)	0.152
79	6.58	0.33	0.254	0.076	(	0.229)	0.178
80	6.67	0.33	0.254	0.076	(	0.229)	0.178
81	6.75	0.33	0.254	0.075	(	0.229)	0.179
82	6.83	0.33	0.254	0.075	(	0.229)	0.179
83	6.92	0.33	0.254	0.075	(	0.229)	0.179
84	7.00	0.33	0.254	0.074	(	0.229)	0.180
85	7.08	0.33	0.254	0.074	(	0.229)	0.180
86	7.17	0.33	0.254	0.074	(	0.229)	0.180

87	7.25	0.33	0.254	0.073	(	0.229)	0.181
88	7.33	0.37	0.279	0.073	(	0.251)	0.207
89	7.42	0.37	0.279	0.073	(	0.251)	0.207
90	7.50	0.37	0.279	0.072	(	0.251)	0.207
91	7.58	0.40	0.305	0.072	(	0.274)	0.233
92	7.67	0.40	0.305	0.072	(	0.274)	0.233
93	7.75	0.40	0.305	0.071	(	0.274)	0.234
94	7.83	0.43	0.330	0.071	(	0.297)	0.259
95	7.92	0.43	0.330	0.071	(	0.297)	0.260
96	8.00	0.43	0.330	0.070	(	0.297)	0.260
97	8.08	0.50	0.381	0.070	(	0.343)	0.311
98	8.17	0.50	0.381	0.070	(	0.343)	0.311
99	8.25	0.50	0.381	0.069	(	0.343)	0.312
100	8.33	0.50	0.381	0.069	(	0.343)	0.312
101	8.42	0.50	0.381	0.069	(	0.343)	0.312
102	8.50	0.50	0.381	0.068	(	0.343)	0.313
103	8.58	0.53	0.406	0.068	(	0.366)	0.338
104	8.67	0.53	0.406	0.068	(	0.366)	0.339
105	8.75	0.53	0.406	0.067	(	0.366)	0.339
106	8.83	0.57	0.432	0.067	(	0.389)	0.365
107	8.92	0.57	0.432	0.067	(	0.389)	0.365
108	9.00	0.57	0.432	0.066	(	0.389)	0.365
109	9.08	0.63	0.483	0.066	(	0.434)	0.417
110	9.17	0.63	0.483	0.066	(	0.434)	0.417
111	9.25	0.63	0.483	0.065	(	0.434)	0.417
112	9.33	0.67	0.508	0.065	(	0.457)	0.443
113	9.42	0.67	0.508	0.065	(	0.457)	0.443
114	9.50	0.67	0.508	0.064	(	0.457)	0.444
115	9.58	0.70	0.533	0.064	(	0.480)	0.469
116	9.67	0.70	0.533	0.064	(	0.480)	0.470
117	9.75	0.70	0.533	0.064	(	0.480)	0.470
118	9.83	0.73	0.559	0.063	(	0.503)	0.496
119	9.92	0.73	0.559	0.063	(	0.503)	0.496
120	10.00	0.73	0.559	0.063	(	0.503)	0.496
121	10.08	0.50	0.381	0.062	(	0.343)	0.319
122	10.17	0.50	0.381	0.062	(	0.343)	0.319
123	10.25	0.50	0.381	0.062	(	0.343)	0.319
124	10.33	0.50	0.381	0.061	(	0.343)	0.320
125	10.42	0.50	0.381	0.061	(	0.343)	0.320
126	10.50	0.50	0.381	0.061	(	0.343)	0.320
127	10.58	0.67	0.508	0.061	(	0.457)	0.447
128	10.67	0.67	0.508	0.060	(	0.457)	0.448
129	10.75	0.67	0.508	0.060	(	0.457)	0.448
130	10.83	0.67	0.508	0.060	(	0.457)	0.448
131	10.92	0.67	0.508	0.059	(	0.457)	0.449
132	11.00	0.67	0.508	0.059	(	0.457)	0.449
133	11.08	0.63	0.483	0.059	(	0.434)	0.424
134	11.17	0.63	0.483	0.059	(	0.434)	0.424
135	11.25	0.63	0.483	0.058	(	0.434)	0.424
136	11.33	0.63	0.483	0.058	(	0.434)	0.425

137	11.42	0.63	0.483	0.058	(	0.434)	0.425
138	11.50	0.63	0.483	0.057	(	0.434)	0.425
139	11.58	0.57	0.432	0.057	(	0.389)	0.375
140	11.67	0.57	0.432	0.057	(	0.389)	0.375
141	11.75	0.57	0.432	0.057	(	0.389)	0.375
142	11.83	0.60	0.457	0.056	(	0.411)	0.401
143	11.92	0.60	0.457	0.056	(	0.411)	0.401
144	12.00	0.60	0.457	0.056	(	0.411)	0.402
145	12.08	0.83	0.635	0.055	(	0.571)	0.580
146	12.17	0.83	0.635	0.055	(	0.571)	0.580
147	12.25	0.83	0.635	0.055	(	0.571)	0.580
148	12.33	0.87	0.660	0.055	(	0.594)	0.606
149	12.42	0.87	0.660	0.054	(	0.594)	0.606
150	12.50	0.87	0.660	0.054	(	0.594)	0.606
151	12.58	0.93	0.711	0.054	(	0.640)	0.657
152	12.67	0.93	0.711	0.053	(	0.640)	0.658
153	12.75	0.93	0.711	0.053	(	0.640)	0.658
154	12.83	0.97	0.737	0.053	(	0.663)	0.684
155	12.92	0.97	0.737	0.053	(	0.663)	0.684
156	13.00	0.97	0.737	0.052	(	0.663)	0.684
157	13.08	1.13	0.864	0.052	(	0.777)	0.811
158	13.17	1.13	0.864	0.052	(	0.777)	0.812
159	13.25	1.13	0.864	0.052	(	0.777)	0.812
160	13.33	1.13	0.864	0.051	(	0.777)	0.812
161	13.42	1.13	0.864	0.051	(	0.777)	0.813
162	13.50	1.13	0.864	0.051	(	0.777)	0.813
163	13.58	0.77	0.584	0.051	(	0.526)	0.534
164	13.67	0.77	0.584	0.050	(	0.526)	0.534
165	13.75	0.77	0.584	0.050	(	0.526)	0.534
166	13.83	0.77	0.584	0.050	(	0.526)	0.534
167	13.92	0.77	0.584	0.050	(	0.526)	0.535
168	14.00	0.77	0.584	0.049	(	0.526)	0.535
169	14.08	0.90	0.686	0.049	(	0.617)	0.637
170	14.17	0.90	0.686	0.049	(	0.617)	0.637
171	14.25	0.90	0.686	0.049	(	0.617)	0.637
172	14.33	0.87	0.660	0.048	(	0.594)	0.612
173	14.42	0.87	0.660	0.048	(	0.594)	0.612
174	14.50	0.87	0.660	0.048	(	0.594)	0.613
175	14.58	0.87	0.660	0.048	(	0.594)	0.613
176	14.67	0.87	0.660	0.047	(	0.594)	0.613
177	14.75	0.87	0.660	0.047	(	0.594)	0.613
178	14.83	0.83	0.635	0.047	(	0.571)	0.588
179	14.92	0.83	0.635	0.047	(	0.571)	0.588
180	15.00	0.83	0.635	0.046	(	0.571)	0.589
181	15.08	0.80	0.610	0.046	(	0.549)	0.563
182	15.17	0.80	0.610	0.046	(	0.549)	0.564
183	15.25	0.80	0.610	0.046	(	0.549)	0.564
184	15.33	0.77	0.584	0.045	(	0.526)	0.539
185	15.42	0.77	0.584	0.045	(	0.526)	0.539
186	15.50	0.77	0.584	0.045	(	0.526)	0.539

187	15.58	0.63	0.483	0.045	(	0.434)	0.438
188	15.67	0.63	0.483	0.044	(	0.434)	0.438
189	15.75	0.63	0.483	0.044	(	0.434)	0.438
190	15.83	0.63	0.483	0.044	(	0.434)	0.439
191	15.92	0.63	0.483	0.044	(	0.434)	0.439
192	16.00	0.63	0.483	0.044	(	0.434)	0.439
193	16.08	0.13	0.102	0.043	(	0.091)	0.058
194	16.17	0.13	0.102	0.043	(	0.091)	0.058
195	16.25	0.13	0.102	0.043	(	0.091)	0.059
196	16.33	0.13	0.102	0.043	(	0.091)	0.059
197	16.42	0.13	0.102	0.042	(	0.091)	0.059
198	16.50	0.13	0.102	0.042	(	0.091)	0.059
199	16.58	0.10	0.076	0.042	(	0.069)	0.034
200	16.67	0.10	0.076	0.042	(	0.069)	0.034
201	16.75	0.10	0.076	0.042	(	0.069)	0.035
202	16.83	0.10	0.076	0.041	(	0.069)	0.035
203	16.92	0.10	0.076	0.041	(	0.069)	0.035
204	17.00	0.10	0.076	0.041	(	0.069)	0.035
205	17.08	0.17	0.127	0.041	(	0.114)	0.086
206	17.17	0.17	0.127	0.041	(	0.114)	0.086
207	17.25	0.17	0.127	0.040	(	0.114)	0.087
208	17.33	0.17	0.127	0.040	(	0.114)	0.087
209	17.42	0.17	0.127	0.040	(	0.114)	0.087
210	17.50	0.17	0.127	0.040	(	0.114)	0.087
211	17.58	0.17	0.127	0.040	(	0.114)	0.087
212	17.67	0.17	0.127	0.039	(	0.114)	0.088
213	17.75	0.17	0.127	0.039	(	0.114)	0.088
214	17.83	0.13	0.102	0.039	(	0.091)	0.063
215	17.92	0.13	0.102	0.039	(	0.091)	0.063
216	18.00	0.13	0.102	0.039	(	0.091)	0.063
217	18.08	0.13	0.102	0.038	(	0.091)	0.063
218	18.17	0.13	0.102	0.038	(	0.091)	0.063
219	18.25	0.13	0.102	0.038	(	0.091)	0.064
220	18.33	0.13	0.102	0.038	(	0.091)	0.064
221	18.42	0.13	0.102	0.038	(	0.091)	0.064
222	18.50	0.13	0.102	0.037	(	0.091)	0.064
223	18.58	0.10	0.076	0.037	(	0.069)	0.039
224	18.67	0.10	0.076	0.037	(	0.069)	0.039
225	18.75	0.10	0.076	0.037	(	0.069)	0.039
226	18.83	0.07	0.051	0.037	(	0.046)	0.014
227	18.92	0.07	0.051	0.037	(	0.046)	0.014
228	19.00	0.07	0.051	0.036	(	0.046)	0.014
229	19.08	0.10	0.076	0.036	(	0.069)	0.040
230	19.17	0.10	0.076	0.036	(	0.069)	0.040
231	19.25	0.10	0.076	0.036	(	0.069)	0.040
232	19.33	0.13	0.102	0.036	(	0.091)	0.066
233	19.42	0.13	0.102	0.036	(	0.091)	0.066
234	19.50	0.13	0.102	0.035	(	0.091)	0.066
235	19.58	0.10	0.076	0.035	(	0.069)	0.041
236	19.67	0.10	0.076	0.035	(	0.069)	0.041

237	19.75	0.10	0.076	0.035	(	0.069)	0.041
238	19.83	0.07	0.051	0.035	(	0.046)	0.016
239	19.92	0.07	0.051	0.035	(	0.046)	0.016
240	20.00	0.07	0.051	0.034	(	0.046)	0.016
241	20.08	0.10	0.076	0.034	(	0.069)	0.042
242	20.17	0.10	0.076	0.034	(	0.069)	0.042
243	20.25	0.10	0.076	0.034	(	0.069)	0.042
244	20.33	0.10	0.076	0.034	(	0.069)	0.042
245	20.42	0.10	0.076	0.034	(	0.069)	0.042
246	20.50	0.10	0.076	0.034	(	0.069)	0.043
247	20.58	0.10	0.076	0.033	(	0.069)	0.043
248	20.67	0.10	0.076	0.033	(	0.069)	0.043
249	20.75	0.10	0.076	0.033	(	0.069)	0.043
250	20.83	0.07	0.051	0.033	(	0.046)	0.018
251	20.92	0.07	0.051	0.033	(	0.046)	0.018
252	21.00	0.07	0.051	0.033	(	0.046)	0.018
253	21.08	0.10	0.076	0.033	(	0.069)	0.044
254	21.17	0.10	0.076	0.032	(	0.069)	0.044
255	21.25	0.10	0.076	0.032	(	0.069)	0.044
256	21.33	0.07	0.051	0.032	(	0.046)	0.019
257	21.42	0.07	0.051	0.032	(	0.046)	0.019
258	21.50	0.07	0.051	0.032	(	0.046)	0.019
259	21.58	0.10	0.076	0.032	(	0.069)	0.044
260	21.67	0.10	0.076	0.032	(	0.069)	0.044
261	21.75	0.10	0.076	0.032	(	0.069)	0.045
262	21.83	0.07	0.051	0.032	(	0.046)	0.019
263	21.92	0.07	0.051	0.031	(	0.046)	0.019
264	22.00	0.07	0.051	0.031	(	0.046)	0.019
265	22.08	0.10	0.076	0.031	(	0.069)	0.045
266	22.17	0.10	0.076	0.031	(	0.069)	0.045
267	22.25	0.10	0.076	0.031	(	0.069)	0.045
268	22.33	0.07	0.051	0.031	(	0.046)	0.020
269	22.42	0.07	0.051	0.031	(	0.046)	0.020
270	22.50	0.07	0.051	0.031	(	0.046)	0.020
271	22.58	0.07	0.051	0.031	(	0.046)	0.020
272	22.67	0.07	0.051	0.031	(	0.046)	0.020
273	22.75	0.07	0.051	0.030	(	0.046)	0.020
274	22.83	0.07	0.051	0.030	(	0.046)	0.020
275	22.92	0.07	0.051	0.030	(	0.046)	0.020
276	23.00	0.07	0.051	0.030	(	0.046)	0.021
277	23.08	0.07	0.051	0.030	(	0.046)	0.021
278	23.17	0.07	0.051	0.030	(	0.046)	0.021
279	23.25	0.07	0.051	0.030	(	0.046)	0.021
280	23.33	0.07	0.051	0.030	(	0.046)	0.021
281	23.42	0.07	0.051	0.030	(	0.046)	0.021
282	23.50	0.07	0.051	0.030	(	0.046)	0.021
283	23.58	0.07	0.051	0.030	(	0.046)	0.021
284	23.67	0.07	0.051	0.030	(	0.046)	0.021
285	23.75	0.07	0.051	0.030	(	0.046)	0.021
286	23.83	0.07	0.051	0.030	(	0.046)	0.021

```
287  23.92     0.07      0.051          0.030    (  0.046)        0.021
288  24.00     0.07      0.051          0.030    (  0.046)        0.021
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    59.8
       Flood volume = Effective rainfall      4.99(In)
        times area       4.2(Ac.)/[(In)/(Ft.)] =       1.7(Ac.Ft)
       Total soil loss =      1.36(In)
       Total soil loss =     0.473(Ac.Ft)
       Total rainfall =      6.35(In)
       Flood volume =       75280.7 Cubic Feet
       Total soil loss =       20608.6 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.289(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       0.0000      0.00  Q         |         |         |         |
   0+10       0.0000      0.01  Q         |         |         |         |
   0+15       0.0001      0.01  Q         |         |         |         |
   0+20       0.0002      0.02  Q         |         |         |         |
   0+25       0.0004      0.02  Q         |         |         |         |
   0+30       0.0005      0.02  Q         |         |         |         |
   0+35       0.0007      0.03  Q         |         |         |         |
   0+40       0.0009      0.03  Q         |         |         |         |
   0+45       0.0011      0.03  Q         |         |         |         |
   0+50       0.0013      0.03  Q         |         |         |         |
   0+55       0.0015      0.03  Q         |         |         |         |
   1+ 0       0.0018      0.04  Q         |         |         |         |
   1+ 5       0.0020      0.04  Q         |         |         |         |
   1+10       0.0023      0.04  Q         |         |         |         |
   1+15       0.0025      0.03  Q         |         |         |         |
   1+20       0.0027      0.03  Q         |         |         |         |
   1+25       0.0030      0.03  Q         |         |         |         |
   1+30       0.0032      0.03  Q         |         |         |         |
   1+35       0.0034      0.03  Q         |         |         |         |
   1+40       0.0036      0.03  Q         |         |         |         |
   1+45       0.0039      0.03  Q         |         |         |         |
   1+50       0.0041      0.03  Q         |         |         |         |
   1+55       0.0043      0.04  Q         |         |         |         |
   2+ 0       0.0046      0.04  Q         |         |         |         |
   2+ 5       0.0049      0.04  Q         |         |         |         |
   2+10       0.0051      0.04  Q         |         |         |         |
   2+15       0.0054      0.04  Q         |         |         |         |
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2+20       0.0057      0.04  Q          |          |          |          |
2+25       0.0060      0.04  Q          |          |          |          |
2+30       0.0063      0.04  Q          |          |          |          |
2+35       0.0066      0.05  Q          |          |          |          |
2+40       0.0071      0.07  Q          |          |          |          |
2+45       0.0077      0.10  Q          |          |          |          |
2+50       0.0085      0.11  Q          |          |          |          |
2+55       0.0093      0.12  Q          |          |          |          |
3+ 0       0.0102      0.13  Q          |          |          |          |
3+ 5       0.0111      0.13  Q          |          |          |          |
3+10       0.0121      0.14  Q          |          |          |          |
3+15       0.0130      0.14  Q          |          |          |          |
3+20       0.0140      0.14  Q          |          |          |          |
3+25       0.0150      0.15  Q          |          |          |          |
3+30       0.0161      0.15  Q          |          |          |          |
3+35       0.0171      0.15  Q          |          |          |          |
3+40       0.0182      0.15  Q          |          |          |          |
3+45       0.0192      0.16  Q          |          |          |          |
3+50       0.0204      0.16  Q          |          |          |          |
3+55       0.0217      0.19  Q          |          |          |          |
4+ 0       0.0232      0.22  Q          |          |          |          |
4+ 5       0.0248      0.24  Q          |          |          |          |
4+10       0.0265      0.25  Q          |          |          |          |
4+15       0.0283      0.26  VQ         |          |          |          |
4+20       0.0301      0.27  VQ         |          |          |          |
4+25       0.0321      0.29  VQ         |          |          |          |
4+30       0.0344      0.33  VQ         |          |          |          |
4+35       0.0368      0.35  VQ         |          |          |          |
4+40       0.0392      0.36  VQ         |          |          |          |
4+45       0.0418      0.37  VQ         |          |          |          |
4+50       0.0444      0.38  |Q         |          |          |          |
4+55       0.0472      0.41  |Q         |          |          |          |
5+ 0       0.0502      0.44  |Q         |          |          |          |
5+ 5       0.0533      0.45  |Q         |          |          |          |
5+10       0.0562      0.42  |Q         |          |          |          |
5+15       0.0587      0.37  |Q         |          |          |          |
5+20       0.0611      0.35  |Q         |          |          |          |
5+25       0.0636      0.36  |Q         |          |          |          |
5+30       0.0662      0.38  |Q         |          |          |          |
5+35       0.0689      0.40  |Q         |          |          |          |
5+40       0.0719      0.43  |Q         |          |          |          |
5+45       0.0750      0.46  |Q         |          |          |          |
5+50       0.0783      0.48  |Q         |          |          |          |
5+55       0.0817      0.49  |Q         |          |          |          |
6+ 0       0.0851      0.50  |Q         |          |          |          |
6+ 5       0.0886      0.51  | Q        |          |          |          |
6+10       0.0923      0.54  | Q        |          |          |          |
6+15       0.0963      0.57  | Q        |          |          |          |
6+20       0.1003      0.59  | Q        |          |          |          |
6+25       0.1045      0.60  | Q        |          |          |          |
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 6+30       0.1087      0.61  | Q       |         |         |         |
 6+35       0.1130      0.62  | Q       |         |         |         |
 6+40       0.1174      0.65  | Q       |         |         |         |
 6+45       0.1222      0.68  | Q       |         |         |         |
 6+50       0.1270      0.71  | Q       |         |         |         |
 6+55       0.1319      0.72  | QV      |         |         |         |
 7+ 0       0.1369      0.73  | QV      |         |         |         |
 7+ 5       0.1420      0.73  | QV      |         |         |         |
 7+10       0.1471      0.74  | QV      |         |         |         |
 7+15       0.1522      0.74  | QV      |         |         |         |
 7+20       0.1574      0.75  |  Q      |         |         |         |
 7+25       0.1627      0.78  |  Q      |         |         |         |
 7+30       0.1683      0.81  |  Q      |         |         |         |
 7+35       0.1741      0.84  |  QV     |         |         |         |
 7+40       0.1800      0.87  |  QV     |         |         |         |
 7+45       0.1863      0.91  |  QV     |         |         |         |
 7+50       0.1927      0.93  |  QV     |         |         |         |
 7+55       0.1994      0.97  |  QV     |         |         |         |
 8+ 0       0.2063      1.01  |   Q     |         |         |         |
 8+ 5       0.2135      1.04  |   Q     |         |         |         |
 8+10       0.2211      1.10  |   QV    |         |         |         |
 8+15       0.2292      1.17  |   QV    |         |         |         |
 8+20       0.2375      1.21  |   QV    |         |         |         |
 8+25       0.2461      1.24  |   QV    |         |         |         |
 8+30       0.2547      1.25  |    Q    |         |         |         |
 8+35       0.2635      1.27  |    QV   |         |         |         |
 8+40       0.2724      1.30  |    QV   |         |         |         |
 8+45       0.2817      1.34  |    QV   |         |         |         |
 8+50       0.2911      1.37  |    QV   |         |         |         |
 8+55       0.3008      1.41  |    QV   |         |         |         |
 9+ 0       0.3108      1.45  |    Q V  |         |         |         |
 9+ 5       0.3211      1.49  |    Q V  |         |         |         |
 9+10       0.3317      1.54  |     QV  |         |         |         |
 9+15       0.3428      1.62  |     QV  |         |         |         |
 9+20       0.3543      1.66  |     Q V |         |         |         |
 9+25       0.3660      1.71  |     Q V |         |         |         |
 9+30       0.3781      1.76  |      QV |         |         |         |
 9+35       0.3905      1.79  |      Q V|         |         |         |
 9+40       0.4031      1.83  |      Q V|         |         |         |
 9+45       0.4160      1.87  |      Q V|         |         |         |
 9+50       0.4291      1.91  |      Q V|         |         |         |
 9+55       0.4425      1.95  |      Q  V         |         |         |
10+ 0       0.4562      1.99  |      Q  V         |         |         |
10+ 5       0.4698      1.98  |      Q  V         |         |         |
10+10       0.4825      1.84  |      Q  |V        |         |         |
10+15       0.4938      1.64  |     Q   |V        |         |         |
10+20       0.5044      1.53  |     Q   |V        |         |         |
10+25       0.5146      1.48  |    Q    |V        |         |         |
10+30       0.5246      1.45  |    Q    | V       |         |         |
10+35       0.5346      1.46  |    Q    | V       |         |         |
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10+40	0.5453	1.55	Q	V			
10+45	0.5569	1.69	Q	V			
10+50	0.5690	1.76	Q	V			
10+55	0.5814	1.79	Q	V			
11+ 0	0.5939	1.81	Q	V			
11+ 5	0.6065	1.82	Q	V			
11+10	0.6189	1.81	Q	V			
11+15	0.6313	1.79	Q	V			
11+20	0.6436	1.78	Q	V			
11+25	0.6558	1.78	Q	V			
11+30	0.6681	1.78	Q	V			
11+35	0.6802	1.77	Q	V			
11+40	0.6921	1.73	Q	V			
11+45	0.7036	1.67	Q	V			
11+50	0.7149	1.64	Q	V			
11+55	0.7263	1.65	Q	V			
12+ 0	0.7378	1.67	Q	V			
12+ 5	0.7496	1.72	Q	V			
12+10	0.7625	1.88	Q	V			
12+15	0.7769	2.09	Q	V			
12+20	0.7922	2.21	Q	V			
12+25	0.8079	2.29	Q	V			
12+30	0.8242	2.36	Q	V			
12+35	0.8408	2.42	Q	V			
12+40	0.8580	2.49	Q	V			
12+45	0.8757	2.57	Q	V			
12+50	0.8938	2.63	Q	V			
12+55	0.9123	2.68	Q	V			
13+ 0	0.9312	2.74	Q	V			
13+ 5	0.9505	2.80	Q	V			
13+10	0.9707	2.93	Q	V			
13+15	0.9920	3.10	Q	V			
13+20	1.0141	3.20	Q	V			
13+25	1.0365	3.25	Q	V			
13+30	1.0591	3.29	Q	V			
13+35	1.0816	3.26	Q	V			
13+40	1.1025	3.04	Q	V			
13+45	1.1212	2.72	Q	V			
13+50	1.1388	2.55	Q	V			
13+55	1.1558	2.47	Q	V			
14+ 0	1.1725	2.42	Q	V			
14+ 5	1.1891	2.40	Q	V			
14+10	1.2060	2.47	Q	V			
14+15	1.2237	2.56	Q	V			
14+20	1.2417	2.61	Q	V			
14+25	1.2596	2.61	Q	V			
14+30	1.2774	2.59	Q	V			
14+35	1.2952	2.58	Q	V			
14+40	1.3129	2.57	Q	V			
14+45	1.3306	2.57	Q	V			

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14+50       1.3483      2.56  |         Q         |         |V          |
14+55       1.3658      2.54  |         Q         |         |V          |
15+ 0       1.3831      2.51  |         Q         |         | V         |
15+ 5       1.4002      2.49  |        Q|         |         | V         |
15+10       1.4172      2.46  |        Q|         |         | V         |
15+15       1.4339      2.43  |        Q|         |         |  V        |
15+20       1.4504      2.40  |        Q|         |         |  V        |
15+25       1.4668      2.37  |        Q|         |         |  V        |
15+30       1.4829      2.34  |        Q|         |         |   V       |
15+35       1.4987      2.29  |        Q|         |         |   V       |
15+40       1.5138      2.19  |       Q |         |         |    V      |
15+45       1.5280      2.06  |       Q |         |         |    V      |
15+50       1.5417      1.99  |      Q  |         |         |    V      |
15+55       1.5551      1.95  |      Q  |         |         |    V      |
16+ 0       1.5684      1.93  |      Q  |         |         |     V     |
16+ 5       1.5810      1.83  |      Q  |         |         |     V     |
16+10       1.5912      1.48  |    Q    |         |         |     V     |
16+15       1.5983      1.02  |   Q     |         |         |     V     |
16+20       1.6035      0.76  |  Q      |         |         |      V    |
16+25       1.6079      0.63  | Q       |         |         |      V    |
16+30       1.6116      0.55  | Q       |         |         |      V    |
16+35       1.6149      0.48  |Q        |         |         |      V    |
16+40       1.6177      0.40  |Q        |         |         |      V    |
16+45       1.6200      0.34  |Q        |         |         |      V    |
16+50       1.6220      0.29  |Q        |         |         |      V    |
16+55       1.6238      0.26  |Q        |         |         |      V    |
17+ 0       1.6254      0.23  Q         |         |         |      V    |
17+ 5       1.6269      0.22  Q         |         |         |      V    |
17+10       1.6287      0.25  |Q        |         |         |      V    |
17+15       1.6307      0.30  |Q        |         |         |      V    |
17+20       1.6330      0.32  |Q        |         |         |      V    |
17+25       1.6352      0.33  |Q        |         |         |      V    |
17+30       1.6376      0.34  |Q        |         |         |      V    |
17+35       1.6399      0.34  |Q        |         |         |      V    |
17+40       1.6423      0.34  |Q        |         |         |       V   |
17+45       1.6447      0.35  |Q        |         |         |       V   |
17+50       1.6471      0.35  |Q        |         |         |       V   |
17+55       1.6493      0.33  |Q        |         |         |       V   |
18+ 0       1.6514      0.30  |Q        |         |         |       V   |
18+ 5       1.6534      0.29  |Q        |         |         |       V   |
18+10       1.6553      0.28  |Q        |         |         |       V   |
18+15       1.6572      0.28  |Q        |         |         |       V   |
18+20       1.6591      0.28  |Q        |         |         |       V   |
18+25       1.6610      0.28  |Q        |         |         |       V   |
18+30       1.6629      0.27  |Q        |         |         |       V   |
18+35       1.6648      0.27  |Q        |         |         |       V   |
18+40       1.6665      0.25  Q         |         |         |       V   |
18+45       1.6680      0.22  Q         |         |         |       V   |
18+50       1.6693      0.19  Q         |         |         |       V   |
18+55       1.6704      0.16  Q         |         |         |       V   |
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19+ 0       1.6713      0.13  Q        |         |         |        V |
19+ 5       1.6721      0.11  Q        |         |         |        V |
19+10       1.6729      0.12  Q        |         |         |        V |
19+15       1.6739      0.15  Q        |         |         |        V |
19+20       1.6750      0.16  Q        |         |         |        V |
19+25       1.6763      0.19  Q        |         |         |        V |
19+30       1.6779      0.22  Q        |         |         |        V |
19+35       1.6795      0.23  Q        |         |         |        V |
19+40       1.6810      0.22  Q        |         |         |        V |
19+45       1.6824      0.20  Q        |         |         |        V |
19+50       1.6836      0.18  Q        |         |         |        V |
19+55       1.6847      0.15  Q        |         |         |        V |
20+ 0       1.6855      0.12  Q        |         |         |         V|
20+ 5       1.6863      0.11  Q        |         |         |         V|
20+10       1.6871      0.12  Q        |         |         |         V|
20+15       1.6881      0.15  Q        |         |         |         V|
20+20       1.6893      0.16  Q        |         |         |         V|
20+25       1.6904      0.17  Q        |         |         |         V|
20+30       1.6916      0.17  Q        |         |         |         V|
20+35       1.6927      0.17  Q        |         |         |         V|
20+40       1.6939      0.17  Q        |         |         |         V|
20+45       1.6952      0.18  Q        |         |         |         V|
20+50       1.6963      0.17  Q        |         |         |         V|
20+55       1.6974      0.15  Q        |         |         |         V|
21+ 0       1.6982      0.12  Q        |         |         |         V|
21+ 5       1.6989      0.11  Q        |         |         |         V|
21+10       1.6998      0.12  Q        |         |         |         V|
21+15       1.7008      0.15  Q        |         |         |         V|
21+20       1.7019      0.16  Q        |         |         |         V|
21+25       1.7029      0.14  Q        |         |         |         V|
21+30       1.7037      0.12  Q        |         |         |         V|
21+35       1.7045      0.11  Q        |         |         |         V|
21+40       1.7053      0.12  Q        |         |         |         V|
21+45       1.7063      0.15  Q        |         |         |         V|
21+50       1.7074      0.16  Q        |         |         |         V|
21+55       1.7084      0.14  Q        |         |         |         V|
22+ 0       1.7092      0.12  Q        |         |         |         V|
22+ 5       1.7100      0.11  Q        |         |         |         V|
22+10       1.7108      0.13  Q        |         |         |         V|
22+15       1.7119      0.15  Q        |         |         |         V|
22+20       1.7130      0.16  Q        |         |         |         V|
22+25       1.7140      0.14  Q        |         |         |         V|
22+30       1.7148      0.12  Q        |         |         |         V|
22+35       1.7155      0.11  Q        |         |         |         V|
22+40       1.7162      0.10  Q        |         |         |         V|
22+45       1.7169      0.10  Q        |         |         |         V|
22+50       1.7175      0.09  Q        |         |         |         V|
22+55       1.7182      0.09  Q        |         |         |         V|
23+ 0       1.7188      0.09  Q        |         |         |         V|
23+ 5       1.7194      0.09  Q        |         |         |         V|
```

23+10	1.7200	0.09	Q	|	|	|	V|
23+15	1.7206	0.09	Q	|	|	|	V|
23+20	1.7213	0.09	Q	|	|	|	V|
23+25	1.7219	0.09	Q	|	|	|	V|
23+30	1.7225	0.09	Q	|	|	|	V|
23+35	1.7231	0.09	Q	|	|	|	V|
23+40	1.7237	0.09	Q	|	|	|	V|
23+45	1.7243	0.09	Q	|	|	|	V|
23+50	1.7249	0.09	Q	|	|	|	V|
23+55	1.7255	0.09	Q	|	|	|	V|
24+ 0	1.7261	0.09	Q	|	|	|	V|
24+ 5	1.7267	0.08	Q	|	|	|	V|
24+10	1.7271	0.07	Q	|	|	|	V|
24+15	1.7274	0.04	Q	|	|	|	V|
24+20	1.7276	0.03	Q	|	|	|	V|
24+25	1.7277	0.02	Q	|	|	|	V|
24+30	1.7278	0.02	Q	|	|	|	V|
24+35	1.7279	0.01	Q	|	|	|	V|
24+40	1.7280	0.01	Q	|	|	|	V|
24+45	1.7280	0.01	Q	|	|	|	V|
24+50	1.7281	0.01	Q	|	|	|	V|
24+55	1.7281	0.00	Q	|	|	|	V|
25+ 0	1.7281	0.00	Q	|	|	|	V|
25+ 5	1.7282	0.00	Q	|	|	|	V|
25+10	1.7282	0.00	Q	|	|	|	V|
25+15	1.7282	0.00	Q	|	|	|	V|
25+20	1.7282	0.00	Q	|	|	|	V|
25+25	1.7282	0.00	Q	|	|	|	V|
25+30	1.7282	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

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6481

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Jana Commercial Development
Post Development
100 YR

Drainage Area = 4.04(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.04(Ac.) = 0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.128 Hr.
Lag time = 7.68 Min.
25% of lag time = 1.92 Min.
40% of lag time = 3.07 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]
4.04	0.55	2.22

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.04            1.51                   6.10

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.510(In)

Point rain (area averaged) =    1.510(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.510(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.040           74.17         0.900
 Total Area Entered =      4.04(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.2  87.5      0.158     0.900        0.030       1.000      0.030
                                                 Sum (F) =   0.030
Area averaged mean soil loss (F) (In/Hr) =  0.030
Minimum soil loss rate ((In/Hr)) =  0.015
(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   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
-----------------------------------------------------------------
    1   0.083         65.104          9.410              0.383
    2   0.167        130.208         37.337              1.520
    3   0.250        195.313         24.835              1.011
    4   0.333        260.417          9.555              0.389
    5   0.417        325.521          5.771              0.235
    6   0.500        390.625          3.874              0.158
    7   0.583        455.729          2.651              0.108
    8   0.667        520.833          1.989              0.081
    9   0.750        585.938          1.513              0.062
   10   0.833        651.042          1.118              0.046
   11   0.917        716.146          0.783              0.032
```

```
          12   1.000        781.250          0.651              0.027
          13   1.083        846.354          0.513              0.021
                                    Sum = 100.000   Sum=       4.072
-----------------------------------------------------------------------
```

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	0.797	0.030	(0.144)	0.767
2	0.17	4.50	0.815	0.030	(0.147)	0.785
3	0.25	5.40	0.978	0.030	(0.176)	0.948
4	0.33	5.40	0.978	0.030	(0.176)	0.948
5	0.42	5.70	1.033	0.030	(0.186)	1.003
6	0.50	6.40	1.160	0.030	(0.209)	1.130
7	0.58	7.90	1.431	0.030	(0.258)	1.401
8	0.67	9.10	1.649	0.030	(0.297)	1.619
9	0.75	12.80	2.319	0.030	(0.417)	2.289
10	0.83	25.60	4.639	0.030	(0.835)	4.608
11	0.92	7.90	1.431	0.030	(0.258)	1.401
12	1.00	4.90	0.888	0.030	(0.160)	0.858
		(Loss Rate Not Used)				
Sum =		100.0				Sum = 17.8

```
   Flood volume = Effective rainfall      1.48(In)
    times area       4.0(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
   Total soil loss =      0.03(In)
   Total soil loss =     0.010(Ac.Ft)
   Total rainfall =      1.51(In)
   Flood volume =       21702.1 Cubic Feet
   Total soil loss =         441.6 Cubic Feet
   ---------------------------------------------------------------------
    Peak flow rate of this hydrograph =     11.304(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       0.0020      0.29  Q         |         |         |         |
   0+10       0.0121      1.47  V Q       |         |         |         |
   0+15       0.0282      2.33  | V Q     |         |         |         |
   0+20       0.0482      2.90  |  V Q    |         |         |         |
   0+25       0.0707      3.27  |    VQ   |         |         |         |
   0+30       0.0954      3.59  |      Q  |         |         |         |
```

```
   0+35       0.1235      4.07  |       QV|         |         |         |
   0+40       0.1566      4.80  |        Q| V       |         |         |
   0+45       0.1965      5.80  |         |Q   V    |         |         |
   0+50       0.2524      8.12  |         |     Q   V         |         |
   0+55       0.3302     11.30  |         |          | Q   V  |         |
   1+ 0       0.3920      8.97  |         |      Q  |         |V        |
   1+ 5       0.4314      5.72  |         |Q        |         |   V     |
   1+10       0.4544      3.33  |     Q   |         |         |     V   |
   1+15       0.4680      1.98  |  Q      |         |         |      V  |
   1+20       0.4773      1.35  | Q       |         |         |       V |
   1+25       0.4840      0.97  |Q        |         |         |       V |
   1+30       0.4889      0.71  |Q        |         |         |        V|
   1+35       0.4924      0.51  |Q        |         |         |        V|
   1+40       0.4949      0.36  Q         |         |         |        V|
   1+45       0.4966      0.25  Q         |         |         |        V|
   1+50       0.4977      0.16  Q         |         |         |        V|
   1+55       0.4981      0.05  Q         |         |         |        V|
   2+ 0       0.4982      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

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6481

 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

Jana Commercial Development
Post Development
100 YR

Drainage Area = 4.04(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.04(Ac.) = 0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.128 Hr.
Lag time = 7.68 Min.
25% of lag time = 1.92 Min.
40% of lag time = 3.07 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]
4.04	0.97	3.92

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.04             2.48                  10.02

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.970(In)
Area Averaged 100-Year Rainfall =    2.480(In)

Point rain (area averaged) =    2.480(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.480(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.040           74.17          0.900
 Total Area Entered =      4.04(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.2  87.5      0.158     0.900        0.030       1.000      0.030
                                                 Sum (F) =   0.030
Area averaged mean soil loss (F) (In/Hr) =  0.030
Minimum soil loss rate ((In/Hr)) =  0.015
(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   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083         65.104          9.410             0.383
    2   0.167        130.208         37.337             1.520
    3   0.250        195.313         24.835             1.011
    4   0.333        260.417          9.555             0.389
    5   0.417        325.521          5.771             0.235
    6   0.500        390.625          3.874             0.158
    7   0.583        455.729          2.651             0.108
    8   0.667        520.833          1.989             0.081
    9   0.750        585.938          1.513             0.062
   10   0.833        651.042          1.118             0.046
   11   0.917        716.146          0.783             0.032
   12   1.000        781.250          0.651             0.027
   13   1.083        846.354          0.513             0.021
```

Sum = 100.000 Sum= 4.072

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	0.387	0.030	(0.070)	0.357
2	0.17	1.30	0.387	0.030	(0.070)	0.357
3	0.25	1.10	0.327	0.030	(0.059)	0.297
4	0.33	1.50	0.446	0.030	(0.080)	0.416
5	0.42	1.50	0.446	0.030	(0.080)	0.416
6	0.50	1.80	0.536	0.030	(0.096)	0.506
7	0.58	1.50	0.446	0.030	(0.080)	0.416
8	0.67	1.80	0.536	0.030	(0.096)	0.506
9	0.75	1.80	0.536	0.030	(0.096)	0.506
10	0.83	1.50	0.446	0.030	(0.080)	0.416
11	0.92	1.60	0.476	0.030	(0.086)	0.446
12	1.00	1.80	0.536	0.030	(0.096)	0.506
13	1.08	2.20	0.655	0.030	(0.118)	0.625
14	1.17	2.20	0.655	0.030	(0.118)	0.625
15	1.25	2.20	0.655	0.030	(0.118)	0.625
16	1.33	2.00	0.595	0.030	(0.107)	0.565
17	1.42	2.60	0.774	0.030	(0.139)	0.744
18	1.50	2.70	0.804	0.030	(0.145)	0.773
19	1.58	2.40	0.714	0.030	(0.129)	0.684
20	1.67	2.70	0.804	0.030	(0.145)	0.773
21	1.75	3.30	0.982	0.030	(0.177)	0.952
22	1.83	3.10	0.923	0.030	(0.166)	0.892
23	1.92	2.90	0.863	0.030	(0.155)	0.833
24	2.00	3.00	0.893	0.030	(0.161)	0.863
25	2.08	3.10	0.923	0.030	(0.166)	0.892
26	2.17	4.20	1.250	0.030	(0.225)	1.220
27	2.25	5.00	1.488	0.030	(0.268)	1.458
28	2.33	3.50	1.042	0.030	(0.187)	1.011
29	2.42	6.80	2.024	0.030	(0.364)	1.994
30	2.50	7.30	2.172	0.030	(0.391)	2.142
31	2.58	8.20	2.440	0.030	(0.439)	2.410
32	2.67	5.90	1.756	0.030	(0.316)	1.726
33	2.75	2.00	0.595	0.030	(0.107)	0.565
34	2.83	1.80	0.536	0.030	(0.096)	0.506
35	2.92	1.80	0.536	0.030	(0.096)	0.506
36	3.00	0.60	0.179	0.030	(0.032)	0.148
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	28.7

Flood volume = Effective rainfall 2.39(In)
times area 4.0(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.09(In)

```
      Total soil loss =     0.030(Ac.Ft)
      Total rainfall =      2.48(In)
      Flood volume =       35044.3 Cubic Feet
      Total soil loss =        1324.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.104(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        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0009      0.14  Q         |         |         |         |
  0+10       0.0056      0.68  V Q       |         |         |         |
  0+15       0.0126      1.02  V   Q     |         |         |         |
  0+20       0.0203      1.11  |V  Q     |         |         |         |
  0+25       0.0293      1.32  |V   Q    |         |         |         |
  0+30       0.0397      1.50  |V    Q   |         |         |         |
  0+35       0.0513      1.68  | V   Q   |         |         |         |
  0+40       0.0630      1.71  |  V  Q   |         |         |         |
  0+45       0.0756      1.83  |  V   Q  |         |         |         |
  0+50       0.0887      1.89  |   V  Q  |         |         |         |
  0+55       0.1012      1.81  |    V Q  |         |         |         |
  1+ 0       0.1137      1.82  |    V Q  |         |         |         |
  1+ 5       0.1273      1.98  |     VQ  |         |         |         |
  1+10       0.1426      2.22  |      VQ |         |         |         |
  1+15       0.1589      2.36  |      V Q|         |         |         |
  1+20       0.1755      2.40  |       VQ|         |         |         |
  1+25       0.1921      2.42  |        Q|         |         |         |
  1+30       0.2105      2.66  |         Q         |         |         |
  1+35       0.2301      2.85  |         |Q        |         |         |
  1+40       0.2497      2.85  |         |QV       |         |         |
  1+45       0.2704      3.01  |         | QV      |         |         |
  1+50       0.2935      3.35  |         |  QV     |         |         |
  1+55       0.3174      3.46  |         |  Q V    |         |         |
  2+ 0       0.3409      3.41  |         |  Q  V   |         |         |
  2+ 5       0.3646      3.45  |         |  Q    V |         |         |
  2+10       0.3898      3.65  |         |   Q    V|         |         |
  2+15       0.4193      4.28  |         |      Q  V         |         |
  2+20       0.4525      4.83  |         |        Q| V       |         |
  2+25       0.4864      4.91  |         |        Q|   V     |         |
  2+30       0.5290      6.19  |         |         |   Q V   |         |
  2+35       0.5803      7.45  |         |         |       VQ|         |
  2+40       0.6361      8.10  |         |         |         |VQ       |
  2+45       0.6854      7.16  |         |         |       Q |   V     |
  2+50       0.7197      4.97  |         |        Q|         |    V    |
```

```
    2+55       0.7446      3.62  |          |   Q      |          |       V  |
    3+ 0       0.7649      2.95  |          |Q         |          |        V |
    3+ 5       0.7789      2.04  |        Q |          |          |        V |
    3+10       0.7876      1.26  |     Q    |          |          |         V|
    3+15       0.7933      0.82  |   Q      |          |          |         V|
    3+20       0.7972      0.57  |  Q       |          |          |         V|
    3+25       0.8000      0.41  |Q         |          |          |         V|
    3+30       0.8019      0.28  |Q         |          |          |         V|
    3+35       0.8032      0.18  Q          |          |          |         V|
    3+40       0.8039      0.10  Q          |          |          |         V|
    3+45       0.8042      0.05  Q          |          |          |         V|
    3+50       0.8044      0.03  Q          |          |          |         V|
    3+55       0.8045      0.01  Q          |          |          |         V|
    4+ 0       0.8045      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

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Study date 03/11/22 File: JanaPost6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6481

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Jana Commercial Development
Post Development
100 YR

Drainage Area = 4.04(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.04(Ac.) = 0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.128 Hr.
Lag time = 7.68 Min.
25% of lag time = 1.92 Min.
40% of lag time = 3.07 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]
4.04	1.38	5.58

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.04            3.44                  13.90

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.380(In)
Area Averaged 100-Year Rainfall =    3.440(In)

Point rain (area averaged) =    3.440(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.440(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.040           74.17         0.900
 Total Area Entered =      4.04(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.2  87.5      0.158     0.900        0.030       1.000      0.030
                                                 Sum (F) =   0.030
Area averaged mean soil loss (F) (In/Hr) =  0.030
Minimum soil loss rate ((In/Hr)) =  0.015
(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   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083         65.104          9.410             0.383
    2   0.167        130.208         37.337             1.520
    3   0.250        195.313         24.835             1.011
    4   0.333        260.417          9.555             0.389
    5   0.417        325.521          5.771             0.235
    6   0.500        390.625          3.874             0.158
    7   0.583        455.729          2.651             0.108
    8   0.667        520.833          1.989             0.081
    9   0.750        585.938          1.513             0.062
   10   0.833        651.042          1.118             0.046
   11   0.917        716.146          0.783             0.032
   12   1.000        781.250          0.651             0.027
   13   1.083        846.354          0.513             0.021
```

Sum = 100.000 Sum= 4.072

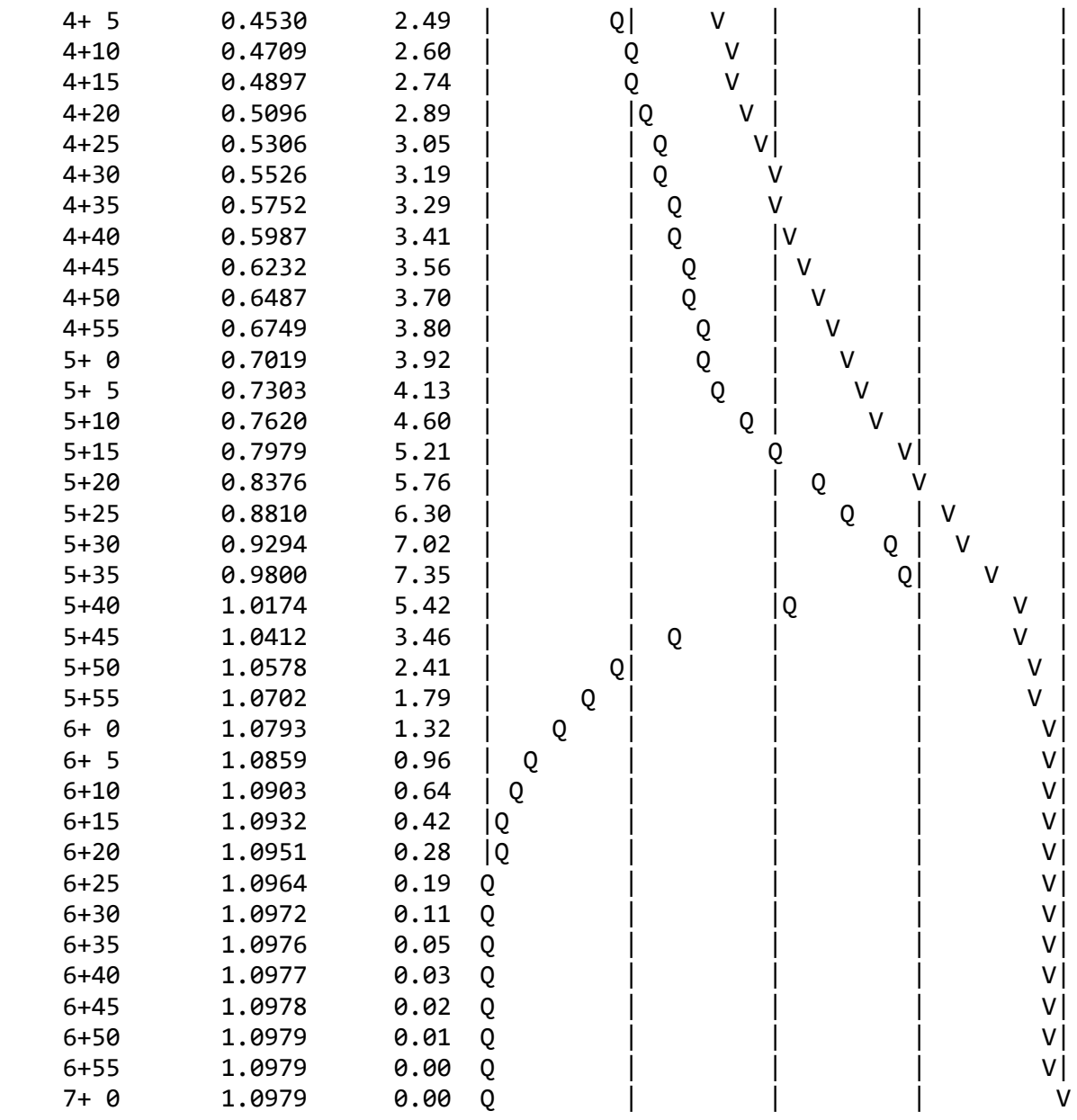
The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.206	0.030	(0.037)	0.176
2	0.17	0.60	0.248	0.030	(0.045)	0.218
3	0.25	0.60	0.248	0.030	(0.045)	0.218
4	0.33	0.60	0.248	0.030	(0.045)	0.218
5	0.42	0.60	0.248	0.030	(0.045)	0.218
6	0.50	0.70	0.289	0.030	(0.052)	0.259
7	0.58	0.70	0.289	0.030	(0.052)	0.259
8	0.67	0.70	0.289	0.030	(0.052)	0.259
9	0.75	0.70	0.289	0.030	(0.052)	0.259
10	0.83	0.70	0.289	0.030	(0.052)	0.259
11	0.92	0.70	0.289	0.030	(0.052)	0.259
12	1.00	0.80	0.330	0.030	(0.059)	0.300
13	1.08	0.80	0.330	0.030	(0.059)	0.300
14	1.17	0.80	0.330	0.030	(0.059)	0.300
15	1.25	0.80	0.330	0.030	(0.059)	0.300
16	1.33	0.80	0.330	0.030	(0.059)	0.300
17	1.42	0.80	0.330	0.030	(0.059)	0.300
18	1.50	0.80	0.330	0.030	(0.059)	0.300
19	1.58	0.80	0.330	0.030	(0.059)	0.300
20	1.67	0.80	0.330	0.030	(0.059)	0.300
21	1.75	0.80	0.330	0.030	(0.059)	0.300
22	1.83	0.80	0.330	0.030	(0.059)	0.300
23	1.92	0.80	0.330	0.030	(0.059)	0.300
24	2.00	0.90	0.372	0.030	(0.067)	0.341
25	2.08	0.80	0.330	0.030	(0.059)	0.300
26	2.17	0.90	0.372	0.030	(0.067)	0.341
27	2.25	0.90	0.372	0.030	(0.067)	0.341
28	2.33	0.90	0.372	0.030	(0.067)	0.341
29	2.42	0.90	0.372	0.030	(0.067)	0.341
30	2.50	0.90	0.372	0.030	(0.067)	0.341
31	2.58	0.90	0.372	0.030	(0.067)	0.341
32	2.67	0.90	0.372	0.030	(0.067)	0.341
33	2.75	1.00	0.413	0.030	(0.074)	0.383
34	2.83	1.00	0.413	0.030	(0.074)	0.383
35	2.92	1.00	0.413	0.030	(0.074)	0.383
36	3.00	1.00	0.413	0.030	(0.074)	0.383
37	3.08	1.00	0.413	0.030	(0.074)	0.383
38	3.17	1.10	0.454	0.030	(0.082)	0.424
39	3.25	1.10	0.454	0.030	(0.082)	0.424
40	3.33	1.10	0.454	0.030	(0.082)	0.424
41	3.42	1.20	0.495	0.030	(0.089)	0.465

```
42   3.50     1.30      0.537          0.030    (  0.097)        0.507
43   3.58     1.40      0.578          0.030    (  0.104)        0.548
44   3.67     1.40      0.578          0.030    (  0.104)        0.548
45   3.75     1.50      0.619          0.030    (  0.111)        0.589
46   3.83     1.50      0.619          0.030    (  0.111)        0.589
47   3.92     1.60      0.660          0.030    (  0.119)        0.630
48   4.00     1.60      0.660          0.030    (  0.119)        0.630
49   4.08     1.70      0.702          0.030    (  0.126)        0.672
50   4.17     1.80      0.743          0.030    (  0.134)        0.713
51   4.25     1.90      0.784          0.030    (  0.141)        0.754
52   4.33     2.00      0.826          0.030    (  0.149)        0.795
53   4.42     2.10      0.867          0.030    (  0.156)        0.837
54   4.50     2.10      0.867          0.030    (  0.156)        0.837
55   4.58     2.20      0.908          0.030    (  0.163)        0.878
56   4.67     2.30      0.949          0.030    (  0.171)        0.919
57   4.75     2.40      0.991          0.030    (  0.178)        0.961
58   4.83     2.40      0.991          0.030    (  0.178)        0.961
59   4.92     2.50      1.032          0.030    (  0.186)        1.002
60   5.00     2.60      1.073          0.030    (  0.193)        1.043
61   5.08     3.10      1.280          0.030    (  0.230)        1.250
62   5.17     3.60      1.486          0.030    (  0.267)        1.456
63   5.25     3.90      1.610          0.030    (  0.290)        1.580
64   5.33     4.20      1.734          0.030    (  0.312)        1.704
65   5.42     4.70      1.940          0.030    (  0.349)        1.910
66   5.50     5.60      2.312          0.030    (  0.416)        2.282
67   5.58     1.90      0.784          0.030    (  0.141)        0.754
68   5.67     0.90      0.372          0.030    (  0.067)        0.341
69   5.75     0.60      0.248          0.030    (  0.045)        0.218
70   5.83     0.50      0.206          0.030    (  0.037)        0.176
71   5.92     0.30      0.124       (  0.030)       0.022        0.102
72   6.00     0.20      0.083       (  0.030)       0.015        0.068
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    39.1
      Flood volume = Effective rainfall      3.26(In)
       times area       4.0(Ac.)/[(In)/(Ft.)] =       1.1(Ac.Ft)
      Total soil loss =      0.18(In)
      Total soil loss =     0.060(Ac.Ft)
      Total rainfall =      3.44(In)
      Flood volume =       47826.3 Cubic Feet
      Total soil loss =        2621.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.354(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	0.0005	0.07	Q				
0+10	0.0029	0.35	VQ				
0+15	0.0070	0.59	V Q				
0+20	0.0118	0.70	V Q				
0+25	0.0170	0.76	V Q				
0+30	0.0227	0.81	V Q				
0+35	0.0289	0.90	V Q				
0+40	0.0355	0.96	V Q				
0+45	0.0423	0.99	V Q				
0+50	0.0493	1.01	V Q				
0+55	0.0564	1.03	V Q				
1+ 0	0.0636	1.05	V Q				
1+ 5	0.0714	1.12	V Q				
1+10	0.0794	1.17	V Q				
1+15	0.0876	1.19	VQ				
1+20	0.0959	1.20	VQ				
1+25	0.1042	1.21	VQ				
1+30	0.1125	1.21	Q				
1+35	0.1209	1.21	Q				
1+40	0.1293	1.22	Q				
1+45	0.1377	1.22	QV				
1+50	0.1461	1.22	QV				
1+55	0.1545	1.22	QV				
2+ 0	0.1630	1.24	QV				
2+ 5	0.1719	1.29	QV				
2+10	0.1807	1.28	QV				
2+15	0.1898	1.32	QV				
2+20	0.1991	1.35	Q V				
2+25	0.2085	1.37	Q V				
2+30	0.2180	1.37	Q V				
2+35	0.2274	1.38	Q V				
2+40	0.2370	1.38	Q V				
2+45	0.2466	1.40	Q V				
2+50	0.2567	1.47	Q V				
2+55	0.2671	1.51	Q V				
3+ 0	0.2776	1.53	Q V				
3+ 5	0.2882	1.54	Q V				
3+10	0.2989	1.56	Q V				
3+15	0.3101	1.63	Q V				
3+20	0.3216	1.67	Q V				
3+25	0.3334	1.71	Q V				
3+30	0.3458	1.80	Q V				
3+35	0.3590	1.92	Q V				
3+40	0.3731	2.05	Q V				
3+45	0.3879	2.14	Q V				
3+50	0.4033	2.24	Q V				
3+55	0.4192	2.32	Q V				
4+ 0	0.4358	2.41	Q V				


4+ 5 0.4530 2.49
4+10 0.4709 2.60
4+15 0.4897 2.74
4+20 0.5096 2.89
4+25 0.5306 3.05
4+30 0.5526 3.19
4+35 0.5752 3.29
4+40 0.5987 3.41
4+45 0.6232 3.56
4+50 0.6487 3.70
4+55 0.6749 3.80
5+ 0 0.7019 3.92
5+ 5 0.7303 4.13
5+10 0.7620 4.60
5+15 0.7979 5.21
5+20 0.8376 5.76
5+25 0.8810 6.30
5+30 0.9294 7.02
5+35 0.9800 7.35
5+40 1.0174 5.42
5+45 1.0412 3.46
5+50 1.0578 2.41
5+55 1.0702 1.79
6+ 0 1.0793 1.32
6+ 5 1.0859 0.96
6+10 1.0903 0.64
6+15 1.0932 0.42
6+20 1.0951 0.28
6+25 1.0964 0.19
6+30 1.0972 0.11
6+35 1.0976 0.05
6+40 1.0977 0.03
6+45 1.0978 0.02
6+50 1.0979 0.01
6+55 1.0979 0.00
7+ 0 1.0979 0.00

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/11/22 File: JanaPost24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6481

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Jana Commercial Development
Post Development
100 YR

Drainage Area = 4.04(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.04(Ac.) = 0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.128 Hr.
Lag time = 7.68 Min.
25% of lag time = 1.92 Min.
40% of lag time = 3.07 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]
4.04	2.45	9.90

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.04            6.35                  25.65

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.450(In)
Area Averaged 100-Year Rainfall =    6.350(In)

Point rain (area averaged) =    6.350(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    6.350(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.040           74.17         0.900
 Total Area Entered =      4.04(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
74.2  87.5      0.158     0.900        0.030       1.000      0.030
                                                 Sum (F) =   0.030
Area averaged mean soil loss (F) (In/Hr) =  0.030
Minimum soil loss rate ((In/Hr)) =  0.015
(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   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083         65.104          9.410             0.383
    2   0.167        130.208         37.337             1.520
    3   0.250        195.313         24.835             1.011
    4   0.333        260.417          9.555             0.389
    5   0.417        325.521          5.771             0.235
    6   0.500        390.625          3.874             0.158
    7   0.583        455.729          2.651             0.108
    8   0.667        520.833          1.989             0.081
    9   0.750        585.938          1.513             0.062
   10   0.833        651.042          1.118             0.046
   11   0.917        716.146          0.783             0.032
   12   1.000        781.250          0.651             0.027
   13   1.083        846.354          0.513             0.021
```

Sum = 100.000 Sum= 4.072

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	0.051	(0.053)	0.009	0.042
2	0.17	0.07	0.051	(0.053)	0.009	0.042
3	0.25	0.07	0.051	(0.053)	0.009	0.042
4	0.33	0.10	0.076	(0.053)	0.014	0.062
5	0.42	0.10	0.076	(0.053)	0.014	0.062
6	0.50	0.10	0.076	(0.052)	0.014	0.062
7	0.58	0.10	0.076	(0.052)	0.014	0.062
8	0.67	0.10	0.076	(0.052)	0.014	0.062
9	0.75	0.10	0.076	(0.052)	0.014	0.062
10	0.83	0.13	0.102	(0.052)	0.018	0.083
11	0.92	0.13	0.102	(0.051)	0.018	0.083
12	1.00	0.13	0.102	(0.051)	0.018	0.083
13	1.08	0.10	0.076	(0.051)	0.014	0.062
14	1.17	0.10	0.076	(0.051)	0.014	0.062
15	1.25	0.10	0.076	(0.051)	0.014	0.062
16	1.33	0.10	0.076	(0.050)	0.014	0.062
17	1.42	0.10	0.076	(0.050)	0.014	0.062
18	1.50	0.10	0.076	(0.050)	0.014	0.062
19	1.58	0.10	0.076	(0.050)	0.014	0.062
20	1.67	0.10	0.076	(0.050)	0.014	0.062
21	1.75	0.10	0.076	(0.049)	0.014	0.062
22	1.83	0.13	0.102	(0.049)	0.018	0.083
23	1.92	0.13	0.102	(0.049)	0.018	0.083
24	2.00	0.13	0.102	(0.049)	0.018	0.083
25	2.08	0.13	0.102	(0.049)	0.018	0.083
26	2.17	0.13	0.102	(0.048)	0.018	0.083
27	2.25	0.13	0.102	(0.048)	0.018	0.083
28	2.33	0.13	0.102	(0.048)	0.018	0.083
29	2.42	0.13	0.102	(0.048)	0.018	0.083
30	2.50	0.13	0.102	(0.048)	0.018	0.083
31	2.58	0.17	0.127	(0.047)	0.023	0.104
32	2.67	0.17	0.127	(0.047)	0.023	0.104
33	2.75	0.17	0.127	(0.047)	0.023	0.104
34	2.83	0.17	0.127	(0.047)	0.023	0.104
35	2.92	0.17	0.127	(0.047)	0.023	0.104
36	3.00	0.17	0.127	(0.046)	0.023	0.104
37	3.08	0.17	0.127	(0.046)	0.023	0.104
38	3.17	0.17	0.127	(0.046)	0.023	0.104
39	3.25	0.17	0.127	(0.046)	0.023	0.104
40	3.33	0.17	0.127	(0.046)	0.023	0.104
41	3.42	0.17	0.127	(0.045)	0.023	0.104

42	3.50	0.17	0.127	(0.045)	0.023	0.104
43	3.58	0.17	0.127	(0.045)	0.023	0.104
44	3.67	0.17	0.127	(0.045)	0.023	0.104
45	3.75	0.17	0.127	(0.045)	0.023	0.104
46	3.83	0.20	0.152	(0.044)	0.027	0.125
47	3.92	0.20	0.152	(0.044)	0.027	0.125
48	4.00	0.20	0.152	(0.044)	0.027	0.125
49	4.08	0.20	0.152	(0.044)	0.027	0.125
50	4.17	0.20	0.152	(0.044)	0.027	0.125
51	4.25	0.20	0.152	(0.044)	0.027	0.125
52	4.33	0.23	0.178	(0.043)	0.032	0.146
53	4.42	0.23	0.178	(0.043)	0.032	0.146
54	4.50	0.23	0.178	(0.043)	0.032	0.146
55	4.58	0.23	0.178	(0.043)	0.032	0.146
56	4.67	0.23	0.178	(0.043)	0.032	0.146
57	4.75	0.23	0.178	(0.042)	0.032	0.146
58	4.83	0.27	0.203	(0.042)	0.037	0.167
59	4.92	0.27	0.203	(0.042)	0.037	0.167
60	5.00	0.27	0.203	(0.042)	0.037	0.167
61	5.08	0.20	0.152	(0.042)	0.027	0.125
62	5.17	0.20	0.152	(0.042)	0.027	0.125
63	5.25	0.20	0.152	(0.041)	0.027	0.125
64	5.33	0.23	0.178	(0.041)	0.032	0.146
65	5.42	0.23	0.178	(0.041)	0.032	0.146
66	5.50	0.23	0.178	(0.041)	0.032	0.146
67	5.58	0.27	0.203	(0.041)	0.037	0.167
68	5.67	0.27	0.203	(0.040)	0.037	0.167
69	5.75	0.27	0.203	(0.040)	0.037	0.167
70	5.83	0.27	0.203	(0.040)	0.037	0.167
71	5.92	0.27	0.203	(0.040)	0.037	0.167
72	6.00	0.27	0.203	(0.040)	0.037	0.167
73	6.08	0.30	0.229	0.040	(0.041)	0.189
74	6.17	0.30	0.229	0.039	(0.041)	0.189
75	6.25	0.30	0.229	0.039	(0.041)	0.189
76	6.33	0.30	0.229	0.039	(0.041)	0.190
77	6.42	0.30	0.229	0.039	(0.041)	0.190
78	6.50	0.30	0.229	0.039	(0.041)	0.190
79	6.58	0.33	0.254	0.039	(0.046)	0.215
80	6.67	0.33	0.254	0.038	(0.046)	0.216
81	6.75	0.33	0.254	0.038	(0.046)	0.216
82	6.83	0.33	0.254	0.038	(0.046)	0.216
83	6.92	0.33	0.254	0.038	(0.046)	0.216
84	7.00	0.33	0.254	0.038	(0.046)	0.216
85	7.08	0.33	0.254	0.037	(0.046)	0.217
86	7.17	0.33	0.254	0.037	(0.046)	0.217
87	7.25	0.33	0.254	0.037	(0.046)	0.217
88	7.33	0.37	0.279	0.037	(0.050)	0.242
89	7.42	0.37	0.279	0.037	(0.050)	0.243
90	7.50	0.37	0.279	0.037	(0.050)	0.243
91	7.58	0.40	0.305	0.036	(0.055)	0.268

92	7.67	0.40	0.305	0.036	(	0.055)	0.268
93	7.75	0.40	0.305	0.036	(	0.055)	0.269
94	7.83	0.43	0.330	0.036	(	0.059)	0.294
95	7.92	0.43	0.330	0.036	(	0.059)	0.294
96	8.00	0.43	0.330	0.036	(	0.059)	0.295
97	8.08	0.50	0.381	0.035	(	0.069)	0.346
98	8.17	0.50	0.381	0.035	(	0.069)	0.346
99	8.25	0.50	0.381	0.035	(	0.069)	0.346
100	8.33	0.50	0.381	0.035	(	0.069)	0.346
101	8.42	0.50	0.381	0.035	(	0.069)	0.346
102	8.50	0.50	0.381	0.035	(	0.069)	0.346
103	8.58	0.53	0.406	0.034	(	0.073)	0.372
104	8.67	0.53	0.406	0.034	(	0.073)	0.372
105	8.75	0.53	0.406	0.034	(	0.073)	0.372
106	8.83	0.57	0.432	0.034	(	0.078)	0.398
107	8.92	0.57	0.432	0.034	(	0.078)	0.398
108	9.00	0.57	0.432	0.034	(	0.078)	0.398
109	9.08	0.63	0.483	0.034	(	0.087)	0.449
110	9.17	0.63	0.483	0.033	(	0.087)	0.449
111	9.25	0.63	0.483	0.033	(	0.087)	0.449
112	9.33	0.67	0.508	0.033	(	0.091)	0.475
113	9.42	0.67	0.508	0.033	(	0.091)	0.475
114	9.50	0.67	0.508	0.033	(	0.091)	0.475
115	9.58	0.70	0.533	0.033	(	0.096)	0.501
116	9.67	0.70	0.533	0.032	(	0.096)	0.501
117	9.75	0.70	0.533	0.032	(	0.096)	0.501
118	9.83	0.73	0.559	0.032	(	0.101)	0.527
119	9.92	0.73	0.559	0.032	(	0.101)	0.527
120	10.00	0.73	0.559	0.032	(	0.101)	0.527
121	10.08	0.50	0.381	0.032	(	0.069)	0.349
122	10.17	0.50	0.381	0.031	(	0.069)	0.350
123	10.25	0.50	0.381	0.031	(	0.069)	0.350
124	10.33	0.50	0.381	0.031	(	0.069)	0.350
125	10.42	0.50	0.381	0.031	(	0.069)	0.350
126	10.50	0.50	0.381	0.031	(	0.069)	0.350
127	10.58	0.67	0.508	0.031	(	0.091)	0.477
128	10.67	0.67	0.508	0.031	(	0.091)	0.477
129	10.75	0.67	0.508	0.030	(	0.091)	0.478
130	10.83	0.67	0.508	0.030	(	0.091)	0.478
131	10.92	0.67	0.508	0.030	(	0.091)	0.478
132	11.00	0.67	0.508	0.030	(	0.091)	0.478
133	11.08	0.63	0.483	0.030	(	0.087)	0.453
134	11.17	0.63	0.483	0.030	(	0.087)	0.453
135	11.25	0.63	0.483	0.030	(	0.087)	0.453
136	11.33	0.63	0.483	0.029	(	0.087)	0.453
137	11.42	0.63	0.483	0.029	(	0.087)	0.453
138	11.50	0.63	0.483	0.029	(	0.087)	0.453
139	11.58	0.57	0.432	0.029	(	0.078)	0.403
140	11.67	0.57	0.432	0.029	(	0.078)	0.403
141	11.75	0.57	0.432	0.029	(	0.078)	0.403

142	11.83	0.60	0.457	0.029	(	0.082)	0.429
143	11.92	0.60	0.457	0.028	(	0.082)	0.429
144	12.00	0.60	0.457	0.028	(	0.082)	0.429
145	12.08	0.83	0.635	0.028	(	0.114)	0.607
146	12.17	0.83	0.635	0.028	(	0.114)	0.607
147	12.25	0.83	0.635	0.028	(	0.114)	0.607
148	12.33	0.87	0.660	0.028	(	0.119)	0.633
149	12.42	0.87	0.660	0.028	(	0.119)	0.633
150	12.50	0.87	0.660	0.027	(	0.119)	0.633
151	12.58	0.93	0.711	0.027	(	0.128)	0.684
152	12.67	0.93	0.711	0.027	(	0.128)	0.684
153	12.75	0.93	0.711	0.027	(	0.128)	0.684
154	12.83	0.97	0.737	0.027	(	0.133)	0.710
155	12.92	0.97	0.737	0.027	(	0.133)	0.710
156	13.00	0.97	0.737	0.027	(	0.133)	0.710
157	13.08	1.13	0.864	0.026	(	0.155)	0.837
158	13.17	1.13	0.864	0.026	(	0.155)	0.837
159	13.25	1.13	0.864	0.026	(	0.155)	0.837
160	13.33	1.13	0.864	0.026	(	0.155)	0.838
161	13.42	1.13	0.864	0.026	(	0.155)	0.838
162	13.50	1.13	0.864	0.026	(	0.155)	0.838
163	13.58	0.77	0.584	0.026	(	0.105)	0.559
164	13.67	0.77	0.584	0.026	(	0.105)	0.559
165	13.75	0.77	0.584	0.025	(	0.105)	0.559
166	13.83	0.77	0.584	0.025	(	0.105)	0.559
167	13.92	0.77	0.584	0.025	(	0.105)	0.559
168	14.00	0.77	0.584	0.025	(	0.105)	0.559
169	14.08	0.90	0.686	0.025	(	0.123)	0.661
170	14.17	0.90	0.686	0.025	(	0.123)	0.661
171	14.25	0.90	0.686	0.025	(	0.123)	0.661
172	14.33	0.87	0.660	0.025	(	0.119)	0.636
173	14.42	0.87	0.660	0.024	(	0.119)	0.636
174	14.50	0.87	0.660	0.024	(	0.119)	0.636
175	14.58	0.87	0.660	0.024	(	0.119)	0.636
176	14.67	0.87	0.660	0.024	(	0.119)	0.636
177	14.75	0.87	0.660	0.024	(	0.119)	0.637
178	14.83	0.83	0.635	0.024	(	0.114)	0.611
179	14.92	0.83	0.635	0.024	(	0.114)	0.611
180	15.00	0.83	0.635	0.024	(	0.114)	0.611
181	15.08	0.80	0.610	0.023	(	0.110)	0.586
182	15.17	0.80	0.610	0.023	(	0.110)	0.586
183	15.25	0.80	0.610	0.023	(	0.110)	0.586
184	15.33	0.77	0.584	0.023	(	0.105)	0.561
185	15.42	0.77	0.584	0.023	(	0.105)	0.561
186	15.50	0.77	0.584	0.023	(	0.105)	0.561
187	15.58	0.63	0.483	0.023	(	0.087)	0.460
188	15.67	0.63	0.483	0.023	(	0.087)	0.460
189	15.75	0.63	0.483	0.022	(	0.087)	0.460
190	15.83	0.63	0.483	0.022	(	0.087)	0.460
191	15.92	0.63	0.483	0.022	(	0.087)	0.460

192	16.00	0.63	0.483	0.022	(0.087)	0.460
193	16.08	0.13	0.102	(0.022)	0.018	0.083
194	16.17	0.13	0.102	(0.022)	0.018	0.083
195	16.25	0.13	0.102	(0.022)	0.018	0.083
196	16.33	0.13	0.102	(0.022)	0.018	0.083
197	16.42	0.13	0.102	(0.022)	0.018	0.083
198	16.50	0.13	0.102	(0.021)	0.018	0.083
199	16.58	0.10	0.076	(0.021)	0.014	0.062
200	16.67	0.10	0.076	(0.021)	0.014	0.062
201	16.75	0.10	0.076	(0.021)	0.014	0.062
202	16.83	0.10	0.076	(0.021)	0.014	0.062
203	16.92	0.10	0.076	(0.021)	0.014	0.062
204	17.00	0.10	0.076	(0.021)	0.014	0.062
205	17.08	0.17	0.127	0.021	(0.023)	0.106
206	17.17	0.17	0.127	0.021	(0.023)	0.106
207	17.25	0.17	0.127	0.020	(0.023)	0.107
208	17.33	0.17	0.127	0.020	(0.023)	0.107
209	17.42	0.17	0.127	0.020	(0.023)	0.107
210	17.50	0.17	0.127	0.020	(0.023)	0.107
211	17.58	0.17	0.127	0.020	(0.023)	0.107
212	17.67	0.17	0.127	0.020	(0.023)	0.107
213	17.75	0.17	0.127	0.020	(0.023)	0.107
214	17.83	0.13	0.102	(0.020)	0.018	0.083
215	17.92	0.13	0.102	(0.020)	0.018	0.083
216	18.00	0.13	0.102	(0.020)	0.018	0.083
217	18.08	0.13	0.102	(0.019)	0.018	0.083
218	18.17	0.13	0.102	(0.019)	0.018	0.083
219	18.25	0.13	0.102	(0.019)	0.018	0.083
220	18.33	0.13	0.102	(0.019)	0.018	0.083
221	18.42	0.13	0.102	(0.019)	0.018	0.083
222	18.50	0.13	0.102	(0.019)	0.018	0.083
223	18.58	0.10	0.076	(0.019)	0.014	0.062
224	18.67	0.10	0.076	(0.019)	0.014	0.062
225	18.75	0.10	0.076	(0.019)	0.014	0.062
226	18.83	0.07	0.051	(0.019)	0.009	0.042
227	18.92	0.07	0.051	(0.019)	0.009	0.042
228	19.00	0.07	0.051	(0.018)	0.009	0.042
229	19.08	0.10	0.076	(0.018)	0.014	0.062
230	19.17	0.10	0.076	(0.018)	0.014	0.062
231	19.25	0.10	0.076	(0.018)	0.014	0.062
232	19.33	0.13	0.102	0.018	(0.018)	0.083
233	19.42	0.13	0.102	0.018	(0.018)	0.084
234	19.50	0.13	0.102	0.018	(0.018)	0.084
235	19.58	0.10	0.076	(0.018)	0.014	0.062
236	19.67	0.10	0.076	(0.018)	0.014	0.062
237	19.75	0.10	0.076	(0.018)	0.014	0.062
238	19.83	0.07	0.051	(0.018)	0.009	0.042
239	19.92	0.07	0.051	(0.018)	0.009	0.042
240	20.00	0.07	0.051	(0.017)	0.009	0.042
241	20.08	0.10	0.076	(0.017)	0.014	0.062

242	20.17	0.10	0.076	(0.017)	0.014	0.062
243	20.25	0.10	0.076	(0.017)	0.014	0.062
244	20.33	0.10	0.076	(0.017)	0.014	0.062
245	20.42	0.10	0.076	(0.017)	0.014	0.062
246	20.50	0.10	0.076	(0.017)	0.014	0.062
247	20.58	0.10	0.076	(0.017)	0.014	0.062
248	20.67	0.10	0.076	(0.017)	0.014	0.062
249	20.75	0.10	0.076	(0.017)	0.014	0.062
250	20.83	0.07	0.051	(0.017)	0.009	0.042
251	20.92	0.07	0.051	(0.017)	0.009	0.042
252	21.00	0.07	0.051	(0.017)	0.009	0.042
253	21.08	0.10	0.076	(0.017)	0.014	0.062
254	21.17	0.10	0.076	(0.016)	0.014	0.062
255	21.25	0.10	0.076	(0.016)	0.014	0.062
256	21.33	0.07	0.051	(0.016)	0.009	0.042
257	21.42	0.07	0.051	(0.016)	0.009	0.042
258	21.50	0.07	0.051	(0.016)	0.009	0.042
259	21.58	0.10	0.076	(0.016)	0.014	0.062
260	21.67	0.10	0.076	(0.016)	0.014	0.062
261	21.75	0.10	0.076	(0.016)	0.014	0.062
262	21.83	0.07	0.051	(0.016)	0.009	0.042
263	21.92	0.07	0.051	(0.016)	0.009	0.042
264	22.00	0.07	0.051	(0.016)	0.009	0.042
265	22.08	0.10	0.076	(0.016)	0.014	0.062
266	22.17	0.10	0.076	(0.016)	0.014	0.062
267	22.25	0.10	0.076	(0.016)	0.014	0.062
268	22.33	0.07	0.051	(0.016)	0.009	0.042
269	22.42	0.07	0.051	(0.016)	0.009	0.042
270	22.50	0.07	0.051	(0.016)	0.009	0.042
271	22.58	0.07	0.051	(0.016)	0.009	0.042
272	22.67	0.07	0.051	(0.016)	0.009	0.042
273	22.75	0.07	0.051	(0.015)	0.009	0.042
274	22.83	0.07	0.051	(0.015)	0.009	0.042
275	22.92	0.07	0.051	(0.015)	0.009	0.042
276	23.00	0.07	0.051	(0.015)	0.009	0.042
277	23.08	0.07	0.051	(0.015)	0.009	0.042
278	23.17	0.07	0.051	(0.015)	0.009	0.042
279	23.25	0.07	0.051	(0.015)	0.009	0.042
280	23.33	0.07	0.051	(0.015)	0.009	0.042
281	23.42	0.07	0.051	(0.015)	0.009	0.042
282	23.50	0.07	0.051	(0.015)	0.009	0.042
283	23.58	0.07	0.051	(0.015)	0.009	0.042
284	23.67	0.07	0.051	(0.015)	0.009	0.042
285	23.75	0.07	0.051	(0.015)	0.009	0.042
286	23.83	0.07	0.051	(0.015)	0.009	0.042
287	23.92	0.07	0.051	(0.015)	0.009	0.042
288	24.00	0.07	0.051	(0.015)	0.009	0.042

(Loss Rate Not Used)

Sum = 100.0 Sum = 69.6

Flood volume = Effective rainfall 5.80(In)

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 times area       4.0(Ac.)/[(In)/(Ft.)] =       2.0(Ac.Ft)
Total soil loss =      0.55(In)
Total soil loss =     0.185(Ac.Ft)
Total rainfall =      6.35(In)
Flood volume =       85082.5 Cubic Feet
Total soil loss =        8040.8 Cubic Feet
---------------------------------------------------------------------
 Peak flow rate of this hydrograph =      3.360(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       0.0001      0.02  Q         |         |         |         |
  0+10       0.0007      0.08  Q         |         |         |         |
  0+15       0.0015      0.12  Q         |         |         |         |
  0+20       0.0025      0.15  Q         |         |         |         |
  0+25       0.0038      0.19  Q         |         |         |         |
  0+30       0.0053      0.21  Q         |         |         |         |
  0+35       0.0068      0.23  Q         |         |         |         |
  0+40       0.0085      0.24  Q         |         |         |         |
  0+45       0.0101      0.24  Q         |         |         |         |
  0+50       0.0119      0.25  VQ        |         |         |         |
  0+55       0.0138      0.29  VQ        |         |         |         |
  1+ 0       0.0160      0.31  VQ        |         |         |         |
  1+ 5       0.0182      0.31  VQ        |         |         |         |
  1+10       0.0201      0.29  VQ        |         |         |         |
  1+15       0.0220      0.27  VQ        |         |         |         |
  1+20       0.0238      0.26  VQ        |         |         |         |
  1+25       0.0256      0.26  VQ        |         |         |         |
  1+30       0.0274      0.26  VQ        |         |         |         |
  1+35       0.0292      0.26  VQ        |         |         |         |
  1+40       0.0310      0.26  VQ        |         |         |         |
  1+45       0.0327      0.26  VQ        |         |         |         |
  1+50       0.0346      0.26  VQ        |         |         |         |
  1+55       0.0366      0.30  VQ        |         |         |         |
  2+ 0       0.0388      0.32  VQ        |         |         |         |
  2+ 5       0.0410      0.32  VQ        |         |         |         |
  2+10       0.0433      0.33  VQ        |         |         |         |
  2+15       0.0455      0.33  VQ        |         |         |         |
  2+20       0.0478      0.33  VQ        |         |         |         |
  2+25       0.0501      0.34  |Q        |         |         |         |
  2+30       0.0525      0.34  |Q        |         |         |         |
  2+35       0.0548      0.35  |Q        |         |         |         |
  2+40       0.0574      0.38  |Q        |         |         |         |
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2+45       0.0602      0.40  |Q        |         |         |         |
2+50       0.0630      0.41  |Q        |         |         |         |
2+55       0.0659      0.41  |Q        |         |         |         |
3+ 0       0.0687      0.42  |Q        |         |         |         |
3+ 5       0.0716      0.42  |Q        |         |         |         |
3+10       0.0745      0.42  |Q        |         |         |         |
3+15       0.0774      0.42  |Q        |         |         |         |
3+20       0.0803      0.42  |Q        |         |         |         |
3+25       0.0832      0.42  |Q        |         |         |         |
3+30       0.0862      0.42  |Q        |         |         |         |
3+35       0.0891      0.42  |Q        |         |         |         |
3+40       0.0920      0.42  |Q        |         |         |         |
3+45       0.0949      0.42  |Q        |         |         |         |
3+50       0.0979      0.43  |QV       |         |         |         |
3+55       0.1011      0.46  |QV       |         |         |         |
4+ 0       0.1044      0.48  |QV       |         |         |         |
4+ 5       0.1078      0.49  |QV       |         |         |         |
4+10       0.1113      0.50  |QV       |         |         |         |
4+15       0.1147      0.50  | Q       |         |         |         |
4+20       0.1182      0.51  | Q       |         |         |         |
4+25       0.1220      0.54  | Q       |         |         |         |
4+30       0.1259      0.57  | Q       |         |         |         |
4+35       0.1299      0.58  | Q       |         |         |         |
4+40       0.1339      0.58  | Q       |         |         |         |
4+45       0.1379      0.59  | Q       |         |         |         |
4+50       0.1420      0.60  | Q       |         |         |         |
4+55       0.1463      0.63  | Q       |         |         |         |
5+ 0       0.1508      0.65  | QV      |         |         |         |
5+ 5       0.1553      0.65  | QV      |         |         |         |
5+10       0.1593      0.59  | QV      |         |         |         |
5+15       0.1631      0.55  | QV      |         |         |         |
5+20       0.1668      0.54  | QV      |         |         |         |
5+25       0.1707      0.57  | QV      |         |         |         |
5+30       0.1748      0.58  | QV      |         |         |         |
5+35       0.1789      0.60  | QV      |         |         |         |
5+40       0.1832      0.63  | QV      |         |         |         |
5+45       0.1877      0.65  | QV      |         |         |         |
5+50       0.1922      0.66  | QV      |         |         |         |
5+55       0.1968      0.67  | Q V     |         |         |         |
6+ 0       0.2014      0.67  | Q V     |         |         |         |
6+ 5       0.2061      0.68  | Q V     |         |         |         |
6+10       0.2110      0.72  | Q V     |         |         |         |
6+15       0.2162      0.74  | Q V     |         |         |         |
6+20       0.2213      0.75  |  QV     |         |         |         |
6+25       0.2266      0.76  |  QV     |         |         |         |
6+30       0.2318      0.76  |  QV     |         |         |         |
6+35       0.2372      0.78  |  QV     |         |         |         |
6+40       0.2428      0.82  |  QV     |         |         |         |
6+45       0.2486      0.85  |  Q V    |         |         |         |
6+50       0.2545      0.86  |  Q V    |         |         |         |
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 6+55       0.2605      0.86  |  Q V    |         |         |         |
 7+ 0       0.2665      0.87  |  Q V    |         |         |         |
 7+ 5       0.2725      0.87  |  Q V    |         |         |         |
 7+10       0.2785      0.88  |  Q V    |         |         |         |
 7+15       0.2846      0.88  |  Q V    |         |         |         |
 7+20       0.2907      0.89  |  Q V    |         |         |         |
 7+25       0.2971      0.93  |  Q  V   |         |         |         |
 7+30       0.3037      0.96  |  Q  V   |         |         |         |
 7+35       0.3104      0.98  |  Q  V   |         |         |         |
 7+40       0.3175      1.02  |   Q V   |         |         |         |
 7+45       0.3247      1.05  |   Q V   |         |         |         |
 7+50       0.3322      1.08  |   Q V   |         |         |         |
 7+55       0.3399      1.12  |   Q V   |         |         |         |
 8+ 0       0.3479      1.16  |   Q  V  |         |         |         |
 8+ 5       0.3561      1.19  |   Q  V  |         |         |         |
 8+10       0.3649      1.28  |    Q V  |         |         |         |
 8+15       0.3741      1.34  |    Q V  |         |         |         |
 8+20       0.3834      1.36  |    Q V  |         |         |         |
 8+25       0.3929      1.38  |    Q  V |         |         |         |
 8+30       0.4024      1.39  |    Q  V |         |         |         |
 8+35       0.4121      1.40  |    Q  V |         |         |         |
 8+40       0.4221      1.45  |    Q  V |         |         |         |
 8+45       0.4323      1.48  |    Q  V |         |         |         |
 8+50       0.4426      1.50  |     Q  V|         |         |         |
 8+55       0.4533      1.55  |     Q  V|         |         |         |
 9+ 0       0.4642      1.58  |     Q  V|         |         |         |
 9+ 5       0.4753      1.61  |     Q  V|         |         |         |
 9+10       0.4870      1.70  |     Q  V|         |         |         |
 9+15       0.4991      1.76  |      Q  V         |         |         |
 9+20       0.5114      1.79  |      Q  V         |         |         |
 9+25       0.5241      1.85  |      Q  V         |         |         |
 9+30       0.5371      1.88  |      Q  V         |         |         |
 9+35       0.5503      1.91  |      Q  |V        |         |         |
 9+40       0.5638      1.96  |      Q  |V        |         |         |
 9+45       0.5775      1.99  |      Q  |V        |         |         |
 9+50       0.5914      2.02  |       Q | V       |         |         |
 9+55       0.6057      2.07  |       Q | V       |         |         |
10+ 0       0.6201      2.10  |       Q | V       |         |         |
10+ 5       0.6342      2.05  |       Q | V       |         |         |
10+10       0.6466      1.79  |      Q  |  V      |         |         |
10+15       0.6577      1.62  |     Q   |  V      |         |         |
10+20       0.6684      1.55  |     Q   |  V      |         |         |
10+25       0.6788      1.51  |     Q   |  V      |         |         |
10+30       0.6890      1.49  |    Q    |   V     |         |         |
10+35       0.6995      1.52  |     Q   |   V     |         |         |
10+40       0.7112      1.70  |     Q   |   V     |         |         |
10+45       0.7237      1.82  |      Q  |   V     |         |         |
10+50       0.7366      1.86  |      Q  |    V    |         |         |
10+55       0.7495      1.89  |      Q  |    V    |         |         |
11+ 0       0.7626      1.90  |      Q  |    V    |         |         |
```

11+ 5	0.7758	1.90	Q	V			
11+10	0.7887	1.88	Q	V			
11+15	0.8015	1.86	Q	V			
11+20	0.8142	1.85	Q	V			
11+25	0.8270	1.85	Q	V			
11+30	0.8398	1.85	Q	V			
11+35	0.8524	1.83	Q	V			
11+40	0.8645	1.76	Q	V			
11+45	0.8762	1.70	Q	V			
11+50	0.8879	1.69	Q	V			
11+55	0.8997	1.72	Q	V			
12+ 0	0.9116	1.74	Q	V			
12+ 5	0.9241	1.81	Q	V			
12+10	0.9384	2.08	Q	V			
12+15	0.9540	2.26	Q	V			
12+20	0.9702	2.34	Q	V			
12+25	0.9869	2.42	Q	V			
12+30	1.0039	2.48	Q	V			
12+35	1.0213	2.53	Q	V			
12+40	1.0394	2.63	Q	V			
12+45	1.0580	2.69	Q	V			
12+50	1.0768	2.74	Q	V			
12+55	1.0961	2.80	Q	V			
13+ 0	1.1156	2.84	Q	V			
13+ 5	1.1356	2.91	Q	V			
13+10	1.1570	3.11	Q	V			
13+15	1.1794	3.25	Q	V			
13+20	1.2021	3.30	Q	V			
13+25	1.2251	3.34	Q	V			
13+30	1.2483	3.36	Q	V			
13+35	1.2708	3.27	Q	V			
13+40	1.2904	2.86	Q	V			
13+45	1.3082	2.58	Q	V			
13+50	1.3253	2.48	Q	V			
13+55	1.3420	2.42	Q	V			
14+ 0	1.3584	2.38	Q	V			
14+ 5	1.3748	2.39	Q	V			
14+10	1.3922	2.52	Q	V			
14+15	1.4102	2.61	Q	V			
14+20	1.4283	2.63	Q	V			
14+25	1.4462	2.60	Q	V			
14+30	1.4640	2.59	Q	V			
14+35	1.4818	2.58	Q	V			
14+40	1.4996	2.59	Q	V			
14+45	1.5174	2.59	Q	V			
14+50	1.5352	2.58	Q	V			
14+55	1.5527	2.54	Q	V			
15+ 0	1.5701	2.52	Q	V			
15+ 5	1.5873	2.50	Q	V			
15+10	1.6043	2.46	Q	V			

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15+15       1.6210      2.43  |         Q|          |          |  V       |
15+20       1.6375      2.40  |         Q|          |          |  V       |
15+25       1.6538      2.36  |         Q|          |          |  V       |
15+30       1.6698      2.33  |         Q|          |          |   V      |
15+35       1.6855      2.28  |         Q|          |          |   V      |
15+40       1.7000      2.11  |        Q |          |          |   V      |
15+45       1.7138      2.00  |        Q |          |          |    V     |
15+50       1.7273      1.96  |       Q  |          |          |    V     |
15+55       1.7407      1.93  |       Q  |          |          |    V     |
16+ 0       1.7539      1.92  |       Q  |          |          |    V     |
16+ 5       1.7660      1.76  |       Q  |          |          |     V    |
16+10       1.7741      1.18  |    Q     |          |          |     V    |
16+15       1.7795      0.79  |   Q      |          |          |     V    |
16+20       1.7839      0.64  |  Q       |          |          |     V    |
16+25       1.7877      0.55  |  Q       |          |          |     V    |
16+30       1.7910      0.48  |Q         |          |          |     V    |
16+35       1.7940      0.43  |Q         |          |          |     V    |
16+40       1.7965      0.37  |Q         |          |          |     V    |
16+45       1.7988      0.33  |Q         |          |          |     V    |
16+50       1.8008      0.30  |Q         |          |          |     V    |
16+55       1.8028      0.28  |Q         |          |          |     V    |
17+ 0       1.8046      0.27  |Q         |          |          |     V    |
17+ 5       1.8066      0.28  |Q         |          |          |     V    |
17+10       1.8089      0.34  |Q         |          |          |      V   |
17+15       1.8116      0.39  |Q         |          |          |      V   |
17+20       1.8143      0.40  |Q         |          |          |      V   |
17+25       1.8172      0.41  |Q         |          |          |      V   |
17+30       1.8200      0.42  |Q         |          |          |      V   |
17+35       1.8230      0.42  |Q         |          |          |      V   |
17+40       1.8259      0.43  |Q         |          |          |      V   |
17+45       1.8289      0.43  |Q         |          |          |      V   |
17+50       1.8318      0.42  |Q         |          |          |      V   |
17+55       1.8344      0.39  |Q         |          |          |      V   |
18+ 0       1.8370      0.37  |Q         |          |          |      V   |
18+ 5       1.8394      0.36  |Q         |          |          |      V   |
18+10       1.8419      0.35  |Q         |          |          |      V   |
18+15       1.8443      0.35  |Q         |          |          |      V   |
18+20       1.8466      0.35  |Q         |          |          |      V   |
18+25       1.8490      0.34  |Q         |          |          |      V   |
18+30       1.8514      0.34  |Q         |          |          |      V   |
18+35       1.8537      0.33  |Q         |          |          |      V   |
18+40       1.8557      0.30  |Q         |          |          |       V  |
18+45       1.8576      0.28  |Q         |          |          |       V  |
18+50       1.8595      0.26  |Q         |          |          |       V  |
18+55       1.8610      0.23  Q          |          |          |       V  |
19+ 0       1.8624      0.20  Q          |          |          |       V  |
19+ 5       1.8638      0.20  Q          |          |          |       V  |
19+10       1.8653      0.22  Q          |          |          |       V  |
19+15       1.8670      0.24  Q          |          |          |       V  |
19+20       1.8687      0.25  |Q         |          |          |       V  |
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19+25       1.8707      0.29  |Q        |         |         |        V |
19+30       1.8729      0.31  |Q        |         |         |        V |
19+35       1.8750      0.31  |Q        |         |         |        V |
19+40       1.8770      0.29  |Q        |         |         |        V |
19+45       1.8788      0.27  |Q        |         |         |        V |
19+50       1.8806      0.26  |Q        |         |         |        V |
19+55       1.8821      0.22  Q         |         |         |        V |
20+ 0       1.8835      0.20  Q         |         |         |        V |
20+ 5       1.8848      0.20  Q         |         |         |        V |
20+10       1.8864      0.22  Q         |         |         |        V |
20+15       1.8880      0.24  Q         |         |         |        V |
20+20       1.8897      0.25  Q         |         |         |        V |
20+25       1.8914      0.25  Q         |         |         |        V |
20+30       1.8932      0.25  Q         |         |         |        V |
20+35       1.8949      0.25  |Q        |         |         |        V |
20+40       1.8966      0.25  |Q        |         |         |        V |
20+45       1.8984      0.25  |Q        |         |         |        V |
20+50       1.9000      0.24  Q         |         |         |        V |
20+55       1.9015      0.21  Q         |         |         |        V |
21+ 0       1.9028      0.19  Q         |         |         |        V |
21+ 5       1.9042      0.19  Q         |         |         |        V |
21+10       1.9057      0.22  Q         |         |         |         V|
21+15       1.9073      0.24  Q         |         |         |         V|
21+20       1.9090      0.24  Q         |         |         |         V|
21+25       1.9104      0.21  Q         |         |         |         V|
21+30       1.9117      0.19  Q         |         |         |         V|
21+35       1.9130      0.19  Q         |         |         |         V|
21+40       1.9145      0.22  Q         |         |         |         V|
21+45       1.9161      0.24  Q         |         |         |         V|
21+50       1.9177      0.23  Q         |         |         |         V|
21+55       1.9192      0.21  Q         |         |         |         V|
22+ 0       1.9205      0.19  Q         |         |         |         V|
22+ 5       1.9218      0.19  Q         |         |         |         V|
22+10       1.9233      0.22  Q         |         |         |         V|
22+15       1.9249      0.24  Q         |         |         |         V|
22+20       1.9265      0.23  Q         |         |         |         V|
22+25       1.9279      0.21  Q         |         |         |         V|
22+30       1.9292      0.19  Q         |         |         |         V|
22+35       1.9305      0.18  Q         |         |         |         V|
22+40       1.9317      0.18  Q         |         |         |         V|
22+45       1.9329      0.18  Q         |         |         |         V|
22+50       1.9341      0.17  Q         |         |         |         V|
22+55       1.9353      0.17  Q         |         |         |         V|
23+ 0       1.9365      0.17  Q         |         |         |         V|
23+ 5       1.9377      0.17  Q         |         |         |         V|
23+10       1.9388      0.17  Q         |         |         |         V|
23+15       1.9400      0.17  Q         |         |         |         V|
23+20       1.9412      0.17  Q         |         |         |         V|
23+25       1.9423      0.17  Q         |         |         |         V|
23+30       1.9435      0.17  Q         |         |         |         V|
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   23+35       1.9447      0.17  Q         |          |          |         V|
   23+40       1.9458      0.17  Q         |          |          |         V|
   23+45       1.9470      0.17  Q         |          |          |         V|
   23+50       1.9482      0.17  Q         |          |          |         V|
   23+55       1.9494      0.17  Q         |          |          |         V|
   24+ 0       1.9505      0.17  Q         |          |          |         V|
   24+ 5       1.9516      0.15  Q         |          |          |         V|
   24+10       1.9522      0.09  Q         |          |          |         V|
   24+15       1.9525      0.05  Q         |          |          |         V|
   24+20       1.9528      0.03  Q         |          |          |         V|
   24+25       1.9529      0.02  Q         |          |          |         V|
   24+30       1.9530      0.02  Q         |          |          |         V|
   24+35       1.9531      0.01  Q         |          |          |         V|
   24+40       1.9531      0.01  Q         |          |          |         V|
   24+45       1.9532      0.01  Q         |          |          |         V|
   24+50       1.9532      0.00  Q         |          |          |         V|
   24+55       1.9532      0.00  Q         |          |          |         V|
   25+ 0       1.9532      0.00  Q         |          |          |          V
-------------------------------------------------------------------------
```

```
                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
                      Study date: 03/14/22

------------------------------------------------------------------------


Jana Commercial Development
Post Development
100 yr 1 hr

------------------------------------------------------------------------


Program License Serial Number 6481

------------------------------------------------------------------------
********************* HYDROGRAPH INFORMATION **********************

                From study/file name: janapost1100.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    24
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =       11.304 (CFS)
                Total volume =       0.498 (Ac.Ft)
        Status of hydrographs being held in storage
                    Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        0.000 to Point/Station        0.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 24
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.137	0.118	0.137	0.137
2.000	0.274	0.170	0.273	0.275
4.000	0.548	0.244	0.547	0.549
6.000	0.823	2.414	0.815	0.831
8.000	1.097	4.459	1.082	1.112

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 2.8 5.65 8.48 11.30	Depth (Ft.)
0.083	0.29	0.00	0.001	O | | | |	0.01
0.167	1.47	0.01	0.007	O I | | | |	0.05
0.250	2.33	0.02	0.020	O I | | | |	0.15
0.333	2.90	0.03	0.038	O I | | |	0.28
0.417	3.27	0.05	0.059	O |I | | |	0.43
0.500	3.59	0.07	0.082	O | I | | |	0.60
0.583	4.07	0.09	0.108	O | I | | |	0.79
0.667	4.80	0.12	0.138	O | I | | |	1.01
0.750	5.80	0.13	0.173	O | I | |	1.27
0.833	8.12	0.15	0.220	O | | I | |	1.61
0.917	11.30	0.17	0.286	O | | | I |	2.09
1.000	8.97	0.19	0.355	O | | |I |	2.59
1.083	5.72	0.21	0.404	O | I | |	2.95
1.167	3.33	0.21	0.434	O |I | | |	3.16
1.250	1.98	0.22	0.450	O I | | | |	3.29
1.333	1.35	0.22	0.460	O I | | | |	3.36
1.417	0.97	0.22	0.467	O I | | | |	3.41
1.500	0.71	0.22	0.471	O I | | | |	3.44
1.583	0.51	0.22	0.474	OI | | | |	3.46
1.667	0.36	0.22	0.475	OI | | | |	3.47
1.750	0.25	0.22	0.476	O | | | |	3.47
1.833	0.16	0.22	0.476	O | | | |	3.47
1.917	0.05	0.22	0.475	O | | | |	3.47
2.000	0.02	0.22	0.474	O | | | |	3.46
2.083	0.00	0.22	0.472	O | | | |	3.45
2.167	0.00	0.22	0.471	O | | | |	3.43
2.250	0.00	0.22	0.469	O | | | |	3.42
2.333	0.00	0.22	0.467	O | | | |	3.41
2.417	0.00	0.22	0.466	O | | | |	3.40
2.500	0.00	0.22	0.464	O | | | |	3.39

2.583	0.00	0.22	0.463	O				3.38
2.667	0.00	0.22	0.461	O				3.37
2.750	0.00	0.22	0.460	O				3.36
2.833	0.00	0.22	0.458	O				3.35
2.917	0.00	0.22	0.457	O				3.33
3.000	0.00	0.22	0.455	O				3.32
3.083	0.00	0.22	0.454	O				3.31
3.167	0.00	0.22	0.452	O				3.30
3.250	0.00	0.22	0.451	O				3.29
3.333	0.00	0.22	0.449	O				3.28
3.417	0.00	0.22	0.448	O				3.27
3.500	0.00	0.22	0.446	O				3.26
3.583	0.00	0.22	0.445	O				3.25
3.667	0.00	0.22	0.443	O				3.24
3.750	0.00	0.22	0.442	O				3.23
3.833	0.00	0.21	0.440	O				3.21
3.917	0.00	0.21	0.439	O				3.20
4.000	0.00	0.21	0.437	O				3.19
4.083	0.00	0.21	0.436	O				3.18
4.167	0.00	0.21	0.434	O				3.17
4.250	0.00	0.21	0.433	O				3.16
4.333	0.00	0.21	0.432	O				3.15
4.417	0.00	0.21	0.430	O				3.14
4.500	0.00	0.21	0.429	O				3.13
4.583	0.00	0.21	0.427	O				3.12
4.667	0.00	0.21	0.426	O				3.11
4.750	0.00	0.21	0.424	O				3.10
4.833	0.00	0.21	0.423	O				3.09
4.917	0.00	0.21	0.421	O				3.08
5.000	0.00	0.21	0.420	O				3.07
5.083	0.00	0.21	0.418	O				3.05
5.167	0.00	0.21	0.417	O				3.04
5.250	0.00	0.21	0.416	O				3.03
5.333	0.00	0.21	0.414	O				3.02
5.417	0.00	0.21	0.413	O				3.01
5.500	0.00	0.21	0.411	O				3.00
5.583	0.00	0.21	0.410	O				2.99
5.667	0.00	0.21	0.408	O				2.98
5.750	0.00	0.21	0.407	O				2.97
5.833	0.00	0.21	0.406	O				2.96
5.917	0.00	0.21	0.404	O				2.95
6.000	0.00	0.20	0.403	O				2.94
6.083	0.00	0.20	0.401	O				2.93
6.167	0.00	0.20	0.400	O				2.92
6.250	0.00	0.20	0.399	O				2.91
6.333	0.00	0.20	0.397	O				2.90
6.417	0.00	0.20	0.396	O				2.89
6.500	0.00	0.20	0.394	O				2.88
6.583	0.00	0.20	0.393	O				2.87
6.667	0.00	0.20	0.392	O				2.86

6.750	0.00	0.20	0.390	O				2.85
6.833	0.00	0.20	0.389	O				2.84
6.917	0.00	0.20	0.387	O				2.83
7.000	0.00	0.20	0.386	O				2.82
7.083	0.00	0.20	0.385	O				2.81
7.167	0.00	0.20	0.383	O				2.80
7.250	0.00	0.20	0.382	O				2.79
7.333	0.00	0.20	0.381	O				2.78
7.417	0.00	0.20	0.379	O				2.77
7.500	0.00	0.20	0.378	O				2.76
7.583	0.00	0.20	0.376	O				2.75
7.667	0.00	0.20	0.375	O				2.74
7.750	0.00	0.20	0.374	O				2.73
7.833	0.00	0.20	0.372	O				2.72
7.917	0.00	0.20	0.371	O				2.71
8.000	0.00	0.20	0.370	O				2.70
8.083	0.00	0.20	0.368	O				2.69
8.167	0.00	0.20	0.367	O				2.68
8.250	0.00	0.19	0.366	O				2.67
8.333	0.00	0.19	0.364	O				2.66
8.417	0.00	0.19	0.363	O				2.65
8.500	0.00	0.19	0.362	O				2.64
8.583	0.00	0.19	0.360	O				2.63
8.667	0.00	0.19	0.359	O				2.62
8.750	0.00	0.19	0.358	O				2.61
8.833	0.00	0.19	0.356	O				2.60
8.917	0.00	0.19	0.355	O				2.59
9.000	0.00	0.19	0.354	O				2.58
9.083	0.00	0.19	0.352	O				2.57
9.167	0.00	0.19	0.351	O				2.56
9.250	0.00	0.19	0.350	O				2.55
9.333	0.00	0.19	0.348	O				2.54
9.417	0.00	0.19	0.347	O				2.53
9.500	0.00	0.19	0.346	O				2.52
9.583	0.00	0.19	0.345	O				2.51
9.667	0.00	0.19	0.343	O				2.51
9.750	0.00	0.19	0.342	O				2.50
9.833	0.00	0.19	0.341	O				2.49
9.917	0.00	0.19	0.339	O				2.48
10.000	0.00	0.19	0.338	O				2.47
10.083	0.00	0.19	0.337	O				2.46
10.167	0.00	0.19	0.335	O				2.45
10.250	0.00	0.19	0.334	O				2.44
10.333	0.00	0.19	0.333	O				2.43
10.417	0.00	0.19	0.332	O				2.42
10.500	0.00	0.19	0.330	O				2.41
10.583	0.00	0.18	0.329	O				2.40
10.667	0.00	0.18	0.328	O				2.39
10.750	0.00	0.18	0.327	O				2.38
10.833	0.00	0.18	0.325	O				2.37

10.917	0.00	0.18	0.324	O				2.36
11.000	0.00	0.18	0.323	O				2.36
11.083	0.00	0.18	0.321	O				2.35
11.167	0.00	0.18	0.320	O				2.34
11.250	0.00	0.18	0.319	O				2.33
11.333	0.00	0.18	0.318	O				2.32
11.417	0.00	0.18	0.316	O				2.31
11.500	0.00	0.18	0.315	O				2.30
11.583	0.00	0.18	0.314	O				2.29
11.667	0.00	0.18	0.313	O				2.28
11.750	0.00	0.18	0.311	O				2.27
11.833	0.00	0.18	0.310	O				2.26
11.917	0.00	0.18	0.309	O				2.26
12.000	0.00	0.18	0.308	O				2.25
12.083	0.00	0.18	0.307	O				2.24
12.167	0.00	0.18	0.305	O				2.23
12.250	0.00	0.18	0.304	O				2.22
12.333	0.00	0.18	0.303	O				2.21
12.417	0.00	0.18	0.302	O				2.20
12.500	0.00	0.18	0.300	O				2.19
12.583	0.00	0.18	0.299	O				2.18
12.667	0.00	0.18	0.298	O				2.17
12.750	0.00	0.18	0.297	O				2.17
12.833	0.00	0.18	0.296	O				2.16
12.917	0.00	0.18	0.294	O				2.15
13.000	0.00	0.18	0.293	O				2.14
13.083	0.00	0.17	0.292	O				2.13
13.167	0.00	0.17	0.291	O				2.12
13.250	0.00	0.17	0.290	O				2.11
13.333	0.00	0.17	0.288	O				2.10
13.417	0.00	0.17	0.287	O				2.10
13.500	0.00	0.17	0.286	O				2.09
13.583	0.00	0.17	0.285	O				2.08
13.667	0.00	0.17	0.284	O				2.07
13.750	0.00	0.17	0.282	O				2.06
13.833	0.00	0.17	0.281	O				2.05
13.917	0.00	0.17	0.280	O				2.04
14.000	0.00	0.17	0.279	O				2.04
14.083	0.00	0.17	0.278	O				2.03
14.167	0.00	0.17	0.276	O				2.02
14.250	0.00	0.17	0.275	O				2.01
14.333	0.00	0.17	0.274	O				2.00
14.417	0.00	0.17	0.273	O				1.99
14.500	0.00	0.17	0.272	O				1.98
14.583	0.00	0.17	0.271	O				1.98
14.667	0.00	0.17	0.269	O				1.97
14.750	0.00	0.17	0.268	O				1.96
14.833	0.00	0.17	0.267	O				1.95
14.917	0.00	0.17	0.266	O				1.94
15.000	0.00	0.17	0.265	O				1.93

15.083	0.00	0.17	0.264	O				1.92
15.167	0.00	0.17	0.263	O				1.92
15.250	0.00	0.17	0.261	O				1.91
15.333	0.00	0.16	0.260	O				1.90
15.417	0.00	0.16	0.259	O				1.89
15.500	0.00	0.16	0.258	O				1.88
15.583	0.00	0.16	0.257	O				1.88
15.667	0.00	0.16	0.256	O				1.87
15.750	0.00	0.16	0.255	O				1.86
15.833	0.00	0.16	0.254	O				1.85
15.917	0.00	0.16	0.252	O				1.84
16.000	0.00	0.16	0.251	O				1.83
16.083	0.00	0.16	0.250	O				1.83
16.167	0.00	0.16	0.249	O				1.82
16.250	0.00	0.16	0.248	O				1.81
16.333	0.00	0.16	0.247	O				1.80
16.417	0.00	0.16	0.246	O				1.79
16.500	0.00	0.16	0.245	O				1.79
16.583	0.00	0.16	0.244	O				1.78
16.667	0.00	0.16	0.242	O				1.77
16.750	0.00	0.16	0.241	O				1.76
16.833	0.00	0.16	0.240	O				1.75
16.917	0.00	0.16	0.239	O				1.75
17.000	0.00	0.16	0.238	O				1.74
17.083	0.00	0.16	0.237	O				1.73
17.167	0.00	0.16	0.236	O				1.72
17.250	0.00	0.16	0.235	O				1.71
17.333	0.00	0.15	0.234	O				1.71
17.417	0.00	0.15	0.233	O				1.70
17.500	0.00	0.15	0.232	O				1.69
17.583	0.00	0.15	0.231	O				1.68
17.667	0.00	0.15	0.230	O				1.68
17.750	0.00	0.15	0.229	O				1.67
17.833	0.00	0.15	0.228	O				1.66
17.917	0.00	0.15	0.226	O				1.65
18.000	0.00	0.15	0.225	O				1.65
18.083	0.00	0.15	0.224	O				1.64
18.167	0.00	0.15	0.223	O				1.63
18.250	0.00	0.15	0.222	O				1.62
18.333	0.00	0.15	0.221	O				1.62
18.417	0.00	0.15	0.220	O				1.61
18.500	0.00	0.15	0.219	O				1.60
18.583	0.00	0.15	0.218	O				1.59
18.667	0.00	0.15	0.217	O				1.59
18.750	0.00	0.15	0.216	O				1.58
18.833	0.00	0.15	0.215	O				1.57
18.917	0.00	0.15	0.214	O				1.56
19.000	0.00	0.15	0.213	O				1.56
19.083	0.00	0.15	0.212	O				1.55
19.167	0.00	0.15	0.211	O				1.54

19.250	0.00	0.15	0.210	O	|	|	|	1.53
19.333	0.00	0.15	0.209	O	|	|	|	1.53
19.417	0.00	0.14	0.208	O	|	|	|	1.52
19.500	0.00	0.14	0.207	O	|	|	|	1.51
19.583	0.00	0.14	0.206	O	|	|	|	1.50
19.667	0.00	0.14	0.205	O	|	|	|	1.50
19.750	0.00	0.14	0.204	O	|	|	|	1.49
19.833	0.00	0.14	0.203	O	|	|	|	1.48
19.917	0.00	0.14	0.202	O	|	|	|	1.48
20.000	0.00	0.14	0.201	O	|	|	|	1.47
20.083	0.00	0.14	0.200	O	|	|	|	1.46
20.167	0.00	0.14	0.199	O	|	|	|	1.45
20.250	0.00	0.14	0.198	O	|	|	|	1.45
20.333	0.00	0.14	0.197	O	|	|	|	1.44
20.417	0.00	0.14	0.196	O	|	|	|	1.43
20.500	0.00	0.14	0.195	O	|	|	|	1.43
20.583	0.00	0.14	0.194	O	|	|	|	1.42
20.667	0.00	0.14	0.193	O	|	|	|	1.41
20.750	0.00	0.14	0.192	O	|	|	|	1.40
20.833	0.00	0.14	0.191	O	|	|	|	1.40
20.917	0.00	0.14	0.191	O	|	|	|	1.39
21.000	0.00	0.14	0.190	O	|	|	|	1.38
21.083	0.00	0.14	0.189	O	|	|	|	1.38
21.167	0.00	0.14	0.188	O	|	|	|	1.37
21.250	0.00	0.14	0.187	O	|	|	|	1.36
21.333	0.00	0.14	0.186	O	|	|	|	1.36
21.417	0.00	0.14	0.185	O	|	|	|	1.35
21.500	0.00	0.14	0.184	O	|	|	|	1.34
21.583	0.00	0.14	0.183	O	|	|	|	1.34
21.667	0.00	0.14	0.182	O	|	|	|	1.33
21.750	0.00	0.13	0.181	O	|	|	|	1.32
21.833	0.00	0.13	0.180	O	|	|	|	1.32
21.917	0.00	0.13	0.179	O	|	|	|	1.31
22.000	0.00	0.13	0.178	O	|	|	|	1.30
22.083	0.00	0.13	0.177	O	|	|	|	1.30
22.167	0.00	0.13	0.177	O	|	|	|	1.29
22.250	0.00	0.13	0.176	O	|	|	|	1.28
22.333	0.00	0.13	0.175	O	|	|	|	1.28
22.417	0.00	0.13	0.174	O	|	|	|	1.27
22.500	0.00	0.13	0.173	O	|	|	|	1.26
22.583	0.00	0.13	0.172	O	|	|	|	1.26
22.667	0.00	0.13	0.171	O	|	|	|	1.25
22.750	0.00	0.13	0.170	O	|	|	|	1.24
22.833	0.00	0.13	0.169	O	|	|	|	1.24
22.917	0.00	0.13	0.168	O	|	|	|	1.23
23.000	0.00	0.13	0.167	O	|	|	|	1.22
23.083	0.00	0.13	0.167	O	|	|	|	1.22
23.167	0.00	0.13	0.166	O	|	|	|	1.21
23.250	0.00	0.13	0.165	O	|	|	|	1.20
23.333	0.00	0.13	0.164	O	|	|	|	1.20

23.417	0.00	0.13	0.163	O				1.19
23.500	0.00	0.13	0.162	O				1.18
23.583	0.00	0.13	0.161	O				1.18
23.667	0.00	0.13	0.160	O				1.17
23.750	0.00	0.13	0.160	O				1.16
23.833	0.00	0.13	0.159	O				1.16
23.917	0.00	0.13	0.158	O				1.15
24.000	0.00	0.13	0.157	O				1.15
24.083	0.00	0.13	0.156	O				1.14
24.167	0.00	0.12	0.155	O				1.13
24.250	0.00	0.12	0.154	O				1.13
24.333	0.00	0.12	0.153	O				1.12
24.417	0.00	0.12	0.153	O				1.11
24.500	0.00	0.12	0.152	O				1.11
24.583	0.00	0.12	0.151	O				1.10
24.667	0.00	0.12	0.150	O				1.10
24.750	0.00	0.12	0.149	O				1.09
24.833	0.00	0.12	0.148	O				1.08
24.917	0.00	0.12	0.148	O				1.08
25.000	0.00	0.12	0.147	O				1.07
25.083	0.00	0.12	0.146	O				1.06
25.167	0.00	0.12	0.145	O				1.06
25.250	0.00	0.12	0.144	O				1.05
25.333	0.00	0.12	0.143	O				1.05
25.417	0.00	0.12	0.143	O				1.04
25.500	0.00	0.12	0.142	O				1.03
25.583	0.00	0.12	0.141	O				1.03
25.667	0.00	0.12	0.140	O				1.02
25.750	0.00	0.12	0.139	O				1.02
25.833	0.00	0.12	0.138	O				1.01
25.917	0.00	0.12	0.138	O				1.00
26.000	0.00	0.12	0.137	O				1.00
26.083	0.00	0.12	0.136	O				0.99
26.167	0.00	0.12	0.135	O				0.99
26.250	0.00	0.12	0.134	O				0.98
26.333	0.00	0.12	0.134	O				0.98
26.417	0.00	0.11	0.133	O				0.97
26.500	0.00	0.11	0.132	O				0.96
26.583	0.00	0.11	0.131	O				0.96
26.667	0.00	0.11	0.130	O				0.95
26.750	0.00	0.11	0.130	O				0.95
26.833	0.00	0.11	0.129	O				0.94
26.917	0.00	0.11	0.128	O				0.94
27.000	0.00	0.11	0.127	O				0.93
27.083	0.00	0.11	0.127	O				0.92
27.167	0.00	0.11	0.126	O				0.92
27.250	0.00	0.11	0.125	O				0.91
27.333	0.00	0.11	0.124	O				0.91
27.417	0.00	0.11	0.124	O				0.90
27.500	0.00	0.11	0.123	O				0.90

27.583	0.00	0.11	0.122	O	|	|	|	0.89
27.667	0.00	0.10	0.122	O	|	|	|	0.89
27.750	0.00	0.10	0.121	O	|	|	|	0.88
27.833	0.00	0.10	0.120	O	|	|	|	0.88
27.917	0.00	0.10	0.119	O	|	|	|	0.87
28.000	0.00	0.10	0.119	O	|	|	|	0.87
28.083	0.00	0.10	0.118	O	|	|	|	0.86
28.167	0.00	0.10	0.117	O	|	|	|	0.86
28.250	0.00	0.10	0.117	O	|	|	|	0.85
28.333	0.00	0.10	0.116	O	|	|	|	0.85
28.417	0.00	0.10	0.115	O	|	|	|	0.84
28.500	0.00	0.10	0.115	O	|	|	|	0.84
28.583	0.00	0.10	0.114	O	|	|	|	0.83
28.667	0.00	0.10	0.113	O	|	|	|	0.83
28.750	0.00	0.10	0.112	O	|	|	|	0.82
28.833	0.00	0.10	0.112	O	|	|	|	0.82
28.917	0.00	0.10	0.111	O	|	|	|	0.81
29.000	0.00	0.10	0.111	O	|	|	|	0.81
29.083	0.00	0.09	0.110	O	|	|	|	0.80
29.167	0.00	0.09	0.109	O	|	|	|	0.80
29.250	0.00	0.09	0.109	O	|	|	|	0.79
29.333	0.00	0.09	0.108	O	|	|	|	0.79
29.417	0.00	0.09	0.107	O	|	|	|	0.78
29.500	0.00	0.09	0.107	O	|	|	|	0.78
29.583	0.00	0.09	0.106	O	|	|	|	0.77
29.667	0.00	0.09	0.105	O	|	|	|	0.77
29.750	0.00	0.09	0.105	O	|	|	|	0.76
29.833	0.00	0.09	0.104	O	|	|	|	0.76
29.917	0.00	0.09	0.104	O	|	|	|	0.76
30.000	0.00	0.09	0.103	O	|	|	|	0.75
30.083	0.00	0.09	0.102	O	|	|	|	0.75
30.167	0.00	0.09	0.102	O	|	|	|	0.74
30.250	0.00	0.09	0.101	O	|	|	|	0.74
30.333	0.00	0.09	0.100	O	|	|	|	0.73
30.417	0.00	0.09	0.100	O	|	|	|	0.73
30.500	0.00	0.09	0.099	O	|	|	|	0.72
30.583	0.00	0.09	0.099	O	|	|	|	0.72
30.667	0.00	0.08	0.098	O	|	|	|	0.72
30.750	0.00	0.08	0.098	O	|	|	|	0.71
30.833	0.00	0.08	0.097	O	|	|	|	0.71
30.917	0.00	0.08	0.096	O	|	|	|	0.70
31.000	0.00	0.08	0.096	O	|	|	|	0.70
31.083	0.00	0.08	0.095	O	|	|	|	0.70
31.167	0.00	0.08	0.095	O	|	|	|	0.69
31.250	0.00	0.08	0.094	O	|	|	|	0.69
31.333	0.00	0.08	0.094	O	|	|	|	0.68
31.417	0.00	0.08	0.093	O	|	|	|	0.68
31.500	0.00	0.08	0.092	O	|	|	|	0.68
31.583	0.00	0.08	0.092	O	|	|	|	0.67
31.667	0.00	0.08	0.091	O	|	|	|	0.67

31.750	0.00	0.08	0.091	O	|	|	|	0.66
31.833	0.00	0.08	0.090	O	|	|	|	0.66
31.917	0.00	0.08	0.090	O	|	|	|	0.66
32.000	0.00	0.08	0.089	O	|	|	|	0.65
32.083	0.00	0.08	0.089	O	|	|	|	0.65
32.167	0.00	0.08	0.088	O	|	|	|	0.64
32.250	0.00	0.08	0.088	O	|	|	|	0.64
32.333	0.00	0.08	0.087	O	|	|	|	0.64
32.417	0.00	0.07	0.087	O	|	|	|	0.63
32.500	0.00	0.07	0.086	O	|	|	|	0.63
32.583	0.00	0.07	0.086	O	|	|	|	0.62
32.667	0.00	0.07	0.085	O	|	|	|	0.62
32.750	0.00	0.07	0.085	O	|	|	|	0.62
32.833	0.00	0.07	0.084	O	|	|	|	0.61
32.917	0.00	0.07	0.084	O	|	|	|	0.61
33.000	0.00	0.07	0.083	O	|	|	|	0.61
33.083	0.00	0.07	0.083	O	|	|	|	0.60
33.167	0.00	0.07	0.082	O	|	|	|	0.60
33.250	0.00	0.07	0.082	O	|	|	|	0.60
33.333	0.00	0.07	0.081	O	|	|	|	0.59
33.417	0.00	0.07	0.081	O	|	|	|	0.59
33.500	0.00	0.07	0.080	O	|	|	|	0.59
33.583	0.00	0.07	0.080	O	|	|	|	0.58
33.667	0.00	0.07	0.079	O	|	|	|	0.58
33.750	0.00	0.07	0.079	O	|	|	|	0.58
33.833	0.00	0.07	0.078	O	|	|	|	0.57
33.917	0.00	0.07	0.078	O	|	|	|	0.57
34.000	0.00	0.07	0.077	O	|	|	|	0.57
34.083	0.00	0.07	0.077	O	|	|	|	0.56
34.167	0.00	0.07	0.076	O	|	|	|	0.56
34.250	0.00	0.07	0.076	O	|	|	|	0.56
34.333	0.00	0.07	0.076	O	|	|	|	0.55
34.417	0.00	0.06	0.075	O	|	|	|	0.55
34.500	0.00	0.06	0.075	O	|	|	|	0.55
34.583	0.00	0.06	0.074	O	|	|	|	0.54
34.667	0.00	0.06	0.074	O	|	|	|	0.54
34.750	0.00	0.06	0.073	O	|	|	|	0.54
34.833	0.00	0.06	0.073	O	|	|	|	0.53
34.917	0.00	0.06	0.073	O	|	|	|	0.53
35.000	0.00	0.06	0.072	O	|	|	|	0.53
35.083	0.00	0.06	0.072	O	|	|	|	0.52
35.167	0.00	0.06	0.071	O	|	|	|	0.52
35.250	0.00	0.06	0.071	O	|	|	|	0.52
35.333	0.00	0.06	0.070	O	|	|	|	0.51
35.417	0.00	0.06	0.070	O	|	|	|	0.51
35.500	0.00	0.06	0.070	O	|	|	|	0.51
35.583	0.00	0.06	0.069	O	|	|	|	0.50
35.667	0.00	0.06	0.069	O	|	|	|	0.50
35.750	0.00	0.06	0.068	O	|	|	|	0.50
35.833	0.00	0.06	0.068	O	|	|	|	0.50

35.917	0.00	0.06	0.068	O				0.49
36.000	0.00	0.06	0.067	O				0.49
36.083	0.00	0.06	0.067	O				0.49
36.167	0.00	0.06	0.066	O				0.48
36.250	0.00	0.06	0.066	O				0.48
36.333	0.00	0.06	0.066	O				0.48
36.417	0.00	0.06	0.065	O				0.48
36.500	0.00	0.06	0.065	O				0.47
36.583	0.00	0.06	0.064	O				0.47
36.667	0.00	0.06	0.064	O				0.47
36.750	0.00	0.05	0.064	O				0.46
36.833	0.00	0.05	0.063	O				0.46
36.917	0.00	0.05	0.063	O				0.46
37.000	0.00	0.05	0.063	O				0.46
37.083	0.00	0.05	0.062	O				0.45
37.167	0.00	0.05	0.062	O				0.45
37.250	0.00	0.05	0.061	O				0.45
37.333	0.00	0.05	0.061	O				0.45
37.417	0.00	0.05	0.061	O				0.44
37.500	0.00	0.05	0.060	O				0.44
37.583	0.00	0.05	0.060	O				0.44
37.667	0.00	0.05	0.060	O				0.44
37.750	0.00	0.05	0.059	O				0.43
37.833	0.00	0.05	0.059	O				0.43
37.917	0.00	0.05	0.059	O				0.43
38.000	0.00	0.05	0.058	O				0.43
38.083	0.00	0.05	0.058	O				0.42
38.167	0.00	0.05	0.058	O				0.42
38.250	0.00	0.05	0.057	O				0.42
38.333	0.00	0.05	0.057	O				0.42
38.417	0.00	0.05	0.057	O				0.41
38.500	0.00	0.05	0.056	O				0.41
38.583	0.00	0.05	0.056	O				0.41
38.667	0.00	0.05	0.056	O				0.41
38.750	0.00	0.05	0.055	O				0.40
38.833	0.00	0.05	0.055	O				0.40
38.917	0.00	0.05	0.055	O				0.40
39.000	0.00	0.05	0.054	O				0.40
39.083	0.00	0.05	0.054	O				0.39
39.167	0.00	0.05	0.054	O				0.39
39.250	0.00	0.05	0.053	O				0.39
39.333	0.00	0.05	0.053	O				0.39
39.417	0.00	0.05	0.053	O				0.38
39.500	0.00	0.05	0.052	O				0.38
39.583	0.00	0.04	0.052	O				0.38
39.667	0.00	0.04	0.052	O				0.38
39.750	0.00	0.04	0.051	O				0.38
39.833	0.00	0.04	0.051	O				0.37
39.917	0.00	0.04	0.051	O				0.37
40.000	0.00	0.04	0.051	O				0.37

40.083	0.00	0.04	0.050	O				0.37
40.167	0.00	0.04	0.050	O				0.36
40.250	0.00	0.04	0.050	O				0.36
40.333	0.00	0.04	0.049	O				0.36
40.417	0.00	0.04	0.049	O				0.36
40.500	0.00	0.04	0.049	O				0.36
40.583	0.00	0.04	0.048	O				0.35
40.667	0.00	0.04	0.048	O				0.35
40.750	0.00	0.04	0.048	O				0.35
40.833	0.00	0.04	0.048	O				0.35
40.917	0.00	0.04	0.047	O				0.35
41.000	0.00	0.04	0.047	O				0.34
41.083	0.00	0.04	0.047	O				0.34
41.167	0.00	0.04	0.046	O				0.34
41.250	0.00	0.04	0.046	O				0.34
41.333	0.00	0.04	0.046	O				0.34
41.417	0.00	0.04	0.046	O				0.33
41.500	0.00	0.04	0.045	O				0.33
41.583	0.00	0.04	0.045	O				0.33
41.667	0.00	0.04	0.045	O				0.33
41.750	0.00	0.04	0.045	O				0.33
41.833	0.00	0.04	0.044	O				0.32
41.917	0.00	0.04	0.044	O				0.32
42.000	0.00	0.04	0.044	O				0.32
42.083	0.00	0.04	0.044	O				0.32
42.167	0.00	0.04	0.043	O				0.32
42.250	0.00	0.04	0.043	O				0.31
42.333	0.00	0.04	0.043	O				0.31
42.417	0.00	0.04	0.043	O				0.31
42.500	0.00	0.04	0.042	O				0.31
42.583	0.00	0.04	0.042	O				0.31
42.667	0.00	0.04	0.042	O				0.30
42.750	0.00	0.04	0.042	O				0.30
42.833	0.00	0.04	0.041	O				0.30
42.917	0.00	0.04	0.041	O				0.30
43.000	0.00	0.04	0.041	O				0.30
43.083	0.00	0.03	0.041	O				0.30
43.167	0.00	0.03	0.040	O				0.29
43.250	0.00	0.03	0.040	O				0.29
43.333	0.00	0.03	0.040	O				0.29
43.417	0.00	0.03	0.040	O				0.29
43.500	0.00	0.03	0.039	O				0.29
43.583	0.00	0.03	0.039	O				0.29
43.667	0.00	0.03	0.039	O				0.28
43.750	0.00	0.03	0.039	O				0.28
43.833	0.00	0.03	0.038	O				0.28
43.917	0.00	0.03	0.038	O				0.28
44.000	0.00	0.03	0.038	O				0.28
44.083	0.00	0.03	0.038	O				0.28
44.167	0.00	0.03	0.038	O				0.27

44.250	0.00	0.03	0.037	O	|	|	|	0.27
44.333	0.00	0.03	0.037	O	|	|	|	0.27
44.417	0.00	0.03	0.037	O	|	|	|	0.27
44.500	0.00	0.03	0.037	O	|	|	|	0.27
44.583	0.00	0.03	0.036	O	|	|	|	0.27
44.667	0.00	0.03	0.036	O	|	|	|	0.26
44.750	0.00	0.03	0.036	O	|	|	|	0.26
44.833	0.00	0.03	0.036	O	|	|	|	0.26
44.917	0.00	0.03	0.036	O	|	|	|	0.26
45.000	0.00	0.03	0.035	O	|	|	|	0.26
45.083	0.00	0.03	0.035	O	|	|	|	0.26
45.167	0.00	0.03	0.035	O	|	|	|	0.26
45.250	0.00	0.03	0.035	O	|	|	|	0.25
45.333	0.00	0.03	0.035	O	|	|	|	0.25
45.417	0.00	0.03	0.034	O	|	|	|	0.25
45.500	0.00	0.03	0.034	O	|	|	|	0.25
45.583	0.00	0.03	0.034	O	|	|	|	0.25
45.667	0.00	0.03	0.034	O	|	|	|	0.25
45.750	0.00	0.03	0.034	O	|	|	|	0.24
45.833	0.00	0.03	0.033	O	|	|	|	0.24
45.917	0.00	0.03	0.033	O	|	|	|	0.24
46.000	0.00	0.03	0.033	O	|	|	|	0.24
46.083	0.00	0.03	0.033	O	|	|	|	0.24
46.167	0.00	0.03	0.033	O	|	|	|	0.24
46.250	0.00	0.03	0.032	O	|	|	|	0.24
46.333	0.00	0.03	0.032	O	|	|	|	0.23
46.417	0.00	0.03	0.032	O	|	|	|	0.23
46.500	0.00	0.03	0.032	O	|	|	|	0.23
46.583	0.00	0.03	0.032	O	|	|	|	0.23
46.667	0.00	0.03	0.031	O	|	|	|	0.23
46.750	0.00	0.03	0.031	O	|	|	|	0.23
46.833	0.00	0.03	0.031	O	|	|	|	0.23
46.917	0.00	0.03	0.031	O	|	|	|	0.23
47.000	0.00	0.03	0.031	O	|	|	|	0.22
47.083	0.00	0.03	0.031	O	|	|	|	0.22
47.167	0.00	0.03	0.030	O	|	|	|	0.22
47.250	0.00	0.03	0.030	O	|	|	|	0.22
47.333	0.00	0.03	0.030	O	|	|	|	0.22
47.417	0.00	0.03	0.030	O	|	|	|	0.22
47.500	0.00	0.03	0.030	O	|	|	|	0.22
47.583	0.00	0.03	0.029	O	|	|	|	0.21
47.667	0.00	0.03	0.029	O	|	|	|	0.21
47.750	0.00	0.03	0.029	O	|	|	|	0.21
47.833	0.00	0.02	0.029	O	|	|	|	0.21
47.917	0.00	0.02	0.029	O	|	|	|	0.21
48.000	0.00	0.02	0.029	O	|	|	|	0.21
48.083	0.00	0.02	0.028	O	|	|	|	0.21
48.167	0.00	0.02	0.028	O	|	|	|	0.21
48.250	0.00	0.02	0.028	O	|	|	|	0.20
48.333	0.00	0.02	0.028	O	|	|	|	0.20

48.417	0.00	0.02	0.028	O				0.20
48.500	0.00	0.02	0.028	O				0.20
48.583	0.00	0.02	0.027	O				0.20
48.667	0.00	0.02	0.027	O				0.20
48.750	0.00	0.02	0.027	O				0.20
48.833	0.00	0.02	0.027	O				0.20
48.917	0.00	0.02	0.027	O				0.20
49.000	0.00	0.02	0.027	O				0.19
49.083	0.00	0.02	0.026	O				0.19
49.167	0.00	0.02	0.026	O				0.19
49.250	0.00	0.02	0.026	O				0.19
49.333	0.00	0.02	0.026	O				0.19
49.417	0.00	0.02	0.026	O				0.19
49.500	0.00	0.02	0.026	O				0.19
49.583	0.00	0.02	0.026	O				0.19
49.667	0.00	0.02	0.025	O				0.19
49.750	0.00	0.02	0.025	O				0.18
49.833	0.00	0.02	0.025	O				0.18
49.917	0.00	0.02	0.025	O				0.18
50.000	0.00	0.02	0.025	O				0.18
50.083	0.00	0.02	0.025	O				0.18
50.167	0.00	0.02	0.024	O				0.18
50.250	0.00	0.02	0.024	O				0.18
50.333	0.00	0.02	0.024	O				0.18
50.417	0.00	0.02	0.024	O				0.18
50.500	0.00	0.02	0.024	O				0.17
50.583	0.00	0.02	0.024	O				0.17
50.667	0.00	0.02	0.024	O				0.17
50.750	0.00	0.02	0.023	O				0.17
50.833	0.00	0.02	0.023	O				0.17
50.917	0.00	0.02	0.023	O				0.17
51.000	0.00	0.02	0.023	O				0.17
51.083	0.00	0.02	0.023	O				0.17
51.167	0.00	0.02	0.023	O				0.17
51.250	0.00	0.02	0.023	O				0.17
51.333	0.00	0.02	0.023	O				0.16
51.417	0.00	0.02	0.022	O				0.16
51.500	0.00	0.02	0.022	O				0.16
51.583	0.00	0.02	0.022	O				0.16
51.667	0.00	0.02	0.022	O				0.16
51.750	0.00	0.02	0.022	O				0.16
51.833	0.00	0.02	0.022	O				0.16
51.917	0.00	0.02	0.022	O				0.16
52.000	0.00	0.02	0.021	O				0.16
52.083	0.00	0.02	0.021	O				0.16
52.167	0.00	0.02	0.021	O				0.16
52.250	0.00	0.02	0.021	O				0.15
52.333	0.00	0.02	0.021	O				0.15
52.417	0.00	0.02	0.021	O				0.15
52.500	0.00	0.02	0.021	O				0.15

52.583	0.00	0.02	0.021	O	|	|	|	0.15
52.667	0.00	0.02	0.020	O	|	|	|	0.15
52.750	0.00	0.02	0.020	O	|	|	|	0.15
52.833	0.00	0.02	0.020	O	|	|	|	0.15
52.917	0.00	0.02	0.020	O	|	|	|	0.15
53.000	0.00	0.02	0.020	O	|	|	|	0.15
53.083	0.00	0.02	0.020	O	|	|	|	0.15
53.167	0.00	0.02	0.020	O	|	|	|	0.14
53.250	0.00	0.02	0.020	O	|	|	|	0.14
53.333	0.00	0.02	0.020	O	|	|	|	0.14
53.417	0.00	0.02	0.019	O	|	|	|	0.14
53.500	0.00	0.02	0.019	O	|	|	|	0.14
53.583	0.00	0.02	0.019	O	|	|	|	0.14
53.667	0.00	0.02	0.019	O	|	|	|	0.14
53.750	0.00	0.02	0.019	O	|	|	|	0.14
53.833	0.00	0.02	0.019	O	|	|	|	0.14
53.917	0.00	0.02	0.019	O	|	|	|	0.14
54.000	0.00	0.02	0.019	O	|	|	|	0.14
54.083	0.00	0.02	0.019	O	|	|	|	0.14
54.167	0.00	0.02	0.018	O	|	|	|	0.13
54.250	0.00	0.02	0.018	O	|	|	|	0.13
54.333	0.00	0.02	0.018	O	|	|	|	0.13
54.417	0.00	0.02	0.018	O	|	|	|	0.13
54.500	0.00	0.02	0.018	O	|	|	|	0.13
54.583	0.00	0.02	0.018	O	|	|	|	0.13
54.667	0.00	0.02	0.018	O	|	|	|	0.13
54.750	0.00	0.02	0.018	O	|	|	|	0.13
54.833	0.00	0.02	0.018	O	|	|	|	0.13
54.917	0.00	0.02	0.017	O	|	|	|	0.13
55.000	0.00	0.01	0.017	O	|	|	|	0.13
55.083	0.00	0.01	0.017	O	|	|	|	0.13
55.167	0.00	0.01	0.017	O	|	|	|	0.13
55.250	0.00	0.01	0.017	O	|	|	|	0.12
55.333	0.00	0.01	0.017	O	|	|	|	0.12
55.417	0.00	0.01	0.017	O	|	|	|	0.12
55.500	0.00	0.01	0.017	O	|	|	|	0.12
55.583	0.00	0.01	0.017	O	|	|	|	0.12
55.667	0.00	0.01	0.017	O	|	|	|	0.12
55.750	0.00	0.01	0.016	O	|	|	|	0.12
55.833	0.00	0.01	0.016	O	|	|	|	0.12
55.917	0.00	0.01	0.016	O	|	|	|	0.12
56.000	0.00	0.01	0.016	O	|	|	|	0.12
56.083	0.00	0.01	0.016	O	|	|	|	0.12
56.167	0.00	0.01	0.016	O	|	|	|	0.12
56.250	0.00	0.01	0.016	O	|	|	|	0.12
56.333	0.00	0.01	0.016	O	|	|	|	0.12
56.417	0.00	0.01	0.016	O	|	|	|	0.11
56.500	0.00	0.01	0.016	O	|	|	|	0.11
56.583	0.00	0.01	0.016	O	|	|	|	0.11
56.667	0.00	0.01	0.015	O	|	|	|	0.11

56.750	0.00	0.01	0.015	O				0.11
56.833	0.00	0.01	0.015	O				0.11
56.917	0.00	0.01	0.015	O				0.11
57.000	0.00	0.01	0.015	O				0.11
57.083	0.00	0.01	0.015	O				0.11
57.167	0.00	0.01	0.015	O				0.11
57.250	0.00	0.01	0.015	O				0.11
57.333	0.00	0.01	0.015	O				0.11
57.417	0.00	0.01	0.015	O				0.11
57.500	0.00	0.01	0.015	O				0.11
57.583	0.00	0.01	0.014	O				0.11
57.667	0.00	0.01	0.014	O				0.10
57.750	0.00	0.01	0.014	O				0.10
57.833	0.00	0.01	0.014	O				0.10
57.917	0.00	0.01	0.014	O				0.10
58.000	0.00	0.01	0.014	O				0.10
58.083	0.00	0.01	0.014	O				0.10
58.167	0.00	0.01	0.014	O				0.10
58.250	0.00	0.01	0.014	O				0.10
58.333	0.00	0.01	0.014	O				0.10
58.417	0.00	0.01	0.014	O				0.10
58.500	0.00	0.01	0.014	O				0.10
58.583	0.00	0.01	0.013	O				0.10
58.667	0.00	0.01	0.013	O				0.10
58.750	0.00	0.01	0.013	O				0.10
58.833	0.00	0.01	0.013	O				0.10
58.917	0.00	0.01	0.013	O				0.10
59.000	0.00	0.01	0.013	O				0.10
59.083	0.00	0.01	0.013	O				0.09
59.167	0.00	0.01	0.013	O				0.09
59.250	0.00	0.01	0.013	O				0.09
59.333	0.00	0.01	0.013	O				0.09
59.417	0.00	0.01	0.013	O				0.09
59.500	0.00	0.01	0.013	O				0.09
59.583	0.00	0.01	0.013	O				0.09
59.667	0.00	0.01	0.012	O				0.09
59.750	0.00	0.01	0.012	O				0.09
59.833	0.00	0.01	0.012	O				0.09
59.917	0.00	0.01	0.012	O				0.09
60.000	0.00	0.01	0.012	O				0.09
60.083	0.00	0.01	0.012	O				0.09
60.167	0.00	0.01	0.012	O				0.09
60.250	0.00	0.01	0.012	O				0.09
60.333	0.00	0.01	0.012	O				0.09
60.417	0.00	0.01	0.012	O				0.09
60.500	0.00	0.01	0.012	O				0.09
60.583	0.00	0.01	0.012	O				0.09
60.667	0.00	0.01	0.012	O				0.08
60.750	0.00	0.01	0.012	O				0.08
60.833	0.00	0.01	0.011	O				0.08

60.917	0.00	0.01	0.011	O				0.08
61.000	0.00	0.01	0.011	O				0.08
61.083	0.00	0.01	0.011	O				0.08
61.167	0.00	0.01	0.011	O				0.08
61.250	0.00	0.01	0.011	O				0.08
61.333	0.00	0.01	0.011	O				0.08
61.417	0.00	0.01	0.011	O				0.08
61.500	0.00	0.01	0.011	O				0.08
61.583	0.00	0.01	0.011	O				0.08
61.667	0.00	0.01	0.011	O				0.08
61.750	0.00	0.01	0.011	O				0.08
61.833	0.00	0.01	0.011	O				0.08
61.917	0.00	0.01	0.011	O				0.08
62.000	0.00	0.01	0.011	O				0.08
62.083	0.00	0.01	0.010	O				0.08
62.167	0.00	0.01	0.010	O				0.08
62.250	0.00	0.01	0.010	O				0.08
62.333	0.00	0.01	0.010	O				0.08
62.417	0.00	0.01	0.010	O				0.07
62.500	0.00	0.01	0.010	O				0.07
62.583	0.00	0.01	0.010	O				0.07
62.667	0.00	0.01	0.010	O				0.07
62.750	0.00	0.01	0.010	O				0.07
62.833	0.00	0.01	0.010	O				0.07
62.917	0.00	0.01	0.010	O				0.07
63.000	0.00	0.01	0.010	O				0.07
63.083	0.00	0.01	0.010	O				0.07
63.167	0.00	0.01	0.010	O				0.07
63.250	0.00	0.01	0.010	O				0.07
63.333	0.00	0.01	0.010	O				0.07
63.417	0.00	0.01	0.010	O				0.07
63.500	0.00	0.01	0.009	O				0.07
63.583	0.00	0.01	0.009	O				0.07
63.667	0.00	0.01	0.009	O				0.07
63.750	0.00	0.01	0.009	O				0.07
63.833	0.00	0.01	0.009	O				0.07
63.917	0.00	0.01	0.009	O				0.07
64.000	0.00	0.01	0.009	O				0.07
64.083	0.00	0.01	0.009	O				0.07
64.167	0.00	0.01	0.009	O				0.07
64.250	0.00	0.01	0.009	O				0.07
64.333	0.00	0.01	0.009	O				0.07
64.417	0.00	0.01	0.009	O				0.06
64.500	0.00	0.01	0.009	O				0.06
64.583	0.00	0.01	0.009	O				0.06
64.667	0.00	0.01	0.009	O				0.06
64.750	0.00	0.01	0.009	O				0.06
64.833	0.00	0.01	0.009	O				0.06
64.917	0.00	0.01	0.009	O				0.06
65.000	0.00	0.01	0.009	O				0.06

65.083	0.00	0.01	0.008	O	|	|	|	|	0.06
65.167	0.00	0.01	0.008	O	|	|	|	|	0.06
65.250	0.00	0.01	0.008	O	|	|	|	|	0.06
65.333	0.00	0.01	0.008	O	|	|	|	|	0.06
65.417	0.00	0.01	0.008	O	|	|	|	|	0.06
65.500	0.00	0.01	0.008	O	|	|	|	|	0.06
65.583	0.00	0.01	0.008	O	|	|	|	|	0.06
65.667	0.00	0.01	0.008	O	|	|	|	|	0.06
65.750	0.00	0.01	0.008	O	|	|	|	|	0.06
65.833	0.00	0.01	0.008	O	|	|	|	|	0.06
65.917	0.00	0.01	0.008	O	|	|	|	|	0.06
66.000	0.00	0.01	0.008	O	|	|	|	|	0.06
66.083	0.00	0.01	0.008	O	|	|	|	|	0.06
66.167	0.00	0.01	0.008	O	|	|	|	|	0.06
66.250	0.00	0.01	0.008	O	|	|	|	|	0.06
66.333	0.00	0.01	0.008	O	|	|	|	|	0.06
66.417	0.00	0.01	0.008	O	|	|	|	|	0.06
66.500	0.00	0.01	0.008	O	|	|	|	|	0.06
66.583	0.00	0.01	0.008	O	|	|	|	|	0.06
66.667	0.00	0.01	0.008	O	|	|	|	|	0.06
66.750	0.00	0.01	0.008	O	|	|	|	|	0.05
66.833	0.00	0.01	0.007	O	|	|	|	|	0.05
66.917	0.00	0.01	0.007	O	|	|	|	|	0.05
67.000	0.00	0.01	0.007	O	|	|	|	|	0.05
67.083	0.00	0.01	0.007	O	|	|	|	|	0.05
67.167	0.00	0.01	0.007	O	|	|	|	|	0.05
67.250	0.00	0.01	0.007	O	|	|	|	|	0.05
67.333	0.00	0.01	0.007	O	|	|	|	|	0.05
67.417	0.00	0.01	0.007	O	|	|	|	|	0.05
67.500	0.00	0.01	0.007	O	|	|	|	|	0.05
67.583	0.00	0.01	0.007	O	|	|	|	|	0.05
67.667	0.00	0.01	0.007	O	|	|	|	|	0.05
67.750	0.00	0.01	0.007	O	|	|	|	|	0.05
67.833	0.00	0.01	0.007	O	|	|	|	|	0.05
67.917	0.00	0.01	0.007	O	|	|	|	|	0.05
68.000	0.00	0.01	0.007	O	|	|	|	|	0.05
68.083	0.00	0.01	0.007	O	|	|	|	|	0.05
68.167	0.00	0.01	0.007	O	|	|	|	|	0.05
68.250	0.00	0.01	0.007	O	|	|	|	|	0.05
68.333	0.00	0.01	0.007	O	|	|	|	|	0.05
68.417	0.00	0.01	0.007	O	|	|	|	|	0.05
68.500	0.00	0.01	0.007	O	|	|	|	|	0.05
68.583	0.00	0.01	0.007	O	|	|	|	|	0.05
68.667	0.00	0.01	0.007	O	|	|	|	|	0.05
68.750	0.00	0.01	0.007	O	|	|	|	|	0.05
68.833	0.00	0.01	0.006	O	|	|	|	|	0.05
68.917	0.00	0.01	0.006	O	|	|	|	|	0.05
69.000	0.00	0.01	0.006	O	|	|	|	|	0.05
69.083	0.00	0.01	0.006	O	|	|	|	|	0.05
69.167	0.00	0.01	0.006	O	|	|	|	|	0.05

69.250	0.00	0.01	0.006	O	|	|	|	0.05
69.333	0.00	0.01	0.006	O	|	|	|	0.05
69.417	0.00	0.01	0.006	O	|	|	|	0.05
69.500	0.00	0.01	0.006	O	|	|	|	0.05
69.583	0.00	0.01	0.006	O	|	|	|	0.04
69.667	0.00	0.01	0.006	O	|	|	|	0.04
69.750	0.00	0.01	0.006	O	|	|	|	0.04
69.833	0.00	0.01	0.006	O	|	|	|	0.04
69.917	0.00	0.01	0.006	O	|	|	|	0.04
70.000	0.00	0.01	0.006	O	|	|	|	0.04
70.083	0.00	0.01	0.006	O	|	|	|	0.04
70.167	0.00	0.01	0.006	O	|	|	|	0.04
70.250	0.00	0.01	0.006	O	|	|	|	0.04
70.333	0.00	0.01	0.006	O	|	|	|	0.04
70.417	0.00	0.00	0.006	O	|	|	|	0.04
70.500	0.00	0.00	0.006	O	|	|	|	0.04
70.583	0.00	0.00	0.006	O	|	|	|	0.04
70.667	0.00	0.00	0.006	O	|	|	|	0.04
70.750	0.00	0.00	0.006	O	|	|	|	0.04
70.833	0.00	0.00	0.006	O	|	|	|	0.04
70.917	0.00	0.00	0.006	O	|	|	|	0.04
71.000	0.00	0.00	0.006	O	|	|	|	0.04
71.083	0.00	0.00	0.006	O	|	|	|	0.04
71.167	0.00	0.00	0.005	O	|	|	|	0.04
71.250	0.00	0.00	0.005	O	|	|	|	0.04
71.333	0.00	0.00	0.005	O	|	|	|	0.04
71.417	0.00	0.00	0.005	O	|	|	|	0.04
71.500	0.00	0.00	0.005	O	|	|	|	0.04
71.583	0.00	0.00	0.005	O	|	|	|	0.04
71.667	0.00	0.00	0.005	O	|	|	|	0.04
71.750	0.00	0.00	0.005	O	|	|	|	0.04
71.833	0.00	0.00	0.005	O	|	|	|	0.04
71.917	0.00	0.00	0.005	O	|	|	|	0.04
72.000	0.00	0.00	0.005	O	|	|	|	0.04
72.083	0.00	0.00	0.005	O	|	|	|	0.04
72.167	0.00	0.00	0.005	O	|	|	|	0.04
72.250	0.00	0.00	0.005	O	|	|	|	0.04
72.333	0.00	0.00	0.005	O	|	|	|	0.04
72.417	0.00	0.00	0.005	O	|	|	|	0.04
72.500	0.00	0.00	0.005	O	|	|	|	0.04
72.583	0.00	0.00	0.005	O	|	|	|	0.04
72.667	0.00	0.00	0.005	O	|	|	|	0.04
72.750	0.00	0.00	0.005	O	|	|	|	0.04
72.833	0.00	0.00	0.005	O	|	|	|	0.04
72.917	0.00	0.00	0.005	O	|	|	|	0.04
73.000	0.00	0.00	0.005	O	|	|	|	0.04
73.083	0.00	0.00	0.005	O	|	|	|	0.03
73.167	0.00	0.00	0.005	O	|	|	|	0.03
73.250	0.00	0.00	0.005	O	|	|	|	0.03
73.333	0.00	0.00	0.005	O	|	|	|	0.03

73.417	0.00	0.00	0.005	O					0.03
73.500	0.00	0.00	0.005	O					0.03
73.583	0.00	0.00	0.005	O					0.03
73.667	0.00	0.00	0.005	O					0.03
73.750	0.00	0.00	0.005	O					0.03
73.833	0.00	0.00	0.005	O					0.03
73.917	0.00	0.00	0.005	O					0.03
74.000	0.00	0.00	0.004	O					0.03
74.083	0.00	0.00	0.004	O					0.03
74.167	0.00	0.00	0.004	O					0.03
74.250	0.00	0.00	0.004	O					0.03
74.333	0.00	0.00	0.004	O					0.03
74.417	0.00	0.00	0.004	O					0.03
74.500	0.00	0.00	0.004	O					0.03
74.583	0.00	0.00	0.004	O					0.03
74.667	0.00	0.00	0.004	O					0.03
74.750	0.00	0.00	0.004	O					0.03
74.833	0.00	0.00	0.004	O					0.03
74.917	0.00	0.00	0.004	O					0.03
75.000	0.00	0.00	0.004	O					0.03
75.083	0.00	0.00	0.004	O					0.03
75.167	0.00	0.00	0.004	O					0.03
75.250	0.00	0.00	0.004	O					0.03
75.333	0.00	0.00	0.004	O					0.03
75.417	0.00	0.00	0.004	O					0.03
75.500	0.00	0.00	0.004	O					0.03
75.583	0.00	0.00	0.004	O					0.03
75.667	0.00	0.00	0.004	O					0.03
75.750	0.00	0.00	0.004	O					0.03
75.833	0.00	0.00	0.004	O					0.03
75.917	0.00	0.00	0.004	O					0.03
76.000	0.00	0.00	0.004	O					0.03
76.083	0.00	0.00	0.004	O					0.03
76.167	0.00	0.00	0.004	O					0.03
76.250	0.00	0.00	0.004	O					0.03
76.333	0.00	0.00	0.004	O					0.03
76.417	0.00	0.00	0.004	O					0.03
76.500	0.00	0.00	0.004	O					0.03
76.583	0.00	0.00	0.004	O					0.03
76.667	0.00	0.00	0.004	O					0.03
76.750	0.00	0.00	0.004	O					0.03
76.833	0.00	0.00	0.004	O					0.03
76.917	0.00	0.00	0.004	O					0.03
77.000	0.00	0.00	0.004	O					0.03
77.083	0.00	0.00	0.004	O					0.03
77.167	0.00	0.00	0.004	O					0.03
77.250	0.00	0.00	0.004	O					0.03
77.333	0.00	0.00	0.004	O					0.03
77.417	0.00	0.00	0.004	O					0.03
77.500	0.00	0.00	0.003	O					0.03

77.583	0.00	0.00	0.003	O	|	|	|	|	0.03
77.667	0.00	0.00	0.003	O	|	|	|	|	0.03
77.750	0.00	0.00	0.003	O	|	|	|	|	0.03
77.833	0.00	0.00	0.003	O	|	|	|	|	0.02
77.917	0.00	0.00	0.003	O	|	|	|	|	0.02
78.000	0.00	0.00	0.003	O	|	|	|	|	0.02
78.083	0.00	0.00	0.003	O	|	|	|	|	0.02
78.167	0.00	0.00	0.003	O	|	|	|	|	0.02
78.250	0.00	0.00	0.003	O	|	|	|	|	0.02
78.333	0.00	0.00	0.003	O	|	|	|	|	0.02
78.417	0.00	0.00	0.003	O	|	|	|	|	0.02
78.500	0.00	0.00	0.003	O	|	|	|	|	0.02
78.583	0.00	0.00	0.003	O	|	|	|	|	0.02
78.667	0.00	0.00	0.003	O	|	|	|	|	0.02
78.750	0.00	0.00	0.003	O	|	|	|	|	0.02
78.833	0.00	0.00	0.003	O	|	|	|	|	0.02
78.917	0.00	0.00	0.003	O	|	|	|	|	0.02
79.000	0.00	0.00	0.003	O	|	|	|	|	0.02
79.083	0.00	0.00	0.003	O	|	|	|	|	0.02
79.167	0.00	0.00	0.003	O	|	|	|	|	0.02
79.250	0.00	0.00	0.003	O	|	|	|	|	0.02
79.333	0.00	0.00	0.003	O	|	|	|	|	0.02
79.417	0.00	0.00	0.003	O	|	|	|	|	0.02
79.500	0.00	0.00	0.003	O	|	|	|	|	0.02
79.583	0.00	0.00	0.003	O	|	|	|	|	0.02
79.667	0.00	0.00	0.003	O	|	|	|	|	0.02
79.750	0.00	0.00	0.003	O	|	|	|	|	0.02
79.833	0.00	0.00	0.003	O	|	|	|	|	0.02
79.917	0.00	0.00	0.003	O	|	|	|	|	0.02
80.000	0.00	0.00	0.003	O	|	|	|	|	0.02
80.083	0.00	0.00	0.003	O	|	|	|	|	0.02
80.167	0.00	0.00	0.003	O	|	|	|	|	0.02
80.250	0.00	0.00	0.003	O	|	|	|	|	0.02
80.333	0.00	0.00	0.003	O	|	|	|	|	0.02
80.417	0.00	0.00	0.003	O	|	|	|	|	0.02
80.500	0.00	0.00	0.003	O	|	|	|	|	0.02
80.583	0.00	0.00	0.003	O	|	|	|	|	0.02
80.667	0.00	0.00	0.003	O	|	|	|	|	0.02
80.750	0.00	0.00	0.003	O	|	|	|	|	0.02
80.833	0.00	0.00	0.003	O	|	|	|	|	0.02
80.917	0.00	0.00	0.003	O	|	|	|	|	0.02
81.000	0.00	0.00	0.003	O	|	|	|	|	0.02
81.083	0.00	0.00	0.003	O	|	|	|	|	0.02
81.167	0.00	0.00	0.003	O	|	|	|	|	0.02
81.250	0.00	0.00	0.003	O	|	|	|	|	0.02
81.333	0.00	0.00	0.003	O	|	|	|	|	0.02
81.417	0.00	0.00	0.003	O	|	|	|	|	0.02
81.500	0.00	0.00	0.003	O	|	|	|	|	0.02
81.583	0.00	0.00	0.003	O	|	|	|	|	0.02
81.667	0.00	0.00	0.003	O	|	|	|	|	0.02

81.750	0.00	0.00	0.003	O	|	|	|	|	0.02
81.833	0.00	0.00	0.003	O	|	|	|	|	0.02
81.917	0.00	0.00	0.003	O	|	|	|	|	0.02
82.000	0.00	0.00	0.003	O	|	|	|	|	0.02
82.083	0.00	0.00	0.003	O	|	|	|	|	0.02
82.167	0.00	0.00	0.003	O	|	|	|	|	0.02
82.250	0.00	0.00	0.002	O	|	|	|	|	0.02
82.333	0.00	0.00	0.002	O	|	|	|	|	0.02
82.417	0.00	0.00	0.002	O	|	|	|	|	0.02
82.500	0.00	0.00	0.002	O	|	|	|	|	0.02
82.583	0.00	0.00	0.002	O	|	|	|	|	0.02
82.667	0.00	0.00	0.002	O	|	|	|	|	0.02
82.750	0.00	0.00	0.002	O	|	|	|	|	0.02
82.833	0.00	0.00	0.002	O	|	|	|	|	0.02
82.917	0.00	0.00	0.002	O	|	|	|	|	0.02
83.000	0.00	0.00	0.002	O	|	|	|	|	0.02
83.083	0.00	0.00	0.002	O	|	|	|	|	0.02
83.167	0.00	0.00	0.002	O	|	|	|	|	0.02
83.250	0.00	0.00	0.002	O	|	|	|	|	0.02
83.333	0.00	0.00	0.002	O	|	|	|	|	0.02
83.417	0.00	0.00	0.002	O	|	|	|	|	0.02
83.500	0.00	0.00	0.002	O	|	|	|	|	0.02
83.583	0.00	0.00	0.002	O	|	|	|	|	0.02
83.667	0.00	0.00	0.002	O	|	|	|	|	0.02
83.750	0.00	0.00	0.002	O	|	|	|	|	0.02
83.833	0.00	0.00	0.002	O	|	|	|	|	0.02
83.917	0.00	0.00	0.002	O	|	|	|	|	0.02
84.000	0.00	0.00	0.002	O	|	|	|	|	0.02
84.083	0.00	0.00	0.002	O	|	|	|	|	0.02
84.167	0.00	0.00	0.002	O	|	|	|	|	0.02
84.250	0.00	0.00	0.002	O	|	|	|	|	0.02
84.333	0.00	0.00	0.002	O	|	|	|	|	0.02
84.417	0.00	0.00	0.002	O	|	|	|	|	0.02
84.500	0.00	0.00	0.002	O	|	|	|	|	0.02
84.583	0.00	0.00	0.002	O	|	|	|	|	0.02
84.667	0.00	0.00	0.002	O	|	|	|	|	0.02
84.750	0.00	0.00	0.002	O	|	|	|	|	0.02
84.833	0.00	0.00	0.002	O	|	|	|	|	0.02
84.917	0.00	0.00	0.002	O	|	|	|	|	0.02
85.000	0.00	0.00	0.002	O	|	|	|	|	0.01
85.083	0.00	0.00	0.002	O	|	|	|	|	0.01
85.167	0.00	0.00	0.002	O	|	|	|	|	0.01
85.250	0.00	0.00	0.002	O	|	|	|	|	0.01
85.333	0.00	0.00	0.002	O	|	|	|	|	0.01
85.417	0.00	0.00	0.002	O	|	|	|	|	0.01
85.500	0.00	0.00	0.002	O	|	|	|	|	0.01
85.583	0.00	0.00	0.002	O	|	|	|	|	0.01
85.667	0.00	0.00	0.002	O	|	|	|	|	0.01
85.750	0.00	0.00	0.002	O	|	|	|	|	0.01
85.833	0.00	0.00	0.002	O	|	|	|	|	0.01

85.917	0.00	0.00	0.002	O	|	|	|	0.01
86.000	0.00	0.00	0.002	O	|	|	|	0.01
86.083	0.00	0.00	0.002	O	|	|	|	0.01
86.167	0.00	0.00	0.002	O	|	|	|	0.01
86.250	0.00	0.00	0.002	O	|	|	|	0.01
86.333	0.00	0.00	0.002	O	|	|	|	0.01
86.417	0.00	0.00	0.002	O	|	|	|	0.01
86.500	0.00	0.00	0.002	O	|	|	|	0.01
86.583	0.00	0.00	0.002	O	|	|	|	0.01
86.667	0.00	0.00	0.002	O	|	|	|	0.01
86.750	0.00	0.00	0.002	O	|	|	|	0.01
86.833	0.00	0.00	0.002	O	|	|	|	0.01
86.917	0.00	0.00	0.002	O	|	|	|	0.01
87.000	0.00	0.00	0.002	O	|	|	|	0.01
87.083	0.00	0.00	0.002	O	|	|	|	0.01
87.167	0.00	0.00	0.002	O	|	|	|	0.01
87.250	0.00	0.00	0.002	O	|	|	|	0.01
87.333	0.00	0.00	0.002	O	|	|	|	0.01
87.417	0.00	0.00	0.002	O	|	|	|	0.01
87.500	0.00	0.00	0.002	O	|	|	|	0.01
87.583	0.00	0.00	0.002	O	|	|	|	0.01
87.667	0.00	0.00	0.002	O	|	|	|	0.01
87.750	0.00	0.00	0.002	O	|	|	|	0.01
87.833	0.00	0.00	0.002	O	|	|	|	0.01
87.917	0.00	0.00	0.002	O	|	|	|	0.01
88.000	0.00	0.00	0.002	O	|	|	|	0.01
88.083	0.00	0.00	0.002	O	|	|	|	0.01
88.167	0.00	0.00	0.002	O	|	|	|	0.01
88.250	0.00	0.00	0.002	O	|	|	|	0.01
88.333	0.00	0.00	0.002	O	|	|	|	0.01
88.417	0.00	0.00	0.002	O	|	|	|	0.01
88.500	0.00	0.00	0.002	O	|	|	|	0.01
88.583	0.00	0.00	0.002	O	|	|	|	0.01
88.667	0.00	0.00	0.002	O	|	|	|	0.01
88.750	0.00	0.00	0.002	O	|	|	|	0.01
88.833	0.00	0.00	0.002	O	|	|	|	0.01
88.917	0.00	0.00	0.002	O	|	|	|	0.01
89.000	0.00	0.00	0.002	O	|	|	|	0.01
89.083	0.00	0.00	0.002	O	|	|	|	0.01
89.167	0.00	0.00	0.002	O	|	|	|	0.01
89.250	0.00	0.00	0.002	O	|	|	|	0.01
89.333	0.00	0.00	0.002	O	|	|	|	0.01
89.417	0.00	0.00	0.001	O	|	|	|	0.01
89.500	0.00	0.00	0.001	O	|	|	|	0.01
89.583	0.00	0.00	0.001	O	|	|	|	0.01
89.667	0.00	0.00	0.001	O	|	|	|	0.01
89.750	0.00	0.00	0.001	O	|	|	|	0.01
89.833	0.00	0.00	0.001	O	|	|	|	0.01
89.917	0.00	0.00	0.001	O	|	|	|	0.01
90.000	0.00	0.00	0.001	O	|	|	|	0.01

90.083	0.00	0.00	0.001	O	|	|	|	|	0.01
90.167	0.00	0.00	0.001	O	|	|	|	|	0.01
90.250	0.00	0.00	0.001	O	|	|	|	|	0.01
90.333	0.00	0.00	0.001	O	|	|	|	|	0.01
90.417	0.00	0.00	0.001	O	|	|	|	|	0.01
90.500	0.00	0.00	0.001	O	|	|	|	|	0.01
90.583	0.00	0.00	0.001	O	|	|	|	|	0.01
90.667	0.00	0.00	0.001	O	|	|	|	|	0.01
90.750	0.00	0.00	0.001	O	|	|	|	|	0.01
90.833	0.00	0.00	0.001	O	|	|	|	|	0.01
90.917	0.00	0.00	0.001	O	|	|	|	|	0.01
91.000	0.00	0.00	0.001	O	|	|	|	|	0.01
91.083	0.00	0.00	0.001	O	|	|	|	|	0.01
91.167	0.00	0.00	0.001	O	|	|	|	|	0.01
91.250	0.00	0.00	0.001	O	|	|	|	|	0.01
91.333	0.00	0.00	0.001	O	|	|	|	|	0.01
91.417	0.00	0.00	0.001	O	|	|	|	|	0.01
91.500	0.00	0.00	0.001	O	|	|	|	|	0.01
91.583	0.00	0.00	0.001	O	|	|	|	|	0.01
91.667	0.00	0.00	0.001	O	|	|	|	|	0.01
91.750	0.00	0.00	0.001	O	|	|	|	|	0.01
91.833	0.00	0.00	0.001	O	|	|	|	|	0.01
91.917	0.00	0.00	0.001	O	|	|	|	|	0.01
92.000	0.00	0.00	0.001	O	|	|	|	|	0.01
92.083	0.00	0.00	0.001	O	|	|	|	|	0.01
92.167	0.00	0.00	0.001	O	|	|	|	|	0.01
92.250	0.00	0.00	0.001	O	|	|	|	|	0.01
92.333	0.00	0.00	0.001	O	|	|	|	|	0.01
92.417	0.00	0.00	0.001	O	|	|	|	|	0.01
92.500	0.00	0.00	0.001	O	|	|	|	|	0.01
92.583	0.00	0.00	0.001	O	|	|	|	|	0.01
92.667	0.00	0.00	0.001	O	|	|	|	|	0.01
92.750	0.00	0.00	0.001	O	|	|	|	|	0.01
92.833	0.00	0.00	0.001	O	|	|	|	|	0.01
92.917	0.00	0.00	0.001	O	|	|	|	|	0.01
93.000	0.00	0.00	0.001	O	|	|	|	|	0.01
93.083	0.00	0.00	0.001	O	|	|	|	|	0.01

Remaining water in basin = 0.00 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 1117
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.224 (CFS)
Total volume = 0.497 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000

Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
                      Study date: 03/14/22

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Jana Commercial Development
Post Development
100 yr 3 hr

------------------------------------------------------------------------


Program License Serial Number 6481

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********************* HYDROGRAPH INFORMATION **********************

                From study/file name: janapost3100.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    48
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =        8.104 (CFS)
                Total volume =       0.805 (Ac.Ft)
        Status of hydrographs being held in storage
                    Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        0.000 to Point/Station        0.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 48
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.137	0.118	0.137	0.137
2.000	0.274	0.170	0.273	0.275
4.000	0.548	0.244	0.547	0.549
6.000	0.823	2.414	0.815	0.831
8.000	1.097	4.459	1.082	1.112

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 2.0 4.05 6.08 8.10	Depth (Ft.)
0.083	0.14	0.00	0.000	O | | | |	0.00
0.167	0.68	0.00	0.003	O I | | | |	0.02
0.250	1.02	0.01	0.009	O I | | | |	0.07
0.333	1.11	0.01	0.016	O I | | | |	0.12
0.417	1.32	0.02	0.025	O I | | | |	0.18
0.500	1.50	0.03	0.034	O I | | | |	0.25
0.583	1.68	0.04	0.045	O I | | | |	0.33
0.667	1.71	0.05	0.056	O I | | | |	0.41
0.750	1.83	0.06	0.068	O I| | | |	0.50
0.833	1.89	0.07	0.080	O I| | | |	0.59
0.917	1.81	0.08	0.093	O I| | | |	0.68
1.000	1.82	0.09	0.105	O I| | | |	0.76
1.083	1.98	0.10	0.117	O I| | | |	0.85
1.167	2.22	0.11	0.131	O I | | |	0.95
1.250	2.36	0.12	0.146	O |I | | |	1.06
1.333	2.40	0.13	0.161	O |I | | |	1.18
1.417	2.42	0.13	0.177	O |I | | |	1.29
1.500	2.66	0.14	0.194	O | I | | |	1.41
1.583	2.85	0.15	0.212	O | I | | |	1.54
1.667	2.85	0.15	0.230	O | I | | |	1.68
1.750	3.01	0.16	0.249	O | I | | |	1.82
1.833	3.35	0.17	0.270	O | I | | |	1.97
1.917	3.46	0.17	0.292	O | I | | |	2.13
2.000	3.41	0.18	0.315	O | I | | |	2.30
2.083	3.45	0.19	0.337	O | I | | |	2.46
2.167	3.65	0.19	0.360	O | I | | |	2.63
2.250	4.28	0.20	0.386	O | I | |	2.82
2.333	4.83	0.21	0.416	O | | I | |	3.04
2.417	4.91	0.22	0.448	O | | I | |	3.27
2.500	6.19	0.23	0.485	O | | | I |	3.54

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2.583    7.45    0.24      0.530  O       |       |       |    I  |     3.87
2.667    8.10    0.51      0.581  | O     |       |       |       I     4.24
2.750    7.16    0.88      0.629  |  O    |       |       |   I   |     4.59
2.833    4.97    1.16      0.664  |   O   |       |  I    |       |     4.84
2.917    3.62    1.32      0.685  |    O  |     I |       |       |     5.00
3.000    2.95    1.43      0.698  |    O  |  I    |       |       |     5.09
3.083    2.04    1.48      0.705  |    O  I       |       |       |     5.14
3.167    1.26    1.49      0.706  |   IO  |       |       |       |     5.15
3.250    0.82    1.47      0.703  |  I O  |       |       |       |     5.13
3.333    0.57    1.43      0.698  | I  O  |       |       |       |     5.09
3.417    0.41    1.38      0.692  |I   O  |       |       |       |     5.05
3.500    0.28    1.32      0.685  |I   O  |       |       |       |     5.00
3.583    0.18    1.27      0.677  I   O   |       |       |       |     4.94
3.667    0.10    1.21      0.670  I   O   |       |       |       |     4.89
3.750    0.05    1.15      0.662  I   O   |       |       |       |     4.83
3.833    0.03    1.09      0.655  I   O   |       |       |       |     4.78
3.917    0.01    1.03      0.648  I   O   |       |       |       |     4.73
4.000    0.00    0.98      0.641  I  O    |       |       |       |     4.68
4.083    0.00    0.93      0.634  I  O    |       |       |       |     4.63
4.167    0.00    0.88      0.628  I  O    |       |       |       |     4.58
4.250    0.00    0.83      0.622  I  O    |       |       |       |     4.54
4.333    0.00    0.79      0.617  I  O    |       |       |       |     4.50
4.417    0.00    0.74      0.611  I O     |       |       |       |     4.46
4.500    0.00    0.71      0.606  I O     |       |       |       |     4.43
4.583    0.00    0.67      0.602  I O     |       |       |       |     4.39
4.667    0.00    0.63      0.597  I O     |       |       |       |     4.36
4.750    0.00    0.60      0.593  I O     |       |       |       |     4.33
4.833    0.00    0.57      0.589  I O     |       |       |       |     4.30
4.917    0.00    0.54      0.585  I O     |       |       |       |     4.27
5.000    0.00    0.51      0.582  I O     |       |       |       |     4.24
5.083    0.00    0.48      0.578  IO      |       |       |       |     4.22
5.167    0.00    0.46      0.575  IO      |       |       |       |     4.20
5.250    0.00    0.43      0.572  IO      |       |       |       |     4.17
5.333    0.00    0.41      0.569  IO      |       |       |       |     4.15
5.417    0.00    0.39      0.566  IO      |       |       |       |     4.13
5.500    0.00    0.37      0.564  IO      |       |       |       |     4.11
5.583    0.00    0.35      0.561  IO      |       |       |       |     4.10
5.667    0.00    0.33      0.559  IO      |       |       |       |     4.08
5.750    0.00    0.31      0.557  IO      |       |       |       |     4.06
5.833    0.00    0.30      0.555  IO      |       |       |       |     4.05
5.917    0.00    0.28      0.553  IO      |       |       |       |     4.03
6.000    0.00    0.27      0.551  IO      |       |       |       |     4.02
6.083    0.00    0.25      0.549  O       |       |       |       |     4.01
6.167    0.00    0.24      0.547  O       |       |       |       |     3.99
6.250    0.00    0.24      0.546  O       |       |       |       |     3.98
6.333    0.00    0.24      0.544  O       |       |       |       |     3.97
6.417    0.00    0.24      0.542  O       |       |       |       |     3.96
6.500    0.00    0.24      0.541  O       |       |       |       |     3.95
6.583    0.00    0.24      0.539  O       |       |       |       |     3.93
6.667    0.00    0.24      0.537  O       |       |       |       |     3.92
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6.750	0.00	0.24	0.536	O				3.91
6.833	0.00	0.24	0.534	O				3.90
6.917	0.00	0.24	0.532	O				3.88
7.000	0.00	0.24	0.531	O				3.87
7.083	0.00	0.24	0.529	O				3.86
7.167	0.00	0.24	0.527	O				3.85
7.250	0.00	0.24	0.526	O				3.84
7.333	0.00	0.24	0.524	O				3.82
7.417	0.00	0.24	0.522	O				3.81
7.500	0.00	0.24	0.521	O				3.80
7.583	0.00	0.24	0.519	O				3.79
7.667	0.00	0.24	0.517	O				3.78
7.750	0.00	0.24	0.516	O				3.77
7.833	0.00	0.23	0.514	O				3.75
7.917	0.00	0.23	0.513	O				3.74
8.000	0.00	0.23	0.511	O				3.73
8.083	0.00	0.23	0.509	O				3.72
8.167	0.00	0.23	0.508	O				3.71
8.250	0.00	0.23	0.506	O				3.69
8.333	0.00	0.23	0.505	O				3.68
8.417	0.00	0.23	0.503	O				3.67
8.500	0.00	0.23	0.501	O				3.66
8.583	0.00	0.23	0.500	O				3.65
8.667	0.00	0.23	0.498	O				3.64
8.750	0.00	0.23	0.497	O				3.62
8.833	0.00	0.23	0.495	O				3.61
8.917	0.00	0.23	0.493	O				3.60
9.000	0.00	0.23	0.492	O				3.59
9.083	0.00	0.23	0.490	O				3.58
9.167	0.00	0.23	0.489	O				3.57
9.250	0.00	0.23	0.487	O				3.56
9.333	0.00	0.23	0.486	O				3.54
9.417	0.00	0.23	0.484	O				3.53
9.500	0.00	0.23	0.482	O				3.52
9.583	0.00	0.23	0.481	O				3.51
9.667	0.00	0.23	0.479	O				3.50
9.750	0.00	0.23	0.478	O				3.49
9.833	0.00	0.22	0.476	O				3.48
9.917	0.00	0.22	0.475	O				3.47
10.000	0.00	0.22	0.473	O				3.45
10.083	0.00	0.22	0.472	O				3.44
10.167	0.00	0.22	0.470	O				3.43
10.250	0.00	0.22	0.469	O				3.42
10.333	0.00	0.22	0.467	O				3.41
10.417	0.00	0.22	0.466	O				3.40
10.500	0.00	0.22	0.464	O				3.39
10.583	0.00	0.22	0.462	O				3.38
10.667	0.00	0.22	0.461	O				3.36
10.750	0.00	0.22	0.459	O				3.35
10.833	0.00	0.22	0.458	O				3.34

10.917	0.00	0.22	0.456	O	|	|	|	3.33
11.000	0.00	0.22	0.455	O	|	|	|	3.32
11.083	0.00	0.22	0.453	O	|	|	|	3.31
11.167	0.00	0.22	0.452	O	|	|	|	3.30
11.250	0.00	0.22	0.450	O	|	|	|	3.29
11.333	0.00	0.22	0.449	O	|	|	|	3.28
11.417	0.00	0.22	0.447	O	|	|	|	3.27
11.500	0.00	0.22	0.446	O	|	|	|	3.25
11.583	0.00	0.22	0.444	O	|	|	|	3.24
11.667	0.00	0.22	0.443	O	|	|	|	3.23
11.750	0.00	0.22	0.441	O	|	|	|	3.22
11.833	0.00	0.21	0.440	O	|	|	|	3.21
11.917	0.00	0.21	0.438	O	|	|	|	3.20
12.000	0.00	0.21	0.437	O	|	|	|	3.19
12.083	0.00	0.21	0.436	O	|	|	|	3.18
12.167	0.00	0.21	0.434	O	|	|	|	3.17
12.250	0.00	0.21	0.433	O	|	|	|	3.16
12.333	0.00	0.21	0.431	O	|	|	|	3.15
12.417	0.00	0.21	0.430	O	|	|	|	3.14
12.500	0.00	0.21	0.428	O	|	|	|	3.13
12.583	0.00	0.21	0.427	O	|	|	|	3.11
12.667	0.00	0.21	0.425	O	|	|	|	3.10
12.750	0.00	0.21	0.424	O	|	|	|	3.09
12.833	0.00	0.21	0.422	O	|	|	|	3.08
12.917	0.00	0.21	0.421	O	|	|	|	3.07
13.000	0.00	0.21	0.420	O	|	|	|	3.06
13.083	0.00	0.21	0.418	O	|	|	|	3.05
13.167	0.00	0.21	0.417	O	|	|	|	3.04
13.250	0.00	0.21	0.415	O	|	|	|	3.03
13.333	0.00	0.21	0.414	O	|	|	|	3.02
13.417	0.00	0.21	0.412	O	|	|	|	3.01
13.500	0.00	0.21	0.411	O	|	|	|	3.00
13.583	0.00	0.21	0.409	O	|	|	|	2.99
13.667	0.00	0.21	0.408	O	|	|	|	2.98
13.750	0.00	0.21	0.407	O	|	|	|	2.97
13.833	0.00	0.21	0.405	O	|	|	|	2.96
13.917	0.00	0.21	0.404	O	|	|	|	2.95
14.000	0.00	0.20	0.402	O	|	|	|	2.94
14.083	0.00	0.20	0.401	O	|	|	|	2.93
14.167	0.00	0.20	0.400	O	|	|	|	2.92
14.250	0.00	0.20	0.398	O	|	|	|	2.91
14.333	0.00	0.20	0.397	O	|	|	|	2.90
14.417	0.00	0.20	0.395	O	|	|	|	2.89
14.500	0.00	0.20	0.394	O	|	|	|	2.88
14.583	0.00	0.20	0.393	O	|	|	|	2.87
14.667	0.00	0.20	0.391	O	|	|	|	2.86
14.750	0.00	0.20	0.390	O	|	|	|	2.85
14.833	0.00	0.20	0.388	O	|	|	|	2.84
14.917	0.00	0.20	0.387	O	|	|	|	2.83
15.000	0.00	0.20	0.386	O	|	|	|	2.82

15.083	0.00	0.20	0.384	O				2.81
15.167	0.00	0.20	0.383	O				2.80
15.250	0.00	0.20	0.382	O				2.79
15.333	0.00	0.20	0.380	O				2.78
15.417	0.00	0.20	0.379	O				2.77
15.500	0.00	0.20	0.377	O				2.76
15.583	0.00	0.20	0.376	O				2.75
15.667	0.00	0.20	0.375	O				2.74
15.750	0.00	0.20	0.373	O				2.73
15.833	0.00	0.20	0.372	O				2.72
15.917	0.00	0.20	0.371	O				2.71
16.000	0.00	0.20	0.369	O				2.70
16.083	0.00	0.20	0.368	O				2.69
16.167	0.00	0.20	0.367	O				2.68
16.250	0.00	0.19	0.365	O				2.67
16.333	0.00	0.19	0.364	O				2.66
16.417	0.00	0.19	0.363	O				2.65
16.500	0.00	0.19	0.361	O				2.64
16.583	0.00	0.19	0.360	O				2.63
16.667	0.00	0.19	0.359	O				2.62
16.750	0.00	0.19	0.357	O				2.61
16.833	0.00	0.19	0.356	O				2.60
16.917	0.00	0.19	0.355	O				2.59
17.000	0.00	0.19	0.353	O				2.58
17.083	0.00	0.19	0.352	O				2.57
17.167	0.00	0.19	0.351	O				2.56
17.250	0.00	0.19	0.349	O				2.55
17.333	0.00	0.19	0.348	O				2.54
17.417	0.00	0.19	0.347	O				2.53
17.500	0.00	0.19	0.345	O				2.52
17.583	0.00	0.19	0.344	O				2.51
17.667	0.00	0.19	0.343	O				2.50
17.750	0.00	0.19	0.342	O				2.49
17.833	0.00	0.19	0.340	O				2.48
17.917	0.00	0.19	0.339	O				2.47
18.000	0.00	0.19	0.338	O				2.46
18.083	0.00	0.19	0.336	O				2.46
18.167	0.00	0.19	0.335	O				2.45
18.250	0.00	0.19	0.334	O				2.44
18.333	0.00	0.19	0.333	O				2.43
18.417	0.00	0.19	0.331	O				2.42
18.500	0.00	0.19	0.330	O				2.41
18.583	0.00	0.18	0.329	O				2.40
18.667	0.00	0.18	0.327	O				2.39
18.750	0.00	0.18	0.326	O				2.38
18.833	0.00	0.18	0.325	O				2.37
18.917	0.00	0.18	0.324	O				2.36
19.000	0.00	0.18	0.322	O				2.35
19.083	0.00	0.18	0.321	O				2.34
19.167	0.00	0.18	0.320	O				2.33

19.250	0.00	0.18	0.319	O	|	|	|	2.33
19.333	0.00	0.18	0.317	O	|	|	|	2.32
19.417	0.00	0.18	0.316	O	|	|	|	2.31
19.500	0.00	0.18	0.315	O	|	|	|	2.30
19.583	0.00	0.18	0.314	O	|	|	|	2.29
19.667	0.00	0.18	0.312	O	|	|	|	2.28
19.750	0.00	0.18	0.311	O	|	|	|	2.27
19.833	0.00	0.18	0.310	O	|	|	|	2.26
19.917	0.00	0.18	0.309	O	|	|	|	2.25
20.000	0.00	0.18	0.307	O	|	|	|	2.24
20.083	0.00	0.18	0.306	O	|	|	|	2.23
20.167	0.00	0.18	0.305	O	|	|	|	2.23
20.250	0.00	0.18	0.304	O	|	|	|	2.22
20.333	0.00	0.18	0.302	O	|	|	|	2.21
20.417	0.00	0.18	0.301	O	|	|	|	2.20
20.500	0.00	0.18	0.300	O	|	|	|	2.19
20.583	0.00	0.18	0.299	O	|	|	|	2.18
20.667	0.00	0.18	0.298	O	|	|	|	2.17
20.750	0.00	0.18	0.296	O	|	|	|	2.16
20.833	0.00	0.18	0.295	O	|	|	|	2.15
20.917	0.00	0.18	0.294	O	|	|	|	2.15
21.000	0.00	0.18	0.293	O	|	|	|	2.14
21.083	0.00	0.17	0.292	O	|	|	|	2.13
21.167	0.00	0.17	0.290	O	|	|	|	2.12
21.250	0.00	0.17	0.289	O	|	|	|	2.11
21.333	0.00	0.17	0.288	O	|	|	|	2.10
21.417	0.00	0.17	0.287	O	|	|	|	2.09
21.500	0.00	0.17	0.286	O	|	|	|	2.08
21.583	0.00	0.17	0.284	O	|	|	|	2.08
21.667	0.00	0.17	0.283	O	|	|	|	2.07
21.750	0.00	0.17	0.282	O	|	|	|	2.06
21.833	0.00	0.17	0.281	O	|	|	|	2.05
21.917	0.00	0.17	0.280	O	|	|	|	2.04
22.000	0.00	0.17	0.278	O	|	|	|	2.03
22.083	0.00	0.17	0.277	O	|	|	|	2.02
22.167	0.00	0.17	0.276	O	|	|	|	2.02
22.250	0.00	0.17	0.275	O	|	|	|	2.01
22.333	0.00	0.17	0.274	O	|	|	|	2.00
22.417	0.00	0.17	0.273	O	|	|	|	1.99
22.500	0.00	0.17	0.271	O	|	|	|	1.98
22.583	0.00	0.17	0.270	O	|	|	|	1.97
22.667	0.00	0.17	0.269	O	|	|	|	1.96
22.750	0.00	0.17	0.268	O	|	|	|	1.96
22.833	0.00	0.17	0.267	O	|	|	|	1.95
22.917	0.00	0.17	0.266	O	|	|	|	1.94
23.000	0.00	0.17	0.265	O	|	|	|	1.93
23.083	0.00	0.17	0.263	O	|	|	|	1.92
23.167	0.00	0.17	0.262	O	|	|	|	1.91
23.250	0.00	0.17	0.261	O	|	|	|	1.91
23.333	0.00	0.16	0.260	O	|	|	|	1.90

23.417	0.00	0.16	0.259	O				1.89
23.500	0.00	0.16	0.258	O				1.88
23.583	0.00	0.16	0.257	O				1.87
23.667	0.00	0.16	0.255	O				1.86
23.750	0.00	0.16	0.254	O				1.86
23.833	0.00	0.16	0.253	O				1.85
23.917	0.00	0.16	0.252	O				1.84
24.000	0.00	0.16	0.251	O				1.83
24.083	0.00	0.16	0.250	O				1.82
24.167	0.00	0.16	0.249	O				1.82
24.250	0.00	0.16	0.248	O				1.81
24.333	0.00	0.16	0.247	O				1.80
24.417	0.00	0.16	0.245	O				1.79
24.500	0.00	0.16	0.244	O				1.78
24.583	0.00	0.16	0.243	O				1.78
24.667	0.00	0.16	0.242	O				1.77
24.750	0.00	0.16	0.241	O				1.76
24.833	0.00	0.16	0.240	O				1.75
24.917	0.00	0.16	0.239	O				1.74
25.000	0.00	0.16	0.238	O				1.74
25.083	0.00	0.16	0.237	O				1.73
25.167	0.00	0.16	0.236	O				1.72
25.250	0.00	0.16	0.235	O				1.71
25.333	0.00	0.15	0.234	O				1.70
25.417	0.00	0.15	0.233	O				1.70
25.500	0.00	0.15	0.231	O				1.69
25.583	0.00	0.15	0.230	O				1.68
25.667	0.00	0.15	0.229	O				1.67
25.750	0.00	0.15	0.228	O				1.67
25.833	0.00	0.15	0.227	O				1.66
25.917	0.00	0.15	0.226	O				1.65
26.000	0.00	0.15	0.225	O				1.64
26.083	0.00	0.15	0.224	O				1.64
26.167	0.00	0.15	0.223	O				1.63
26.250	0.00	0.15	0.222	O				1.62
26.333	0.00	0.15	0.221	O				1.61
26.417	0.00	0.15	0.220	O				1.61
26.500	0.00	0.15	0.219	O				1.60
26.583	0.00	0.15	0.218	O				1.59
26.667	0.00	0.15	0.217	O				1.58
26.750	0.00	0.15	0.216	O				1.58
26.833	0.00	0.15	0.215	O				1.57
26.917	0.00	0.15	0.214	O				1.56
27.000	0.00	0.15	0.213	O				1.55
27.083	0.00	0.15	0.212	O				1.55
27.167	0.00	0.15	0.211	O				1.54
27.250	0.00	0.15	0.210	O				1.53
27.333	0.00	0.15	0.209	O				1.52
27.417	0.00	0.14	0.208	O				1.52
27.500	0.00	0.14	0.207	O				1.51

27.583	0.00	0.14	0.206	O				1.50
27.667	0.00	0.14	0.205	O				1.49
27.750	0.00	0.14	0.204	O				1.49
27.833	0.00	0.14	0.203	O				1.48
27.917	0.00	0.14	0.202	O				1.47
28.000	0.00	0.14	0.201	O				1.47
28.083	0.00	0.14	0.200	O				1.46
28.167	0.00	0.14	0.199	O				1.45
28.250	0.00	0.14	0.198	O				1.44
28.333	0.00	0.14	0.197	O				1.44
28.417	0.00	0.14	0.196	O				1.43
28.500	0.00	0.14	0.195	O				1.42
28.583	0.00	0.14	0.194	O				1.42
28.667	0.00	0.14	0.193	O				1.41
28.750	0.00	0.14	0.192	O				1.40
28.833	0.00	0.14	0.191	O				1.40
28.917	0.00	0.14	0.190	O				1.39
29.000	0.00	0.14	0.189	O				1.38
29.083	0.00	0.14	0.188	O				1.37
29.167	0.00	0.14	0.187	O				1.37
29.250	0.00	0.14	0.186	O				1.36
29.333	0.00	0.14	0.186	O				1.35
29.417	0.00	0.14	0.185	O				1.35
29.500	0.00	0.14	0.184	O				1.34
29.583	0.00	0.14	0.183	O				1.33
29.667	0.00	0.13	0.182	O				1.33
29.750	0.00	0.13	0.181	O				1.32
29.833	0.00	0.13	0.180	O				1.31
29.917	0.00	0.13	0.179	O				1.31
30.000	0.00	0.13	0.178	O				1.30
30.083	0.00	0.13	0.177	O				1.29
30.167	0.00	0.13	0.176	O				1.29
30.250	0.00	0.13	0.175	O				1.28
30.333	0.00	0.13	0.174	O				1.27
30.417	0.00	0.13	0.174	O				1.27
30.500	0.00	0.13	0.173	O				1.26
30.583	0.00	0.13	0.172	O				1.25
30.667	0.00	0.13	0.171	O				1.25
30.750	0.00	0.13	0.170	O				1.24
30.833	0.00	0.13	0.169	O				1.23
30.917	0.00	0.13	0.168	O				1.23
31.000	0.00	0.13	0.167	O				1.22
31.083	0.00	0.13	0.166	O				1.21
31.167	0.00	0.13	0.165	O				1.21
31.250	0.00	0.13	0.165	O				1.20
31.333	0.00	0.13	0.164	O				1.19
31.417	0.00	0.13	0.163	O				1.19
31.500	0.00	0.13	0.162	O				1.18
31.583	0.00	0.13	0.161	O				1.18
31.667	0.00	0.13	0.160	O				1.17

31.750	0.00	0.13	0.159	O				1.16
31.833	0.00	0.13	0.158	O				1.16
31.917	0.00	0.13	0.158	O				1.15
32.000	0.00	0.13	0.157	O				1.14
32.083	0.00	0.13	0.156	O				1.14
32.167	0.00	0.12	0.155	O				1.13
32.250	0.00	0.12	0.154	O				1.12
32.333	0.00	0.12	0.153	O				1.12
32.417	0.00	0.12	0.152	O				1.11
32.500	0.00	0.12	0.152	O				1.11
32.583	0.00	0.12	0.151	O				1.10
32.667	0.00	0.12	0.150	O				1.09
32.750	0.00	0.12	0.149	O				1.09
32.833	0.00	0.12	0.148	O				1.08
32.917	0.00	0.12	0.147	O				1.08
33.000	0.00	0.12	0.146	O				1.07
33.083	0.00	0.12	0.146	O				1.06
33.167	0.00	0.12	0.145	O				1.06
33.250	0.00	0.12	0.144	O				1.05
33.333	0.00	0.12	0.143	O				1.04
33.417	0.00	0.12	0.142	O				1.04
33.500	0.00	0.12	0.141	O				1.03
33.583	0.00	0.12	0.141	O				1.03
33.667	0.00	0.12	0.140	O				1.02
33.750	0.00	0.12	0.139	O				1.01
33.833	0.00	0.12	0.138	O				1.01
33.917	0.00	0.12	0.137	O				1.00
34.000	0.00	0.12	0.137	O				1.00
34.083	0.00	0.12	0.136	O				0.99
34.167	0.00	0.12	0.135	O				0.99
34.250	0.00	0.12	0.134	O				0.98
34.333	0.00	0.11	0.133	O				0.97
34.417	0.00	0.11	0.133	O				0.97
34.500	0.00	0.11	0.132	O				0.96
34.583	0.00	0.11	0.131	O				0.96
34.667	0.00	0.11	0.130	O				0.95
34.750	0.00	0.11	0.129	O				0.95
34.833	0.00	0.11	0.129	O				0.94
34.917	0.00	0.11	0.128	O				0.93
35.000	0.00	0.11	0.127	O				0.93
35.083	0.00	0.11	0.126	O				0.92
35.167	0.00	0.11	0.126	O				0.92
35.250	0.00	0.11	0.125	O				0.91
35.333	0.00	0.11	0.124	O				0.91
35.417	0.00	0.11	0.123	O				0.90
35.500	0.00	0.11	0.123	O				0.90
35.583	0.00	0.11	0.122	O				0.89
35.667	0.00	0.10	0.121	O				0.89
35.750	0.00	0.10	0.121	O				0.88
35.833	0.00	0.10	0.120	O				0.87

35.917	0.00	0.10	0.119	O	|	|	|	0.87
36.000	0.00	0.10	0.118	O	|	|	|	0.86
36.083	0.00	0.10	0.118	O	|	|	|	0.86
36.167	0.00	0.10	0.117	O	|	|	|	0.85
36.250	0.00	0.10	0.116	O	|	|	|	0.85
36.333	0.00	0.10	0.116	O	|	|	|	0.84
36.417	0.00	0.10	0.115	O	|	|	|	0.84
36.500	0.00	0.10	0.114	O	|	|	|	0.83
36.583	0.00	0.10	0.114	O	|	|	|	0.83
36.667	0.00	0.10	0.113	O	|	|	|	0.82
36.750	0.00	0.10	0.112	O	|	|	|	0.82
36.833	0.00	0.10	0.112	O	|	|	|	0.81
36.917	0.00	0.10	0.111	O	|	|	|	0.81
37.000	0.00	0.10	0.110	O	|	|	|	0.81
37.083	0.00	0.09	0.110	O	|	|	|	0.80
37.167	0.00	0.09	0.109	O	|	|	|	0.80
37.250	0.00	0.09	0.108	O	|	|	|	0.79
37.333	0.00	0.09	0.108	O	|	|	|	0.79
37.417	0.00	0.09	0.107	O	|	|	|	0.78
37.500	0.00	0.09	0.106	O	|	|	|	0.78
37.583	0.00	0.09	0.106	O	|	|	|	0.77
37.667	0.00	0.09	0.105	O	|	|	|	0.77
37.750	0.00	0.09	0.105	O	|	|	|	0.76
37.833	0.00	0.09	0.104	O	|	|	|	0.76
37.917	0.00	0.09	0.103	O	|	|	|	0.75
38.000	0.00	0.09	0.103	O	|	|	|	0.75
38.083	0.00	0.09	0.102	O	|	|	|	0.75
38.167	0.00	0.09	0.102	O	|	|	|	0.74
38.250	0.00	0.09	0.101	O	|	|	|	0.74
38.333	0.00	0.09	0.100	O	|	|	|	0.73
38.417	0.00	0.09	0.100	O	|	|	|	0.73
38.500	0.00	0.09	0.099	O	|	|	|	0.72
38.583	0.00	0.08	0.099	O	|	|	|	0.72
38.667	0.00	0.08	0.098	O	|	|	|	0.72
38.750	0.00	0.08	0.097	O	|	|	|	0.71
38.833	0.00	0.08	0.097	O	|	|	|	0.71
38.917	0.00	0.08	0.096	O	|	|	|	0.70
39.000	0.00	0.08	0.096	O	|	|	|	0.70
39.083	0.00	0.08	0.095	O	|	|	|	0.69
39.167	0.00	0.08	0.095	O	|	|	|	0.69
39.250	0.00	0.08	0.094	O	|	|	|	0.69
39.333	0.00	0.08	0.093	O	|	|	|	0.68
39.417	0.00	0.08	0.093	O	|	|	|	0.68
39.500	0.00	0.08	0.092	O	|	|	|	0.67
39.583	0.00	0.08	0.092	O	|	|	|	0.67
39.667	0.00	0.08	0.091	O	|	|	|	0.67
39.750	0.00	0.08	0.091	O	|	|	|	0.66
39.833	0.00	0.08	0.090	O	|	|	|	0.66
39.917	0.00	0.08	0.090	O	|	|	|	0.65
40.000	0.00	0.08	0.089	O	|	|	|	0.65

40.083	0.00	0.08	0.089	O				0.65
40.167	0.00	0.08	0.088	O				0.64
40.250	0.00	0.08	0.088	O				0.64
40.333	0.00	0.07	0.087	O				0.64
40.417	0.00	0.07	0.086	O				0.63
40.500	0.00	0.07	0.086	O				0.63
40.583	0.00	0.07	0.085	O				0.62
40.667	0.00	0.07	0.085	O				0.62
40.750	0.00	0.07	0.084	O				0.62
40.833	0.00	0.07	0.084	O				0.61
40.917	0.00	0.07	0.083	O				0.61
41.000	0.00	0.07	0.083	O				0.61
41.083	0.00	0.07	0.082	O				0.60
41.167	0.00	0.07	0.082	O				0.60
41.250	0.00	0.07	0.082	O				0.60
41.333	0.00	0.07	0.081	O				0.59
41.417	0.00	0.07	0.081	O				0.59
41.500	0.00	0.07	0.080	O				0.58
41.583	0.00	0.07	0.080	O				0.58
41.667	0.00	0.07	0.079	O				0.58
41.750	0.00	0.07	0.079	O				0.57
41.833	0.00	0.07	0.078	O				0.57
41.917	0.00	0.07	0.078	O				0.57
42.000	0.00	0.07	0.077	O				0.56
42.083	0.00	0.07	0.077	O				0.56
42.167	0.00	0.07	0.076	O				0.56
42.250	0.00	0.07	0.076	O				0.55
42.333	0.00	0.06	0.075	O				0.55
42.417	0.00	0.06	0.075	O				0.55
42.500	0.00	0.06	0.075	O				0.54
42.583	0.00	0.06	0.074	O				0.54
42.667	0.00	0.06	0.074	O				0.54
42.750	0.00	0.06	0.073	O				0.53
42.833	0.00	0.06	0.073	O				0.53
42.917	0.00	0.06	0.072	O				0.53
43.000	0.00	0.06	0.072	O				0.53
43.083	0.00	0.06	0.072	O				0.52
43.167	0.00	0.06	0.071	O				0.52
43.250	0.00	0.06	0.071	O				0.52
43.333	0.00	0.06	0.070	O				0.51
43.417	0.00	0.06	0.070	O				0.51
43.500	0.00	0.06	0.069	O				0.51
43.583	0.00	0.06	0.069	O				0.50
43.667	0.00	0.06	0.069	O				0.50
43.750	0.00	0.06	0.068	O				0.50
43.833	0.00	0.06	0.068	O				0.50
43.917	0.00	0.06	0.067	O				0.49
44.000	0.00	0.06	0.067	O				0.49
44.083	0.00	0.06	0.067	O				0.49
44.167	0.00	0.06	0.066	O				0.48

44.250	0.00	0.06	0.066	O	|	|	|	0.48
44.333	0.00	0.06	0.065	O	|	|	|	0.48
44.417	0.00	0.06	0.065	O	|	|	|	0.47
44.500	0.00	0.06	0.065	O	|	|	|	0.47
44.583	0.00	0.06	0.064	O	|	|	|	0.47
44.667	0.00	0.06	0.064	O	|	|	|	0.47
44.750	0.00	0.05	0.064	O	|	|	|	0.46
44.833	0.00	0.05	0.063	O	|	|	|	0.46
44.917	0.00	0.05	0.063	O	|	|	|	0.46
45.000	0.00	0.05	0.062	O	|	|	|	0.46
45.083	0.00	0.05	0.062	O	|	|	|	0.45
45.167	0.00	0.05	0.062	O	|	|	|	0.45
45.250	0.00	0.05	0.061	O	|	|	|	0.45
45.333	0.00	0.05	0.061	O	|	|	|	0.44
45.417	0.00	0.05	0.061	O	|	|	|	0.44
45.500	0.00	0.05	0.060	O	|	|	|	0.44
45.583	0.00	0.05	0.060	O	|	|	|	0.44
45.667	0.00	0.05	0.060	O	|	|	|	0.43
45.750	0.00	0.05	0.059	O	|	|	|	0.43
45.833	0.00	0.05	0.059	O	|	|	|	0.43
45.917	0.00	0.05	0.058	O	|	|	|	0.43
46.000	0.00	0.05	0.058	O	|	|	|	0.42
46.083	0.00	0.05	0.058	O	|	|	|	0.42
46.167	0.00	0.05	0.057	O	|	|	|	0.42
46.250	0.00	0.05	0.057	O	|	|	|	0.42
46.333	0.00	0.05	0.057	O	|	|	|	0.41
46.417	0.00	0.05	0.056	O	|	|	|	0.41
46.500	0.00	0.05	0.056	O	|	|	|	0.41
46.583	0.00	0.05	0.056	O	|	|	|	0.41
46.667	0.00	0.05	0.055	O	|	|	|	0.40
46.750	0.00	0.05	0.055	O	|	|	|	0.40
46.833	0.00	0.05	0.055	O	|	|	|	0.40
46.917	0.00	0.05	0.054	O	|	|	|	0.40
47.000	0.00	0.05	0.054	O	|	|	|	0.40
47.083	0.00	0.05	0.054	O	|	|	|	0.39
47.167	0.00	0.05	0.053	O	|	|	|	0.39
47.250	0.00	0.05	0.053	O	|	|	|	0.39
47.333	0.00	0.05	0.053	O	|	|	|	0.39
47.417	0.00	0.05	0.053	O	|	|	|	0.38
47.500	0.00	0.04	0.052	O	|	|	|	0.38
47.583	0.00	0.04	0.052	O	|	|	|	0.38
47.667	0.00	0.04	0.052	O	|	|	|	0.38
47.750	0.00	0.04	0.051	O	|	|	|	0.37
47.833	0.00	0.04	0.051	O	|	|	|	0.37
47.917	0.00	0.04	0.051	O	|	|	|	0.37
48.000	0.00	0.04	0.050	O	|	|	|	0.37
48.083	0.00	0.04	0.050	O	|	|	|	0.37
48.167	0.00	0.04	0.050	O	|	|	|	0.36
48.250	0.00	0.04	0.050	O	|	|	|	0.36
48.333	0.00	0.04	0.049	O	|	|	|	0.36

48.417	0.00	0.04	0.049	O	|	|	|	0.36
48.500	0.00	0.04	0.049	O	|	|	|	0.36
48.583	0.00	0.04	0.048	O	|	|	|	0.35
48.667	0.00	0.04	0.048	O	|	|	|	0.35
48.750	0.00	0.04	0.048	O	|	|	|	0.35
48.833	0.00	0.04	0.048	O	|	|	|	0.35
48.917	0.00	0.04	0.047	O	|	|	|	0.34
49.000	0.00	0.04	0.047	O	|	|	|	0.34
49.083	0.00	0.04	0.047	O	|	|	|	0.34
49.167	0.00	0.04	0.046	O	|	|	|	0.34
49.250	0.00	0.04	0.046	O	|	|	|	0.34
49.333	0.00	0.04	0.046	O	|	|	|	0.33
49.417	0.00	0.04	0.046	O	|	|	|	0.33
49.500	0.00	0.04	0.045	O	|	|	|	0.33
49.583	0.00	0.04	0.045	O	|	|	|	0.33
49.667	0.00	0.04	0.045	O	|	|	|	0.33
49.750	0.00	0.04	0.045	O	|	|	|	0.32
49.833	0.00	0.04	0.044	O	|	|	|	0.32
49.917	0.00	0.04	0.044	O	|	|	|	0.32
50.000	0.00	0.04	0.044	O	|	|	|	0.32
50.083	0.00	0.04	0.043	O	|	|	|	0.32
50.167	0.00	0.04	0.043	O	|	|	|	0.32
50.250	0.00	0.04	0.043	O	|	|	|	0.31
50.333	0.00	0.04	0.043	O	|	|	|	0.31
50.417	0.00	0.04	0.042	O	|	|	|	0.31
50.500	0.00	0.04	0.042	O	|	|	|	0.31
50.583	0.00	0.04	0.042	O	|	|	|	0.31
50.667	0.00	0.04	0.042	O	|	|	|	0.30
50.750	0.00	0.04	0.041	O	|	|	|	0.30
50.833	0.00	0.04	0.041	O	|	|	|	0.30
50.917	0.00	0.04	0.041	O	|	|	|	0.30
51.000	0.00	0.04	0.041	O	|	|	|	0.30
51.083	0.00	0.03	0.040	O	|	|	|	0.30
51.167	0.00	0.03	0.040	O	|	|	|	0.29
51.250	0.00	0.03	0.040	O	|	|	|	0.29
51.333	0.00	0.03	0.040	O	|	|	|	0.29
51.417	0.00	0.03	0.040	O	|	|	|	0.29
51.500	0.00	0.03	0.039	O	|	|	|	0.29
51.583	0.00	0.03	0.039	O	|	|	|	0.29
51.667	0.00	0.03	0.039	O	|	|	|	0.28
51.750	0.00	0.03	0.039	O	|	|	|	0.28
51.833	0.00	0.03	0.038	O	|	|	|	0.28
51.917	0.00	0.03	0.038	O	|	|	|	0.28
52.000	0.00	0.03	0.038	O	|	|	|	0.28
52.083	0.00	0.03	0.038	O	|	|	|	0.28
52.167	0.00	0.03	0.037	O	|	|	|	0.27
52.250	0.00	0.03	0.037	O	|	|	|	0.27
52.333	0.00	0.03	0.037	O	|	|	|	0.27
52.417	0.00	0.03	0.037	O	|	|	|	0.27
52.500	0.00	0.03	0.037	O	|	|	|	0.27

52.583	0.00	0.03	0.036	O				0.27
52.667	0.00	0.03	0.036	O				0.26
52.750	0.00	0.03	0.036	O				0.26
52.833	0.00	0.03	0.036	O				0.26
52.917	0.00	0.03	0.036	O				0.26
53.000	0.00	0.03	0.035	O				0.26
53.083	0.00	0.03	0.035	O				0.26
53.167	0.00	0.03	0.035	O				0.25
53.250	0.00	0.03	0.035	O				0.25
53.333	0.00	0.03	0.034	O				0.25
53.417	0.00	0.03	0.034	O				0.25
53.500	0.00	0.03	0.034	O				0.25
53.583	0.00	0.03	0.034	O				0.25
53.667	0.00	0.03	0.034	O				0.25
53.750	0.00	0.03	0.033	O				0.24
53.833	0.00	0.03	0.033	O				0.24
53.917	0.00	0.03	0.033	O				0.24
54.000	0.00	0.03	0.033	O				0.24
54.083	0.00	0.03	0.033	O				0.24
54.167	0.00	0.03	0.033	O				0.24
54.250	0.00	0.03	0.032	O				0.24
54.333	0.00	0.03	0.032	O				0.23
54.417	0.00	0.03	0.032	O				0.23
54.500	0.00	0.03	0.032	O				0.23
54.583	0.00	0.03	0.032	O				0.23
54.667	0.00	0.03	0.031	O				0.23
54.750	0.00	0.03	0.031	O				0.23
54.833	0.00	0.03	0.031	O				0.23
54.917	0.00	0.03	0.031	O				0.22
55.000	0.00	0.03	0.031	O				0.22
55.083	0.00	0.03	0.030	O				0.22
55.167	0.00	0.03	0.030	O				0.22
55.250	0.00	0.03	0.030	O				0.22
55.333	0.00	0.03	0.030	O				0.22
55.417	0.00	0.03	0.030	O				0.22
55.500	0.00	0.03	0.030	O				0.22
55.583	0.00	0.03	0.029	O				0.21
55.667	0.00	0.03	0.029	O				0.21
55.750	0.00	0.03	0.029	O				0.21
55.833	0.00	0.02	0.029	O				0.21
55.917	0.00	0.02	0.029	O				0.21
56.000	0.00	0.02	0.029	O				0.21
56.083	0.00	0.02	0.028	O				0.21
56.167	0.00	0.02	0.028	O				0.21
56.250	0.00	0.02	0.028	O				0.20
56.333	0.00	0.02	0.028	O				0.20
56.417	0.00	0.02	0.028	O				0.20
56.500	0.00	0.02	0.028	O				0.20
56.583	0.00	0.02	0.027	O				0.20
56.667	0.00	0.02	0.027	O				0.20

56.750	0.00	0.02	0.027	O				0.20
56.833	0.00	0.02	0.027	O				0.20
56.917	0.00	0.02	0.027	O				0.20
57.000	0.00	0.02	0.027	O				0.19
57.083	0.00	0.02	0.026	O				0.19
57.167	0.00	0.02	0.026	O				0.19
57.250	0.00	0.02	0.026	O				0.19
57.333	0.00	0.02	0.026	O				0.19
57.417	0.00	0.02	0.026	O				0.19
57.500	0.00	0.02	0.026	O				0.19
57.583	0.00	0.02	0.025	O				0.19
57.667	0.00	0.02	0.025	O				0.18
57.750	0.00	0.02	0.025	O				0.18
57.833	0.00	0.02	0.025	O				0.18
57.917	0.00	0.02	0.025	O				0.18
58.000	0.00	0.02	0.025	O				0.18
58.083	0.00	0.02	0.025	O				0.18
58.167	0.00	0.02	0.024	O				0.18
58.250	0.00	0.02	0.024	O				0.18
58.333	0.00	0.02	0.024	O				0.18
58.417	0.00	0.02	0.024	O				0.18
58.500	0.00	0.02	0.024	O				0.17
58.583	0.00	0.02	0.024	O				0.17
58.667	0.00	0.02	0.024	O				0.17
58.750	0.00	0.02	0.023	O				0.17
58.833	0.00	0.02	0.023	O				0.17
58.917	0.00	0.02	0.023	O				0.17
59.000	0.00	0.02	0.023	O				0.17
59.083	0.00	0.02	0.023	O				0.17
59.167	0.00	0.02	0.023	O				0.17
59.250	0.00	0.02	0.023	O				0.17
59.333	0.00	0.02	0.023	O				0.16
59.417	0.00	0.02	0.022	O				0.16
59.500	0.00	0.02	0.022	O				0.16
59.583	0.00	0.02	0.022	O				0.16
59.667	0.00	0.02	0.022	O				0.16
59.750	0.00	0.02	0.022	O				0.16
59.833	0.00	0.02	0.022	O				0.16
59.917	0.00	0.02	0.022	O				0.16
60.000	0.00	0.02	0.021	O				0.16
60.083	0.00	0.02	0.021	O				0.16
60.167	0.00	0.02	0.021	O				0.15
60.250	0.00	0.02	0.021	O				0.15
60.333	0.00	0.02	0.021	O				0.15
60.417	0.00	0.02	0.021	O				0.15
60.500	0.00	0.02	0.021	O				0.15
60.583	0.00	0.02	0.021	O				0.15
60.667	0.00	0.02	0.020	O				0.15
60.750	0.00	0.02	0.020	O				0.15
60.833	0.00	0.02	0.020	O				0.15

60.917	0.00	0.02	0.020	O				0.15
61.000	0.00	0.02	0.020	O				0.15
61.083	0.00	0.02	0.020	O				0.15
61.167	0.00	0.02	0.020	O				0.14
61.250	0.00	0.02	0.020	O				0.14
61.333	0.00	0.02	0.020	O				0.14
61.417	0.00	0.02	0.019	O				0.14
61.500	0.00	0.02	0.019	O				0.14
61.583	0.00	0.02	0.019	O				0.14
61.667	0.00	0.02	0.019	O				0.14
61.750	0.00	0.02	0.019	O				0.14
61.833	0.00	0.02	0.019	O				0.14
61.917	0.00	0.02	0.019	O				0.14
62.000	0.00	0.02	0.019	O				0.14
62.083	0.00	0.02	0.019	O				0.14
62.167	0.00	0.02	0.018	O				0.13
62.250	0.00	0.02	0.018	O				0.13
62.333	0.00	0.02	0.018	O				0.13
62.417	0.00	0.02	0.018	O				0.13
62.500	0.00	0.02	0.018	O				0.13
62.583	0.00	0.02	0.018	O				0.13
62.667	0.00	0.02	0.018	O				0.13
62.750	0.00	0.02	0.018	O				0.13
62.833	0.00	0.02	0.018	O				0.13
62.917	0.00	0.02	0.017	O				0.13
63.000	0.00	0.01	0.017	O				0.13
63.083	0.00	0.01	0.017	O				0.13
63.167	0.00	0.01	0.017	O				0.13
63.250	0.00	0.01	0.017	O				0.12
63.333	0.00	0.01	0.017	O				0.12
63.417	0.00	0.01	0.017	O				0.12
63.500	0.00	0.01	0.017	O				0.12
63.583	0.00	0.01	0.017	O				0.12
63.667	0.00	0.01	0.017	O				0.12
63.750	0.00	0.01	0.016	O				0.12
63.833	0.00	0.01	0.016	O				0.12
63.917	0.00	0.01	0.016	O				0.12
64.000	0.00	0.01	0.016	O				0.12
64.083	0.00	0.01	0.016	O				0.12
64.167	0.00	0.01	0.016	O				0.12
64.250	0.00	0.01	0.016	O				0.12
64.333	0.00	0.01	0.016	O				0.12
64.417	0.00	0.01	0.016	O				0.11
64.500	0.00	0.01	0.016	O				0.11
64.583	0.00	0.01	0.015	O				0.11
64.667	0.00	0.01	0.015	O				0.11
64.750	0.00	0.01	0.015	O				0.11
64.833	0.00	0.01	0.015	O				0.11
64.917	0.00	0.01	0.015	O				0.11
65.000	0.00	0.01	0.015	O				0.11

65.083	0.00	0.01	0.015	O	|	|	|	0.11
65.167	0.00	0.01	0.015	O	|	|	|	0.11
65.250	0.00	0.01	0.015	O	|	|	|	0.11
65.333	0.00	0.01	0.015	O	|	|	|	0.11
65.417	0.00	0.01	0.015	O	|	|	|	0.11
65.500	0.00	0.01	0.015	O	|	|	|	0.11
65.583	0.00	0.01	0.014	O	|	|	|	0.11
65.667	0.00	0.01	0.014	O	|	|	|	0.10
65.750	0.00	0.01	0.014	O	|	|	|	0.10
65.833	0.00	0.01	0.014	O	|	|	|	0.10
65.917	0.00	0.01	0.014	O	|	|	|	0.10
66.000	0.00	0.01	0.014	O	|	|	|	0.10
66.083	0.00	0.01	0.014	O	|	|	|	0.10
66.167	0.00	0.01	0.014	O	|	|	|	0.10
66.250	0.00	0.01	0.014	O	|	|	|	0.10
66.333	0.00	0.01	0.014	O	|	|	|	0.10
66.417	0.00	0.01	0.014	O	|	|	|	0.10
66.500	0.00	0.01	0.014	O	|	|	|	0.10
66.583	0.00	0.01	0.013	O	|	|	|	0.10
66.667	0.00	0.01	0.013	O	|	|	|	0.10
66.750	0.00	0.01	0.013	O	|	|	|	0.10
66.833	0.00	0.01	0.013	O	|	|	|	0.10
66.917	0.00	0.01	0.013	O	|	|	|	0.10
67.000	0.00	0.01	0.013	O	|	|	|	0.10
67.083	0.00	0.01	0.013	O	|	|	|	0.09
67.167	0.00	0.01	0.013	O	|	|	|	0.09
67.250	0.00	0.01	0.013	O	|	|	|	0.09
67.333	0.00	0.01	0.013	O	|	|	|	0.09
67.417	0.00	0.01	0.013	O	|	|	|	0.09
67.500	0.00	0.01	0.013	O	|	|	|	0.09
67.583	0.00	0.01	0.013	O	|	|	|	0.09
67.667	0.00	0.01	0.012	O	|	|	|	0.09
67.750	0.00	0.01	0.012	O	|	|	|	0.09
67.833	0.00	0.01	0.012	O	|	|	|	0.09
67.917	0.00	0.01	0.012	O	|	|	|	0.09
68.000	0.00	0.01	0.012	O	|	|	|	0.09
68.083	0.00	0.01	0.012	O	|	|	|	0.09
68.167	0.00	0.01	0.012	O	|	|	|	0.09
68.250	0.00	0.01	0.012	O	|	|	|	0.09
68.333	0.00	0.01	0.012	O	|	|	|	0.09
68.417	0.00	0.01	0.012	O	|	|	|	0.09
68.500	0.00	0.01	0.012	O	|	|	|	0.09
68.583	0.00	0.01	0.012	O	|	|	|	0.09
68.667	0.00	0.01	0.012	O	|	|	|	0.08
68.750	0.00	0.01	0.012	O	|	|	|	0.08
68.833	0.00	0.01	0.011	O	|	|	|	0.08
68.917	0.00	0.01	0.011	O	|	|	|	0.08
69.000	0.00	0.01	0.011	O	|	|	|	0.08
69.083	0.00	0.01	0.011	O	|	|	|	0.08
69.167	0.00	0.01	0.011	O	|	|	|	0.08

69.250	0.00	0.01	0.011	O				0.08
69.333	0.00	0.01	0.011	O				0.08
69.417	0.00	0.01	0.011	O				0.08
69.500	0.00	0.01	0.011	O				0.08
69.583	0.00	0.01	0.011	O				0.08
69.667	0.00	0.01	0.011	O				0.08
69.750	0.00	0.01	0.011	O				0.08
69.833	0.00	0.01	0.011	O				0.08
69.917	0.00	0.01	0.011	O				0.08
70.000	0.00	0.01	0.011	O				0.08
70.083	0.00	0.01	0.010	O				0.08
70.167	0.00	0.01	0.010	O				0.08
70.250	0.00	0.01	0.010	O				0.08
70.333	0.00	0.01	0.010	O				0.08
70.417	0.00	0.01	0.010	O				0.07
70.500	0.00	0.01	0.010	O				0.07
70.583	0.00	0.01	0.010	O				0.07
70.667	0.00	0.01	0.010	O				0.07
70.750	0.00	0.01	0.010	O				0.07
70.833	0.00	0.01	0.010	O				0.07
70.917	0.00	0.01	0.010	O				0.07
71.000	0.00	0.01	0.010	O				0.07
71.083	0.00	0.01	0.010	O				0.07
71.167	0.00	0.01	0.010	O				0.07
71.250	0.00	0.01	0.010	O				0.07
71.333	0.00	0.01	0.010	O				0.07
71.417	0.00	0.01	0.010	O				0.07
71.500	0.00	0.01	0.009	O				0.07
71.583	0.00	0.01	0.009	O				0.07
71.667	0.00	0.01	0.009	O				0.07
71.750	0.00	0.01	0.009	O				0.07
71.833	0.00	0.01	0.009	O				0.07
71.917	0.00	0.01	0.009	O				0.07
72.000	0.00	0.01	0.009	O				0.07
72.083	0.00	0.01	0.009	O				0.07
72.167	0.00	0.01	0.009	O				0.07
72.250	0.00	0.01	0.009	O				0.07
72.333	0.00	0.01	0.009	O				0.07
72.417	0.00	0.01	0.009	O				0.06
72.500	0.00	0.01	0.009	O				0.06
72.583	0.00	0.01	0.009	O				0.06
72.667	0.00	0.01	0.009	O				0.06
72.750	0.00	0.01	0.009	O				0.06
72.833	0.00	0.01	0.009	O				0.06
72.917	0.00	0.01	0.009	O				0.06
73.000	0.00	0.01	0.009	O				0.06
73.083	0.00	0.01	0.008	O				0.06
73.167	0.00	0.01	0.008	O				0.06
73.250	0.00	0.01	0.008	O				0.06
73.333	0.00	0.01	0.008	O				0.06

73.417	0.00	0.01	0.008	O	|	|	|	0.06
73.500	0.00	0.01	0.008	O	|	|	|	0.06
73.583	0.00	0.01	0.008	O	|	|	|	0.06
73.667	0.00	0.01	0.008	O	|	|	|	0.06
73.750	0.00	0.01	0.008	O	|	|	|	0.06
73.833	0.00	0.01	0.008	O	|	|	|	0.06
73.917	0.00	0.01	0.008	O	|	|	|	0.06
74.000	0.00	0.01	0.008	O	|	|	|	0.06
74.083	0.00	0.01	0.008	O	|	|	|	0.06
74.167	0.00	0.01	0.008	O	|	|	|	0.06
74.250	0.00	0.01	0.008	O	|	|	|	0.06
74.333	0.00	0.01	0.008	O	|	|	|	0.06
74.417	0.00	0.01	0.008	O	|	|	|	0.06
74.500	0.00	0.01	0.008	O	|	|	|	0.06
74.583	0.00	0.01	0.008	O	|	|	|	0.06
74.667	0.00	0.01	0.008	O	|	|	|	0.06
74.750	0.00	0.01	0.008	O	|	|	|	0.05
74.833	0.00	0.01	0.007	O	|	|	|	0.05
74.917	0.00	0.01	0.007	O	|	|	|	0.05
75.000	0.00	0.01	0.007	O	|	|	|	0.05
75.083	0.00	0.01	0.007	O	|	|	|	0.05
75.167	0.00	0.01	0.007	O	|	|	|	0.05
75.250	0.00	0.01	0.007	O	|	|	|	0.05
75.333	0.00	0.01	0.007	O	|	|	|	0.05
75.417	0.00	0.01	0.007	O	|	|	|	0.05
75.500	0.00	0.01	0.007	O	|	|	|	0.05
75.583	0.00	0.01	0.007	O	|	|	|	0.05
75.667	0.00	0.01	0.007	O	|	|	|	0.05
75.750	0.00	0.01	0.007	O	|	|	|	0.05
75.833	0.00	0.01	0.007	O	|	|	|	0.05
75.917	0.00	0.01	0.007	O	|	|	|	0.05
76.000	0.00	0.01	0.007	O	|	|	|	0.05
76.083	0.00	0.01	0.007	O	|	|	|	0.05
76.167	0.00	0.01	0.007	O	|	|	|	0.05
76.250	0.00	0.01	0.007	O	|	|	|	0.05
76.333	0.00	0.01	0.007	O	|	|	|	0.05
76.417	0.00	0.01	0.007	O	|	|	|	0.05
76.500	0.00	0.01	0.007	O	|	|	|	0.05
76.583	0.00	0.01	0.007	O	|	|	|	0.05
76.667	0.00	0.01	0.007	O	|	|	|	0.05
76.750	0.00	0.01	0.007	O	|	|	|	0.05
76.833	0.00	0.01	0.006	O	|	|	|	0.05
76.917	0.00	0.01	0.006	O	|	|	|	0.05
77.000	0.00	0.01	0.006	O	|	|	|	0.05
77.083	0.00	0.01	0.006	O	|	|	|	0.05
77.167	0.00	0.01	0.006	O	|	|	|	0.05
77.250	0.00	0.01	0.006	O	|	|	|	0.05
77.333	0.00	0.01	0.006	O	|	|	|	0.05
77.417	0.00	0.01	0.006	O	|	|	|	0.05
77.500	0.00	0.01	0.006	O	|	|	|	0.05

77.583	0.00	0.01	0.006	O	|	|	|	0.04
77.667	0.00	0.01	0.006	O	|	|	|	0.04
77.750	0.00	0.01	0.006	O	|	|	|	0.04
77.833	0.00	0.01	0.006	O	|	|	|	0.04
77.917	0.00	0.01	0.006	O	|	|	|	0.04
78.000	0.00	0.01	0.006	O	|	|	|	0.04
78.083	0.00	0.01	0.006	O	|	|	|	0.04
78.167	0.00	0.01	0.006	O	|	|	|	0.04
78.250	0.00	0.01	0.006	O	|	|	|	0.04
78.333	0.00	0.01	0.006	O	|	|	|	0.04
78.417	0.00	0.00	0.006	O	|	|	|	0.04
78.500	0.00	0.00	0.006	O	|	|	|	0.04
78.583	0.00	0.00	0.006	O	|	|	|	0.04
78.667	0.00	0.00	0.006	O	|	|	|	0.04
78.750	0.00	0.00	0.006	O	|	|	|	0.04
78.833	0.00	0.00	0.006	O	|	|	|	0.04
78.917	0.00	0.00	0.006	O	|	|	|	0.04
79.000	0.00	0.00	0.006	O	|	|	|	0.04
79.083	0.00	0.00	0.006	O	|	|	|	0.04
79.167	0.00	0.00	0.005	O	|	|	|	0.04
79.250	0.00	0.00	0.005	O	|	|	|	0.04
79.333	0.00	0.00	0.005	O	|	|	|	0.04
79.417	0.00	0.00	0.005	O	|	|	|	0.04
79.500	0.00	0.00	0.005	O	|	|	|	0.04
79.583	0.00	0.00	0.005	O	|	|	|	0.04
79.667	0.00	0.00	0.005	O	|	|	|	0.04
79.750	0.00	0.00	0.005	O	|	|	|	0.04
79.833	0.00	0.00	0.005	O	|	|	|	0.04
79.917	0.00	0.00	0.005	O	|	|	|	0.04
80.000	0.00	0.00	0.005	O	|	|	|	0.04
80.083	0.00	0.00	0.005	O	|	|	|	0.04
80.167	0.00	0.00	0.005	O	|	|	|	0.04
80.250	0.00	0.00	0.005	O	|	|	|	0.04
80.333	0.00	0.00	0.005	O	|	|	|	0.04
80.417	0.00	0.00	0.005	O	|	|	|	0.04
80.500	0.00	0.00	0.005	O	|	|	|	0.04
80.583	0.00	0.00	0.005	O	|	|	|	0.04
80.667	0.00	0.00	0.005	O	|	|	|	0.04
80.750	0.00	0.00	0.005	O	|	|	|	0.04
80.833	0.00	0.00	0.005	O	|	|	|	0.04
80.917	0.00	0.00	0.005	O	|	|	|	0.04
81.000	0.00	0.00	0.005	O	|	|	|	0.04
81.083	0.00	0.00	0.005	O	|	|	|	0.03
81.167	0.00	0.00	0.005	O	|	|	|	0.03
81.250	0.00	0.00	0.005	O	|	|	|	0.03
81.333	0.00	0.00	0.005	O	|	|	|	0.03
81.417	0.00	0.00	0.005	O	|	|	|	0.03
81.500	0.00	0.00	0.005	O	|	|	|	0.03
81.583	0.00	0.00	0.005	O	|	|	|	0.03
81.667	0.00	0.00	0.005	O	|	|	|	0.03

81.750	0.00	0.00	0.005	O	|	|	|	0.03
81.833	0.00	0.00	0.005	O	|	|	|	0.03
81.917	0.00	0.00	0.005	O	|	|	|	0.03
82.000	0.00	0.00	0.004	O	|	|	|	0.03
82.083	0.00	0.00	0.004	O	|	|	|	0.03
82.167	0.00	0.00	0.004	O	|	|	|	0.03
82.250	0.00	0.00	0.004	O	|	|	|	0.03
82.333	0.00	0.00	0.004	O	|	|	|	0.03
82.417	0.00	0.00	0.004	O	|	|	|	0.03
82.500	0.00	0.00	0.004	O	|	|	|	0.03
82.583	0.00	0.00	0.004	O	|	|	|	0.03
82.667	0.00	0.00	0.004	O	|	|	|	0.03
82.750	0.00	0.00	0.004	O	|	|	|	0.03
82.833	0.00	0.00	0.004	O	|	|	|	0.03
82.917	0.00	0.00	0.004	O	|	|	|	0.03
83.000	0.00	0.00	0.004	O	|	|	|	0.03
83.083	0.00	0.00	0.004	O	|	|	|	0.03
83.167	0.00	0.00	0.004	O	|	|	|	0.03
83.250	0.00	0.00	0.004	O	|	|	|	0.03
83.333	0.00	0.00	0.004	O	|	|	|	0.03
83.417	0.00	0.00	0.004	O	|	|	|	0.03
83.500	0.00	0.00	0.004	O	|	|	|	0.03
83.583	0.00	0.00	0.004	O	|	|	|	0.03
83.667	0.00	0.00	0.004	O	|	|	|	0.03
83.750	0.00	0.00	0.004	O	|	|	|	0.03
83.833	0.00	0.00	0.004	O	|	|	|	0.03
83.917	0.00	0.00	0.004	O	|	|	|	0.03
84.000	0.00	0.00	0.004	O	|	|	|	0.03
84.083	0.00	0.00	0.004	O	|	|	|	0.03
84.167	0.00	0.00	0.004	O	|	|	|	0.03
84.250	0.00	0.00	0.004	O	|	|	|	0.03
84.333	0.00	0.00	0.004	O	|	|	|	0.03
84.417	0.00	0.00	0.004	O	|	|	|	0.03
84.500	0.00	0.00	0.004	O	|	|	|	0.03
84.583	0.00	0.00	0.004	O	|	|	|	0.03
84.667	0.00	0.00	0.004	O	|	|	|	0.03
84.750	0.00	0.00	0.004	O	|	|	|	0.03
84.833	0.00	0.00	0.004	O	|	|	|	0.03
84.917	0.00	0.00	0.004	O	|	|	|	0.03
85.000	0.00	0.00	0.004	O	|	|	|	0.03
85.083	0.00	0.00	0.004	O	|	|	|	0.03
85.167	0.00	0.00	0.004	O	|	|	|	0.03
85.250	0.00	0.00	0.004	O	|	|	|	0.03
85.333	0.00	0.00	0.004	O	|	|	|	0.03
85.417	0.00	0.00	0.004	O	|	|	|	0.03
85.500	0.00	0.00	0.003	O	|	|	|	0.03
85.583	0.00	0.00	0.003	O	|	|	|	0.03
85.667	0.00	0.00	0.003	O	|	|	|	0.03
85.750	0.00	0.00	0.003	O	|	|	|	0.03
85.833	0.00	0.00	0.003	O	|	|	|	0.02

85.917	0.00	0.00	0.003	O	|	|	|	| 0.02
86.000	0.00	0.00	0.003	O	|	|	|	| 0.02
86.083	0.00	0.00	0.003	O	|	|	|	| 0.02
86.167	0.00	0.00	0.003	O	|	|	|	| 0.02
86.250	0.00	0.00	0.003	O	|	|	|	| 0.02
86.333	0.00	0.00	0.003	O	|	|	|	| 0.02
86.417	0.00	0.00	0.003	O	|	|	|	| 0.02
86.500	0.00	0.00	0.003	O	|	|	|	| 0.02
86.583	0.00	0.00	0.003	O	|	|	|	| 0.02
86.667	0.00	0.00	0.003	O	|	|	|	| 0.02
86.750	0.00	0.00	0.003	O	|	|	|	| 0.02
86.833	0.00	0.00	0.003	O	|	|	|	| 0.02
86.917	0.00	0.00	0.003	O	|	|	|	| 0.02
87.000	0.00	0.00	0.003	O	|	|	|	| 0.02
87.083	0.00	0.00	0.003	O	|	|	|	| 0.02
87.167	0.00	0.00	0.003	O	|	|	|	| 0.02
87.250	0.00	0.00	0.003	O	|	|	|	| 0.02
87.333	0.00	0.00	0.003	O	|	|	|	| 0.02
87.417	0.00	0.00	0.003	O	|	|	|	| 0.02
87.500	0.00	0.00	0.003	O	|	|	|	| 0.02
87.583	0.00	0.00	0.003	O	|	|	|	| 0.02
87.667	0.00	0.00	0.003	O	|	|	|	| 0.02
87.750	0.00	0.00	0.003	O	|	|	|	| 0.02
87.833	0.00	0.00	0.003	O	|	|	|	| 0.02
87.917	0.00	0.00	0.003	O	|	|	|	| 0.02
88.000	0.00	0.00	0.003	O	|	|	|	| 0.02
88.083	0.00	0.00	0.003	O	|	|	|	| 0.02
88.167	0.00	0.00	0.003	O	|	|	|	| 0.02
88.250	0.00	0.00	0.003	O	|	|	|	| 0.02
88.333	0.00	0.00	0.003	O	|	|	|	| 0.02
88.417	0.00	0.00	0.003	O	|	|	|	| 0.02
88.500	0.00	0.00	0.003	O	|	|	|	| 0.02
88.583	0.00	0.00	0.003	O	|	|	|	| 0.02
88.667	0.00	0.00	0.003	O	|	|	|	| 0.02
88.750	0.00	0.00	0.003	O	|	|	|	| 0.02
88.833	0.00	0.00	0.003	O	|	|	|	| 0.02
88.917	0.00	0.00	0.003	O	|	|	|	| 0.02
89.000	0.00	0.00	0.003	O	|	|	|	| 0.02
89.083	0.00	0.00	0.003	O	|	|	|	| 0.02
89.167	0.00	0.00	0.003	O	|	|	|	| 0.02
89.250	0.00	0.00	0.003	O	|	|	|	| 0.02
89.333	0.00	0.00	0.003	O	|	|	|	| 0.02
89.417	0.00	0.00	0.003	O	|	|	|	| 0.02
89.500	0.00	0.00	0.003	O	|	|	|	| 0.02
89.583	0.00	0.00	0.003	O	|	|	|	| 0.02
89.667	0.00	0.00	0.003	O	|	|	|	| 0.02
89.750	0.00	0.00	0.003	O	|	|	|	| 0.02
89.833	0.00	0.00	0.003	O	|	|	|	| 0.02
89.917	0.00	0.00	0.003	O	|	|	|	| 0.02
90.000	0.00	0.00	0.003	O	|	|	|	| 0.02

90.083	0.00	0.00	0.003	O	|	|	|	0.02
90.167	0.00	0.00	0.003	O	|	|	|	0.02
90.250	0.00	0.00	0.002	O	|	|	|	0.02
90.333	0.00	0.00	0.002	O	|	|	|	0.02
90.417	0.00	0.00	0.002	O	|	|	|	0.02
90.500	0.00	0.00	0.002	O	|	|	|	0.02
90.583	0.00	0.00	0.002	O	|	|	|	0.02
90.667	0.00	0.00	0.002	O	|	|	|	0.02
90.750	0.00	0.00	0.002	O	|	|	|	0.02
90.833	0.00	0.00	0.002	O	|	|	|	0.02
90.917	0.00	0.00	0.002	O	|	|	|	0.02
91.000	0.00	0.00	0.002	O	|	|	|	0.02
91.083	0.00	0.00	0.002	O	|	|	|	0.02
91.167	0.00	0.00	0.002	O	|	|	|	0.02
91.250	0.00	0.00	0.002	O	|	|	|	0.02
91.333	0.00	0.00	0.002	O	|	|	|	0.02
91.417	0.00	0.00	0.002	O	|	|	|	0.02
91.500	0.00	0.00	0.002	O	|	|	|	0.02
91.583	0.00	0.00	0.002	O	|	|	|	0.02
91.667	0.00	0.00	0.002	O	|	|	|	0.02
91.750	0.00	0.00	0.002	O	|	|	|	0.02
91.833	0.00	0.00	0.002	O	|	|	|	0.02
91.917	0.00	0.00	0.002	O	|	|	|	0.02
92.000	0.00	0.00	0.002	O	|	|	|	0.02
92.083	0.00	0.00	0.002	O	|	|	|	0.02
92.167	0.00	0.00	0.002	O	|	|	|	0.02
92.250	0.00	0.00	0.002	O	|	|	|	0.02
92.333	0.00	0.00	0.002	O	|	|	|	0.02
92.417	0.00	0.00	0.002	O	|	|	|	0.02
92.500	0.00	0.00	0.002	O	|	|	|	0.02
92.583	0.00	0.00	0.002	O	|	|	|	0.02
92.667	0.00	0.00	0.002	O	|	|	|	0.02
92.750	0.00	0.00	0.002	O	|	|	|	0.02
92.833	0.00	0.00	0.002	O	|	|	|	0.02
92.917	0.00	0.00	0.002	O	|	|	|	0.02
93.000	0.00	0.00	0.002	O	|	|	|	0.01
93.083	0.00	0.00	0.002	O	|	|	|	0.01
93.167	0.00	0.00	0.002	O	|	|	|	0.01
93.250	0.00	0.00	0.002	O	|	|	|	0.01
93.333	0.00	0.00	0.002	O	|	|	|	0.01
93.417	0.00	0.00	0.002	O	|	|	|	0.01
93.500	0.00	0.00	0.002	O	|	|	|	0.01
93.583	0.00	0.00	0.002	O	|	|	|	0.01
93.667	0.00	0.00	0.002	O	|	|	|	0.01
93.750	0.00	0.00	0.002	O	|	|	|	0.01
93.833	0.00	0.00	0.002	O	|	|	|	0.01
93.917	0.00	0.00	0.002	O	|	|	|	0.01
94.000	0.00	0.00	0.002	O	|	|	|	0.01
94.083	0.00	0.00	0.002	O	|	|	|	0.01
94.167	0.00	0.00	0.002	O	|	|	|	0.01

94.250	0.00	0.00	0.002	O	|	|	|	0.01
94.333	0.00	0.00	0.002	O	|	|	|	0.01
94.417	0.00	0.00	0.002	O	|	|	|	0.01
94.500	0.00	0.00	0.002	O	|	|	|	0.01
94.583	0.00	0.00	0.002	O	|	|	|	0.01
94.667	0.00	0.00	0.002	O	|	|	|	0.01
94.750	0.00	0.00	0.002	O	|	|	|	0.01
94.833	0.00	0.00	0.002	O	|	|	|	0.01
94.917	0.00	0.00	0.002	O	|	|	|	0.01
95.000	0.00	0.00	0.002	O	|	|	|	0.01
95.083	0.00	0.00	0.002	O	|	|	|	0.01
95.167	0.00	0.00	0.002	O	|	|	|	0.01
95.250	0.00	0.00	0.002	O	|	|	|	0.01
95.333	0.00	0.00	0.002	O	|	|	|	0.01
95.417	0.00	0.00	0.002	O	|	|	|	0.01
95.500	0.00	0.00	0.002	O	|	|	|	0.01
95.583	0.00	0.00	0.002	O	|	|	|	0.01
95.667	0.00	0.00	0.002	O	|	|	|	0.01
95.750	0.00	0.00	0.002	O	|	|	|	0.01
95.833	0.00	0.00	0.002	O	|	|	|	0.01
95.917	0.00	0.00	0.002	O	|	|	|	0.01
96.000	0.00	0.00	0.002	O	|	|	|	0.01
96.083	0.00	0.00	0.002	O	|	|	|	0.01
96.167	0.00	0.00	0.002	O	|	|	|	0.01
96.250	0.00	0.00	0.002	O	|	|	|	0.01
96.333	0.00	0.00	0.002	O	|	|	|	0.01
96.417	0.00	0.00	0.002	O	|	|	|	0.01
96.500	0.00	0.00	0.002	O	|	|	|	0.01
96.583	0.00	0.00	0.002	O	|	|	|	0.01
96.667	0.00	0.00	0.002	O	|	|	|	0.01
96.750	0.00	0.00	0.002	O	|	|	|	0.01
96.833	0.00	0.00	0.002	O	|	|	|	0.01
96.917	0.00	0.00	0.002	O	|	|	|	0.01
97.000	0.00	0.00	0.002	O	|	|	|	0.01
97.083	0.00	0.00	0.002	O	|	|	|	0.01
97.167	0.00	0.00	0.002	O	|	|	|	0.01
97.250	0.00	0.00	0.002	O	|	|	|	0.01
97.333	0.00	0.00	0.002	O	|	|	|	0.01
97.417	0.00	0.00	0.001	O	|	|	|	0.01
97.500	0.00	0.00	0.001	O	|	|	|	0.01
97.583	0.00	0.00	0.001	O	|	|	|	0.01
97.667	0.00	0.00	0.001	O	|	|	|	0.01
97.750	0.00	0.00	0.001	O	|	|	|	0.01
97.833	0.00	0.00	0.001	O	|	|	|	0.01
97.917	0.00	0.00	0.001	O	|	|	|	0.01
98.000	0.00	0.00	0.001	O	|	|	|	0.01
98.083	0.00	0.00	0.001	O	|	|	|	0.01
98.167	0.00	0.00	0.001	O	|	|	|	0.01
98.250	0.00	0.00	0.001	O	|	|	|	0.01
98.333	0.00	0.00	0.001	O	|	|	|	0.01

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 98.417    0.00    0.00      0.001  O       |       |       |       |     0.01
 98.500    0.00    0.00      0.001  O       |       |       |       |     0.01
 98.583    0.00    0.00      0.001  O       |       |       |       |     0.01
 98.667    0.00    0.00      0.001  O       |       |       |       |     0.01
 98.750    0.00    0.00      0.001  O       |       |       |       |     0.01
 98.833    0.00    0.00      0.001  O       |       |       |       |     0.01
 98.917    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.000    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.083    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.167    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.250    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.333    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.417    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.500    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.583    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.667    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.750    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.833    0.00    0.00      0.001  O       |       |       |       |     0.01
 99.917    0.00    0.00      0.001  O       |       |       |       |     0.01
100.000    0.00    0.00      0.001  O       |       |       |       |     0.01
100.083    0.00    0.00      0.001  O       |       |       |       |     0.01
100.167    0.00    0.00      0.001  O       |       |       |       |     0.01
100.250    0.00    0.00      0.001  O       |       |       |       |     0.01
100.333    0.00    0.00      0.001  O       |       |       |       |     0.01
100.417    0.00    0.00      0.001  O       |       |       |       |     0.01
100.500    0.00    0.00      0.001  O       |       |       |       |     0.01
100.583    0.00    0.00      0.001  O       |       |       |       |     0.01
100.667    0.00    0.00      0.001  O       |       |       |       |     0.01
100.750    0.00    0.00      0.001  O       |       |       |       |     0.01
100.833    0.00    0.00      0.001  O       |       |       |       |     0.01
100.917    0.00    0.00      0.001  O       |       |       |       |     0.01
101.000    0.00    0.00      0.001  O       |       |       |       |     0.01


 Remaining water in basin =    0.00 (Ac.Ft)


 ****************************HYDROGRAPH DATA****************************
                 Number of intervals =  1212
                 Time interval =    5.0 (Min.)
                 Maximum/Peak flow rate =       1.493 (CFS)
                 Total volume =       0.803 (Ac.Ft)
         Status of hydrographs being held in storage
                    Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
         Peak (CFS)      0.000     0.000     0.000     0.000     0.000
         Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
 ***********************************************************************

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
                      Study date: 03/14/22

------------------------------------------------------------------------


Jana Commercial Development
Post Development
100 yr 6 hr

------------------------------------------------------------------------


Program License Serial Number 6481

------------------------------------------------------------------------
********************* HYDROGRAPH INFORMATION **********************

                From study/file name: janapost6100.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =    84
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =        7.354 (CFS)
                Total volume =       1.098 (Ac.Ft)
        Status of hydrographs being held in storage
                    Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        0.000 to Point/Station        0.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 84
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.137	0.118	0.137	0.137
2.000	0.274	0.170	0.273	0.275
4.000	0.548	0.244	0.547	0.549
6.000	0.823	2.414	0.815	0.831
8.000	1.097	4.459	1.082	1.112

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 1.8 3.68 5.52 7.35	Depth (Ft.)
0.083	0.07	0.00	0.000	O | | | |	0.00
0.167	0.35	0.00	0.002	OI | | | |	0.01
0.250	0.59	0.00	0.005	O I | | | |	0.04
0.333	0.70	0.01	0.009	O I | | | |	0.07
0.417	0.76	0.01	0.014	O I | | | |	0.10
0.500	0.81	0.02	0.020	O I | | | |	0.14
0.583	0.90	0.02	0.025	O I | | | |	0.19
0.667	0.96	0.03	0.032	O I | | | |	0.23
0.750	0.99	0.03	0.038	O I | | | |	0.28
0.833	1.01	0.04	0.045	O I | | | |	0.33
0.917	1.03	0.04	0.052	O I | | | |	0.38
1.000	1.05	0.05	0.058	O I | | | |	0.43
1.083	1.12	0.06	0.066	O I | | | |	0.48
1.167	1.17	0.06	0.073	O I | | | |	0.53
1.250	1.19	0.07	0.081	O I | | | |	0.59
1.333	1.20	0.08	0.088	O I | | | |	0.65
1.417	1.21	0.08	0.096	O I | | | |	0.70
1.500	1.21	0.09	0.104	O I | | | |	0.76
1.583	1.21	0.10	0.112	O I | | | |	0.81
1.667	1.22	0.10	0.119	O I | | | |	0.87
1.750	1.22	0.11	0.127	O I | | | |	0.93
1.833	1.22	0.12	0.135	O I | | | |	0.98
1.917	1.22	0.12	0.142	O I | | | |	1.04
2.000	1.24	0.12	0.150	O I | | | |	1.09
2.083	1.29	0.13	0.158	O I | | | |	1.15
2.167	1.28	0.13	0.166	O I | | | |	1.21
2.250	1.32	0.13	0.174	O I | | | |	1.27
2.333	1.35	0.14	0.182	O I | | | |	1.33
2.417	1.37	0.14	0.190	O I | | | |	1.39
2.500	1.37	0.14	0.199	O I | | | |	1.45

2.583	1.38	0.14	0.207	O I	|	|	|	1.51
2.667	1.38	0.15	0.216	O I	|	|	|	1.58
2.750	1.40	0.15	0.224	O I	|	|	|	1.64
2.833	1.47	0.15	0.233	O I	|	|	|	1.70
2.917	1.51	0.16	0.242	O I	|	|	|	1.77
3.000	1.53	0.16	0.252	O I	|	|	|	1.84
3.083	1.54	0.17	0.261	O I	|	|	|	1.91
3.167	1.56	0.17	0.271	O I	|	|	|	1.98
3.250	1.63	0.17	0.280	O I	|	|	|	2.05
3.333	1.67	0.17	0.291	O I	|	|	|	2.12
3.417	1.71	0.18	0.301	O I	|	|	|	2.20
3.500	1.80	0.18	0.312	O I	|	|	|	2.28
3.583	1.92	0.18	0.323	O I	|	|	|	2.36
3.667	2.05	0.19	0.336	O I	|	|	|	2.45
3.750	2.14	0.19	0.349	O I	|	|	|	2.55
3.833	2.24	0.19	0.363	O I	|	|	|	2.65
3.917	2.32	0.20	0.377	O I	|	|	|	2.75
4.000	2.41	0.20	0.392	O I	|	|	|	2.86
4.083	2.49	0.21	0.407	O I	|	|	|	2.97
4.167	2.60	0.21	0.423	O I	|	|	|	3.09
4.250	2.74	0.21	0.440	O I	|	|	|	3.21
4.333	2.89	0.22	0.458	O I	|	|	|	3.34
4.417	3.05	0.22	0.477	O I	|	|	|	3.48
4.500	3.19	0.23	0.497	O I	|	|	|	3.63
4.583	3.29	0.24	0.518	O I	|	|	|	3.78
4.667	3.41	0.24	0.539	O I	|	|	|	3.94
4.750	3.56	0.35	0.561	O I	|	|	|	4.10
4.833	3.70	0.52	0.583	O I	|	|	|	4.26
4.917	3.80	0.69	0.605	O I	|	|	|	4.41
5.000	3.92	0.86	0.626	O I	|	|	|	4.57
5.083	4.13	1.03	0.647	O I	|	|	|	4.72
5.167	4.60	1.20	0.670	O I	|	|	|	4.88
5.250	5.21	1.40	0.694	O I	|	|	|	5.07
5.333	5.76	1.62	0.722	O I	|	|	|	5.26
5.417	6.30	1.85	0.752	O I	|	|	|	5.48
5.500	7.02	2.10	0.784	O I	|	|	|	5.71
5.583	7.35	2.37	0.818	O I	|	|	|	5.96
5.667	5.42	2.58	0.845	O I	|	|	|	6.16
5.750	3.46	2.67	0.857	O I	|	|	|	6.25
5.833	2.41	2.68	0.859	O I	|	|	|	6.26
5.917	1.79	2.65	0.855	O I	|	|	|	6.24
6.000	1.32	2.60	0.848	O I	|	|	|	6.18
6.083	0.96	2.53	0.838	O I	|	|	|	6.11
6.167	0.64	2.44	0.826	O I	|	|	|	6.03
6.250	0.42	2.34	0.814	O I	|	|	|	5.93
6.333	0.28	2.23	0.800	O I	|	|	|	5.83
6.417	0.19	2.13	0.787	O I	|	|	|	5.74
6.500	0.11	2.02	0.774	O I	|	|	|	5.64
6.583	0.05	1.92	0.761	O I	|	|	|	5.55
6.667	0.03	1.82	0.748	O I	|	|	|	5.45

6.750	0.02	1.73	0.736	I O	|	|	|	5.37
6.833	0.01	1.64	0.724	I O	|	|	|	5.28
6.917	0.00	1.55	0.714	I O	|	|	|	5.20
7.000	0.00	1.47	0.703	I O	|	|	|	5.13
7.083	0.00	1.39	0.693	I O	|	|	|	5.06
7.167	0.00	1.32	0.684	I O	|	|	|	4.99
7.250	0.00	1.25	0.675	I O	|	|	|	4.92
7.333	0.00	1.18	0.667	I O	|	|	|	4.86
7.417	0.00	1.12	0.659	I O	|	|	|	4.81
7.500	0.00	1.06	0.651	I O	|	|	|	4.75
7.583	0.00	1.00	0.644	I O	|	|	|	4.70
7.667	0.00	0.95	0.638	I O	|	|	|	4.65
7.750	0.00	0.90	0.631	I O	|	|	|	4.60
7.833	0.00	0.85	0.625	I O	|	|	|	4.56
7.917	0.00	0.81	0.619	I O	|	|	|	4.52
8.000	0.00	0.76	0.614	I O	|	|	|	4.48
8.083	0.00	0.72	0.609	I O	|	|	|	4.44
8.167	0.00	0.69	0.604	I O	|	|	|	4.41
8.250	0.00	0.65	0.599	I O	|	|	|	4.37
8.333	0.00	0.62	0.595	I O	|	|	|	4.34
8.417	0.00	0.58	0.591	I O	|	|	|	4.31
8.500	0.00	0.55	0.587	I O	|	|	|	4.28
8.583	0.00	0.52	0.583	I O	|	|	|	4.26
8.667	0.00	0.50	0.580	I O	|	|	|	4.23
8.750	0.00	0.47	0.576	I O	|	|	|	4.21
8.833	0.00	0.44	0.573	IO	|	|	|	4.18
8.917	0.00	0.42	0.570	IO	|	|	|	4.16
9.000	0.00	0.40	0.568	IO	|	|	|	4.14
9.083	0.00	0.38	0.565	IO	|	|	|	4.12
9.167	0.00	0.36	0.562	IO	|	|	|	4.10
9.250	0.00	0.34	0.560	IO	|	|	|	4.09
9.333	0.00	0.32	0.558	IO	|	|	|	4.07
9.417	0.00	0.30	0.556	IO	|	|	|	4.05
9.500	0.00	0.29	0.554	IO	|	|	|	4.04
9.583	0.00	0.27	0.552	IO	|	|	|	4.03
9.667	0.00	0.26	0.550	IO	|	|	|	4.01
9.750	0.00	0.24	0.548	IO	|	|	|	4.00
9.833	0.00	0.24	0.546	IO	|	|	|	3.99
9.917	0.00	0.24	0.545	IO	|	|	|	3.98
10.000	0.00	0.24	0.543	IO	|	|	|	3.96
10.083	0.00	0.24	0.541	IO	|	|	|	3.95
10.167	0.00	0.24	0.540	IO	|	|	|	3.94
10.250	0.00	0.24	0.538	IO	|	|	|	3.93
10.333	0.00	0.24	0.536	IO	|	|	|	3.91
10.417	0.00	0.24	0.535	IO	|	|	|	3.90
10.500	0.00	0.24	0.533	IO	|	|	|	3.89
10.583	0.00	0.24	0.531	IO	|	|	|	3.88
10.667	0.00	0.24	0.530	IO	|	|	|	3.87
10.750	0.00	0.24	0.528	IO	|	|	|	3.85
10.833	0.00	0.24	0.526	IO	|	|	|	3.84

10.917	0.00	0.24	0.525	IO				3.83
11.000	0.00	0.24	0.523	IO				3.82
11.083	0.00	0.24	0.522	IO				3.81
11.167	0.00	0.24	0.520	IO				3.79
11.250	0.00	0.24	0.518	IO				3.78
11.333	0.00	0.24	0.517	IO				3.77
11.417	0.00	0.24	0.515	IO				3.76
11.500	0.00	0.23	0.513	IO				3.75
11.583	0.00	0.23	0.512	IO				3.74
11.667	0.00	0.23	0.510	IO				3.72
11.750	0.00	0.23	0.509	IO				3.71
11.833	0.00	0.23	0.507	IO				3.70
11.917	0.00	0.23	0.505	IO				3.69
12.000	0.00	0.23	0.504	IO				3.68
12.083	0.00	0.23	0.502	IO				3.67
12.167	0.00	0.23	0.501	IO				3.65
12.250	0.00	0.23	0.499	IO				3.64
12.333	0.00	0.23	0.497	IO				3.63
12.417	0.00	0.23	0.496	IO				3.62
12.500	0.00	0.23	0.494	O				3.61
12.583	0.00	0.23	0.493	O				3.60
12.667	0.00	0.23	0.491	O				3.58
12.750	0.00	0.23	0.490	O				3.57
12.833	0.00	0.23	0.488	O				3.56
12.917	0.00	0.23	0.486	O				3.55
13.000	0.00	0.23	0.485	O				3.54
13.083	0.00	0.23	0.483	O				3.53
13.167	0.00	0.23	0.482	O				3.52
13.250	0.00	0.23	0.480	O				3.50
13.333	0.00	0.23	0.479	O				3.49
13.417	0.00	0.22	0.477	O				3.48
13.500	0.00	0.22	0.475	O				3.47
13.583	0.00	0.22	0.474	O				3.46
13.667	0.00	0.22	0.472	O				3.45
13.750	0.00	0.22	0.471	O				3.44
13.833	0.00	0.22	0.469	O				3.43
13.917	0.00	0.22	0.468	O				3.41
14.000	0.00	0.22	0.466	O				3.40
14.083	0.00	0.22	0.465	O				3.39
14.167	0.00	0.22	0.463	O				3.38
14.250	0.00	0.22	0.462	O				3.37
14.333	0.00	0.22	0.460	O				3.36
14.417	0.00	0.22	0.459	O				3.35
14.500	0.00	0.22	0.457	O				3.34
14.583	0.00	0.22	0.456	O				3.33
14.667	0.00	0.22	0.454	O				3.31
14.750	0.00	0.22	0.453	O				3.30
14.833	0.00	0.22	0.451	O				3.29
14.917	0.00	0.22	0.450	O				3.28
15.000	0.00	0.22	0.448	O				3.27

15.083	0.00	0.22	0.447	O				3.26
15.167	0.00	0.22	0.445	O				3.25
15.250	0.00	0.22	0.444	O				3.24
15.333	0.00	0.22	0.442	O				3.23
15.417	0.00	0.22	0.441	O				3.22
15.500	0.00	0.21	0.439	O				3.21
15.583	0.00	0.21	0.438	O				3.20
15.667	0.00	0.21	0.436	O				3.18
15.750	0.00	0.21	0.435	O				3.17
15.833	0.00	0.21	0.433	O				3.16
15.917	0.00	0.21	0.432	O				3.15
16.000	0.00	0.21	0.430	O				3.14
16.083	0.00	0.21	0.429	O				3.13
16.167	0.00	0.21	0.427	O				3.12
16.250	0.00	0.21	0.426	O				3.11
16.333	0.00	0.21	0.425	O				3.10
16.417	0.00	0.21	0.423	O				3.09
16.500	0.00	0.21	0.422	O				3.08
16.583	0.00	0.21	0.420	O				3.07
16.667	0.00	0.21	0.419	O				3.06
16.750	0.00	0.21	0.417	O				3.05
16.833	0.00	0.21	0.416	O				3.04
16.917	0.00	0.21	0.414	O				3.03
17.000	0.00	0.21	0.413	O				3.01
17.083	0.00	0.21	0.412	O				3.00
17.167	0.00	0.21	0.410	O				2.99
17.250	0.00	0.21	0.409	O				2.98
17.333	0.00	0.21	0.407	O				2.97
17.417	0.00	0.21	0.406	O				2.96
17.500	0.00	0.21	0.405	O				2.95
17.583	0.00	0.20	0.403	O				2.94
17.667	0.00	0.20	0.402	O				2.93
17.750	0.00	0.20	0.400	O				2.92
17.833	0.00	0.20	0.399	O				2.91
17.917	0.00	0.20	0.397	O				2.90
18.000	0.00	0.20	0.396	O				2.89
18.083	0.00	0.20	0.395	O				2.88
18.167	0.00	0.20	0.393	O				2.87
18.250	0.00	0.20	0.392	O				2.86
18.333	0.00	0.20	0.391	O				2.85
18.417	0.00	0.20	0.389	O				2.84
18.500	0.00	0.20	0.388	O				2.83
18.583	0.00	0.20	0.386	O				2.82
18.667	0.00	0.20	0.385	O				2.81
18.750	0.00	0.20	0.384	O				2.80
18.833	0.00	0.20	0.382	O				2.79
18.917	0.00	0.20	0.381	O				2.78
19.000	0.00	0.20	0.379	O				2.77
19.083	0.00	0.20	0.378	O				2.76
19.167	0.00	0.20	0.377	O				2.75

19.250	0.00	0.20	0.375	O	|	|	|	2.74
19.333	0.00	0.20	0.374	O	|	|	|	2.73
19.417	0.00	0.20	0.373	O	|	|	|	2.72
19.500	0.00	0.20	0.371	O	|	|	|	2.71
19.583	0.00	0.20	0.370	O	|	|	|	2.70
19.667	0.00	0.20	0.369	O	|	|	|	2.69
19.750	0.00	0.20	0.367	O	|	|	|	2.68
19.833	0.00	0.19	0.366	O	|	|	|	2.67
19.917	0.00	0.19	0.365	O	|	|	|	2.66
20.000	0.00	0.19	0.363	O	|	|	|	2.65
20.083	0.00	0.19	0.362	O	|	|	|	2.64
20.167	0.00	0.19	0.361	O	|	|	|	2.63
20.250	0.00	0.19	0.359	O	|	|	|	2.62
20.333	0.00	0.19	0.358	O	|	|	|	2.61
20.417	0.00	0.19	0.357	O	|	|	|	2.60
20.500	0.00	0.19	0.355	O	|	|	|	2.59
20.583	0.00	0.19	0.354	O	|	|	|	2.58
20.667	0.00	0.19	0.353	O	|	|	|	2.57
20.750	0.00	0.19	0.351	O	|	|	|	2.56
20.833	0.00	0.19	0.350	O	|	|	|	2.55
20.917	0.00	0.19	0.349	O	|	|	|	2.55
21.000	0.00	0.19	0.347	O	|	|	|	2.54
21.083	0.00	0.19	0.346	O	|	|	|	2.53
21.167	0.00	0.19	0.345	O	|	|	|	2.52
21.250	0.00	0.19	0.343	O	|	|	|	2.51
21.333	0.00	0.19	0.342	O	|	|	|	2.50
21.417	0.00	0.19	0.341	O	|	|	|	2.49
21.500	0.00	0.19	0.340	O	|	|	|	2.48
21.583	0.00	0.19	0.338	O	|	|	|	2.47
21.667	0.00	0.19	0.337	O	|	|	|	2.46
21.750	0.00	0.19	0.336	O	|	|	|	2.45
21.833	0.00	0.19	0.334	O	|	|	|	2.44
21.917	0.00	0.19	0.333	O	|	|	|	2.43
22.000	0.00	0.19	0.332	O	|	|	|	2.42
22.083	0.00	0.19	0.331	O	|	|	|	2.41
22.167	0.00	0.18	0.329	O	|	|	|	2.40
22.250	0.00	0.18	0.328	O	|	|	|	2.39
22.333	0.00	0.18	0.327	O	|	|	|	2.39
22.417	0.00	0.18	0.326	O	|	|	|	2.38
22.500	0.00	0.18	0.324	O	|	|	|	2.37
22.583	0.00	0.18	0.323	O	|	|	|	2.36
22.667	0.00	0.18	0.322	O	|	|	|	2.35
22.750	0.00	0.18	0.320	O	|	|	|	2.34
22.833	0.00	0.18	0.319	O	|	|	|	2.33
22.917	0.00	0.18	0.318	O	|	|	|	2.32
23.000	0.00	0.18	0.317	O	|	|	|	2.31
23.083	0.00	0.18	0.315	O	|	|	|	2.30
23.167	0.00	0.18	0.314	O	|	|	|	2.29
23.250	0.00	0.18	0.313	O	|	|	|	2.28
23.333	0.00	0.18	0.312	O	|	|	|	2.28

23.417	0.00	0.18	0.310	O				2.27
23.500	0.00	0.18	0.309	O				2.26
23.583	0.00	0.18	0.308	O				2.25
23.667	0.00	0.18	0.307	O				2.24
23.750	0.00	0.18	0.306	O				2.23
23.833	0.00	0.18	0.304	O				2.22
23.917	0.00	0.18	0.303	O				2.21
24.000	0.00	0.18	0.302	O				2.20
24.083	0.00	0.18	0.301	O				2.19
24.167	0.00	0.18	0.299	O				2.19
24.250	0.00	0.18	0.298	O				2.18
24.333	0.00	0.18	0.297	O				2.17
24.417	0.00	0.18	0.296	O				2.16
24.500	0.00	0.18	0.295	O				2.15
24.583	0.00	0.18	0.293	O				2.14
24.667	0.00	0.17	0.292	O				2.13
24.750	0.00	0.17	0.291	O				2.12
24.833	0.00	0.17	0.290	O				2.12
24.917	0.00	0.17	0.289	O				2.11
25.000	0.00	0.17	0.287	O				2.10
25.083	0.00	0.17	0.286	O				2.09
25.167	0.00	0.17	0.285	O				2.08
25.250	0.00	0.17	0.284	O				2.07
25.333	0.00	0.17	0.283	O				2.06
25.417	0.00	0.17	0.281	O				2.05
25.500	0.00	0.17	0.280	O				2.05
25.583	0.00	0.17	0.279	O				2.04
25.667	0.00	0.17	0.278	O				2.03
25.750	0.00	0.17	0.277	O				2.02
25.833	0.00	0.17	0.276	O				2.01
25.917	0.00	0.17	0.274	O				2.00
26.000	0.00	0.17	0.273	O				1.99
26.083	0.00	0.17	0.272	O				1.99
26.167	0.00	0.17	0.271	O				1.98
26.250	0.00	0.17	0.270	O				1.97
26.333	0.00	0.17	0.269	O				1.96
26.417	0.00	0.17	0.267	O				1.95
26.500	0.00	0.17	0.266	O				1.94
26.583	0.00	0.17	0.265	O				1.93
26.667	0.00	0.17	0.264	O				1.93
26.750	0.00	0.17	0.263	O				1.92
26.833	0.00	0.17	0.262	O				1.91
26.917	0.00	0.16	0.261	O				1.90
27.000	0.00	0.16	0.259	O				1.89
27.083	0.00	0.16	0.258	O				1.88
27.167	0.00	0.16	0.257	O				1.88
27.250	0.00	0.16	0.256	O				1.87
27.333	0.00	0.16	0.255	O				1.86
27.417	0.00	0.16	0.254	O				1.85
27.500	0.00	0.16	0.253	O				1.84

27.583	0.00	0.16	0.252	O				1.84
27.667	0.00	0.16	0.250	O				1.83
27.750	0.00	0.16	0.249	O				1.82
27.833	0.00	0.16	0.248	O				1.81
27.917	0.00	0.16	0.247	O				1.80
28.000	0.00	0.16	0.246	O				1.80
28.083	0.00	0.16	0.245	O				1.79
28.167	0.00	0.16	0.244	O				1.78
28.250	0.00	0.16	0.243	O				1.77
28.333	0.00	0.16	0.242	O				1.76
28.417	0.00	0.16	0.241	O				1.76
28.500	0.00	0.16	0.239	O				1.75
28.583	0.00	0.16	0.238	O				1.74
28.667	0.00	0.16	0.237	O				1.73
28.750	0.00	0.16	0.236	O				1.72
28.833	0.00	0.16	0.235	O				1.72
28.917	0.00	0.15	0.234	O				1.71
29.000	0.00	0.15	0.233	O				1.70
29.083	0.00	0.15	0.232	O				1.69
29.167	0.00	0.15	0.231	O				1.69
29.250	0.00	0.15	0.230	O				1.68
29.333	0.00	0.15	0.229	O				1.67
29.417	0.00	0.15	0.228	O				1.66
29.500	0.00	0.15	0.227	O				1.65
29.583	0.00	0.15	0.226	O				1.65
29.667	0.00	0.15	0.225	O				1.64
29.750	0.00	0.15	0.224	O				1.63
29.833	0.00	0.15	0.223	O				1.62
29.917	0.00	0.15	0.221	O				1.62
30.000	0.00	0.15	0.220	O				1.61
30.083	0.00	0.15	0.219	O				1.60
30.167	0.00	0.15	0.218	O				1.59
30.250	0.00	0.15	0.217	O				1.59
30.333	0.00	0.15	0.216	O				1.58
30.417	0.00	0.15	0.215	O				1.57
30.500	0.00	0.15	0.214	O				1.56
30.583	0.00	0.15	0.213	O				1.56
30.667	0.00	0.15	0.212	O				1.55
30.750	0.00	0.15	0.211	O				1.54
30.833	0.00	0.15	0.210	O				1.53
30.917	0.00	0.15	0.209	O				1.53
31.000	0.00	0.15	0.208	O				1.52
31.083	0.00	0.14	0.207	O				1.51
31.167	0.00	0.14	0.206	O				1.51
31.250	0.00	0.14	0.205	O				1.50
31.333	0.00	0.14	0.204	O				1.49
31.417	0.00	0.14	0.203	O				1.48
31.500	0.00	0.14	0.202	O				1.48
31.583	0.00	0.14	0.201	O				1.47
31.667	0.00	0.14	0.200	O				1.46

31.750	0.00	0.14	0.199	O	|	|	|	1.46
31.833	0.00	0.14	0.198	O	|	|	|	1.45
31.917	0.00	0.14	0.197	O	|	|	|	1.44
32.000	0.00	0.14	0.196	O	|	|	|	1.43
32.083	0.00	0.14	0.196	O	|	|	|	1.43
32.167	0.00	0.14	0.195	O	|	|	|	1.42
32.250	0.00	0.14	0.194	O	|	|	|	1.41
32.333	0.00	0.14	0.193	O	|	|	|	1.41
32.417	0.00	0.14	0.192	O	|	|	|	1.40
32.500	0.00	0.14	0.191	O	|	|	|	1.39
32.583	0.00	0.14	0.190	O	|	|	|	1.39
32.667	0.00	0.14	0.189	O	|	|	|	1.38
32.750	0.00	0.14	0.188	O	|	|	|	1.37
32.833	0.00	0.14	0.187	O	|	|	|	1.36
32.917	0.00	0.14	0.186	O	|	|	|	1.36
33.000	0.00	0.14	0.185	O	|	|	|	1.35
33.083	0.00	0.14	0.184	O	|	|	|	1.34
33.167	0.00	0.14	0.183	O	|	|	|	1.34
33.250	0.00	0.14	0.182	O	|	|	|	1.33
33.333	0.00	0.13	0.181	O	|	|	|	1.32
33.417	0.00	0.13	0.180	O	|	|	|	1.32
33.500	0.00	0.13	0.179	O	|	|	|	1.31
33.583	0.00	0.13	0.179	O	|	|	|	1.30
33.667	0.00	0.13	0.178	O	|	|	|	1.30
33.750	0.00	0.13	0.177	O	|	|	|	1.29
33.833	0.00	0.13	0.176	O	|	|	|	1.28
33.917	0.00	0.13	0.175	O	|	|	|	1.28
34.000	0.00	0.13	0.174	O	|	|	|	1.27
34.083	0.00	0.13	0.173	O	|	|	|	1.26
34.167	0.00	0.13	0.172	O	|	|	|	1.26
34.250	0.00	0.13	0.171	O	|	|	|	1.25
34.333	0.00	0.13	0.170	O	|	|	|	1.24
34.417	0.00	0.13	0.169	O	|	|	|	1.24
34.500	0.00	0.13	0.169	O	|	|	|	1.23
34.583	0.00	0.13	0.168	O	|	|	|	1.22
34.667	0.00	0.13	0.167	O	|	|	|	1.22
34.750	0.00	0.13	0.166	O	|	|	|	1.21
34.833	0.00	0.13	0.165	O	|	|	|	1.20
34.917	0.00	0.13	0.164	O	|	|	|	1.20
35.000	0.00	0.13	0.163	O	|	|	|	1.19
35.083	0.00	0.13	0.162	O	|	|	|	1.18
35.167	0.00	0.13	0.161	O	|	|	|	1.18
35.250	0.00	0.13	0.161	O	|	|	|	1.17
35.333	0.00	0.13	0.160	O	|	|	|	1.17
35.417	0.00	0.13	0.159	O	|	|	|	1.16
35.500	0.00	0.13	0.158	O	|	|	|	1.15
35.583	0.00	0.13	0.157	O	|	|	|	1.15
35.667	0.00	0.13	0.156	O	|	|	|	1.14
35.750	0.00	0.12	0.155	O	|	|	|	1.13
35.833	0.00	0.12	0.155	O	|	|	|	1.13

35.917	0.00	0.12	0.154	O	|	|	|	1.12
36.000	0.00	0.12	0.153	O	|	|	|	1.12
36.083	0.00	0.12	0.152	O	|	|	|	1.11
36.167	0.00	0.12	0.151	O	|	|	|	1.10
36.250	0.00	0.12	0.150	O	|	|	|	1.10
36.333	0.00	0.12	0.149	O	|	|	|	1.09
36.417	0.00	0.12	0.149	O	|	|	|	1.08
36.500	0.00	0.12	0.148	O	|	|	|	1.08
36.583	0.00	0.12	0.147	O	|	|	|	1.07
36.667	0.00	0.12	0.146	O	|	|	|	1.07
36.750	0.00	0.12	0.145	O	|	|	|	1.06
36.833	0.00	0.12	0.144	O	|	|	|	1.05
36.917	0.00	0.12	0.144	O	|	|	|	1.05
37.000	0.00	0.12	0.143	O	|	|	|	1.04
37.083	0.00	0.12	0.142	O	|	|	|	1.04
37.167	0.00	0.12	0.141	O	|	|	|	1.03
37.250	0.00	0.12	0.140	O	|	|	|	1.02
37.333	0.00	0.12	0.139	O	|	|	|	1.02
37.417	0.00	0.12	0.139	O	|	|	|	1.01
37.500	0.00	0.12	0.138	O	|	|	|	1.01
37.583	0.00	0.12	0.137	O	|	|	|	1.00
37.667	0.00	0.12	0.136	O	|	|	|	0.99
37.750	0.00	0.12	0.135	O	|	|	|	0.99
37.833	0.00	0.12	0.135	O	|	|	|	0.98
37.917	0.00	0.12	0.134	O	|	|	|	0.98
38.000	0.00	0.11	0.133	O	|	|	|	0.97
38.083	0.00	0.11	0.132	O	|	|	|	0.96
38.167	0.00	0.11	0.131	O	|	|	|	0.96
38.250	0.00	0.11	0.131	O	|	|	|	0.95
38.333	0.00	0.11	0.130	O	|	|	|	0.95
38.417	0.00	0.11	0.129	O	|	|	|	0.94
38.500	0.00	0.11	0.128	O	|	|	|	0.94
38.583	0.00	0.11	0.128	O	|	|	|	0.93
38.667	0.00	0.11	0.127	O	|	|	|	0.93
38.750	0.00	0.11	0.126	O	|	|	|	0.92
38.833	0.00	0.11	0.125	O	|	|	|	0.91
38.917	0.00	0.11	0.125	O	|	|	|	0.91
39.000	0.00	0.11	0.124	O	|	|	|	0.90
39.083	0.00	0.11	0.123	O	|	|	|	0.90
39.167	0.00	0.11	0.122	O	|	|	|	0.89
39.250	0.00	0.10	0.122	O	|	|	|	0.89
39.333	0.00	0.10	0.121	O	|	|	|	0.88
39.417	0.00	0.10	0.120	O	|	|	|	0.88
39.500	0.00	0.10	0.120	O	|	|	|	0.87
39.583	0.00	0.10	0.119	O	|	|	|	0.87
39.667	0.00	0.10	0.118	O	|	|	|	0.86
39.750	0.00	0.10	0.117	O	|	|	|	0.86
39.833	0.00	0.10	0.117	O	|	|	|	0.85
39.917	0.00	0.10	0.116	O	|	|	|	0.85
40.000	0.00	0.10	0.115	O	|	|	|	0.84

40.083	0.00	0.10	0.115	O	|	|	|	0.84
40.167	0.00	0.10	0.114	O	|	|	|	0.83
40.250	0.00	0.10	0.113	O	|	|	|	0.83
40.333	0.00	0.10	0.113	O	|	|	|	0.82
40.417	0.00	0.10	0.112	O	|	|	|	0.82
40.500	0.00	0.10	0.111	O	|	|	|	0.81
40.583	0.00	0.10	0.111	O	|	|	|	0.81
40.667	0.00	0.09	0.110	O	|	|	|	0.80
40.750	0.00	0.09	0.109	O	|	|	|	0.80
40.833	0.00	0.09	0.109	O	|	|	|	0.79
40.917	0.00	0.09	0.108	O	|	|	|	0.79
41.000	0.00	0.09	0.107	O	|	|	|	0.78
41.083	0.00	0.09	0.107	O	|	|	|	0.78
41.167	0.00	0.09	0.106	O	|	|	|	0.77
41.250	0.00	0.09	0.106	O	|	|	|	0.77
41.333	0.00	0.09	0.105	O	|	|	|	0.77
41.417	0.00	0.09	0.104	O	|	|	|	0.76
41.500	0.00	0.09	0.104	O	|	|	|	0.76
41.583	0.00	0.09	0.103	O	|	|	|	0.75
41.667	0.00	0.09	0.102	O	|	|	|	0.75
41.750	0.00	0.09	0.102	O	|	|	|	0.74
41.833	0.00	0.09	0.101	O	|	|	|	0.74
41.917	0.00	0.09	0.101	O	|	|	|	0.73
42.000	0.00	0.09	0.100	O	|	|	|	0.73
42.083	0.00	0.09	0.099	O	|	|	|	0.73
42.167	0.00	0.09	0.099	O	|	|	|	0.72
42.250	0.00	0.08	0.098	O	|	|	|	0.72
42.333	0.00	0.08	0.098	O	|	|	|	0.71
42.417	0.00	0.08	0.097	O	|	|	|	0.71
42.500	0.00	0.08	0.097	O	|	|	|	0.70
42.583	0.00	0.08	0.096	O	|	|	|	0.70
42.667	0.00	0.08	0.095	O	|	|	|	0.70
42.750	0.00	0.08	0.095	O	|	|	|	0.69
42.833	0.00	0.08	0.094	O	|	|	|	0.69
42.917	0.00	0.08	0.094	O	|	|	|	0.68
43.000	0.00	0.08	0.093	O	|	|	|	0.68
43.083	0.00	0.08	0.093	O	|	|	|	0.68
43.167	0.00	0.08	0.092	O	|	|	|	0.67
43.250	0.00	0.08	0.092	O	|	|	|	0.67
43.333	0.00	0.08	0.091	O	|	|	|	0.66
43.417	0.00	0.08	0.090	O	|	|	|	0.66
43.500	0.00	0.08	0.090	O	|	|	|	0.66
43.583	0.00	0.08	0.089	O	|	|	|	0.65
43.667	0.00	0.08	0.089	O	|	|	|	0.65
43.750	0.00	0.08	0.088	O	|	|	|	0.64
43.833	0.00	0.08	0.088	O	|	|	|	0.64
43.917	0.00	0.08	0.087	O	|	|	|	0.64
44.000	0.00	0.07	0.087	O	|	|	|	0.63
44.083	0.00	0.07	0.086	O	|	|	|	0.63
44.167	0.00	0.07	0.086	O	|	|	|	0.63

44.250	0.00	0.07	0.085	O	|	|	|	0.62
44.333	0.00	0.07	0.085	O	|	|	|	0.62
44.417	0.00	0.07	0.084	O	|	|	|	0.61
44.500	0.00	0.07	0.084	O	|	|	|	0.61
44.583	0.00	0.07	0.083	O	|	|	|	0.61
44.667	0.00	0.07	0.083	O	|	|	|	0.60
44.750	0.00	0.07	0.082	O	|	|	|	0.60
44.833	0.00	0.07	0.082	O	|	|	|	0.60
44.917	0.00	0.07	0.081	O	|	|	|	0.59
45.000	0.00	0.07	0.081	O	|	|	|	0.59
45.083	0.00	0.07	0.080	O	|	|	|	0.59
45.167	0.00	0.07	0.080	O	|	|	|	0.58
45.250	0.00	0.07	0.079	O	|	|	|	0.58
45.333	0.00	0.07	0.079	O	|	|	|	0.58
45.417	0.00	0.07	0.078	O	|	|	|	0.57
45.500	0.00	0.07	0.078	O	|	|	|	0.57
45.583	0.00	0.07	0.078	O	|	|	|	0.57
45.667	0.00	0.07	0.077	O	|	|	|	0.56
45.750	0.00	0.07	0.077	O	|	|	|	0.56
45.833	0.00	0.07	0.076	O	|	|	|	0.56
45.917	0.00	0.07	0.076	O	|	|	|	0.55
46.000	0.00	0.06	0.075	O	|	|	|	0.55
46.083	0.00	0.06	0.075	O	|	|	|	0.55
46.167	0.00	0.06	0.074	O	|	|	|	0.54
46.250	0.00	0.06	0.074	O	|	|	|	0.54
46.333	0.00	0.06	0.073	O	|	|	|	0.54
46.417	0.00	0.06	0.073	O	|	|	|	0.53
46.500	0.00	0.06	0.073	O	|	|	|	0.53
46.583	0.00	0.06	0.072	O	|	|	|	0.53
46.667	0.00	0.06	0.072	O	|	|	|	0.52
46.750	0.00	0.06	0.071	O	|	|	|	0.52
46.833	0.00	0.06	0.071	O	|	|	|	0.52
46.917	0.00	0.06	0.070	O	|	|	|	0.51
47.000	0.00	0.06	0.070	O	|	|	|	0.51
47.083	0.00	0.06	0.070	O	|	|	|	0.51
47.167	0.00	0.06	0.069	O	|	|	|	0.51
47.250	0.00	0.06	0.069	O	|	|	|	0.50
47.333	0.00	0.06	0.068	O	|	|	|	0.50
47.417	0.00	0.06	0.068	O	|	|	|	0.50
47.500	0.00	0.06	0.068	O	|	|	|	0.49
47.583	0.00	0.06	0.067	O	|	|	|	0.49
47.667	0.00	0.06	0.067	O	|	|	|	0.49
47.750	0.00	0.06	0.066	O	|	|	|	0.48
47.833	0.00	0.06	0.066	O	|	|	|	0.48
47.917	0.00	0.06	0.066	O	|	|	|	0.48
48.000	0.00	0.06	0.065	O	|	|	|	0.48
48.083	0.00	0.06	0.065	O	|	|	|	0.47
48.167	0.00	0.06	0.064	O	|	|	|	0.47
48.250	0.00	0.06	0.064	O	|	|	|	0.47
48.333	0.00	0.05	0.064	O	|	|	|	0.47

48.417	0.00	0.05	0.063	O	|	|	|	0.46
48.500	0.00	0.05	0.063	O	|	|	|	0.46
48.583	0.00	0.05	0.063	O	|	|	|	0.46
48.667	0.00	0.05	0.062	O	|	|	|	0.45
48.750	0.00	0.05	0.062	O	|	|	|	0.45
48.833	0.00	0.05	0.061	O	|	|	|	0.45
48.917	0.00	0.05	0.061	O	|	|	|	0.45
49.000	0.00	0.05	0.061	O	|	|	|	0.44
49.083	0.00	0.05	0.060	O	|	|	|	0.44
49.167	0.00	0.05	0.060	O	|	|	|	0.44
49.250	0.00	0.05	0.060	O	|	|	|	0.44
49.333	0.00	0.05	0.059	O	|	|	|	0.43
49.417	0.00	0.05	0.059	O	|	|	|	0.43
49.500	0.00	0.05	0.059	O	|	|	|	0.43
49.583	0.00	0.05	0.058	O	|	|	|	0.43
49.667	0.00	0.05	0.058	O	|	|	|	0.42
49.750	0.00	0.05	0.058	O	|	|	|	0.42
49.833	0.00	0.05	0.057	O	|	|	|	0.42
49.917	0.00	0.05	0.057	O	|	|	|	0.42
50.000	0.00	0.05	0.057	O	|	|	|	0.41
50.083	0.00	0.05	0.056	O	|	|	|	0.41
50.167	0.00	0.05	0.056	O	|	|	|	0.41
50.250	0.00	0.05	0.056	O	|	|	|	0.41
50.333	0.00	0.05	0.055	O	|	|	|	0.40
50.417	0.00	0.05	0.055	O	|	|	|	0.40
50.500	0.00	0.05	0.055	O	|	|	|	0.40
50.583	0.00	0.05	0.054	O	|	|	|	0.40
50.667	0.00	0.05	0.054	O	|	|	|	0.39
50.750	0.00	0.05	0.054	O	|	|	|	0.39
50.833	0.00	0.05	0.053	O	|	|	|	0.39
50.917	0.00	0.05	0.053	O	|	|	|	0.39
51.000	0.00	0.05	0.053	O	|	|	|	0.38
51.083	0.00	0.05	0.052	O	|	|	|	0.38
51.167	0.00	0.04	0.052	O	|	|	|	0.38
51.250	0.00	0.04	0.052	O	|	|	|	0.38
51.333	0.00	0.04	0.051	O	|	|	|	0.38
51.417	0.00	0.04	0.051	O	|	|	|	0.37
51.500	0.00	0.04	0.051	O	|	|	|	0.37
51.583	0.00	0.04	0.051	O	|	|	|	0.37
51.667	0.00	0.04	0.050	O	|	|	|	0.37
51.750	0.00	0.04	0.050	O	|	|	|	0.36
51.833	0.00	0.04	0.050	O	|	|	|	0.36
51.917	0.00	0.04	0.049	O	|	|	|	0.36
52.000	0.00	0.04	0.049	O	|	|	|	0.36
52.083	0.00	0.04	0.049	O	|	|	|	0.36
52.167	0.00	0.04	0.049	O	|	|	|	0.35
52.250	0.00	0.04	0.048	O	|	|	|	0.35
52.333	0.00	0.04	0.048	O	|	|	|	0.35
52.417	0.00	0.04	0.048	O	|	|	|	0.35
52.500	0.00	0.04	0.047	O	|	|	|	0.35

52.583	0.00	0.04	0.047	O				0.34
52.667	0.00	0.04	0.047	O				0.34
52.750	0.00	0.04	0.047	O				0.34
52.833	0.00	0.04	0.046	O				0.34
52.917	0.00	0.04	0.046	O				0.34
53.000	0.00	0.04	0.046	O				0.33
53.083	0.00	0.04	0.045	O				0.33
53.167	0.00	0.04	0.045	O				0.33
53.250	0.00	0.04	0.045	O				0.33
53.333	0.00	0.04	0.045	O				0.33
53.417	0.00	0.04	0.044	O				0.32
53.500	0.00	0.04	0.044	O				0.32
53.583	0.00	0.04	0.044	O				0.32
53.667	0.00	0.04	0.044	O				0.32
53.750	0.00	0.04	0.043	O				0.32
53.833	0.00	0.04	0.043	O				0.31
53.917	0.00	0.04	0.043	O				0.31
54.000	0.00	0.04	0.043	O				0.31
54.083	0.00	0.04	0.042	O				0.31
54.167	0.00	0.04	0.042	O				0.31
54.250	0.00	0.04	0.042	O				0.31
54.333	0.00	0.04	0.042	O				0.30
54.417	0.00	0.04	0.041	O				0.30
54.500	0.00	0.04	0.041	O				0.30
54.583	0.00	0.04	0.041	O				0.30
54.667	0.00	0.03	0.041	O				0.30
54.750	0.00	0.03	0.040	O				0.29
54.833	0.00	0.03	0.040	O				0.29
54.917	0.00	0.03	0.040	O				0.29
55.000	0.00	0.03	0.040	O				0.29
55.083	0.00	0.03	0.039	O				0.29
55.167	0.00	0.03	0.039	O				0.29
55.250	0.00	0.03	0.039	O				0.28
55.333	0.00	0.03	0.039	O				0.28
55.417	0.00	0.03	0.038	O				0.28
55.500	0.00	0.03	0.038	O				0.28
55.583	0.00	0.03	0.038	O				0.28
55.667	0.00	0.03	0.038	O				0.28
55.750	0.00	0.03	0.038	O				0.27
55.833	0.00	0.03	0.037	O				0.27
55.917	0.00	0.03	0.037	O				0.27
56.000	0.00	0.03	0.037	O				0.27
56.083	0.00	0.03	0.037	O				0.27
56.167	0.00	0.03	0.036	O				0.27
56.250	0.00	0.03	0.036	O				0.26
56.333	0.00	0.03	0.036	O				0.26
56.417	0.00	0.03	0.036	O				0.26
56.500	0.00	0.03	0.036	O				0.26
56.583	0.00	0.03	0.035	O				0.26
56.667	0.00	0.03	0.035	O				0.26

56.750	0.00	0.03	0.035	O	|	|	|	0.26
56.833	0.00	0.03	0.035	O	|	|	|	0.25
56.917	0.00	0.03	0.035	O	|	|	|	0.25
57.000	0.00	0.03	0.034	O	|	|	|	0.25
57.083	0.00	0.03	0.034	O	|	|	|	0.25
57.167	0.00	0.03	0.034	O	|	|	|	0.25
57.250	0.00	0.03	0.034	O	|	|	|	0.25
57.333	0.00	0.03	0.034	O	|	|	|	0.25
57.417	0.00	0.03	0.033	O	|	|	|	0.24
57.500	0.00	0.03	0.033	O	|	|	|	0.24
57.583	0.00	0.03	0.033	O	|	|	|	0.24
57.667	0.00	0.03	0.033	O	|	|	|	0.24
57.750	0.00	0.03	0.033	O	|	|	|	0.24
57.833	0.00	0.03	0.032	O	|	|	|	0.24
57.917	0.00	0.03	0.032	O	|	|	|	0.24
58.000	0.00	0.03	0.032	O	|	|	|	0.23
58.083	0.00	0.03	0.032	O	|	|	|	0.23
58.167	0.00	0.03	0.032	O	|	|	|	0.23
58.250	0.00	0.03	0.031	O	|	|	|	0.23
58.333	0.00	0.03	0.031	O	|	|	|	0.23
58.417	0.00	0.03	0.031	O	|	|	|	0.23
58.500	0.00	0.03	0.031	O	|	|	|	0.23
58.583	0.00	0.03	0.031	O	|	|	|	0.22
58.667	0.00	0.03	0.031	O	|	|	|	0.22
58.750	0.00	0.03	0.030	O	|	|	|	0.22
58.833	0.00	0.03	0.030	O	|	|	|	0.22
58.917	0.00	0.03	0.030	O	|	|	|	0.22
59.000	0.00	0.03	0.030	O	|	|	|	0.22
59.083	0.00	0.03	0.030	O	|	|	|	0.22
59.167	0.00	0.03	0.029	O	|	|	|	0.22
59.250	0.00	0.03	0.029	O	|	|	|	0.21
59.333	0.00	0.03	0.029	O	|	|	|	0.21
59.417	0.00	0.02	0.029	O	|	|	|	0.21
59.500	0.00	0.02	0.029	O	|	|	|	0.21
59.583	0.00	0.02	0.029	O	|	|	|	0.21
59.667	0.00	0.02	0.028	O	|	|	|	0.21
59.750	0.00	0.02	0.028	O	|	|	|	0.21
59.833	0.00	0.02	0.028	O	|	|	|	0.21
59.917	0.00	0.02	0.028	O	|	|	|	0.20
60.000	0.00	0.02	0.028	O	|	|	|	0.20
60.083	0.00	0.02	0.028	O	|	|	|	0.20
60.167	0.00	0.02	0.027	O	|	|	|	0.20
60.250	0.00	0.02	0.027	O	|	|	|	0.20
60.333	0.00	0.02	0.027	O	|	|	|	0.20
60.417	0.00	0.02	0.027	O	|	|	|	0.20
60.500	0.00	0.02	0.027	O	|	|	|	0.20
60.583	0.00	0.02	0.027	O	|	|	|	0.19
60.667	0.00	0.02	0.026	O	|	|	|	0.19
60.750	0.00	0.02	0.026	O	|	|	|	0.19
60.833	0.00	0.02	0.026	O	|	|	|	0.19

60.917	0.00	0.02	0.026	O	|	|	|	0.19
61.000	0.00	0.02	0.026	O	|	|	|	0.19
61.083	0.00	0.02	0.026	O	|	|	|	0.19
61.167	0.00	0.02	0.026	O	|	|	|	0.19
61.250	0.00	0.02	0.025	O	|	|	|	0.19
61.333	0.00	0.02	0.025	O	|	|	|	0.18
61.417	0.00	0.02	0.025	O	|	|	|	0.18
61.500	0.00	0.02	0.025	O	|	|	|	0.18
61.583	0.00	0.02	0.025	O	|	|	|	0.18
61.667	0.00	0.02	0.025	O	|	|	|	0.18
61.750	0.00	0.02	0.025	O	|	|	|	0.18
61.833	0.00	0.02	0.024	O	|	|	|	0.18
61.917	0.00	0.02	0.024	O	|	|	|	0.18
62.000	0.00	0.02	0.024	O	|	|	|	0.18
62.083	0.00	0.02	0.024	O	|	|	|	0.17
62.167	0.00	0.02	0.024	O	|	|	|	0.17
62.250	0.00	0.02	0.024	O	|	|	|	0.17
62.333	0.00	0.02	0.024	O	|	|	|	0.17
62.417	0.00	0.02	0.023	O	|	|	|	0.17
62.500	0.00	0.02	0.023	O	|	|	|	0.17
62.583	0.00	0.02	0.023	O	|	|	|	0.17
62.667	0.00	0.02	0.023	O	|	|	|	0.17
62.750	0.00	0.02	0.023	O	|	|	|	0.17
62.833	0.00	0.02	0.023	O	|	|	|	0.17
62.917	0.00	0.02	0.023	O	|	|	|	0.16
63.000	0.00	0.02	0.022	O	|	|	|	0.16
63.083	0.00	0.02	0.022	O	|	|	|	0.16
63.167	0.00	0.02	0.022	O	|	|	|	0.16
63.250	0.00	0.02	0.022	O	|	|	|	0.16
63.333	0.00	0.02	0.022	O	|	|	|	0.16
63.417	0.00	0.02	0.022	O	|	|	|	0.16
63.500	0.00	0.02	0.022	O	|	|	|	0.16
63.583	0.00	0.02	0.022	O	|	|	|	0.16
63.667	0.00	0.02	0.021	O	|	|	|	0.16
63.750	0.00	0.02	0.021	O	|	|	|	0.16
63.833	0.00	0.02	0.021	O	|	|	|	0.15
63.917	0.00	0.02	0.021	O	|	|	|	0.15
64.000	0.00	0.02	0.021	O	|	|	|	0.15
64.083	0.00	0.02	0.021	O	|	|	|	0.15
64.167	0.00	0.02	0.021	O	|	|	|	0.15
64.250	0.00	0.02	0.021	O	|	|	|	0.15
64.333	0.00	0.02	0.020	O	|	|	|	0.15
64.417	0.00	0.02	0.020	O	|	|	|	0.15
64.500	0.00	0.02	0.020	O	|	|	|	0.15
64.583	0.00	0.02	0.020	O	|	|	|	0.15
64.667	0.00	0.02	0.020	O	|	|	|	0.15
64.750	0.00	0.02	0.020	O	|	|	|	0.14
64.833	0.00	0.02	0.020	O	|	|	|	0.14
64.917	0.00	0.02	0.020	O	|	|	|	0.14
65.000	0.00	0.02	0.019	O	|	|	|	0.14

65.083	0.00	0.02	0.019	O	|	|	|	0.14
65.167	0.00	0.02	0.019	O	|	|	|	0.14
65.250	0.00	0.02	0.019	O	|	|	|	0.14
65.333	0.00	0.02	0.019	O	|	|	|	0.14
65.417	0.00	0.02	0.019	O	|	|	|	0.14
65.500	0.00	0.02	0.019	O	|	|	|	0.14
65.583	0.00	0.02	0.019	O	|	|	|	0.14
65.667	0.00	0.02	0.019	O	|	|	|	0.14
65.750	0.00	0.02	0.018	O	|	|	|	0.13
65.833	0.00	0.02	0.018	O	|	|	|	0.13
65.917	0.00	0.02	0.018	O	|	|	|	0.13
66.000	0.00	0.02	0.018	O	|	|	|	0.13
66.083	0.00	0.02	0.018	O	|	|	|	0.13
66.167	0.00	0.02	0.018	O	|	|	|	0.13
66.250	0.00	0.02	0.018	O	|	|	|	0.13
66.333	0.00	0.02	0.018	O	|	|	|	0.13
66.417	0.00	0.02	0.018	O	|	|	|	0.13
66.500	0.00	0.02	0.017	O	|	|	|	0.13
66.583	0.00	0.01	0.017	O	|	|	|	0.13
66.667	0.00	0.01	0.017	O	|	|	|	0.13
66.750	0.00	0.01	0.017	O	|	|	|	0.13
66.833	0.00	0.01	0.017	O	|	|	|	0.12
66.917	0.00	0.01	0.017	O	|	|	|	0.12
67.000	0.00	0.01	0.017	O	|	|	|	0.12
67.083	0.00	0.01	0.017	O	|	|	|	0.12
67.167	0.00	0.01	0.017	O	|	|	|	0.12
67.250	0.00	0.01	0.017	O	|	|	|	0.12
67.333	0.00	0.01	0.016	O	|	|	|	0.12
67.417	0.00	0.01	0.016	O	|	|	|	0.12
67.500	0.00	0.01	0.016	O	|	|	|	0.12
67.583	0.00	0.01	0.016	O	|	|	|	0.12
67.667	0.00	0.01	0.016	O	|	|	|	0.12
67.750	0.00	0.01	0.016	O	|	|	|	0.12
67.833	0.00	0.01	0.016	O	|	|	|	0.12
67.917	0.00	0.01	0.016	O	|	|	|	0.12
68.000	0.00	0.01	0.016	O	|	|	|	0.11
68.083	0.00	0.01	0.016	O	|	|	|	0.11
68.167	0.00	0.01	0.016	O	|	|	|	0.11
68.250	0.00	0.01	0.015	O	|	|	|	0.11
68.333	0.00	0.01	0.015	O	|	|	|	0.11
68.417	0.00	0.01	0.015	O	|	|	|	0.11
68.500	0.00	0.01	0.015	O	|	|	|	0.11
68.583	0.00	0.01	0.015	O	|	|	|	0.11
68.667	0.00	0.01	0.015	O	|	|	|	0.11
68.750	0.00	0.01	0.015	O	|	|	|	0.11
68.833	0.00	0.01	0.015	O	|	|	|	0.11
68.917	0.00	0.01	0.015	O	|	|	|	0.11
69.000	0.00	0.01	0.015	O	|	|	|	0.11
69.083	0.00	0.01	0.015	O	|	|	|	0.11
69.167	0.00	0.01	0.014	O	|	|	|	0.11

69.250	0.00	0.01	0.014	O	|	|	|	0.10
69.333	0.00	0.01	0.014	O	|	|	|	0.10
69.417	0.00	0.01	0.014	O	|	|	|	0.10
69.500	0.00	0.01	0.014	O	|	|	|	0.10
69.583	0.00	0.01	0.014	O	|	|	|	0.10
69.667	0.00	0.01	0.014	O	|	|	|	0.10
69.750	0.00	0.01	0.014	O	|	|	|	0.10
69.833	0.00	0.01	0.014	O	|	|	|	0.10
69.917	0.00	0.01	0.014	O	|	|	|	0.10
70.000	0.00	0.01	0.014	O	|	|	|	0.10
70.083	0.00	0.01	0.014	O	|	|	|	0.10
70.167	0.00	0.01	0.013	O	|	|	|	0.10
70.250	0.00	0.01	0.013	O	|	|	|	0.10
70.333	0.00	0.01	0.013	O	|	|	|	0.10
70.417	0.00	0.01	0.013	O	|	|	|	0.10
70.500	0.00	0.01	0.013	O	|	|	|	0.10
70.583	0.00	0.01	0.013	O	|	|	|	0.10
70.667	0.00	0.01	0.013	O	|	|	|	0.09
70.750	0.00	0.01	0.013	O	|	|	|	0.09
70.833	0.00	0.01	0.013	O	|	|	|	0.09
70.917	0.00	0.01	0.013	O	|	|	|	0.09
71.000	0.00	0.01	0.013	O	|	|	|	0.09
71.083	0.00	0.01	0.013	O	|	|	|	0.09
71.167	0.00	0.01	0.013	O	|	|	|	0.09
71.250	0.00	0.01	0.012	O	|	|	|	0.09
71.333	0.00	0.01	0.012	O	|	|	|	0.09
71.417	0.00	0.01	0.012	O	|	|	|	0.09
71.500	0.00	0.01	0.012	O	|	|	|	0.09
71.583	0.00	0.01	0.012	O	|	|	|	0.09
71.667	0.00	0.01	0.012	O	|	|	|	0.09
71.750	0.00	0.01	0.012	O	|	|	|	0.09
71.833	0.00	0.01	0.012	O	|	|	|	0.09
71.917	0.00	0.01	0.012	O	|	|	|	0.09
72.000	0.00	0.01	0.012	O	|	|	|	0.09
72.083	0.00	0.01	0.012	O	|	|	|	0.09
72.167	0.00	0.01	0.012	O	|	|	|	0.09
72.250	0.00	0.01	0.012	O	|	|	|	0.08
72.333	0.00	0.01	0.012	O	|	|	|	0.08
72.417	0.00	0.01	0.011	O	|	|	|	0.08
72.500	0.00	0.01	0.011	O	|	|	|	0.08
72.583	0.00	0.01	0.011	O	|	|	|	0.08
72.667	0.00	0.01	0.011	O	|	|	|	0.08
72.750	0.00	0.01	0.011	O	|	|	|	0.08
72.833	0.00	0.01	0.011	O	|	|	|	0.08
72.917	0.00	0.01	0.011	O	|	|	|	0.08
73.000	0.00	0.01	0.011	O	|	|	|	0.08
73.083	0.00	0.01	0.011	O	|	|	|	0.08
73.167	0.00	0.01	0.011	O	|	|	|	0.08
73.250	0.00	0.01	0.011	O	|	|	|	0.08
73.333	0.00	0.01	0.011	O	|	|	|	0.08

73.417	0.00	0.01	0.011	O	|	|	|	0.08
73.500	0.00	0.01	0.011	O	|	|	|	0.08
73.583	0.00	0.01	0.011	O	|	|	|	0.08
73.667	0.00	0.01	0.010	O	|	|	|	0.08
73.750	0.00	0.01	0.010	O	|	|	|	0.08
73.833	0.00	0.01	0.010	O	|	|	|	0.08
73.917	0.00	0.01	0.010	O	|	|	|	0.08
74.000	0.00	0.01	0.010	O	|	|	|	0.07
74.083	0.00	0.01	0.010	O	|	|	|	0.07
74.167	0.00	0.01	0.010	O	|	|	|	0.07
74.250	0.00	0.01	0.010	O	|	|	|	0.07
74.333	0.00	0.01	0.010	O	|	|	|	0.07
74.417	0.00	0.01	0.010	O	|	|	|	0.07
74.500	0.00	0.01	0.010	O	|	|	|	0.07
74.583	0.00	0.01	0.010	O	|	|	|	0.07
74.667	0.00	0.01	0.010	O	|	|	|	0.07
74.750	0.00	0.01	0.010	O	|	|	|	0.07
74.833	0.00	0.01	0.010	O	|	|	|	0.07
74.917	0.00	0.01	0.010	O	|	|	|	0.07
75.000	0.00	0.01	0.010	O	|	|	|	0.07
75.083	0.00	0.01	0.009	O	|	|	|	0.07
75.167	0.00	0.01	0.009	O	|	|	|	0.07
75.250	0.00	0.01	0.009	O	|	|	|	0.07
75.333	0.00	0.01	0.009	O	|	|	|	0.07
75.417	0.00	0.01	0.009	O	|	|	|	0.07
75.500	0.00	0.01	0.009	O	|	|	|	0.07
75.583	0.00	0.01	0.009	O	|	|	|	0.07
75.667	0.00	0.01	0.009	O	|	|	|	0.07
75.750	0.00	0.01	0.009	O	|	|	|	0.07
75.833	0.00	0.01	0.009	O	|	|	|	0.07
75.917	0.00	0.01	0.009	O	|	|	|	0.07
76.000	0.00	0.01	0.009	O	|	|	|	0.06
76.083	0.00	0.01	0.009	O	|	|	|	0.06
76.167	0.00	0.01	0.009	O	|	|	|	0.06
76.250	0.00	0.01	0.009	O	|	|	|	0.06
76.333	0.00	0.01	0.009	O	|	|	|	0.06
76.417	0.00	0.01	0.009	O	|	|	|	0.06
76.500	0.00	0.01	0.009	O	|	|	|	0.06
76.583	0.00	0.01	0.009	O	|	|	|	0.06
76.667	0.00	0.01	0.008	O	|	|	|	0.06
76.750	0.00	0.01	0.008	O	|	|	|	0.06
76.833	0.00	0.01	0.008	O	|	|	|	0.06
76.917	0.00	0.01	0.008	O	|	|	|	0.06
77.000	0.00	0.01	0.008	O	|	|	|	0.06
77.083	0.00	0.01	0.008	O	|	|	|	0.06
77.167	0.00	0.01	0.008	O	|	|	|	0.06
77.250	0.00	0.01	0.008	O	|	|	|	0.06
77.333	0.00	0.01	0.008	O	|	|	|	0.06
77.417	0.00	0.01	0.008	O	|	|	|	0.06
77.500	0.00	0.01	0.008	O	|	|	|	0.06

77.583	0.00	0.01	0.008	O	|	|	|	0.06
77.667	0.00	0.01	0.008	O	|	|	|	0.06
77.750	0.00	0.01	0.008	O	|	|	|	0.06
77.833	0.00	0.01	0.008	O	|	|	|	0.06
77.917	0.00	0.01	0.008	O	|	|	|	0.06
78.000	0.00	0.01	0.008	O	|	|	|	0.06
78.083	0.00	0.01	0.008	O	|	|	|	0.06
78.167	0.00	0.01	0.008	O	|	|	|	0.06
78.250	0.00	0.01	0.008	O	|	|	|	0.06
78.333	0.00	0.01	0.008	O	|	|	|	0.05
78.417	0.00	0.01	0.007	O	|	|	|	0.05
78.500	0.00	0.01	0.007	O	|	|	|	0.05
78.583	0.00	0.01	0.007	O	|	|	|	0.05
78.667	0.00	0.01	0.007	O	|	|	|	0.05
78.750	0.00	0.01	0.007	O	|	|	|	0.05
78.833	0.00	0.01	0.007	O	|	|	|	0.05
78.917	0.00	0.01	0.007	O	|	|	|	0.05
79.000	0.00	0.01	0.007	O	|	|	|	0.05
79.083	0.00	0.01	0.007	O	|	|	|	0.05
79.167	0.00	0.01	0.007	O	|	|	|	0.05
79.250	0.00	0.01	0.007	O	|	|	|	0.05
79.333	0.00	0.01	0.007	O	|	|	|	0.05
79.417	0.00	0.01	0.007	O	|	|	|	0.05
79.500	0.00	0.01	0.007	O	|	|	|	0.05
79.583	0.00	0.01	0.007	O	|	|	|	0.05
79.667	0.00	0.01	0.007	O	|	|	|	0.05
79.750	0.00	0.01	0.007	O	|	|	|	0.05
79.833	0.00	0.01	0.007	O	|	|	|	0.05
79.917	0.00	0.01	0.007	O	|	|	|	0.05
80.000	0.00	0.01	0.007	O	|	|	|	0.05
80.083	0.00	0.01	0.007	O	|	|	|	0.05
80.167	0.00	0.01	0.007	O	|	|	|	0.05
80.250	0.00	0.01	0.007	O	|	|	|	0.05
80.333	0.00	0.01	0.007	O	|	|	|	0.05
80.417	0.00	0.01	0.006	O	|	|	|	0.05
80.500	0.00	0.01	0.006	O	|	|	|	0.05
80.583	0.00	0.01	0.006	O	|	|	|	0.05
80.667	0.00	0.01	0.006	O	|	|	|	0.05
80.750	0.00	0.01	0.006	O	|	|	|	0.05
80.833	0.00	0.01	0.006	O	|	|	|	0.05
80.917	0.00	0.01	0.006	O	|	|	|	0.05
81.000	0.00	0.01	0.006	O	|	|	|	0.05
81.083	0.00	0.01	0.006	O	|	|	|	0.05
81.167	0.00	0.01	0.006	O	|	|	|	0.04
81.250	0.00	0.01	0.006	O	|	|	|	0.04
81.333	0.00	0.01	0.006	O	|	|	|	0.04
81.417	0.00	0.01	0.006	O	|	|	|	0.04
81.500	0.00	0.01	0.006	O	|	|	|	0.04
81.583	0.00	0.01	0.006	O	|	|	|	0.04
81.667	0.00	0.01	0.006	O	|	|	|	0.04

81.750	0.00	0.01	0.006	O	|	|	|	0.04
81.833	0.00	0.01	0.006	O	|	|	|	0.04
81.917	0.00	0.01	0.006	O	|	|	|	0.04
82.000	0.00	0.00	0.006	O	|	|	|	0.04
82.083	0.00	0.00	0.006	O	|	|	|	0.04
82.167	0.00	0.00	0.006	O	|	|	|	0.04
82.250	0.00	0.00	0.006	O	|	|	|	0.04
82.333	0.00	0.00	0.006	O	|	|	|	0.04
82.417	0.00	0.00	0.006	O	|	|	|	0.04
82.500	0.00	0.00	0.006	O	|	|	|	0.04
82.583	0.00	0.00	0.006	O	|	|	|	0.04
82.667	0.00	0.00	0.006	O	|	|	|	0.04
82.750	0.00	0.00	0.005	O	|	|	|	0.04
82.833	0.00	0.00	0.005	O	|	|	|	0.04
82.917	0.00	0.00	0.005	O	|	|	|	0.04
83.000	0.00	0.00	0.005	O	|	|	|	0.04
83.083	0.00	0.00	0.005	O	|	|	|	0.04
83.167	0.00	0.00	0.005	O	|	|	|	0.04
83.250	0.00	0.00	0.005	O	|	|	|	0.04
83.333	0.00	0.00	0.005	O	|	|	|	0.04
83.417	0.00	0.00	0.005	O	|	|	|	0.04
83.500	0.00	0.00	0.005	O	|	|	|	0.04
83.583	0.00	0.00	0.005	O	|	|	|	0.04
83.667	0.00	0.00	0.005	O	|	|	|	0.04
83.750	0.00	0.00	0.005	O	|	|	|	0.04
83.833	0.00	0.00	0.005	O	|	|	|	0.04
83.917	0.00	0.00	0.005	O	|	|	|	0.04
84.000	0.00	0.00	0.005	O	|	|	|	0.04
84.083	0.00	0.00	0.005	O	|	|	|	0.04
84.167	0.00	0.00	0.005	O	|	|	|	0.04
84.250	0.00	0.00	0.005	O	|	|	|	0.04
84.333	0.00	0.00	0.005	O	|	|	|	0.04
84.417	0.00	0.00	0.005	O	|	|	|	0.04
84.500	0.00	0.00	0.005	O	|	|	|	0.04
84.583	0.00	0.00	0.005	O	|	|	|	0.04
84.667	0.00	0.00	0.005	O	|	|	|	0.04
84.750	0.00	0.00	0.005	O	|	|	|	0.03
84.833	0.00	0.00	0.005	O	|	|	|	0.03
84.917	0.00	0.00	0.005	O	|	|	|	0.03
85.000	0.00	0.00	0.005	O	|	|	|	0.03
85.083	0.00	0.00	0.005	O	|	|	|	0.03
85.167	0.00	0.00	0.005	O	|	|	|	0.03
85.250	0.00	0.00	0.005	O	|	|	|	0.03
85.333	0.00	0.00	0.005	O	|	|	|	0.03
85.417	0.00	0.00	0.005	O	|	|	|	0.03
85.500	0.00	0.00	0.005	O	|	|	|	0.03
85.583	0.00	0.00	0.004	O	|	|	|	0.03
85.667	0.00	0.00	0.004	O	|	|	|	0.03
85.750	0.00	0.00	0.004	O	|	|	|	0.03
85.833	0.00	0.00	0.004	O	|	|	|	0.03

85.917	0.00	0.00	0.004	O				0.03
86.000	0.00	0.00	0.004	O				0.03
86.083	0.00	0.00	0.004	O				0.03
86.167	0.00	0.00	0.004	O				0.03
86.250	0.00	0.00	0.004	O				0.03
86.333	0.00	0.00	0.004	O				0.03
86.417	0.00	0.00	0.004	O				0.03
86.500	0.00	0.00	0.004	O				0.03
86.583	0.00	0.00	0.004	O				0.03
86.667	0.00	0.00	0.004	O				0.03
86.750	0.00	0.00	0.004	O				0.03
86.833	0.00	0.00	0.004	O				0.03
86.917	0.00	0.00	0.004	O				0.03
87.000	0.00	0.00	0.004	O				0.03
87.083	0.00	0.00	0.004	O				0.03
87.167	0.00	0.00	0.004	O				0.03
87.250	0.00	0.00	0.004	O				0.03
87.333	0.00	0.00	0.004	O				0.03
87.417	0.00	0.00	0.004	O				0.03
87.500	0.00	0.00	0.004	O				0.03
87.583	0.00	0.00	0.004	O				0.03
87.667	0.00	0.00	0.004	O				0.03
87.750	0.00	0.00	0.004	O				0.03
87.833	0.00	0.00	0.004	O				0.03
87.917	0.00	0.00	0.004	O				0.03
88.000	0.00	0.00	0.004	O				0.03
88.083	0.00	0.00	0.004	O				0.03
88.167	0.00	0.00	0.004	O				0.03
88.250	0.00	0.00	0.004	O				0.03
88.333	0.00	0.00	0.004	O				0.03
88.417	0.00	0.00	0.004	O				0.03
88.500	0.00	0.00	0.004	O				0.03
88.583	0.00	0.00	0.004	O				0.03
88.667	0.00	0.00	0.004	O				0.03
88.750	0.00	0.00	0.004	O				0.03
88.833	0.00	0.00	0.004	O				0.03
88.917	0.00	0.00	0.004	O				0.03
89.000	0.00	0.00	0.004	O				0.03
89.083	0.00	0.00	0.004	O				0.03
89.167	0.00	0.00	0.003	O				0.03
89.250	0.00	0.00	0.003	O				0.03
89.333	0.00	0.00	0.003	O				0.03
89.417	0.00	0.00	0.003	O				0.02
89.500	0.00	0.00	0.003	O				0.02
89.583	0.00	0.00	0.003	O				0.02
89.667	0.00	0.00	0.003	O				0.02
89.750	0.00	0.00	0.003	O				0.02
89.833	0.00	0.00	0.003	O				0.02
89.917	0.00	0.00	0.003	O				0.02
90.000	0.00	0.00	0.003	O				0.02

90.083	0.00	0.00	0.003	O	|	|	|	0.02
90.167	0.00	0.00	0.003	O	|	|	|	0.02
90.250	0.00	0.00	0.003	O	|	|	|	0.02
90.333	0.00	0.00	0.003	O	|	|	|	0.02
90.417	0.00	0.00	0.003	O	|	|	|	0.02
90.500	0.00	0.00	0.003	O	|	|	|	0.02
90.583	0.00	0.00	0.003	O	|	|	|	0.02
90.667	0.00	0.00	0.003	O	|	|	|	0.02
90.750	0.00	0.00	0.003	O	|	|	|	0.02
90.833	0.00	0.00	0.003	O	|	|	|	0.02
90.917	0.00	0.00	0.003	O	|	|	|	0.02
91.000	0.00	0.00	0.003	O	|	|	|	0.02
91.083	0.00	0.00	0.003	O	|	|	|	0.02
91.167	0.00	0.00	0.003	O	|	|	|	0.02
91.250	0.00	0.00	0.003	O	|	|	|	0.02
91.333	0.00	0.00	0.003	O	|	|	|	0.02
91.417	0.00	0.00	0.003	O	|	|	|	0.02
91.500	0.00	0.00	0.003	O	|	|	|	0.02
91.583	0.00	0.00	0.003	O	|	|	|	0.02
91.667	0.00	0.00	0.003	O	|	|	|	0.02
91.750	0.00	0.00	0.003	O	|	|	|	0.02
91.833	0.00	0.00	0.003	O	|	|	|	0.02
91.917	0.00	0.00	0.003	O	|	|	|	0.02
92.000	0.00	0.00	0.003	O	|	|	|	0.02
92.083	0.00	0.00	0.003	O	|	|	|	0.02
92.167	0.00	0.00	0.003	O	|	|	|	0.02
92.250	0.00	0.00	0.003	O	|	|	|	0.02
92.333	0.00	0.00	0.003	O	|	|	|	0.02
92.417	0.00	0.00	0.003	O	|	|	|	0.02
92.500	0.00	0.00	0.003	O	|	|	|	0.02
92.583	0.00	0.00	0.003	O	|	|	|	0.02
92.667	0.00	0.00	0.003	O	|	|	|	0.02
92.750	0.00	0.00	0.003	O	|	|	|	0.02
92.833	0.00	0.00	0.003	O	|	|	|	0.02
92.917	0.00	0.00	0.003	O	|	|	|	0.02
93.000	0.00	0.00	0.003	O	|	|	|	0.02
93.083	0.00	0.00	0.003	O	|	|	|	0.02
93.167	0.00	0.00	0.003	O	|	|	|	0.02
93.250	0.00	0.00	0.003	O	|	|	|	0.02
93.333	0.00	0.00	0.003	O	|	|	|	0.02
93.417	0.00	0.00	0.003	O	|	|	|	0.02
93.500	0.00	0.00	0.003	O	|	|	|	0.02
93.583	0.00	0.00	0.003	O	|	|	|	0.02
93.667	0.00	0.00	0.003	O	|	|	|	0.02
93.750	0.00	0.00	0.003	O	|	|	|	0.02
93.833	0.00	0.00	0.002	O	|	|	|	0.02
93.917	0.00	0.00	0.002	O	|	|	|	0.02
94.000	0.00	0.00	0.002	O	|	|	|	0.02
94.083	0.00	0.00	0.002	O	|	|	|	0.02
94.167	0.00	0.00	0.002	O	|	|	|	0.02

94.250	0.00	0.00	0.002	O	|	|	|	0.02
94.333	0.00	0.00	0.002	O	|	|	|	0.02
94.417	0.00	0.00	0.002	O	|	|	|	0.02
94.500	0.00	0.00	0.002	O	|	|	|	0.02
94.583	0.00	0.00	0.002	O	|	|	|	0.02
94.667	0.00	0.00	0.002	O	|	|	|	0.02
94.750	0.00	0.00	0.002	O	|	|	|	0.02
94.833	0.00	0.00	0.002	O	|	|	|	0.02
94.917	0.00	0.00	0.002	O	|	|	|	0.02
95.000	0.00	0.00	0.002	O	|	|	|	0.02
95.083	0.00	0.00	0.002	O	|	|	|	0.02
95.167	0.00	0.00	0.002	O	|	|	|	0.02
95.250	0.00	0.00	0.002	O	|	|	|	0.02
95.333	0.00	0.00	0.002	O	|	|	|	0.02
95.417	0.00	0.00	0.002	O	|	|	|	0.02
95.500	0.00	0.00	0.002	O	|	|	|	0.02
95.583	0.00	0.00	0.002	O	|	|	|	0.02
95.667	0.00	0.00	0.002	O	|	|	|	0.02
95.750	0.00	0.00	0.002	O	|	|	|	0.02
95.833	0.00	0.00	0.002	O	|	|	|	0.02
95.917	0.00	0.00	0.002	O	|	|	|	0.02
96.000	0.00	0.00	0.002	O	|	|	|	0.02
96.083	0.00	0.00	0.002	O	|	|	|	0.02
96.167	0.00	0.00	0.002	O	|	|	|	0.02
96.250	0.00	0.00	0.002	O	|	|	|	0.02
96.333	0.00	0.00	0.002	O	|	|	|	0.02
96.417	0.00	0.00	0.002	O	|	|	|	0.02
96.500	0.00	0.00	0.002	O	|	|	|	0.02
96.583	0.00	0.00	0.002	O	|	|	|	0.01
96.667	0.00	0.00	0.002	O	|	|	|	0.01
96.750	0.00	0.00	0.002	O	|	|	|	0.01
96.833	0.00	0.00	0.002	O	|	|	|	0.01
96.917	0.00	0.00	0.002	O	|	|	|	0.01
97.000	0.00	0.00	0.002	O	|	|	|	0.01
97.083	0.00	0.00	0.002	O	|	|	|	0.01
97.167	0.00	0.00	0.002	O	|	|	|	0.01
97.250	0.00	0.00	0.002	O	|	|	|	0.01
97.333	0.00	0.00	0.002	O	|	|	|	0.01
97.417	0.00	0.00	0.002	O	|	|	|	0.01
97.500	0.00	0.00	0.002	O	|	|	|	0.01
97.583	0.00	0.00	0.002	O	|	|	|	0.01
97.667	0.00	0.00	0.002	O	|	|	|	0.01
97.750	0.00	0.00	0.002	O	|	|	|	0.01
97.833	0.00	0.00	0.002	O	|	|	|	0.01
97.917	0.00	0.00	0.002	O	|	|	|	0.01
98.000	0.00	0.00	0.002	O	|	|	|	0.01
98.083	0.00	0.00	0.002	O	|	|	|	0.01
98.167	0.00	0.00	0.002	O	|	|	|	0.01
98.250	0.00	0.00	0.002	O	|	|	|	0.01
98.333	0.00	0.00	0.002	O	|	|	|	0.01

98.417	0.00	0.00	0.002	O				0.01
98.500	0.00	0.00	0.002	O				0.01
98.583	0.00	0.00	0.002	O				0.01
98.667	0.00	0.00	0.002	O				0.01
98.750	0.00	0.00	0.002	O				0.01
98.833	0.00	0.00	0.002	O				0.01
98.917	0.00	0.00	0.002	O				0.01
99.000	0.00	0.00	0.002	O				0.01
99.083	0.00	0.00	0.002	O				0.01
99.167	0.00	0.00	0.002	O				0.01
99.250	0.00	0.00	0.002	O				0.01
99.333	0.00	0.00	0.002	O				0.01
99.417	0.00	0.00	0.002	O				0.01
99.500	0.00	0.00	0.002	O				0.01
99.583	0.00	0.00	0.002	O				0.01
99.667	0.00	0.00	0.002	O				0.01
99.750	0.00	0.00	0.002	O				0.01
99.833	0.00	0.00	0.002	O				0.01
99.917	0.00	0.00	0.002	O				0.01
100.000	0.00	0.00	0.002	O				0.01
100.083	0.00	0.00	0.002	O				0.01
100.167	0.00	0.00	0.002	O				0.01
100.250	0.00	0.00	0.002	O				0.01
100.333	0.00	0.00	0.002	O				0.01
100.417	0.00	0.00	0.002	O				0.01
100.500	0.00	0.00	0.002	O				0.01
100.583	0.00	0.00	0.002	O				0.01
100.667	0.00	0.00	0.002	O				0.01
100.750	0.00	0.00	0.002	O				0.01
100.833	0.00	0.00	0.002	O				0.01
100.917	0.00	0.00	0.002	O				0.01
101.000	0.00	0.00	0.002	O				0.01
101.083	0.00	0.00	0.001	O				0.01
101.167	0.00	0.00	0.001	O				0.01
101.250	0.00	0.00	0.001	O				0.01
101.333	0.00	0.00	0.001	O				0.01
101.417	0.00	0.00	0.001	O				0.01
101.500	0.00	0.00	0.001	O				0.01
101.583	0.00	0.00	0.001	O				0.01
101.667	0.00	0.00	0.001	O				0.01
101.750	0.00	0.00	0.001	O				0.01
101.833	0.00	0.00	0.001	O				0.01
101.917	0.00	0.00	0.001	O				0.01
102.000	0.00	0.00	0.001	O				0.01
102.083	0.00	0.00	0.001	O				0.01
102.167	0.00	0.00	0.001	O				0.01
102.250	0.00	0.00	0.001	O				0.01
102.333	0.00	0.00	0.001	O				0.01
102.417	0.00	0.00	0.001	O				0.01
102.500	0.00	0.00	0.001	O				0.01

102.583	0.00	0.00	0.001	O	|	|	|	|	0.01
102.667	0.00	0.00	0.001	O	|	|	|	|	0.01
102.750	0.00	0.00	0.001	O	|	|	|	|	0.01
102.833	0.00	0.00	0.001	O	|	|	|	|	0.01
102.917	0.00	0.00	0.001	O	|	|	|	|	0.01
103.000	0.00	0.00	0.001	O	|	|	|	|	0.01
103.083	0.00	0.00	0.001	O	|	|	|	|	0.01
103.167	0.00	0.00	0.001	O	|	|	|	|	0.01
103.250	0.00	0.00	0.001	O	|	|	|	|	0.01
103.333	0.00	0.00	0.001	O	|	|	|	|	0.01
103.417	0.00	0.00	0.001	O	|	|	|	|	0.01
103.500	0.00	0.00	0.001	O	|	|	|	|	0.01
103.583	0.00	0.00	0.001	O	|	|	|	|	0.01
103.667	0.00	0.00	0.001	O	|	|	|	|	0.01
103.750	0.00	0.00	0.001	O	|	|	|	|	0.01
103.833	0.00	0.00	0.001	O	|	|	|	|	0.01
103.917	0.00	0.00	0.001	O	|	|	|	|	0.01
104.000	0.00	0.00	0.001	O	|	|	|	|	0.01
104.083	0.00	0.00	0.001	O	|	|	|	|	0.01
104.167	0.00	0.00	0.001	O	|	|	|	|	0.01
104.250	0.00	0.00	0.001	O	|	|	|	|	0.01
104.333	0.00	0.00	0.001	O	|	|	|	|	0.01
104.417	0.00	0.00	0.001	O	|	|	|	|	0.01
104.500	0.00	0.00	0.001	O	|	|	|	|	0.01
104.583	0.00	0.00	0.001	O	|	|	|	|	0.01
104.667	0.00	0.00	0.001	O	|	|	|	|	0.01

Remaining water in basin = 0.00 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 1256
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.684 (CFS)
Total volume = 1.097 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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                FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
                      Study date: 03/13/22

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Jana Commercial Development
Post Development
100 yr 24 hr

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Program License Serial Number 6481

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********************* HYDROGRAPH INFORMATION **********************

                From study/file name: janapost24100.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =   300
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =        3.360 (CFS)
                Total volume =       1.953 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
************************************************************************



++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station        0.000 to Point/Station        0.000
**** RETARDING BASIN ROUTING ****
________________________________________________________________________

User entry of depth-outflow-storage data
------------------------------------------------------------------------
Total number of inflow hydrograph intervals = 300
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
------------------------------------------------------------------------
------------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
```

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.137	0.118	0.137	0.137
2.000	0.274	0.170	0.273	0.275
4.000	0.548	0.244	0.547	0.549
6.000	0.823	2.414	0.815	0.831
8.000	1.097	4.459	1.082	1.112

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.8	1.68	2.52	3.36	Depth (Ft.)
0.083	0.02	0.00	0.000	O	|	|	|	|	0.00
0.167	0.08	0.00	0.000	O	|	|	|	|	0.00
0.250	0.12	0.00	0.001	OI	|	|	|	|	0.01
0.333	0.15	0.00	0.002	OI	|	|	|	|	0.01
0.417	0.19	0.00	0.003	OI	|	|	|	|	0.02
0.500	0.21	0.00	0.004	O I	|	|	|	|	0.03
0.583	0.23	0.01	0.006	O I	|	|	|	|	0.04
0.667	0.24	0.01	0.008	O I	|	|	|	|	0.05
0.750	0.24	0.01	0.009	O I	|	|	|	|	0.07
0.833	0.25	0.01	0.011	O I	|	|	|	|	0.08
0.917	0.29	0.01	0.013	O I	|	|	|	|	0.09
1.000	0.31	0.01	0.015	O I	|	|	|	|	0.11
1.083	0.31	0.01	0.017	O I	|	|	|	|	0.12
1.167	0.29	0.02	0.019	O I	|	|	|	|	0.14
1.250	0.27	0.02	0.020	O I	|	|	|	|	0.15
1.333	0.26	0.02	0.022	O I	|	|	|	|	0.16
1.417	0.26	0.02	0.024	O I	|	|	|	|	0.17
1.500	0.26	0.02	0.025	O I	|	|	|	|	0.19
1.583	0.26	0.02	0.027	O I	|	|	|	|	0.20
1.667	0.26	0.02	0.029	O I	|	|	|	|	0.21
1.750	0.26	0.03	0.030	O I	|	|	|	|	0.22
1.833	0.26	0.03	0.032	O I	|	|	|	|	0.23
1.917	0.30	0.03	0.034	O I	|	|	|	|	0.25
2.000	0.32	0.03	0.035	O I	|	|	|	|	0.26
2.083	0.32	0.03	0.037	O I	|	|	|	|	0.27
2.167	0.33	0.03	0.039	O I	|	|	|	|	0.29
2.250	0.33	0.04	0.042	O I	|	|	|	|	0.30
2.333	0.33	0.04	0.044	O I	|	|	|	|	0.32
2.417	0.34	0.04	0.046	O I	|	|	|	|	0.33
2.500	0.34	0.04	0.048	O I	|	|	|	|	0.35

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2.583    0.35    0.04      0.050  O  I    |       |       |       |      0.36
2.667    0.38    0.04      0.052  O  I    |       |       |       |      0.38
2.750    0.40    0.05      0.054  O  I    |       |       |       |      0.40
2.833    0.41    0.05      0.057  O  I    |       |       |       |      0.41
2.917    0.41    0.05      0.059  O  I    |       |       |       |      0.43
3.000    0.42    0.05      0.062  O  I    |       |       |       |      0.45
3.083    0.42    0.06      0.064  O  I    |       |       |       |      0.47
3.167    0.42    0.06      0.067  O   I   |       |       |       |      0.49
3.250    0.42    0.06      0.069  O   I   |       |       |       |      0.51
3.333    0.42    0.06      0.072  O   I   |       |       |       |      0.52
3.417    0.42    0.06      0.074  O   I   |       |       |       |      0.54
3.500    0.42    0.07      0.077  O   I   |       |       |       |      0.56
3.583    0.42    0.07      0.079  O   I   |       |       |       |      0.58
3.667    0.42    0.07      0.082  O   I   |       |       |       |      0.60
3.750    0.42    0.07      0.084  O   I   |       |       |       |      0.61
3.833    0.43    0.07      0.086  O   I   |       |       |       |      0.63
3.917    0.46    0.08      0.089  O   I   |       |       |       |      0.65
4.000    0.48    0.08      0.092  O   I   |       |       |       |      0.67
4.083    0.49    0.08      0.095  O   I   |       |       |       |      0.69
4.167    0.50    0.08      0.097  O   I   |       |       |       |      0.71
4.250    0.50    0.09      0.100  O   I   |       |       |       |      0.73
4.333    0.51    0.09      0.103  O   I   |       |       |       |      0.75
4.417    0.54    0.09      0.106  O    I  |       |       |       |      0.77
4.500    0.57    0.09      0.109  O    I  |       |       |       |      0.80
4.583    0.58    0.10      0.113  O    I  |       |       |       |      0.82
4.667    0.58    0.10      0.116  O    I  |       |       |       |      0.85
4.750    0.59    0.10      0.119  O    I  |       |       |       |      0.87
4.833    0.60    0.11      0.123  |O   I  |       |       |       |      0.89
4.917    0.63    0.11      0.126  |O   I  |       |       |       |      0.92
5.000    0.65    0.11      0.130  |O    I |       |       |       |      0.95
5.083    0.65    0.11      0.133  |O    I |       |       |       |      0.97
5.167    0.59    0.12      0.137  |O   I  |       |       |       |      1.00
5.250    0.55    0.12      0.140  |O   I  |       |       |       |      1.02
5.333    0.54    0.12      0.143  |O   I  |       |       |       |      1.04
5.417    0.57    0.12      0.146  |O   I  |       |       |       |      1.06
5.500    0.58    0.12      0.149  |O   I  |       |       |       |      1.09
5.583    0.60    0.12      0.152  |O   I  |       |       |       |      1.11
5.667    0.63    0.13      0.156  |O   I  |       |       |       |      1.14
5.750    0.65    0.13      0.159  |O    I |       |       |       |      1.16
5.833    0.66    0.13      0.163  |O    I |       |       |       |      1.19
5.917    0.67    0.13      0.166  |O    I |       |       |       |      1.21
6.000    0.67    0.13      0.170  |O    I |       |       |       |      1.24
6.083    0.68    0.13      0.174  |O    I |       |       |       |      1.27
6.167    0.72    0.13      0.178  |O    I |       |       |       |      1.30
6.250    0.74    0.14      0.182  |O     I|       |       |       |      1.33
6.333    0.75    0.14      0.186  |O     I|       |       |       |      1.36
6.417    0.76    0.14      0.190  |O     I|       |       |       |      1.39
6.500    0.76    0.14      0.195  |O     I|       |       |       |      1.42
6.583    0.78    0.14      0.199  |O     I|       |       |       |      1.45
6.667    0.82    0.14      0.203  |O     I|       |       |       |      1.49
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6.750	0.85	0.15	0.208	O	I			1.52
6.833	0.86	0.15	0.213	O	I			1.56
6.917	0.86	0.15	0.218	O	I			1.59
7.000	0.87	0.15	0.223	O	I			1.63
7.083	0.87	0.15	0.228	O	I			1.66
7.167	0.88	0.15	0.233	O	I			1.70
7.250	0.88	0.16	0.238	O	I			1.74
7.333	0.89	0.16	0.243	O	I			1.77
7.417	0.93	0.16	0.248	O	I			1.81
7.500	0.96	0.16	0.253	O	I			1.85
7.583	0.98	0.16	0.259	O	I			1.89
7.667	1.02	0.17	0.265	O	I			1.93
7.750	1.05	0.17	0.271	O	I			1.98
7.833	1.08	0.17	0.277	O	I			2.02
7.917	1.12	0.17	0.283	O	I			2.07
8.000	1.16	0.17	0.290	O	I			2.12
8.083	1.19	0.18	0.297	O	I			2.17
8.167	1.28	0.18	0.304	O	I			2.22
8.250	1.34	0.18	0.312	O	I			2.28
8.333	1.36	0.18	0.320	O	I			2.33
8.417	1.38	0.18	0.328	O	I			2.39
8.500	1.39	0.19	0.336	O	I			2.45
8.583	1.40	0.19	0.345	O	I			2.51
8.667	1.45	0.19	0.353	O	I			2.58
8.750	1.48	0.19	0.362	O	I			2.64
8.833	1.50	0.20	0.371	O	I			2.71
8.917	1.55	0.20	0.380	O	I			2.77
9.000	1.58	0.20	0.389	O	I			2.84
9.083	1.61	0.20	0.399	O	I			2.91
9.167	1.70	0.21	0.409	O	I			2.98
9.250	1.76	0.21	0.419	O	I			3.06
9.333	1.79	0.21	0.430	O	I			3.14
9.417	1.85	0.22	0.441	O	I			3.22
9.500	1.88	0.22	0.453	O	I			3.30
9.583	1.91	0.22	0.464	O	I			3.39
9.667	1.96	0.22	0.476	O	I			3.47
9.750	1.99	0.23	0.488	O	I			3.56
9.833	2.02	0.23	0.500	O	I			3.65
9.917	2.07	0.23	0.513	O	I			3.74
10.000	2.10	0.24	0.525	O	I			3.83
10.083	2.05	0.24	0.538	O	I			3.93
10.167	1.79	0.26	0.550	O	I			4.01
10.250	1.62	0.33	0.559	O	I			4.08
10.333	1.55	0.40	0.568	O	I			4.14
10.417	1.51	0.46	0.575	O	I			4.20
10.500	1.49	0.51	0.582	O	I			4.25
10.583	1.52	0.57	0.589	O	I			4.30
10.667	1.70	0.62	0.596	O	I			4.35
10.750	1.82	0.68	0.603	O	I			4.40
10.833	1.86	0.74	0.611	O	I			4.46

10.917	1.89	0.80	0.619	|	O|	|I	|	4.51
11.000	1.90	0.86	0.626	|	O	| I	|	4.57
11.083	1.90	0.92	0.633	|	O	| I	|	4.62
11.167	1.88	0.97	0.640	|	|O	|I	|	4.67
11.250	1.86	1.01	0.646	|	|O	|I	|	4.71
11.333	1.85	1.06	0.651	|	| O	|I	|	4.75
11.417	1.85	1.10	0.657	|	| O	|I	|	4.79
11.500	1.85	1.14	0.662	|	| O	|I	|	4.83
11.583	1.83	1.18	0.666	|	| O	|I	|	4.86
11.667	1.76	1.21	0.671	|	| O	I	|	4.89
11.750	1.70	1.24	0.674	|	| O	I	|	4.92
11.833	1.69	1.26	0.677	|	| O	I	|	4.94
11.917	1.72	1.29	0.680	|	| O	I	|	4.96
12.000	1.74	1.31	0.683	|	| O	I	|	4.98
12.083	1.81	1.33	0.686	|	| O	|I	|	5.00
12.167	2.08	1.37	0.690	|	| O	| I	|	5.03
12.250	2.26	1.41	0.696	|	| O	| I	|	5.07
12.333	2.34	1.46	0.702	|	| O	| I	|	5.12
12.417	2.42	1.51	0.708	|	| O	| I|	|	5.16
12.500	2.48	1.56	0.714	|	| O	| I|	|	5.21
12.583	2.53	1.61	0.721	|	| O|	| I	|	5.25
12.667	2.63	1.66	0.727	|	| O|	|I	|	5.30
12.750	2.69	1.71	0.734	|	| O	|I	|	5.35
12.833	2.74	1.76	0.741	|	| O	| I	|	5.40
12.917	2.80	1.82	0.747	|	|O	| I	|	5.45
13.000	2.84	1.87	0.754	|	|O	| I	|	5.50
13.083	2.91	1.92	0.761	|	| O	| I	|	5.55
13.167	3.11	1.98	0.768	|	| O	| I	|	5.60
13.250	3.25	2.04	0.776	|	| O	| I	|	5.66
13.333	3.30	2.11	0.784	|	| O	| I|	|	5.72
13.417	3.34	2.17	0.792	|	| O	| I|	|	5.78
13.500	3.36	2.23	0.800	|	| O	| I	|	5.83
13.583	3.27	2.29	0.807	|	| O	| I|	|	5.89
13.667	2.86	2.33	0.813	|	| O	| I	|	5.92
13.750	2.58	2.35	0.815	|	| O	I	|	5.94
13.833	2.48	2.36	0.816	|	| O	OI|	|	5.95
13.917	2.42	2.37	0.817	|	| O	OI|	|	5.96
14.000	2.38	2.37	0.817	|	| O	O	|	5.96
14.083	2.39	2.37	0.817	|	| O	O	|	5.96
14.167	2.52	2.37	0.818	|	| O	O I	|	5.96
14.250	2.61	2.38	0.819	|	| O	O I	|	5.97
14.333	2.63	2.40	0.821	|	| O	O |I	|	5.98
14.417	2.60	2.41	0.822	|	| O	O I	|	5.99
14.500	2.59	2.42	0.824	|	| O	OI	|	6.00
14.583	2.58	2.43	0.825	|	| O	OI	|	6.01
14.667	2.59	2.43	0.826	|	| O	OI	|	6.02
14.750	2.59	2.44	0.827	|	| O	OI	|	6.03
14.833	2.58	2.45	0.828	|	| O	OI	|	6.03
14.917	2.54	2.45	0.828	|	| O	OI	|	6.04
15.000	2.52	2.46	0.829	|	| O	OI	|	6.04

15.083	2.50	2.46	0.829	|	|	| O|	|	6.05
15.167	2.46	2.46	0.829	|	|	| O|	|	6.05
15.250	2.43	2.46	0.829	|	|	| O|	|	6.05
15.333	2.40	2.46	0.829	|	|	| IO|	|	6.04
15.417	2.36	2.46	0.829	|	|	| IO|	|	6.04
15.500	2.33	2.45	0.828	|	|	| IO|	|	6.03
15.583	2.28	2.44	0.827	|	|	| I O|	|	6.03
15.667	2.11	2.43	0.825	|	|	| I O|	|	6.02
15.750	2.00	2.41	0.823	|	|	| I O |	|	6.00
15.833	1.96	2.39	0.820	|	|	| I O |	|	5.98
15.917	1.93	2.36	0.817	|	|	| I O |	|	5.95
16.000	1.92	2.34	0.814	|	|	| I O |	|	5.93
16.083	1.76	2.32	0.810	|	|	I O |	|	5.91
16.167	1.18	2.27	0.805	|	| I	| O |	|	5.87
16.250	0.79	2.20	0.796	|	I|	| O |	|	5.80
16.333	0.64	2.12	0.786	|	I |	| O |	|	5.73
16.417	0.55	2.04	0.776	|	I |	| O |	|	5.66
16.500	0.48	1.96	0.766	|	I |	| O |	|	5.58
16.583	0.43	1.88	0.756	|	I |	|O |	|	5.51
16.667	0.37	1.80	0.746	|	I |	|O |	|	5.44
16.750	0.33	1.73	0.736	|	I |	O |	|	5.37
16.833	0.30	1.65	0.726	|	I |	O|	|	5.30
16.917	0.28	1.58	0.717	|	I |	O|	|	5.23
17.000	0.27	1.51	0.709	|	I |	O |	|	5.17
17.083	0.28	1.45	0.700	|	I |	O |	|	5.11
17.167	0.34	1.39	0.693	|	I |	O |	|	5.05
17.250	0.39	1.33	0.686	|	I |	O |	|	5.00
17.333	0.40	1.28	0.679	|	I |	O |	|	4.96
17.417	0.41	1.24	0.674	|	I |	O |	|	4.91
17.500	0.42	1.19	0.668	|	I |	O |	|	4.87
17.583	0.42	1.15	0.663	|	I |	O |	|	4.84
17.667	0.43	1.11	0.658	|	I |	O |	|	4.80
17.750	0.43	1.08	0.653	|	I |	O |	|	4.77
17.833	0.42	1.04	0.649	|	I |	|O |	|	4.74
17.917	0.39	1.01	0.645	|	I |	|O |	|	4.70
18.000	0.37	0.98	0.641	|	I |	|O |	|	4.67
18.083	0.36	0.94	0.637	|	I |	O |	|	4.64
18.167	0.35	0.91	0.633	|	I |	O |	|	4.62
18.250	0.35	0.88	0.629	|	I |	O |	|	4.59
18.333	0.35	0.85	0.625	|	I |	O |	|	4.56
18.417	0.34	0.83	0.622	|	I |	O|	|	4.54
18.500	0.34	0.80	0.619	|	I |	O|	|	4.51
18.583	0.33	0.78	0.615	|	I |	O|	|	4.49
18.667	0.30	0.75	0.612	|	I |	O|	|	4.47
18.750	0.28	0.73	0.609	|	I |	O |	|	4.45
18.833	0.26	0.70	0.606	|	I |	O |	|	4.42
18.917	0.23	0.68	0.603	|	I |	O |	|	4.40
19.000	0.20	0.65	0.600	|	I |	O |	|	4.38
19.083	0.20	0.63	0.597	|	I |	O |	|	4.36
19.167	0.22	0.61	0.594	|	I |	O |	|	4.34

19.250	0.24	0.59	0.592	| I O |	|	|	|	4.32
19.333	0.25	0.57	0.589	| I O |	|	|	|	4.30
19.417	0.29	0.55	0.587	| I O |	|	|	|	4.29
19.500	0.31	0.54	0.586	| I O |	|	|	|	4.27
19.583	0.31	0.53	0.584	| I O |	|	|	|	4.26
19.667	0.29	0.52	0.583	| I O |	|	|	|	4.25
19.750	0.27	0.50	0.581	| I O |	|	|	|	4.24
19.833	0.26	0.49	0.579	| I O |	|	|	|	4.23
19.917	0.22	0.48	0.578	| I O |	|	|	|	4.22
20.000	0.20	0.46	0.576	|I O |	|	|	|	4.20
20.083	0.20	0.45	0.574	|I O |	|	|	|	4.19
20.167	0.22	0.44	0.572	| I O |	|	|	|	4.18
20.250	0.24	0.43	0.571	| I O |	|	|	|	4.17
20.333	0.25	0.42	0.570	| IO |	|	|	|	4.16
20.417	0.25	0.41	0.569	| IO |	|	|	|	4.15
20.500	0.25	0.40	0.568	| IO |	|	|	|	4.14
20.583	0.25	0.39	0.567	| IO |	|	|	|	4.14
20.667	0.25	0.38	0.566	| IO |	|	|	|	4.13
20.750	0.25	0.38	0.565	| IO |	|	|	|	4.12
20.833	0.24	0.37	0.564	| IO |	|	|	|	4.12
20.917	0.21	0.36	0.563	| IO |	|	|	|	4.11
21.000	0.19	0.35	0.562	|I O |	|	|	|	4.10
21.083	0.19	0.35	0.561	|I O |	|	|	|	4.09
21.167	0.22	0.34	0.560	| IO |	|	|	|	4.09
21.250	0.24	0.33	0.559	| IO |	|	|	|	4.08
21.333	0.24	0.33	0.559	| IO |	|	|	|	4.08
21.417	0.21	0.32	0.558	|I O |	|	|	|	4.07
21.500	0.19	0.32	0.557	|I O |	|	|	|	4.07
21.583	0.19	0.31	0.556	|IO |	|	|	|	4.06
21.667	0.22	0.30	0.556	| O |	|	|	|	4.05
21.750	0.24	0.30	0.555	| O |	|	|	|	4.05
21.833	0.23	0.30	0.555	| O |	|	|	|	4.05
21.917	0.21	0.29	0.554	|IO |	|	|	|	4.04
22.000	0.19	0.29	0.553	|IO |	|	|	|	4.04
22.083	0.19	0.28	0.553	|IO |	|	|	|	4.03
22.167	0.22	0.28	0.552	| O |	|	|	|	4.03
22.250	0.24	0.27	0.552	| O |	|	|	|	4.03
22.333	0.23	0.27	0.552	| O |	|	|	|	4.03
22.417	0.21	0.27	0.551	|IO |	|	|	|	4.02
22.500	0.19	0.27	0.551	|IO |	|	|	|	4.02
22.583	0.18	0.26	0.550	|IO |	|	|	|	4.02
22.667	0.18	0.26	0.550	|IO |	|	|	|	4.01
22.750	0.18	0.25	0.549	|IO |	|	|	|	4.01
22.833	0.17	0.25	0.549	|IO |	|	|	|	4.00
22.917	0.17	0.25	0.548	|IO |	|	|	|	4.00
23.000	0.17	0.24	0.548	|IO |	|	|	|	4.00
23.083	0.17	0.24	0.547	|IO |	|	|	|	3.99
23.167	0.17	0.24	0.547	|IO |	|	|	|	3.99
23.250	0.17	0.24	0.546	|IO |	|	|	|	3.99
23.333	0.17	0.24	0.546	|IO |	|	|	|	3.98

23.417	0.17	0.24	0.545	|IO	|	|	|	3.98
23.500	0.17	0.24	0.545	|IO	|	|	|	3.98
23.583	0.17	0.24	0.544	|IO	|	|	|	3.97
23.667	0.17	0.24	0.544	|IO	|	|	|	3.97
23.750	0.17	0.24	0.543	|IO	|	|	|	3.96
23.833	0.17	0.24	0.543	|IO	|	|	|	3.96
23.917	0.17	0.24	0.542	|IO	|	|	|	3.96
24.000	0.17	0.24	0.542	|IO	|	|	|	3.95
24.083	0.15	0.24	0.541	|IO	|	|	|	3.95
24.167	0.09	0.24	0.540	I O	|	|	|	3.94
24.250	0.05	0.24	0.539	I O	|	|	|	3.93
24.333	0.03	0.24	0.538	I O	|	|	|	3.92
24.417	0.02	0.24	0.536	I O	|	|	|	3.91
24.500	0.02	0.24	0.535	I O	|	|	|	3.90
24.583	0.01	0.24	0.533	I O	|	|	|	3.89
24.667	0.01	0.24	0.531	I O	|	|	|	3.88
24.750	0.01	0.24	0.530	I O	|	|	|	3.87
24.833	0.00	0.24	0.528	I O	|	|	|	3.86
24.917	0.00	0.24	0.527	I O	|	|	|	3.84
25.000	0.00	0.24	0.525	I O	|	|	|	3.83
25.083	0.00	0.24	0.523	I O	|	|	|	3.82
25.167	0.00	0.24	0.522	I O	|	|	|	3.81
25.250	0.00	0.24	0.520	I O	|	|	|	3.80
25.333	0.00	0.24	0.518	I O	|	|	|	3.78
25.417	0.00	0.24	0.517	I O	|	|	|	3.77
25.500	0.00	0.24	0.515	I O	|	|	|	3.76
25.583	0.00	0.23	0.514	I O	|	|	|	3.75
25.667	0.00	0.23	0.512	I O	|	|	|	3.74
25.750	0.00	0.23	0.510	I O	|	|	|	3.73
25.833	0.00	0.23	0.509	I O	|	|	|	3.71
25.917	0.00	0.23	0.507	I O	|	|	|	3.70
26.000	0.00	0.23	0.506	I O	|	|	|	3.69
26.083	0.00	0.23	0.504	I O	|	|	|	3.68
26.167	0.00	0.23	0.502	I O	|	|	|	3.67
26.250	0.00	0.23	0.501	I O	|	|	|	3.66
26.333	0.00	0.23	0.499	I O	|	|	|	3.64
26.417	0.00	0.23	0.498	I O	|	|	|	3.63
26.500	0.00	0.23	0.496	I O	|	|	|	3.62
26.583	0.00	0.23	0.494	I O	|	|	|	3.61
26.667	0.00	0.23	0.493	I O	|	|	|	3.60
26.750	0.00	0.23	0.491	I O	|	|	|	3.59
26.833	0.00	0.23	0.490	I O	|	|	|	3.57
26.917	0.00	0.23	0.488	I O	|	|	|	3.56
27.000	0.00	0.23	0.487	I O	|	|	|	3.55
27.083	0.00	0.23	0.485	I O	|	|	|	3.54
27.167	0.00	0.23	0.483	I O	|	|	|	3.53
27.250	0.00	0.23	0.482	I O	|	|	|	3.52
27.333	0.00	0.23	0.480	I O	|	|	|	3.51
27.417	0.00	0.23	0.479	I O	|	|	|	3.49
27.500	0.00	0.22	0.477	I O	|	|	|	3.48

27.583	0.00	0.22	0.476	I O				3.47
27.667	0.00	0.22	0.474	I O				3.46
27.750	0.00	0.22	0.473	I O				3.45
27.833	0.00	0.22	0.471	I O				3.44
27.917	0.00	0.22	0.470	I O				3.43
28.000	0.00	0.22	0.468	I O				3.42
28.083	0.00	0.22	0.466	I O				3.40
28.167	0.00	0.22	0.465	I O				3.39
28.250	0.00	0.22	0.463	I O				3.38
28.333	0.00	0.22	0.462	I O				3.37
28.417	0.00	0.22	0.460	I O				3.36
28.500	0.00	0.22	0.459	I O				3.35
28.583	0.00	0.22	0.457	I O				3.34
28.667	0.00	0.22	0.456	I O				3.33
28.750	0.00	0.22	0.454	I O				3.32
28.833	0.00	0.22	0.453	I O				3.31
28.917	0.00	0.22	0.451	I O				3.29
29.000	0.00	0.22	0.450	I O				3.28
29.083	0.00	0.22	0.448	I O				3.27
29.167	0.00	0.22	0.447	I O				3.26
29.250	0.00	0.22	0.445	I O				3.25
29.333	0.00	0.22	0.444	I O				3.24
29.417	0.00	0.22	0.442	I O				3.23
29.500	0.00	0.22	0.441	I O				3.22
29.583	0.00	0.21	0.439	I O				3.21
29.667	0.00	0.21	0.438	I O				3.20
29.750	0.00	0.21	0.436	I O				3.19
29.833	0.00	0.21	0.435	I O				3.18
29.917	0.00	0.21	0.434	I O				3.16
30.000	0.00	0.21	0.432	I O				3.15
30.083	0.00	0.21	0.431	I O				3.14
30.167	0.00	0.21	0.429	I O				3.13
30.250	0.00	0.21	0.428	I O				3.12
30.333	0.00	0.21	0.426	I O				3.11
30.417	0.00	0.21	0.425	I O				3.10
30.500	0.00	0.21	0.423	I O				3.09
30.583	0.00	0.21	0.422	IO				3.08
30.667	0.00	0.21	0.420	IO				3.07
30.750	0.00	0.21	0.419	IO				3.06
30.833	0.00	0.21	0.418	IO				3.05
30.917	0.00	0.21	0.416	IO				3.04
31.000	0.00	0.21	0.415	IO				3.03
31.083	0.00	0.21	0.413	IO				3.02
31.167	0.00	0.21	0.412	IO				3.01
31.250	0.00	0.21	0.410	IO				3.00
31.333	0.00	0.21	0.409	IO				2.99
31.417	0.00	0.21	0.408	IO				2.97
31.500	0.00	0.21	0.406	IO				2.96
31.583	0.00	0.21	0.405	IO				2.95
31.667	0.00	0.20	0.403	IO				2.94

31.750	0.00	0.20	0.402	IO				2.93
31.833	0.00	0.20	0.400	IO				2.92
31.917	0.00	0.20	0.399	IO				2.91
32.000	0.00	0.20	0.398	IO				2.90
32.083	0.00	0.20	0.396	IO				2.89
32.167	0.00	0.20	0.395	IO				2.88
32.250	0.00	0.20	0.393	IO				2.87
32.333	0.00	0.20	0.392	IO				2.86
32.417	0.00	0.20	0.391	IO				2.85
32.500	0.00	0.20	0.389	IO				2.84
32.583	0.00	0.20	0.388	IO				2.83
32.667	0.00	0.20	0.387	IO				2.82
32.750	0.00	0.20	0.385	IO				2.81
32.833	0.00	0.20	0.384	IO				2.80
32.917	0.00	0.20	0.382	IO				2.79
33.000	0.00	0.20	0.381	IO				2.78
33.083	0.00	0.20	0.380	IO				2.77
33.167	0.00	0.20	0.378	IO				2.76
33.250	0.00	0.20	0.377	IO				2.75
33.333	0.00	0.20	0.376	IO				2.74
33.417	0.00	0.20	0.374	IO				2.73
33.500	0.00	0.20	0.373	IO				2.72
33.583	0.00	0.20	0.372	IO				2.71
33.667	0.00	0.20	0.370	IO				2.70
33.750	0.00	0.20	0.369	IO				2.69
33.833	0.00	0.20	0.367	IO				2.68
33.917	0.00	0.19	0.366	IO				2.67
34.000	0.00	0.19	0.365	IO				2.66
34.083	0.00	0.19	0.363	IO				2.65
34.167	0.00	0.19	0.362	IO				2.64
34.250	0.00	0.19	0.361	IO				2.63
34.333	0.00	0.19	0.359	IO				2.62
34.417	0.00	0.19	0.358	IO				2.61
34.500	0.00	0.19	0.357	IO				2.60
34.583	0.00	0.19	0.355	IO				2.59
34.667	0.00	0.19	0.354	IO				2.59
34.750	0.00	0.19	0.353	IO				2.58
34.833	0.00	0.19	0.352	IO				2.57
34.917	0.00	0.19	0.350	IO				2.56
35.000	0.00	0.19	0.349	IO				2.55
35.083	0.00	0.19	0.348	IO				2.54
35.167	0.00	0.19	0.346	IO				2.53
35.250	0.00	0.19	0.345	IO				2.52
35.333	0.00	0.19	0.344	IO				2.51
35.417	0.00	0.19	0.342	IO				2.50
35.500	0.00	0.19	0.341	IO				2.49
35.583	0.00	0.19	0.340	IO				2.48
35.667	0.00	0.19	0.338	IO				2.47
35.750	0.00	0.19	0.337	IO				2.46
35.833	0.00	0.19	0.336	IO				2.45

35.917	0.00	0.19	0.335	IO				2.44
36.000	0.00	0.19	0.333	IO				2.43
36.083	0.00	0.19	0.332	IO				2.42
36.167	0.00	0.19	0.331	IO				2.41
36.250	0.00	0.18	0.330	IO				2.41
36.333	0.00	0.18	0.328	IO				2.40
36.417	0.00	0.18	0.327	IO				2.39
36.500	0.00	0.18	0.326	IO				2.38
36.583	0.00	0.18	0.324	IO				2.37
36.667	0.00	0.18	0.323	IO				2.36
36.750	0.00	0.18	0.322	IO				2.35
36.833	0.00	0.18	0.321	IO				2.34
36.917	0.00	0.18	0.319	IO				2.33
37.000	0.00	0.18	0.318	IO				2.32
37.083	0.00	0.18	0.317	IO				2.31
37.167	0.00	0.18	0.316	IO				2.30
37.250	0.00	0.18	0.314	IO				2.29
37.333	0.00	0.18	0.313	IO				2.29
37.417	0.00	0.18	0.312	IO				2.28
37.500	0.00	0.18	0.311	IO				2.27
37.583	0.00	0.18	0.309	IO				2.26
37.667	0.00	0.18	0.308	IO				2.25
37.750	0.00	0.18	0.307	IO				2.24
37.833	0.00	0.18	0.306	IO				2.23
37.917	0.00	0.18	0.304	IO				2.22
38.000	0.00	0.18	0.303	IO				2.21
38.083	0.00	0.18	0.302	IO				2.20
38.167	0.00	0.18	0.301	IO				2.20
38.250	0.00	0.18	0.300	IO				2.19
38.333	0.00	0.18	0.298	IO				2.18
38.417	0.00	0.18	0.297	IO				2.17
38.500	0.00	0.18	0.296	IO				2.16
38.583	0.00	0.18	0.295	IO				2.15
38.667	0.00	0.18	0.294	IO				2.14
38.750	0.00	0.17	0.292	IO				2.13
38.833	0.00	0.17	0.291	IO				2.13
38.917	0.00	0.17	0.290	IO				2.12
39.000	0.00	0.17	0.289	IO				2.11
39.083	0.00	0.17	0.288	IO				2.10
39.167	0.00	0.17	0.286	IO				2.09
39.250	0.00	0.17	0.285	IO				2.08
39.333	0.00	0.17	0.284	IO				2.07
39.417	0.00	0.17	0.283	IO				2.06
39.500	0.00	0.17	0.282	IO				2.06
39.583	0.00	0.17	0.280	IO				2.05
39.667	0.00	0.17	0.279	IO				2.04
39.750	0.00	0.17	0.278	IO				2.03
39.833	0.00	0.17	0.277	IO				2.02
39.917	0.00	0.17	0.276	IO				2.01
40.000	0.00	0.17	0.275	IO				2.00

40.083	0.00	0.17	0.273	IO				2.00
40.167	0.00	0.17	0.272	IO				1.99
40.250	0.00	0.17	0.271	IO				1.98
40.333	0.00	0.17	0.270	IO				1.97
40.417	0.00	0.17	0.269	IO				1.96
40.500	0.00	0.17	0.268	IO				1.95
40.583	0.00	0.17	0.266	IO				1.94
40.667	0.00	0.17	0.265	IO				1.94
40.750	0.00	0.17	0.264	IO				1.93
40.833	0.00	0.17	0.263	IO				1.92
40.917	0.00	0.17	0.262	IO				1.91
41.000	0.00	0.16	0.261	IO				1.90
41.083	0.00	0.16	0.260	IO				1.89
41.167	0.00	0.16	0.258	IO				1.89
41.250	0.00	0.16	0.257	IO				1.88
41.333	0.00	0.16	0.256	IO				1.87
41.417	0.00	0.16	0.255	IO				1.86
41.500	0.00	0.16	0.254	IO				1.85
41.583	0.00	0.16	0.253	IO				1.85
41.667	0.00	0.16	0.252	IO				1.84
41.750	0.00	0.16	0.251	IO				1.83
41.833	0.00	0.16	0.249	IO				1.82
41.917	0.00	0.16	0.248	IO				1.81
42.000	0.00	0.16	0.247	IO				1.80
42.083	0.00	0.16	0.246	IO				1.80
42.167	0.00	0.16	0.245	IO				1.79
42.250	0.00	0.16	0.244	IO				1.78
42.333	0.00	0.16	0.243	IO				1.77
42.417	0.00	0.16	0.242	IO				1.76
42.500	0.00	0.16	0.241	IO				1.76
42.583	0.00	0.16	0.240	IO				1.75
42.667	0.00	0.16	0.239	IO				1.74
42.750	0.00	0.16	0.237	IO				1.73
42.833	0.00	0.16	0.236	IO				1.73
42.917	0.00	0.16	0.235	IO				1.72
43.000	0.00	0.15	0.234	IO				1.71
43.083	0.00	0.15	0.233	IO				1.70
43.167	0.00	0.15	0.232	IO				1.69
43.250	0.00	0.15	0.231	IO				1.69
43.333	0.00	0.15	0.230	IO				1.68
43.417	0.00	0.15	0.229	IO				1.67
43.500	0.00	0.15	0.228	IO				1.66
43.583	0.00	0.15	0.227	IO				1.66
43.667	0.00	0.15	0.226	IO				1.65
43.750	0.00	0.15	0.225	IO				1.64
43.833	0.00	0.15	0.224	IO				1.63
43.917	0.00	0.15	0.223	IO				1.63
44.000	0.00	0.15	0.222	IO				1.62
44.083	0.00	0.15	0.221	IO				1.61
44.167	0.00	0.15	0.220	IO				1.60

44.250	0.00	0.15	0.219	IO				1.60
44.333	0.00	0.15	0.218	IO				1.59
44.417	0.00	0.15	0.216	IO				1.58
44.500	0.00	0.15	0.215	IO				1.57
44.583	0.00	0.15	0.214	IO				1.57
44.667	0.00	0.15	0.213	IO				1.56
44.750	0.00	0.15	0.212	IO				1.55
44.833	0.00	0.15	0.211	IO				1.54
44.917	0.00	0.15	0.210	IO				1.54
45.000	0.00	0.15	0.209	IO				1.53
45.083	0.00	0.15	0.208	IO				1.52
45.167	0.00	0.14	0.207	IO				1.51
45.250	0.00	0.14	0.206	IO				1.51
45.333	0.00	0.14	0.205	IO				1.50
45.417	0.00	0.14	0.204	IO				1.49
45.500	0.00	0.14	0.203	IO				1.49
45.583	0.00	0.14	0.202	IO				1.48
45.667	0.00	0.14	0.201	IO				1.47
45.750	0.00	0.14	0.201	IO				1.46
45.833	0.00	0.14	0.200	IO				1.46
45.917	0.00	0.14	0.199	IO				1.45
46.000	0.00	0.14	0.198	IO				1.44
46.083	0.00	0.14	0.197	IO				1.44
46.167	0.00	0.14	0.196	IO				1.43
46.250	0.00	0.14	0.195	IO				1.42
46.333	0.00	0.14	0.194	IO				1.41
46.417	0.00	0.14	0.193	IO				1.41
46.500	0.00	0.14	0.192	IO				1.40
46.583	0.00	0.14	0.191	IO				1.39
46.667	0.00	0.14	0.190	IO				1.39
46.750	0.00	0.14	0.189	IO				1.38
46.833	0.00	0.14	0.188	IO				1.37
46.917	0.00	0.14	0.187	IO				1.37
47.000	0.00	0.14	0.186	IO				1.36
47.083	0.00	0.14	0.185	IO				1.35
47.167	0.00	0.14	0.184	IO				1.34
47.250	0.00	0.14	0.183	IO				1.34
47.333	0.00	0.14	0.182	IO				1.33
47.417	0.00	0.13	0.181	IO				1.32
47.500	0.00	0.13	0.181	IO				1.32
47.583	0.00	0.13	0.180	IO				1.31
47.667	0.00	0.13	0.179	IO				1.30
47.750	0.00	0.13	0.178	IO				1.30
47.833	0.00	0.13	0.177	IO				1.29
47.917	0.00	0.13	0.176	IO				1.28
48.000	0.00	0.13	0.175	IO				1.28
48.083	0.00	0.13	0.174	IO				1.27
48.167	0.00	0.13	0.173	IO				1.26
48.250	0.00	0.13	0.172	IO				1.26
48.333	0.00	0.13	0.171	IO				1.25

48.417	0.00	0.13	0.170	IO				1.24
48.500	0.00	0.13	0.170	IO				1.24
48.583	0.00	0.13	0.169	IO				1.23
48.667	0.00	0.13	0.168	IO				1.22
48.750	0.00	0.13	0.167	IO				1.22
48.833	0.00	0.13	0.166	IO				1.21
48.917	0.00	0.13	0.165	IO				1.21
49.000	0.00	0.13	0.164	IO				1.20
49.083	0.00	0.13	0.163	IO				1.19
49.167	0.00	0.13	0.162	IO				1.19
49.250	0.00	0.13	0.162	IO				1.18
49.333	0.00	0.13	0.161	IO				1.17
49.417	0.00	0.13	0.160	IO				1.17
49.500	0.00	0.13	0.159	IO				1.16
49.583	0.00	0.13	0.158	IO				1.15
49.667	0.00	0.13	0.157	IO				1.15
49.750	0.00	0.13	0.156	IO				1.14
49.833	0.00	0.13	0.155	IO				1.14
49.917	0.00	0.12	0.155	IO				1.13
50.000	0.00	0.12	0.154	IO				1.12
50.083	0.00	0.12	0.153	IO				1.12
50.167	0.00	0.12	0.152	IO				1.11
50.250	0.00	0.12	0.151	IO				1.10
50.333	0.00	0.12	0.150	IO				1.10
50.417	0.00	0.12	0.150	IO				1.09
50.500	0.00	0.12	0.149	IO				1.09
50.583	0.00	0.12	0.148	IO				1.08
50.667	0.00	0.12	0.147	IO				1.07
50.750	0.00	0.12	0.146	IO				1.07
50.833	0.00	0.12	0.145	IO				1.06
50.917	0.00	0.12	0.144	IO				1.05
51.000	0.00	0.12	0.144	IO				1.05
51.083	0.00	0.12	0.143	IO				1.04
51.167	0.00	0.12	0.142	IO				1.04
51.250	0.00	0.12	0.141	IO				1.03
51.333	0.00	0.12	0.140	IO				1.02
51.417	0.00	0.12	0.140	IO				1.02
51.500	0.00	0.12	0.139	IO				1.01
51.583	0.00	0.12	0.138	IO				1.01
51.667	0.00	0.12	0.137	IO				1.00
51.750	0.00	0.12	0.136	IO				0.99
51.833	0.00	0.12	0.135	IO				0.99
51.917	0.00	0.12	0.135	IO				0.98
52.000	0.00	0.12	0.134	IO				0.98
52.083	0.00	0.11	0.133	IO				0.97
52.167	0.00	0.11	0.132	IO				0.97
52.250	0.00	0.11	0.132	IO				0.96
52.333	0.00	0.11	0.131	IO				0.95
52.417	0.00	0.11	0.130	IO				0.95
52.500	0.00	0.11	0.129	IO				0.94

52.583	0.00	0.11	0.128	IO				0.94
52.667	0.00	0.11	0.128	IO				0.93
52.750	0.00	0.11	0.127	IO				0.93
52.833	0.00	0.11	0.126	IO				0.92
52.917	0.00	0.11	0.125	IO				0.92
53.000	0.00	0.11	0.125	IO				0.91
53.083	0.00	0.11	0.124	IO				0.90
53.167	0.00	0.11	0.123	IO				0.90
53.250	0.00	0.11	0.122	IO				0.89
53.333	0.00	0.10	0.122	O				0.89
53.417	0.00	0.10	0.121	O				0.88
53.500	0.00	0.10	0.120	O				0.88
53.583	0.00	0.10	0.120	O				0.87
53.667	0.00	0.10	0.119	O				0.87
53.750	0.00	0.10	0.118	O				0.86
53.833	0.00	0.10	0.117	O				0.86
53.917	0.00	0.10	0.117	O				0.85
54.000	0.00	0.10	0.116	O				0.85
54.083	0.00	0.10	0.115	O				0.84
54.167	0.00	0.10	0.115	O				0.84
54.250	0.00	0.10	0.114	O				0.83
54.333	0.00	0.10	0.113	O				0.83
54.417	0.00	0.10	0.113	O				0.82
54.500	0.00	0.10	0.112	O				0.82
54.583	0.00	0.10	0.111	O				0.81
54.667	0.00	0.10	0.111	O				0.81
54.750	0.00	0.09	0.110	O				0.80
54.833	0.00	0.09	0.109	O				0.80
54.917	0.00	0.09	0.109	O				0.79
55.000	0.00	0.09	0.108	O				0.79
55.083	0.00	0.09	0.107	O				0.78
55.167	0.00	0.09	0.107	O				0.78
55.250	0.00	0.09	0.106	O				0.78
55.333	0.00	0.09	0.106	O				0.77
55.417	0.00	0.09	0.105	O				0.77
55.500	0.00	0.09	0.104	O				0.76
55.583	0.00	0.09	0.104	O				0.76
55.667	0.00	0.09	0.103	O				0.75
55.750	0.00	0.09	0.103	O				0.75
55.833	0.00	0.09	0.102	O				0.74
55.917	0.00	0.09	0.101	O				0.74
56.000	0.00	0.09	0.101	O				0.74
56.083	0.00	0.09	0.100	O				0.73
56.167	0.00	0.09	0.100	O				0.73
56.250	0.00	0.09	0.099	O				0.72
56.333	0.00	0.08	0.098	O				0.72
56.417	0.00	0.08	0.098	O				0.71
56.500	0.00	0.08	0.097	O				0.71
56.583	0.00	0.08	0.097	O				0.71
56.667	0.00	0.08	0.096	O				0.70

56.750	0.00	0.08	0.095	O	|	|	|	0.70
56.833	0.00	0.08	0.095	O	|	|	|	0.69
56.917	0.00	0.08	0.094	O	|	|	|	0.69
57.000	0.00	0.08	0.094	O	|	|	|	0.68
57.083	0.00	0.08	0.093	O	|	|	|	0.68
57.167	0.00	0.08	0.093	O	|	|	|	0.68
57.250	0.00	0.08	0.092	O	|	|	|	0.67
57.333	0.00	0.08	0.092	O	|	|	|	0.67
57.417	0.00	0.08	0.091	O	|	|	|	0.66
57.500	0.00	0.08	0.091	O	|	|	|	0.66
57.583	0.00	0.08	0.090	O	|	|	|	0.66
57.667	0.00	0.08	0.089	O	|	|	|	0.65
57.750	0.00	0.08	0.089	O	|	|	|	0.65
57.833	0.00	0.08	0.088	O	|	|	|	0.65
57.917	0.00	0.08	0.088	O	|	|	|	0.64
58.000	0.00	0.08	0.087	O	|	|	|	0.64
58.083	0.00	0.07	0.087	O	|	|	|	0.63
58.167	0.00	0.07	0.086	O	|	|	|	0.63
58.250	0.00	0.07	0.086	O	|	|	|	0.63
58.333	0.00	0.07	0.085	O	|	|	|	0.62
58.417	0.00	0.07	0.085	O	|	|	|	0.62
58.500	0.00	0.07	0.084	O	|	|	|	0.62
58.583	0.00	0.07	0.084	O	|	|	|	0.61
58.667	0.00	0.07	0.083	O	|	|	|	0.61
58.750	0.00	0.07	0.083	O	|	|	|	0.60
58.833	0.00	0.07	0.082	O	|	|	|	0.60
58.917	0.00	0.07	0.082	O	|	|	|	0.60
59.000	0.00	0.07	0.081	O	|	|	|	0.59
59.083	0.00	0.07	0.081	O	|	|	|	0.59
59.167	0.00	0.07	0.080	O	|	|	|	0.59
59.250	0.00	0.07	0.080	O	|	|	|	0.58
59.333	0.00	0.07	0.079	O	|	|	|	0.58
59.417	0.00	0.07	0.079	O	|	|	|	0.58
59.500	0.00	0.07	0.078	O	|	|	|	0.57
59.583	0.00	0.07	0.078	O	|	|	|	0.57
59.667	0.00	0.07	0.078	O	|	|	|	0.57
59.750	0.00	0.07	0.077	O	|	|	|	0.56
59.833	0.00	0.07	0.077	O	|	|	|	0.56
59.917	0.00	0.07	0.076	O	|	|	|	0.56
60.000	0.00	0.07	0.076	O	|	|	|	0.55
60.083	0.00	0.06	0.075	O	|	|	|	0.55
60.167	0.00	0.06	0.075	O	|	|	|	0.55
60.250	0.00	0.06	0.074	O	|	|	|	0.54
60.333	0.00	0.06	0.074	O	|	|	|	0.54
60.417	0.00	0.06	0.074	O	|	|	|	0.54
60.500	0.00	0.06	0.073	O	|	|	|	0.53
60.583	0.00	0.06	0.073	O	|	|	|	0.53
60.667	0.00	0.06	0.072	O	|	|	|	0.53
60.750	0.00	0.06	0.072	O	|	|	|	0.52
60.833	0.00	0.06	0.071	O	|	|	|	0.52

60.917	0.00	0.06	0.071	O				0.52
61.000	0.00	0.06	0.071	O				0.51
61.083	0.00	0.06	0.070	O				0.51
61.167	0.00	0.06	0.070	O				0.51
61.250	0.00	0.06	0.069	O				0.51
61.333	0.00	0.06	0.069	O				0.50
61.417	0.00	0.06	0.068	O				0.50
61.500	0.00	0.06	0.068	O				0.50
61.583	0.00	0.06	0.068	O				0.49
61.667	0.00	0.06	0.067	O				0.49
61.750	0.00	0.06	0.067	O				0.49
61.833	0.00	0.06	0.066	O				0.49
61.917	0.00	0.06	0.066	O				0.48
62.000	0.00	0.06	0.066	O				0.48
62.083	0.00	0.06	0.065	O				0.48
62.167	0.00	0.06	0.065	O				0.47
62.250	0.00	0.06	0.065	O				0.47
62.333	0.00	0.06	0.064	O				0.47
62.417	0.00	0.05	0.064	O				0.47
62.500	0.00	0.05	0.063	O				0.46
62.583	0.00	0.05	0.063	O				0.46
62.667	0.00	0.05	0.063	O				0.46
62.750	0.00	0.05	0.062	O				0.45
62.833	0.00	0.05	0.062	O				0.45
62.917	0.00	0.05	0.062	O				0.45
63.000	0.00	0.05	0.061	O				0.45
63.083	0.00	0.05	0.061	O				0.44
63.167	0.00	0.05	0.060	O				0.44
63.250	0.00	0.05	0.060	O				0.44
63.333	0.00	0.05	0.060	O				0.44
63.417	0.00	0.05	0.059	O				0.43
63.500	0.00	0.05	0.059	O				0.43
63.583	0.00	0.05	0.059	O				0.43
63.667	0.00	0.05	0.058	O				0.43
63.750	0.00	0.05	0.058	O				0.42
63.833	0.00	0.05	0.058	O				0.42
63.917	0.00	0.05	0.057	O				0.42
64.000	0.00	0.05	0.057	O				0.42
64.083	0.00	0.05	0.057	O				0.41
64.167	0.00	0.05	0.056	O				0.41
64.250	0.00	0.05	0.056	O				0.41
64.333	0.00	0.05	0.056	O				0.41
64.417	0.00	0.05	0.055	O				0.40
64.500	0.00	0.05	0.055	O				0.40
64.583	0.00	0.05	0.055	O				0.40
64.667	0.00	0.05	0.054	O				0.40
64.750	0.00	0.05	0.054	O				0.39
64.833	0.00	0.05	0.054	O				0.39
64.917	0.00	0.05	0.053	O				0.39
65.000	0.00	0.05	0.053	O				0.39

65.083	0.00	0.05	0.053	O	|	|	|	0.39
65.167	0.00	0.05	0.052	O	|	|	|	0.38
65.250	0.00	0.04	0.052	O	|	|	|	0.38
65.333	0.00	0.04	0.052	O	|	|	|	0.38
65.417	0.00	0.04	0.052	O	|	|	|	0.38
65.500	0.00	0.04	0.051	O	|	|	|	0.37
65.583	0.00	0.04	0.051	O	|	|	|	0.37
65.667	0.00	0.04	0.051	O	|	|	|	0.37
65.750	0.00	0.04	0.050	O	|	|	|	0.37
65.833	0.00	0.04	0.050	O	|	|	|	0.37
65.917	0.00	0.04	0.050	O	|	|	|	0.36
66.000	0.00	0.04	0.049	O	|	|	|	0.36
66.083	0.00	0.04	0.049	O	|	|	|	0.36
66.167	0.00	0.04	0.049	O	|	|	|	0.36
66.250	0.00	0.04	0.049	O	|	|	|	0.35
66.333	0.00	0.04	0.048	O	|	|	|	0.35
66.417	0.00	0.04	0.048	O	|	|	|	0.35
66.500	0.00	0.04	0.048	O	|	|	|	0.35
66.583	0.00	0.04	0.047	O	|	|	|	0.35
66.667	0.00	0.04	0.047	O	|	|	|	0.34
66.750	0.00	0.04	0.047	O	|	|	|	0.34
66.833	0.00	0.04	0.047	O	|	|	|	0.34
66.917	0.00	0.04	0.046	O	|	|	|	0.34
67.000	0.00	0.04	0.046	O	|	|	|	0.34
67.083	0.00	0.04	0.046	O	|	|	|	0.33
67.167	0.00	0.04	0.045	O	|	|	|	0.33
67.250	0.00	0.04	0.045	O	|	|	|	0.33
67.333	0.00	0.04	0.045	O	|	|	|	0.33
67.417	0.00	0.04	0.045	O	|	|	|	0.33
67.500	0.00	0.04	0.044	O	|	|	|	0.32
67.583	0.00	0.04	0.044	O	|	|	|	0.32
67.667	0.00	0.04	0.044	O	|	|	|	0.32
67.750	0.00	0.04	0.044	O	|	|	|	0.32
67.833	0.00	0.04	0.043	O	|	|	|	0.32
67.917	0.00	0.04	0.043	O	|	|	|	0.31
68.000	0.00	0.04	0.043	O	|	|	|	0.31
68.083	0.00	0.04	0.043	O	|	|	|	0.31
68.167	0.00	0.04	0.042	O	|	|	|	0.31
68.250	0.00	0.04	0.042	O	|	|	|	0.31
68.333	0.00	0.04	0.042	O	|	|	|	0.31
68.417	0.00	0.04	0.042	O	|	|	|	0.30
68.500	0.00	0.04	0.041	O	|	|	|	0.30
68.583	0.00	0.04	0.041	O	|	|	|	0.30
68.667	0.00	0.04	0.041	O	|	|	|	0.30
68.750	0.00	0.03	0.041	O	|	|	|	0.30
68.833	0.00	0.03	0.040	O	|	|	|	0.29
68.917	0.00	0.03	0.040	O	|	|	|	0.29
69.000	0.00	0.03	0.040	O	|	|	|	0.29
69.083	0.00	0.03	0.040	O	|	|	|	0.29
69.167	0.00	0.03	0.039	O	|	|	|	0.29

69.250	0.00	0.03	0.039	O	|	|	|	0.29
69.333	0.00	0.03	0.039	O	|	|	|	0.28
69.417	0.00	0.03	0.039	O	|	|	|	0.28
69.500	0.00	0.03	0.039	O	|	|	|	0.28
69.583	0.00	0.03	0.038	O	|	|	|	0.28
69.667	0.00	0.03	0.038	O	|	|	|	0.28
69.750	0.00	0.03	0.038	O	|	|	|	0.28
69.833	0.00	0.03	0.038	O	|	|	|	0.27
69.917	0.00	0.03	0.037	O	|	|	|	0.27
70.000	0.00	0.03	0.037	O	|	|	|	0.27
70.083	0.00	0.03	0.037	O	|	|	|	0.27
70.167	0.00	0.03	0.037	O	|	|	|	0.27
70.250	0.00	0.03	0.037	O	|	|	|	0.27
70.333	0.00	0.03	0.036	O	|	|	|	0.26
70.417	0.00	0.03	0.036	O	|	|	|	0.26
70.500	0.00	0.03	0.036	O	|	|	|	0.26
70.583	0.00	0.03	0.036	O	|	|	|	0.26
70.667	0.00	0.03	0.035	O	|	|	|	0.26
70.750	0.00	0.03	0.035	O	|	|	|	0.26
70.833	0.00	0.03	0.035	O	|	|	|	0.26
70.917	0.00	0.03	0.035	O	|	|	|	0.25
71.000	0.00	0.03	0.035	O	|	|	|	0.25
71.083	0.00	0.03	0.034	O	|	|	|	0.25
71.167	0.00	0.03	0.034	O	|	|	|	0.25
71.250	0.00	0.03	0.034	O	|	|	|	0.25
71.333	0.00	0.03	0.034	O	|	|	|	0.25
71.417	0.00	0.03	0.034	O	|	|	|	0.25
71.500	0.00	0.03	0.033	O	|	|	|	0.24
71.583	0.00	0.03	0.033	O	|	|	|	0.24
71.667	0.00	0.03	0.033	O	|	|	|	0.24
71.750	0.00	0.03	0.033	O	|	|	|	0.24
71.833	0.00	0.03	0.033	O	|	|	|	0.24
71.917	0.00	0.03	0.032	O	|	|	|	0.24
72.000	0.00	0.03	0.032	O	|	|	|	0.24
72.083	0.00	0.03	0.032	O	|	|	|	0.23
72.167	0.00	0.03	0.032	O	|	|	|	0.23
72.250	0.00	0.03	0.032	O	|	|	|	0.23
72.333	0.00	0.03	0.031	O	|	|	|	0.23
72.417	0.00	0.03	0.031	O	|	|	|	0.23
72.500	0.00	0.03	0.031	O	|	|	|	0.23
72.583	0.00	0.03	0.031	O	|	|	|	0.23
72.667	0.00	0.03	0.031	O	|	|	|	0.22
72.750	0.00	0.03	0.031	O	|	|	|	0.22
72.833	0.00	0.03	0.030	O	|	|	|	0.22
72.917	0.00	0.03	0.030	O	|	|	|	0.22
73.000	0.00	0.03	0.030	O	|	|	|	0.22
73.083	0.00	0.03	0.030	O	|	|	|	0.22
73.167	0.00	0.03	0.030	O	|	|	|	0.22
73.250	0.00	0.03	0.029	O	|	|	|	0.22
73.333	0.00	0.03	0.029	O	|	|	|	0.21

73.417	0.00	0.03	0.029	O				0.21
73.500	0.00	0.02	0.029	O				0.21
73.583	0.00	0.02	0.029	O				0.21
73.667	0.00	0.02	0.029	O				0.21
73.750	0.00	0.02	0.028	O				0.21
73.833	0.00	0.02	0.028	O				0.21
73.917	0.00	0.02	0.028	O				0.21
74.000	0.00	0.02	0.028	O				0.20
74.083	0.00	0.02	0.028	O				0.20
74.167	0.00	0.02	0.028	O				0.20
74.250	0.00	0.02	0.027	O				0.20
74.333	0.00	0.02	0.027	O				0.20
74.417	0.00	0.02	0.027	O				0.20
74.500	0.00	0.02	0.027	O				0.20
74.583	0.00	0.02	0.027	O				0.20
74.667	0.00	0.02	0.027	O				0.19
74.750	0.00	0.02	0.027	O				0.19
74.833	0.00	0.02	0.026	O				0.19
74.917	0.00	0.02	0.026	O				0.19
75.000	0.00	0.02	0.026	O				0.19
75.083	0.00	0.02	0.026	O				0.19
75.167	0.00	0.02	0.026	O				0.19
75.250	0.00	0.02	0.026	O				0.19
75.333	0.00	0.02	0.025	O				0.19
75.417	0.00	0.02	0.025	O				0.18
75.500	0.00	0.02	0.025	O				0.18
75.583	0.00	0.02	0.025	O				0.18
75.667	0.00	0.02	0.025	O				0.18
75.750	0.00	0.02	0.025	O				0.18
75.833	0.00	0.02	0.025	O				0.18
75.917	0.00	0.02	0.024	O				0.18
76.000	0.00	0.02	0.024	O				0.18
76.083	0.00	0.02	0.024	O				0.18
76.167	0.00	0.02	0.024	O				0.17
76.250	0.00	0.02	0.024	O				0.17
76.333	0.00	0.02	0.024	O				0.17
76.417	0.00	0.02	0.024	O				0.17
76.500	0.00	0.02	0.023	O				0.17
76.583	0.00	0.02	0.023	O				0.17
76.667	0.00	0.02	0.023	O				0.17
76.750	0.00	0.02	0.023	O				0.17
76.833	0.00	0.02	0.023	O				0.17
76.917	0.00	0.02	0.023	O				0.17
77.000	0.00	0.02	0.023	O				0.16
77.083	0.00	0.02	0.022	O				0.16
77.167	0.00	0.02	0.022	O				0.16
77.250	0.00	0.02	0.022	O				0.16
77.333	0.00	0.02	0.022	O				0.16
77.417	0.00	0.02	0.022	O				0.16
77.500	0.00	0.02	0.022	O				0.16

77.583	0.00	0.02	0.022	O				0.16
77.667	0.00	0.02	0.022	O				0.16
77.750	0.00	0.02	0.021	O				0.16
77.833	0.00	0.02	0.021	O				0.16
77.917	0.00	0.02	0.021	O				0.15
78.000	0.00	0.02	0.021	O				0.15
78.083	0.00	0.02	0.021	O				0.15
78.167	0.00	0.02	0.021	O				0.15
78.250	0.00	0.02	0.021	O				0.15
78.333	0.00	0.02	0.021	O				0.15
78.417	0.00	0.02	0.020	O				0.15
78.500	0.00	0.02	0.020	O				0.15
78.583	0.00	0.02	0.020	O				0.15
78.667	0.00	0.02	0.020	O				0.15
78.750	0.00	0.02	0.020	O				0.15
78.833	0.00	0.02	0.020	O				0.14
78.917	0.00	0.02	0.020	O				0.14
79.000	0.00	0.02	0.020	O				0.14
79.083	0.00	0.02	0.019	O				0.14
79.167	0.00	0.02	0.019	O				0.14
79.250	0.00	0.02	0.019	O				0.14
79.333	0.00	0.02	0.019	O				0.14
79.417	0.00	0.02	0.019	O				0.14
79.500	0.00	0.02	0.019	O				0.14
79.583	0.00	0.02	0.019	O				0.14
79.667	0.00	0.02	0.019	O				0.14
79.750	0.00	0.02	0.019	O				0.14
79.833	0.00	0.02	0.018	O				0.13
79.917	0.00	0.02	0.018	O				0.13
80.000	0.00	0.02	0.018	O				0.13
80.083	0.00	0.02	0.018	O				0.13
80.167	0.00	0.02	0.018	O				0.13
80.250	0.00	0.02	0.018	O				0.13
80.333	0.00	0.02	0.018	O				0.13
80.417	0.00	0.02	0.018	O				0.13
80.500	0.00	0.02	0.018	O				0.13
80.583	0.00	0.02	0.018	O				0.13
80.667	0.00	0.01	0.017	O				0.13
80.750	0.00	0.01	0.017	O				0.13
80.833	0.00	0.01	0.017	O				0.13
80.917	0.00	0.01	0.017	O				0.12
81.000	0.00	0.01	0.017	O				0.12
81.083	0.00	0.01	0.017	O				0.12
81.167	0.00	0.01	0.017	O				0.12
81.250	0.00	0.01	0.017	O				0.12
81.333	0.00	0.01	0.017	O				0.12
81.417	0.00	0.01	0.016	O				0.12
81.500	0.00	0.01	0.016	O				0.12
81.583	0.00	0.01	0.016	O				0.12
81.667	0.00	0.01	0.016	O				0.12

81.750	0.00	0.01	0.016	O	|	|	|	|	0.12
81.833	0.00	0.01	0.016	O	|	|	|	|	0.12
81.917	0.00	0.01	0.016	O	|	|	|	|	0.12
82.000	0.00	0.01	0.016	O	|	|	|	|	0.12
82.083	0.00	0.01	0.016	O	|	|	|	|	0.11
82.167	0.00	0.01	0.016	O	|	|	|	|	0.11
82.250	0.00	0.01	0.016	O	|	|	|	|	0.11
82.333	0.00	0.01	0.015	O	|	|	|	|	0.11
82.417	0.00	0.01	0.015	O	|	|	|	|	0.11
82.500	0.00	0.01	0.015	O	|	|	|	|	0.11
82.583	0.00	0.01	0.015	O	|	|	|	|	0.11
82.667	0.00	0.01	0.015	O	|	|	|	|	0.11
82.750	0.00	0.01	0.015	O	|	|	|	|	0.11
82.833	0.00	0.01	0.015	O	|	|	|	|	0.11
82.917	0.00	0.01	0.015	O	|	|	|	|	0.11
83.000	0.00	0.01	0.015	O	|	|	|	|	0.11
83.083	0.00	0.01	0.015	O	|	|	|	|	0.11
83.167	0.00	0.01	0.015	O	|	|	|	|	0.11
83.250	0.00	0.01	0.014	O	|	|	|	|	0.11
83.333	0.00	0.01	0.014	O	|	|	|	|	0.11
83.417	0.00	0.01	0.014	O	|	|	|	|	0.10
83.500	0.00	0.01	0.014	O	|	|	|	|	0.10
83.583	0.00	0.01	0.014	O	|	|	|	|	0.10
83.667	0.00	0.01	0.014	O	|	|	|	|	0.10
83.750	0.00	0.01	0.014	O	|	|	|	|	0.10
83.833	0.00	0.01	0.014	O	|	|	|	|	0.10
83.917	0.00	0.01	0.014	O	|	|	|	|	0.10
84.000	0.00	0.01	0.014	O	|	|	|	|	0.10
84.083	0.00	0.01	0.014	O	|	|	|	|	0.10
84.167	0.00	0.01	0.014	O	|	|	|	|	0.10
84.250	0.00	0.01	0.013	O	|	|	|	|	0.10
84.333	0.00	0.01	0.013	O	|	|	|	|	0.10
84.417	0.00	0.01	0.013	O	|	|	|	|	0.10
84.500	0.00	0.01	0.013	O	|	|	|	|	0.10
84.583	0.00	0.01	0.013	O	|	|	|	|	0.10
84.667	0.00	0.01	0.013	O	|	|	|	|	0.10
84.750	0.00	0.01	0.013	O	|	|	|	|	0.09
84.833	0.00	0.01	0.013	O	|	|	|	|	0.09
84.917	0.00	0.01	0.013	O	|	|	|	|	0.09
85.000	0.00	0.01	0.013	O	|	|	|	|	0.09
85.083	0.00	0.01	0.013	O	|	|	|	|	0.09
85.167	0.00	0.01	0.013	O	|	|	|	|	0.09
85.250	0.00	0.01	0.013	O	|	|	|	|	0.09
85.333	0.00	0.01	0.012	O	|	|	|	|	0.09
85.417	0.00	0.01	0.012	O	|	|	|	|	0.09
85.500	0.00	0.01	0.012	O	|	|	|	|	0.09
85.583	0.00	0.01	0.012	O	|	|	|	|	0.09
85.667	0.00	0.01	0.012	O	|	|	|	|	0.09
85.750	0.00	0.01	0.012	O	|	|	|	|	0.09
85.833	0.00	0.01	0.012	O	|	|	|	|	0.09

85.917	0.00	0.01	0.012	O	|	|	|	0.09
86.000	0.00	0.01	0.012	O	|	|	|	0.09
86.083	0.00	0.01	0.012	O	|	|	|	0.09
86.167	0.00	0.01	0.012	O	|	|	|	0.09
86.250	0.00	0.01	0.012	O	|	|	|	0.09
86.333	0.00	0.01	0.012	O	|	|	|	0.08
86.417	0.00	0.01	0.012	O	|	|	|	0.08
86.500	0.00	0.01	0.011	O	|	|	|	0.08
86.583	0.00	0.01	0.011	O	|	|	|	0.08
86.667	0.00	0.01	0.011	O	|	|	|	0.08
86.750	0.00	0.01	0.011	O	|	|	|	0.08
86.833	0.00	0.01	0.011	O	|	|	|	0.08
86.917	0.00	0.01	0.011	O	|	|	|	0.08
87.000	0.00	0.01	0.011	O	|	|	|	0.08
87.083	0.00	0.01	0.011	O	|	|	|	0.08
87.167	0.00	0.01	0.011	O	|	|	|	0.08
87.250	0.00	0.01	0.011	O	|	|	|	0.08
87.333	0.00	0.01	0.011	O	|	|	|	0.08
87.417	0.00	0.01	0.011	O	|	|	|	0.08
87.500	0.00	0.01	0.011	O	|	|	|	0.08
87.583	0.00	0.01	0.011	O	|	|	|	0.08
87.667	0.00	0.01	0.011	O	|	|	|	0.08
87.750	0.00	0.01	0.011	O	|	|	|	0.08
87.833	0.00	0.01	0.010	O	|	|	|	0.08
87.917	0.00	0.01	0.010	O	|	|	|	0.08
88.000	0.00	0.01	0.010	O	|	|	|	0.08
88.083	0.00	0.01	0.010	O	|	|	|	0.07
88.167	0.00	0.01	0.010	O	|	|	|	0.07
88.250	0.00	0.01	0.010	O	|	|	|	0.07
88.333	0.00	0.01	0.010	O	|	|	|	0.07
88.417	0.00	0.01	0.010	O	|	|	|	0.07
88.500	0.00	0.01	0.010	O	|	|	|	0.07
88.583	0.00	0.01	0.010	O	|	|	|	0.07
88.667	0.00	0.01	0.010	O	|	|	|	0.07
88.750	0.00	0.01	0.010	O	|	|	|	0.07
88.833	0.00	0.01	0.010	O	|	|	|	0.07
88.917	0.00	0.01	0.010	O	|	|	|	0.07
89.000	0.00	0.01	0.010	O	|	|	|	0.07
89.083	0.00	0.01	0.010	O	|	|	|	0.07
89.167	0.00	0.01	0.009	O	|	|	|	0.07
89.250	0.00	0.01	0.009	O	|	|	|	0.07
89.333	0.00	0.01	0.009	O	|	|	|	0.07
89.417	0.00	0.01	0.009	O	|	|	|	0.07
89.500	0.00	0.01	0.009	O	|	|	|	0.07
89.583	0.00	0.01	0.009	O	|	|	|	0.07
89.667	0.00	0.01	0.009	O	|	|	|	0.07
89.750	0.00	0.01	0.009	O	|	|	|	0.07
89.833	0.00	0.01	0.009	O	|	|	|	0.07
89.917	0.00	0.01	0.009	O	|	|	|	0.07
90.000	0.00	0.01	0.009	O	|	|	|	0.07

90.083	0.00	0.01	0.009	O	|	|	|	0.06
90.167	0.00	0.01	0.009	O	|	|	|	0.06
90.250	0.00	0.01	0.009	O	|	|	|	0.06
90.333	0.00	0.01	0.009	O	|	|	|	0.06
90.417	0.00	0.01	0.009	O	|	|	|	0.06
90.500	0.00	0.01	0.009	O	|	|	|	0.06
90.583	0.00	0.01	0.009	O	|	|	|	0.06
90.667	0.00	0.01	0.009	O	|	|	|	0.06
90.750	0.00	0.01	0.008	O	|	|	|	0.06
90.833	0.00	0.01	0.008	O	|	|	|	0.06
90.917	0.00	0.01	0.008	O	|	|	|	0.06
91.000	0.00	0.01	0.008	O	|	|	|	0.06
91.083	0.00	0.01	0.008	O	|	|	|	0.06
91.167	0.00	0.01	0.008	O	|	|	|	0.06
91.250	0.00	0.01	0.008	O	|	|	|	0.06
91.333	0.00	0.01	0.008	O	|	|	|	0.06
91.417	0.00	0.01	0.008	O	|	|	|	0.06
91.500	0.00	0.01	0.008	O	|	|	|	0.06
91.583	0.00	0.01	0.008	O	|	|	|	0.06
91.667	0.00	0.01	0.008	O	|	|	|	0.06
91.750	0.00	0.01	0.008	O	|	|	|	0.06
91.833	0.00	0.01	0.008	O	|	|	|	0.06
91.917	0.00	0.01	0.008	O	|	|	|	0.06
92.000	0.00	0.01	0.008	O	|	|	|	0.06
92.083	0.00	0.01	0.008	O	|	|	|	0.06
92.167	0.00	0.01	0.008	O	|	|	|	0.06
92.250	0.00	0.01	0.008	O	|	|	|	0.06
92.333	0.00	0.01	0.008	O	|	|	|	0.06
92.417	0.00	0.01	0.008	O	|	|	|	0.06
92.500	0.00	0.01	0.007	O	|	|	|	0.05
92.583	0.00	0.01	0.007	O	|	|	|	0.05
92.667	0.00	0.01	0.007	O	|	|	|	0.05
92.750	0.00	0.01	0.007	O	|	|	|	0.05
92.833	0.00	0.01	0.007	O	|	|	|	0.05
92.917	0.00	0.01	0.007	O	|	|	|	0.05
93.000	0.00	0.01	0.007	O	|	|	|	0.05
93.083	0.00	0.01	0.007	O	|	|	|	0.05
93.167	0.00	0.01	0.007	O	|	|	|	0.05
93.250	0.00	0.01	0.007	O	|	|	|	0.05
93.333	0.00	0.01	0.007	O	|	|	|	0.05
93.417	0.00	0.01	0.007	O	|	|	|	0.05
93.500	0.00	0.01	0.007	O	|	|	|	0.05
93.583	0.00	0.01	0.007	O	|	|	|	0.05
93.667	0.00	0.01	0.007	O	|	|	|	0.05
93.750	0.00	0.01	0.007	O	|	|	|	0.05
93.833	0.00	0.01	0.007	O	|	|	|	0.05
93.917	0.00	0.01	0.007	O	|	|	|	0.05
94.000	0.00	0.01	0.007	O	|	|	|	0.05
94.083	0.00	0.01	0.007	O	|	|	|	0.05
94.167	0.00	0.01	0.007	O	|	|	|	0.05

94.250	0.00	0.01	0.007	O				0.05
94.333	0.00	0.01	0.007	O				0.05
94.417	0.00	0.01	0.007	O				0.05
94.500	0.00	0.01	0.006	O				0.05
94.583	0.00	0.01	0.006	O				0.05
94.667	0.00	0.01	0.006	O				0.05
94.750	0.00	0.01	0.006	O				0.05
94.833	0.00	0.01	0.006	O				0.05
94.917	0.00	0.01	0.006	O				0.05
95.000	0.00	0.01	0.006	O				0.05
95.083	0.00	0.01	0.006	O				0.05
95.167	0.00	0.01	0.006	O				0.05
95.250	0.00	0.01	0.006	O				0.04
95.333	0.00	0.01	0.006	O				0.04
95.417	0.00	0.01	0.006	O				0.04
95.500	0.00	0.01	0.006	O				0.04
95.583	0.00	0.01	0.006	O				0.04
95.667	0.00	0.01	0.006	O				0.04
95.750	0.00	0.01	0.006	O				0.04
95.833	0.00	0.01	0.006	O				0.04
95.917	0.00	0.01	0.006	O				0.04
96.000	0.00	0.01	0.006	O				0.04
96.083	0.00	0.01	0.006	O				0.04
96.167	0.00	0.00	0.006	O				0.04
96.250	0.00	0.00	0.006	O				0.04
96.333	0.00	0.00	0.006	O				0.04
96.417	0.00	0.00	0.006	O				0.04
96.500	0.00	0.00	0.006	O				0.04
96.583	0.00	0.00	0.006	O				0.04
96.667	0.00	0.00	0.006	O				0.04
96.750	0.00	0.00	0.006	O				0.04
96.833	0.00	0.00	0.006	O				0.04
96.917	0.00	0.00	0.005	O				0.04
97.000	0.00	0.00	0.005	O				0.04
97.083	0.00	0.00	0.005	O				0.04
97.167	0.00	0.00	0.005	O				0.04
97.250	0.00	0.00	0.005	O				0.04
97.333	0.00	0.00	0.005	O				0.04
97.417	0.00	0.00	0.005	O				0.04
97.500	0.00	0.00	0.005	O				0.04
97.583	0.00	0.00	0.005	O				0.04
97.667	0.00	0.00	0.005	O				0.04
97.750	0.00	0.00	0.005	O				0.04
97.833	0.00	0.00	0.005	O				0.04
97.917	0.00	0.00	0.005	O				0.04
98.000	0.00	0.00	0.005	O				0.04
98.083	0.00	0.00	0.005	O				0.04
98.167	0.00	0.00	0.005	O				0.04
98.250	0.00	0.00	0.005	O				0.04
98.333	0.00	0.00	0.005	O				0.04

98.417	0.00	0.00	0.005	O				0.04
98.500	0.00	0.00	0.005	O				0.04
98.583	0.00	0.00	0.005	O				0.04
98.667	0.00	0.00	0.005	O				0.04
98.750	0.00	0.00	0.005	O				0.04
98.833	0.00	0.00	0.005	O				0.03
98.917	0.00	0.00	0.005	O				0.03
99.000	0.00	0.00	0.005	O				0.03
99.083	0.00	0.00	0.005	O				0.03
99.167	0.00	0.00	0.005	O				0.03
99.250	0.00	0.00	0.005	O				0.03
99.333	0.00	0.00	0.005	O				0.03
99.417	0.00	0.00	0.005	O				0.03
99.500	0.00	0.00	0.005	O				0.03
99.583	0.00	0.00	0.005	O				0.03
99.667	0.00	0.00	0.004	O				0.03
99.750	0.00	0.00	0.004	O				0.03
99.833	0.00	0.00	0.004	O				0.03
99.917	0.00	0.00	0.004	O				0.03
100.000	0.00	0.00	0.004	O				0.03
100.083	0.00	0.00	0.004	O				0.03
100.167	0.00	0.00	0.004	O				0.03
100.250	0.00	0.00	0.004	O				0.03
100.333	0.00	0.00	0.004	O				0.03
100.417	0.00	0.00	0.004	O				0.03
100.500	0.00	0.00	0.004	O				0.03
100.583	0.00	0.00	0.004	O				0.03
100.667	0.00	0.00	0.004	O				0.03
100.750	0.00	0.00	0.004	O				0.03
100.833	0.00	0.00	0.004	O				0.03
100.917	0.00	0.00	0.004	O				0.03
101.000	0.00	0.00	0.004	O				0.03
101.083	0.00	0.00	0.004	O				0.03
101.167	0.00	0.00	0.004	O				0.03
101.250	0.00	0.00	0.004	O				0.03
101.333	0.00	0.00	0.004	O				0.03
101.417	0.00	0.00	0.004	O				0.03
101.500	0.00	0.00	0.004	O				0.03
101.583	0.00	0.00	0.004	O				0.03
101.667	0.00	0.00	0.004	O				0.03
101.750	0.00	0.00	0.004	O				0.03
101.833	0.00	0.00	0.004	O				0.03
101.917	0.00	0.00	0.004	O				0.03
102.000	0.00	0.00	0.004	O				0.03
102.083	0.00	0.00	0.004	O				0.03
102.167	0.00	0.00	0.004	O				0.03
102.250	0.00	0.00	0.004	O				0.03
102.333	0.00	0.00	0.004	O				0.03
102.417	0.00	0.00	0.004	O				0.03
102.500	0.00	0.00	0.004	O				0.03

102.583	0.00	0.00	0.004	O	|	|	|	| 0.03
102.667	0.00	0.00	0.004	O	|	|	|	| 0.03
102.750	0.00	0.00	0.004	O	|	|	|	| 0.03
102.833	0.00	0.00	0.004	O	|	|	|	| 0.03
102.917	0.00	0.00	0.004	O	|	|	|	| 0.03
103.000	0.00	0.00	0.004	O	|	|	|	| 0.03
103.083	0.00	0.00	0.004	O	|	|	|	| 0.03
103.167	0.00	0.00	0.004	O	|	|	|	| 0.03
103.250	0.00	0.00	0.003	O	|	|	|	| 0.03
103.333	0.00	0.00	0.003	O	|	|	|	| 0.03
103.417	0.00	0.00	0.003	O	|	|	|	| 0.03
103.500	0.00	0.00	0.003	O	|	|	|	| 0.02
103.583	0.00	0.00	0.003	O	|	|	|	| 0.02
103.667	0.00	0.00	0.003	O	|	|	|	| 0.02
103.750	0.00	0.00	0.003	O	|	|	|	| 0.02
103.833	0.00	0.00	0.003	O	|	|	|	| 0.02
103.917	0.00	0.00	0.003	O	|	|	|	| 0.02
104.000	0.00	0.00	0.003	O	|	|	|	| 0.02
104.083	0.00	0.00	0.003	O	|	|	|	| 0.02
104.167	0.00	0.00	0.003	O	|	|	|	| 0.02
104.250	0.00	0.00	0.003	O	|	|	|	| 0.02
104.333	0.00	0.00	0.003	O	|	|	|	| 0.02
104.417	0.00	0.00	0.003	O	|	|	|	| 0.02
104.500	0.00	0.00	0.003	O	|	|	|	| 0.02
104.583	0.00	0.00	0.003	O	|	|	|	| 0.02
104.667	0.00	0.00	0.003	O	|	|	|	| 0.02
104.750	0.00	0.00	0.003	O	|	|	|	| 0.02
104.833	0.00	0.00	0.003	O	|	|	|	| 0.02
104.917	0.00	0.00	0.003	O	|	|	|	| 0.02
105.000	0.00	0.00	0.003	O	|	|	|	| 0.02
105.083	0.00	0.00	0.003	O	|	|	|	| 0.02
105.167	0.00	0.00	0.003	O	|	|	|	| 0.02
105.250	0.00	0.00	0.003	O	|	|	|	| 0.02
105.333	0.00	0.00	0.003	O	|	|	|	| 0.02
105.417	0.00	0.00	0.003	O	|	|	|	| 0.02
105.500	0.00	0.00	0.003	O	|	|	|	| 0.02
105.583	0.00	0.00	0.003	O	|	|	|	| 0.02
105.667	0.00	0.00	0.003	O	|	|	|	| 0.02
105.750	0.00	0.00	0.003	O	|	|	|	| 0.02
105.833	0.00	0.00	0.003	O	|	|	|	| 0.02
105.917	0.00	0.00	0.003	O	|	|	|	| 0.02
106.000	0.00	0.00	0.003	O	|	|	|	| 0.02
106.083	0.00	0.00	0.003	O	|	|	|	| 0.02
106.167	0.00	0.00	0.003	O	|	|	|	| 0.02
106.250	0.00	0.00	0.003	O	|	|	|	| 0.02
106.333	0.00	0.00	0.003	O	|	|	|	| 0.02
106.417	0.00	0.00	0.003	O	|	|	|	| 0.02
106.500	0.00	0.00	0.003	O	|	|	|	| 0.02
106.583	0.00	0.00	0.003	O	|	|	|	| 0.02
106.667	0.00	0.00	0.003	O	|	|	|	| 0.02

106.750	0.00	0.00	0.003	O					0.02
106.833	0.00	0.00	0.003	O					0.02
106.917	0.00	0.00	0.003	O					0.02
107.000	0.00	0.00	0.003	O					0.02
107.083	0.00	0.00	0.003	O					0.02
107.167	0.00	0.00	0.003	O					0.02
107.250	0.00	0.00	0.003	O					0.02
107.333	0.00	0.00	0.003	O					0.02
107.417	0.00	0.00	0.003	O					0.02
107.500	0.00	0.00	0.003	O					0.02
107.583	0.00	0.00	0.003	O					0.02
107.667	0.00	0.00	0.003	O					0.02
107.750	0.00	0.00	0.003	O					0.02
107.833	0.00	0.00	0.003	O					0.02
107.917	0.00	0.00	0.003	O					0.02
108.000	0.00	0.00	0.002	O					0.02
108.083	0.00	0.00	0.002	O					0.02
108.167	0.00	0.00	0.002	O					0.02
108.250	0.00	0.00	0.002	O					0.02
108.333	0.00	0.00	0.002	O					0.02
108.417	0.00	0.00	0.002	O					0.02
108.500	0.00	0.00	0.002	O					0.02
108.583	0.00	0.00	0.002	O					0.02
108.667	0.00	0.00	0.002	O					0.02
108.750	0.00	0.00	0.002	O					0.02
108.833	0.00	0.00	0.002	O					0.02
108.917	0.00	0.00	0.002	O					0.02
109.000	0.00	0.00	0.002	O					0.02
109.083	0.00	0.00	0.002	O					0.02
109.167	0.00	0.00	0.002	O					0.02
109.250	0.00	0.00	0.002	O					0.02
109.333	0.00	0.00	0.002	O					0.02
109.417	0.00	0.00	0.002	O					0.02
109.500	0.00	0.00	0.002	O					0.02
109.583	0.00	0.00	0.002	O					0.02
109.667	0.00	0.00	0.002	O					0.02
109.750	0.00	0.00	0.002	O					0.02
109.833	0.00	0.00	0.002	O					0.02
109.917	0.00	0.00	0.002	O					0.02
110.000	0.00	0.00	0.002	O					0.02
110.083	0.00	0.00	0.002	O					0.02
110.167	0.00	0.00	0.002	O					0.02
110.250	0.00	0.00	0.002	O					0.02
110.333	0.00	0.00	0.002	O					0.02
110.417	0.00	0.00	0.002	O					0.02
110.500	0.00	0.00	0.002	O					0.02
110.583	0.00	0.00	0.002	O					0.02
110.667	0.00	0.00	0.002	O					0.02
110.750	0.00	0.00	0.002	O					0.01
110.833	0.00	0.00	0.002	O					0.01

110.917	0.00	0.00	0.002	O	|	|	|	0.01
111.000	0.00	0.00	0.002	O	|	|	|	0.01
111.083	0.00	0.00	0.002	O	|	|	|	0.01
111.167	0.00	0.00	0.002	O	|	|	|	0.01
111.250	0.00	0.00	0.002	O	|	|	|	0.01
111.333	0.00	0.00	0.002	O	|	|	|	0.01
111.417	0.00	0.00	0.002	O	|	|	|	0.01
111.500	0.00	0.00	0.002	O	|	|	|	0.01
111.583	0.00	0.00	0.002	O	|	|	|	0.01
111.667	0.00	0.00	0.002	O	|	|	|	0.01
111.750	0.00	0.00	0.002	O	|	|	|	0.01
111.833	0.00	0.00	0.002	O	|	|	|	0.01
111.917	0.00	0.00	0.002	O	|	|	|	0.01
112.000	0.00	0.00	0.002	O	|	|	|	0.01
112.083	0.00	0.00	0.002	O	|	|	|	0.01
112.167	0.00	0.00	0.002	O	|	|	|	0.01
112.250	0.00	0.00	0.002	O	|	|	|	0.01
112.333	0.00	0.00	0.002	O	|	|	|	0.01
112.417	0.00	0.00	0.002	O	|	|	|	0.01
112.500	0.00	0.00	0.002	O	|	|	|	0.01
112.583	0.00	0.00	0.002	O	|	|	|	0.01
112.667	0.00	0.00	0.002	O	|	|	|	0.01
112.750	0.00	0.00	0.002	O	|	|	|	0.01
112.833	0.00	0.00	0.002	O	|	|	|	0.01
112.917	0.00	0.00	0.002	O	|	|	|	0.01
113.000	0.00	0.00	0.002	O	|	|	|	0.01
113.083	0.00	0.00	0.002	O	|	|	|	0.01
113.167	0.00	0.00	0.002	O	|	|	|	0.01
113.250	0.00	0.00	0.002	O	|	|	|	0.01
113.333	0.00	0.00	0.002	O	|	|	|	0.01
113.417	0.00	0.00	0.002	O	|	|	|	0.01
113.500	0.00	0.00	0.002	O	|	|	|	0.01
113.583	0.00	0.00	0.002	O	|	|	|	0.01
113.667	0.00	0.00	0.002	O	|	|	|	0.01
113.750	0.00	0.00	0.002	O	|	|	|	0.01
113.833	0.00	0.00	0.002	O	|	|	|	0.01
113.917	0.00	0.00	0.002	O	|	|	|	0.01
114.000	0.00	0.00	0.002	O	|	|	|	0.01
114.083	0.00	0.00	0.002	O	|	|	|	0.01
114.167	0.00	0.00	0.002	O	|	|	|	0.01
114.250	0.00	0.00	0.002	O	|	|	|	0.01
114.333	0.00	0.00	0.002	O	|	|	|	0.01
114.417	0.00	0.00	0.002	O	|	|	|	0.01
114.500	0.00	0.00	0.002	O	|	|	|	0.01
114.583	0.00	0.00	0.002	O	|	|	|	0.01
114.667	0.00	0.00	0.002	O	|	|	|	0.01
114.750	0.00	0.00	0.002	O	|	|	|	0.01
114.833	0.00	0.00	0.002	O	|	|	|	0.01
114.917	0.00	0.00	0.002	O	|	|	|	0.01
115.000	0.00	0.00	0.002	O	|	|	|	0.01

115.083	0.00	0.00	0.002	O	|	|	|	| 0.01
115.167	0.00	0.00	0.001	O	|	|	|	| 0.01
115.250	0.00	0.00	0.001	O	|	|	|	| 0.01
115.333	0.00	0.00	0.001	O	|	|	|	| 0.01
115.417	0.00	0.00	0.001	O	|	|	|	| 0.01
115.500	0.00	0.00	0.001	O	|	|	|	| 0.01
115.583	0.00	0.00	0.001	O	|	|	|	| 0.01
115.667	0.00	0.00	0.001	O	|	|	|	| 0.01
115.750	0.00	0.00	0.001	O	|	|	|	| 0.01
115.833	0.00	0.00	0.001	O	|	|	|	| 0.01
115.917	0.00	0.00	0.001	O	|	|	|	| 0.01
116.000	0.00	0.00	0.001	O	|	|	|	| 0.01
116.083	0.00	0.00	0.001	O	|	|	|	| 0.01
116.167	0.00	0.00	0.001	O	|	|	|	| 0.01
116.250	0.00	0.00	0.001	O	|	|	|	| 0.01
116.333	0.00	0.00	0.001	O	|	|	|	| 0.01
116.417	0.00	0.00	0.001	O	|	|	|	| 0.01
116.500	0.00	0.00	0.001	O	|	|	|	| 0.01
116.583	0.00	0.00	0.001	O	|	|	|	| 0.01
116.667	0.00	0.00	0.001	O	|	|	|	| 0.01
116.750	0.00	0.00	0.001	O	|	|	|	| 0.01
116.833	0.00	0.00	0.001	O	|	|	|	| 0.01
116.917	0.00	0.00	0.001	O	|	|	|	| 0.01
117.000	0.00	0.00	0.001	O	|	|	|	| 0.01
117.083	0.00	0.00	0.001	O	|	|	|	| 0.01
117.167	0.00	0.00	0.001	O	|	|	|	| 0.01
117.250	0.00	0.00	0.001	O	|	|	|	| 0.01
117.333	0.00	0.00	0.001	O	|	|	|	| 0.01
117.417	0.00	0.00	0.001	O	|	|	|	| 0.01
117.500	0.00	0.00	0.001	O	|	|	|	| 0.01
117.583	0.00	0.00	0.001	O	|	|	|	| 0.01
117.667	0.00	0.00	0.001	O	|	|	|	| 0.01
117.750	0.00	0.00	0.001	O	|	|	|	| 0.01
117.833	0.00	0.00	0.001	O	|	|	|	| 0.01
117.917	0.00	0.00	0.001	O	|	|	|	| 0.01
118.000	0.00	0.00	0.001	O	|	|	|	| 0.01
118.083	0.00	0.00	0.001	O	|	|	|	| 0.01
118.167	0.00	0.00	0.001	O	|	|	|	| 0.01
118.250	0.00	0.00	0.001	O	|	|	|	| 0.01
118.333	0.00	0.00	0.001	O	|	|	|	| 0.01
118.417	0.00	0.00	0.001	O	|	|	|	| 0.01
118.500	0.00	0.00	0.001	O	|	|	|	| 0.01
118.583	0.00	0.00	0.001	O	|	|	|	| 0.01
118.667	0.00	0.00	0.001	O	|	|	|	| 0.01
118.750	0.00	0.00	0.001	O	|	|	|	| 0.01

Remaining water in basin = 0.00 (Ac.Ft)

```
**************************HYDROGRAPH DATA**************************
                Number of intervals =  1425
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =        2.462 (CFS)
                Total volume =       1.952 (Ac.Ft)
        Status of hydrographs being held in storage
                    Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
************************************************************************

------------------------------------------------------------------------
```

Appendix 9

Noise Impact Analysis

BEYOND FOOD MART (CLINTON KEITH ROAD & JANA LANE) NOISE IMPACT ANALYSIS

City of Wildomar
August 22, 2022
Revised October 28, 2022

ganddini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

1124

BEYOND FOOD MART (CLINTON KEITH ROAD & JANA LANE) NOISE IMPACT ANALYSIS

City of Wildomar

August 22, 2022
Revised October 28, 2022

prepared by
Roma Stromberg, INCE, MS
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Project No. 19510

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EXECUTIVE SUMMARY

The approximately 4.35-acre project site is located at the southwest corner of the intersection of Clinton Keith Road and Jana Lane in the City of Wildomar. The project site is currently vacant.

The currently vacant site is proposed to include a 16 fueling position convenience store/gas station, and automated car wash, 3,800 square feet of fast-food restaurant with drive-thru, and 14,500 square feet of general office. The project site proposes one access driveway to Clinton Keith Road and three access driveways to Jana Lane. The project driveway on Clinton Keith Road will be restricted to right turns in/out only. The three project driveways on Jana Lane will be full access. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2024. The proposed car wash and car wash vacuums will not be in operation between the hours of 10:00 PM and 7:00 AM.

Construction Impacts

Modeled unmitigated construction noise levels reached 67.9 dBA L_{eq} at the nearest residential property line along Mauri Court to the northwest, 68.4 dBA L_{eq} at the nearest residential property line along Benetta Court to the northeast, 62.6 dBA L_{eq} at the nearest residential property line along Crimson Lasso Drive to the east, 62.8 dBA L_{eq} at the nearest residential property line along Horseshoe Court to the east, 72.8 dBA L_{eq} at the nearest residential property line to the east of the project site at 36120 Jana Lane, and 61.5 dBA L_{eq} at the nearest residential property line to the southeast of the project site at 36254 Jana Lane. However, project construction will not occur outside of the hours outlined as "exempt" in the City of Wildomar Municipal Code Section 9.48.020 (as follows) and therefore, will not result in or generate 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.

The City's Municipal Code Section 9.48.020 exempts construction noise from the City's noise standards as long as either the construction noise source it is located one-quarter of a mile or more from an inhabited dwelling or if within on-quarter mile of an inhabited dwelling it does not take place between the hours of 6:00 PM and 6:00 AM during the months of June through September and 6:00 PM and 7:00 AM during the months of October through May.

Project construction activities are expected to comply with the above allowed hours. Impacts would be less than significant, and no mitigation is required.

In addition to adherence to the City of Wildomar Municipal Code which limits the construction hours of operation, the following best management practices will be implemented to further reduce construction noise emanating from the proposed project:

Construction Noise - Best Management Practices

1. All construction equipment, fixed or mobile, will be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.

2. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. As applicable, shut off all equipment when not in use.

4. Equipment staging shall be located in areas that create the greatest distance between construction-related noise/vibration sources and sensitive receptors surrounding the project site.

5. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away from existing residences east of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and the nearest off-site residences. The shielding should be without holes and cracks.

6. No amplified music and/or voice will be allowed on the project site.

7. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City's Municipal Code Section 9.48.020.

Construction truck trips would occur throughout the construction period. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA. According to the FHWA, and existing traffic volumes would need to be doubled in order to result in a 3 dBA CNEL increase. The estimated existing average daily trips along Clinton Keith Road in the vicinity of the project site range between 18,492 and 36,108 average daily vehicle trips and the existing average daily vehicle trips along Jana Lane are 240 average daily vehicle trips.[1] As shown in the CalEEMod output files provided in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, 2022) the greatest number of construction-related vehicle trips per day would be during building construction at up to 109 vehicle trips per day (78 for worker trips and 31 for vendor trips). Given the project site's proximity to the 15 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps. Therefore, the addition of project vendor/haul trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes. Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant. No mitigation measures are required.

Project Operational Noise – Off-site Traffic

To determine if project traffic would result in a substantial increase in ambient noise levels, noise associated with project generated vehicle trips were modeled for the existing and existing plus project conditions utilizing FHWA Traffic Noise Prediction Model FHWA-RD-77-108 methodology. As shown in the modeling, project generated vehicle traffic along the segment of Jana Lane south of Clinton Keith Road is anticipated to increase the noise by up to approximately 7 dBA CNEL. The existing traffic noise level was modeled at 49 dBA CNEL and the existing plus project noise level was modeled at 57 dBA CNEL along this roadway segment. The majority of the existing land use along the portion of Jana Lane affected by the proposed project generated vehicle trips are that of commercial and/or industrial uses with the exception of one single-family residence at 36120 Jana Lane. Therefore, although the project generated vehicle trips result in an increase above 3 dBA CNEL along the segment of Jana Lane south of Clinton Keith Road, project generated vehicle traffic does not raise the ambient noise level from below the applicable standard to above the applicable standard (60 dBA CNEL for single-family residential uses). Project generated vehicle traffic along all other modeled roadway segments is anticipated to increase the noise between approximately 0.06 to 1.05 dBA CNEL. Therefore, project generated increases in ambient noise levels would result in less than 3 dBA CNEL increases along these segments. Impacts from project generated vehicle trips would be considered less than significant.

Project Operational Noise – On-site Operations

Peak hour project operational noise levels, which are expected to occur between 7:00 AM and 10:00 PM will range between 39 and 65 dBA L_{eq} at the nearest receptors; and nighttime noise levels at the nearest sensitive receptors will range between 35 and 60 dBA L_{eq} (see Figures 8 and 9). As shown below, project operational noise would not exceed daytime or nighttime noise standards. Impacts would be less than significant. No mitigation is required.

[1] Existing average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini Group, Inc., July 20, 2022).

Project Operational Noise

Direction From Project Site	Land Use Designation	Applicable Standards (day/night) (dBA, L_{eq})	Modeled Noise Level (day/night) (dBA, L_{eq})	Exceeds Standards? (day/night)
North	Medium Density Residential	55/45	50/47	No
South	Medium High Density Residential	55/45	40/35	No
East	Business Park	65/45	64/52	No
West	Business Park	65/45	65/60	No

Groundborne Vibration Impacts

Caltrans identifies a PPV level of 0.3 in/sec as the threshold at which there is a risk to "architectural" damage to older residential structures and a PPV level of 0.5 in/sec for commercial buildings. The closest residential structures are located approximately 145 feet to the north of the project site. Therefore, the threshold of 0.3 in/sec PPV for older residential structures will not be exceeded at nearby residential uses; however, the commercial threshold of 0.5 in/sec PPV has the potential to be exceeded at the commercial structures located to the south and west of the project site. Best management practices prohibiting the use of a vibratory roller within 14 feet or a large bulldozer within 8 feet of existing commercial structures to the south and west of the project site will reduce potential impacts. With incorporation of best management practices, potential impacts related to architectural damage would be reduced to less than significant.

Annoyance - Groundborne vibration becomes strongly perceptible to sensitive receptors at a level of 0.1 in/sec PPV. Operation of a vibratory roller may result in groundborne vibration levels of up to 0.1 at a distance of 41 feet and a large bulldozer at a distance of 23 feet. Due to distance to the nearest sensitive receptors, vibration related annoyance would not occur. Furthermore, annoyance will be short-term and will occur only during site grading and preparation which will be limited to daytime hours. Impacts are less than significant.

Vibration Best Management Practices

1. Vibratory rollers, or other similar vibratory equipment, will not be utilized within 15 feet or a large bulldozer within 8 feet of existing commercial structures to the south and west of the project site.

1. INTRODUCTION

This section describes the purpose of this noise impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of the noise impacts resulting from development of the proposed Beyond Food Mart (Clinton Keith Road & Jana Lane) project and to identify mitigation measures that may be necessary to reduce those impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state and local policies, including those of the City of Wildomar.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to noise analysis, a list of acronyms and a glossary of terms have been provided in Appendix A and Appendix B of this report, respectively.

PROJECT LOCATION

The approximately 4.35-acre project site is located at the southwest corner of the intersection of Clinton Keith Road and Jana Lane in the City of Wildomar. The project site is currently vacant. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The currently vacant site is proposed to include a 16 fueling position convenience store/gas station, and automated car wash, 3,800 square feet of fast-food restaurant with drive-thru, and 14,500 square feet of general office. The project site proposes one access driveway to Clinton Keith Road and three access driveways to Jana Lane. The project driveway on Clinton Keith Road will be restricted to right turns in/out only. The three project driveways on Jana Lane will be full access. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2024. Figure 2 illustrates the project site plan.

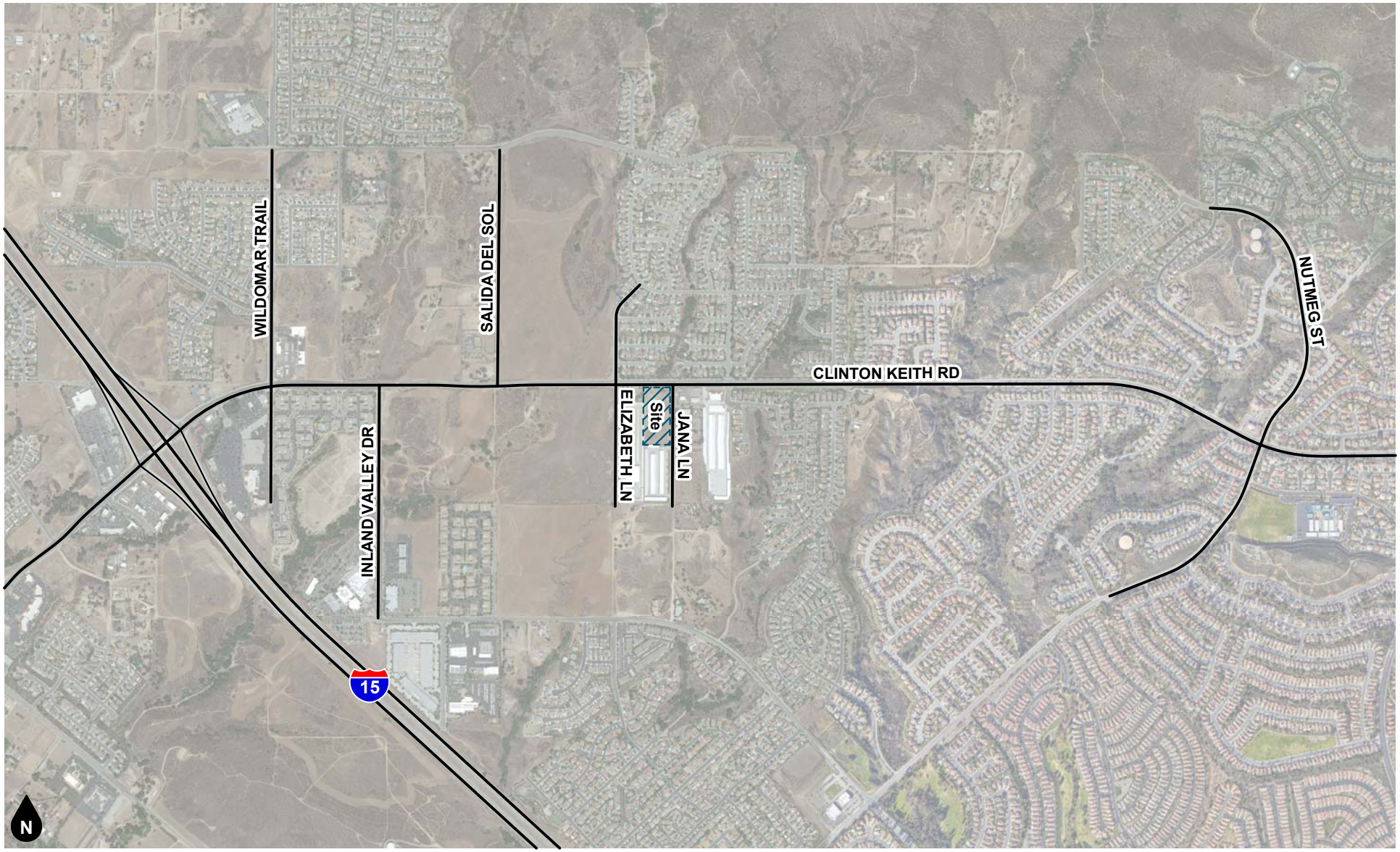


Figure 1
Project Location Map

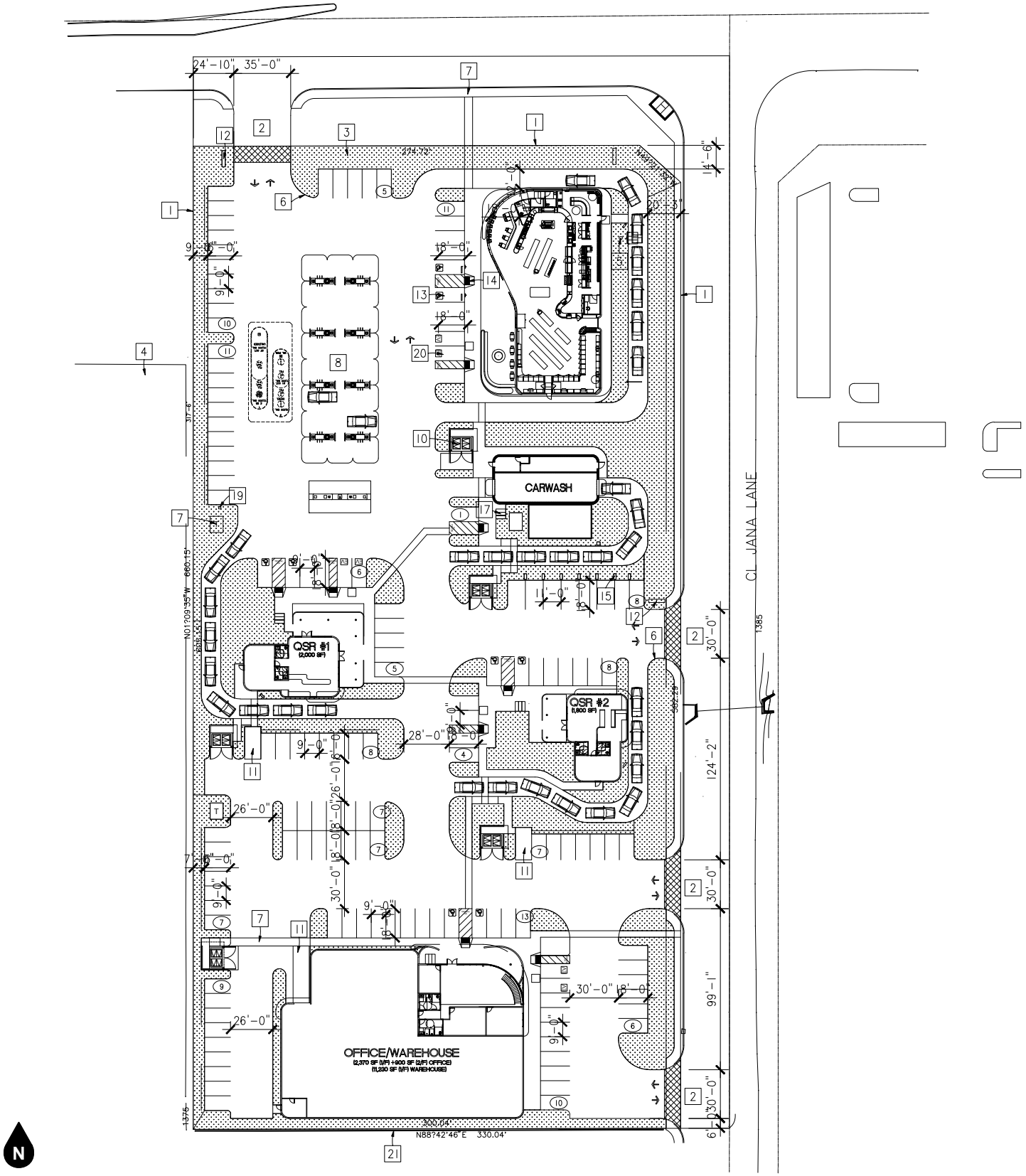


Figure 2
Site Plan

2. NOISE AND VIBRATION FUNDAMENTALS

NOISE FUNDAMENTALS

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

Commonly used noise terms are presented in Appendix B. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiates uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA; halving of the energy would result in a 3 dBA decrease. Figure 3 shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, or the equivalent noise level for that period of time. For example, $L_{eq(3\text{-}hr)}$ would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weights only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).

VIBRATION FUNDAMENTALS

The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water.

Compression waves, or P-waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. Shear waves, or S-waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation".

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage and VdB is commonly used to evaluate human response. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval. Figure 4 illustrates common vibration sources and the human and structural responses to ground-borne vibration. As shown in the figure, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments such as magnetic resonance imaging (MRI) or electron microscopes could be much lower than the human vibration perception threshold.

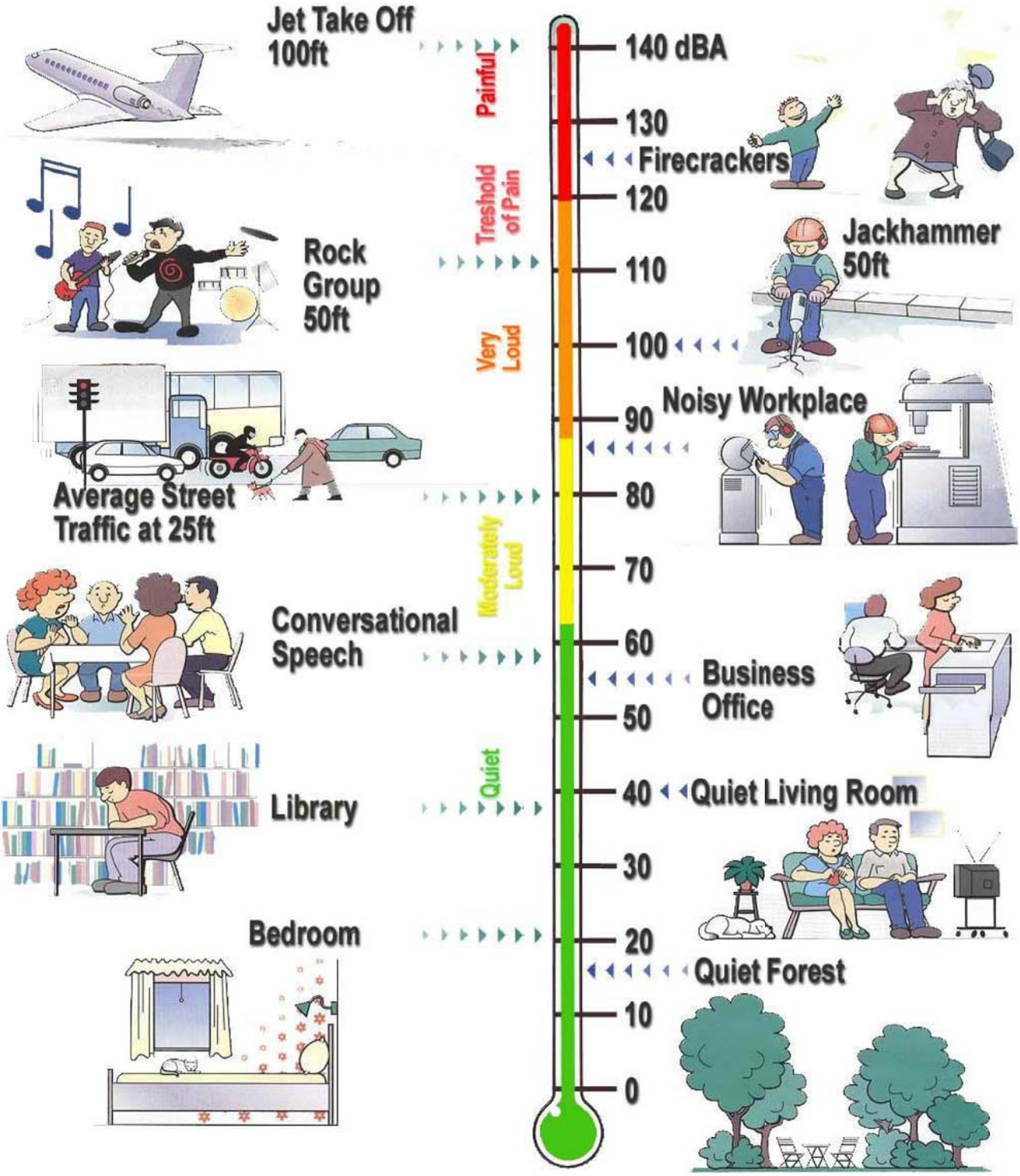
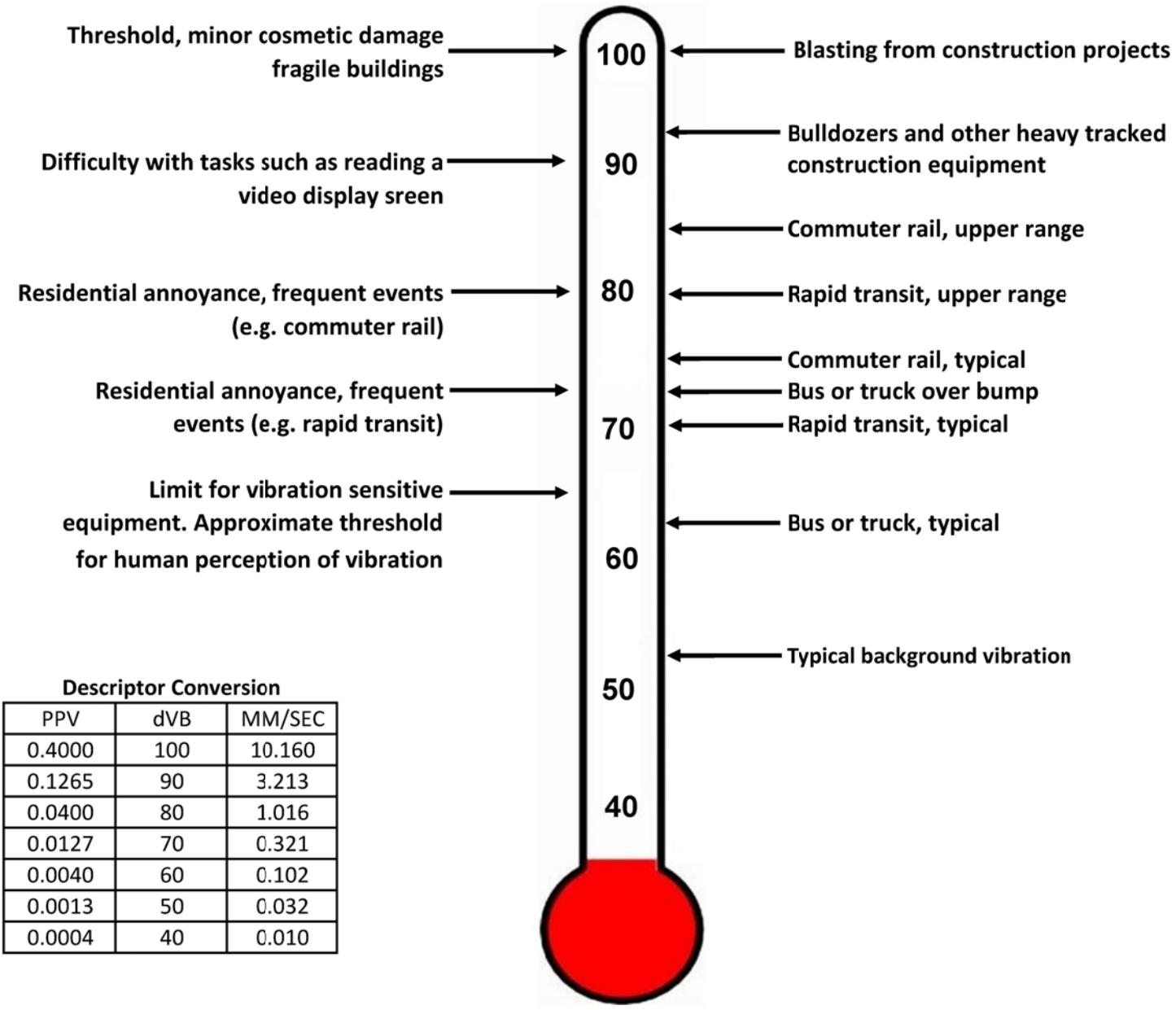


Figure 3
Weighted Sound Levels in Common Environments

Source: Bruel & Kjaer 2001



Descriptor Conversion

PPV	dVB	MM/SEC
0.4000	100	10.160
0.1265	90	3.213
0.0400	80	1.016
0.0127	70	0.321
0.0040	60	0.102
0.0013	50	0.032
0.0004	40	0.010

Source: FRA, 2012. Federal Railroad Administration High-Speed Ground Transportation Noise and Vibration Impact Assessment. Office of Railroad Policy Development, Washington, D.C. DOT/FRA/ORD-12/15. September.

Figure 4
Typical Levels of Groundborne Vibration

3. EXISTING NOISE ENVIRONMENT

EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bordered by Clinton Keith Road to the north; Jana Lane to the east; a self-storage facility to the south; and a self-storage facility and vacant land to the west.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Sensitive land uses that may be affected by project noise include the existing single-family detached residential dwelling units located approximately 50 feet to the east (along Jana Lane), 115 feet to the northwest (along Benetta Court), 188 feet to the northeast (along Mauri Court), 665 feet to the southeast (along Jana Lane), 679 feet to the east (along Crimson Lasso Drive), and 680 feet to the east (along Horseshoe Court) of the project site.

AMBIENT NOISE MEASUREMENTS

An American National Standards Institute (ANSI Section S1.4 2014 Class 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. In order to document existing ambient noise levels in the project area, five (5) 15-minute daytime noise measurements were taken between 2:10 PM and 4:51 PM on May 4, 2022. In addition, one (1) long-term 24-hour noise measurement was also taken from May 4, 2022, to May 5, 2022. Field worksheets and noise measurement output data are included in Appendix C.

As shown in Figure 5, the noise meter was placed at the following locations:

- STNM1: represents the existing noise environment of the single-family residence located to the southeast of the project site boundary on the eastern side of Jana Lane (36254 Jana Lane, Wildomar). The noise meter was placed near the western property line of the single-family residential use on the eastern side of Jana Lane.

- STNM2: represents the existing noise environment of the single-family residential uses to the east of the project site along the eastern side of Jana Lane (36180 and 36120 Jana Lane, Wildomar). The noise meter was placed near the western property line of the single-family residential use at 36120 Jana Lane, Wildomar on the eastern side of Jana Lane.

- STNM3: represents the existing noise environment of the single-family residential neighborhood located to the north of the project site boundary across Clinton-Keith Road (24811 Benetta Court, Wildomar). The noise meter was placed along the northern sidewalk associated with Clinton-Keith Road just south of the residential uses.

- STNM4: represents the existing noise environment of the single-family residential neighborhood located to the northeast of the project site boundary across Clinton-Keith Road and along Mauri Court (24919 Mauri Court, Wildomar). The noise meter was placed along the northern property line of the single-family residence just south of Mauri Court.

- STNM5: represents the existing noise environment of the single-family residential neighborhood located to the east of the project site along Crimson Lasso Drive (25006 Crimson Lasso Drive, Wildomar). The noise meter was placed along the western property line of the single-family residence just north of Crimson Lasso Court.

- LTNM1: represents the existing noise environment of the project site. The noise meter was placed in the northern portion of the project site just south of Clinton-Keith Road.

Table 1 provides a summary of the short-term ambient noise data. Table 2 provides hourly interval ambient noise data from the long-term noise measurements. Measured short-term ambient noise levels ranged between 49.5 and 74.5 dBA L_{eq}. Long-term hourly noise measurement ambient noise levels ranged from 53.4 to 64.3 dBA L_{eq}. The dominant noise source in the project vicinity was vehicle traffic associated with Jana Lane, Clinton-Keith Road, Smith Ranch Road and other surrounding roadways, bird song, residential ambiance, and construction earthwork type activities.

Table 1
Short-Term Noise Measurement Summary (dBA)

Daytime Measurements[1,2]								
Site Location	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
STNM1	2:10 PM	49.5	63.0	41.8	56.4	53.0	49.9	47.4
STNM2	2:44 PM	53.5	71.2	43.7	61.6	55.6	51.5	49.5
STNM3	3:21 PM	74.5	85.1	50.9	81.5	79.0	76.5	70.5
STNM4	3:52 PM	50.7	67.0	41.5	55.5	53.3	51.5	49.7
STNM5	4:36 PM	56.8	68.6	44.8	63.2	60.2	57.4	55.3

Notes:

(1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.

(2) Noise measurements performed on May 4, 2022.

Table 2
Long-Term Noise Measurement Summary (LTNM1) (dBA)

24-Hour Ambient Noise[1,2]								
Hourly Measurements	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
Overall Summary	7:00 PM	60.6	90.1	34.4	67.2	64.8	61.8	57.8
1	7:00 PM	64.3	79.0	43.8	69.6	68.0	66.0	62.9
2	8:00 PM	61.5	75.0	37.7	67.4	65.6	63.0	60.0
3	9:00 PM	61.5	83.2	36.8	67.2	65.0	62.4	58.7
4	10:00 PM	59.0	75.5	34.6	66.2	64.0	60.5	54.1
5	11:00 PM	56.8	70.1	36.1	64.7	62.2	57.9	49.9
6	12:00 AM	54.8	68.9	37.5	64.1	60.5	53.5	46.9
7	1:00 AM	54.2	73.0	36.3	63.6	60.2	50.9	45.3
8	2:00 AM	53.4	68.5	34.4	63.2	59.0	50.2	45.3
9	3:00 AM	56.2	70.6	37.7	64.9	61.8	55.3	49.3
10	4:00 AM	60.3	76.5	43.2	67.2	64.9	61.4	56.1
11	5:00 AM	62.3	81.0	46.9	68.0	66.2	63.8	60.2
12	6:00 AM	63.8	81.9	47.5	69.0	67.2	65.1	62.6
13	7:00 AM	62.7	73.7	45.3	67.4	66.0	64.2	62.1
14	8:00 AM	61.8	76.8	39.4	67.1	65.4	63.3	60.8
15	9:00 AM	60.5	73.0	36.4	66.4	64.4	62.1	59.0
16	10:00 AM	59.5	72.5	35.4	65.6	63.5	60.9	57.8
17	11:00 AM	58.6	72.7	34.7	64.8	62.8	60.1	56.7
18	12:00 PM	61.1	90.1	36.3	65.2	62.9	60.3	57.1
19	1:00 PM	59.3	76.9	38.0	65.4	62.5	60.3	57.6
20	2:00 PM	60.5	79.9	39.4	66.4	63.5	61.3	58.7
21	3:00 PM	60.7	77.7	40.1	65.8	64.0	62.1	59.7
22	4:00 PM	61.1	77.3	42.8	66.2	64.4	62.6	60.1
23	5:00 PM	61.3	76.2	40.9	65.9	64.5	62.8	60.7
24	6:00 PM	61.2	77.3	40.8	66.3	64.6	62.7	60.1
CNEL	66.5							

Notes:

(1) See Figure 5 for noise measurement locations. Noise measurement was performed over a 24-hour duration.

(2) Noise measurement performed from May 4, 2022 to May 5, 2022.

Legend

NM 1 Noise Measurement Location

ST NM Short-Term Noise Measurement

LT NM Long-Term Noise Measurement

Figure 5
Noise Measurement Location Map

4. REGULATORY SETTING

FEDERAL REGULATION

Federal Noise Control Act of 1972

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise). The Levels of Environmental Noise recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In addition, the Levels of Environmental Noise identified five (5) dBA as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dBA Ldn (i.e., there would not be a noticeable increase in adverse community reaction with an increase of five dBA or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no risk to a community from any health or welfare effect of noise.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

STATE REGULATIONS

State of California General Plan Guidelines 2017

Though not adopted by law, the State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (OPR Guidelines), provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the Levels of Environmental Noise Document (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the normally acceptable outdoor exposure of noise-sensitive uses.

The OPR Guidelines include a Noise and Land Use Compatibility Matrix which identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study prior to the construction or operation of the proposed project. The City of Wildomar has adopted the County of Riverside General Plan (2003). They are currently in the process of creating an updated General Plan (Envision Wildomar 2040). The County of Riverside has adopted their own version of the State Land Use Compatibility Guidelines for land use planning and to assess potential transportation noise impacts to proposed land uses (see Table 3).

California Department of Transportation (Caltrans)

The California Department of Transportation has published one of the seminal works for the analysis of ground-borne noise and vibration relating to transportation- and construction-induced vibrations and although the project is not subject to these regulations, it serves as useful tools to evaluate vibration impacts.

As shown in Table 4, the threshold at which there is a risk to "architectural" damage to historic and some older buildings is a peak particle velocity (PPV) of 0.25, at older residential structures a PPV of 0.3, and at new residential structures a PPV of 0.5. Table 5 shows that a PPV of 0.04 is the threshold at which groundborne vibration becomes distinctly perceptible in regard to annoyance. Therefore, these guidelines recommend that a standard of 0.3 inches per second (in/sec) PPV not be exceeded for the protection of older residential structures (California Department of Transportation, 2020).

LOCAL REGULATIONS

County of Riverside General Plan

The City of Wildomar has adopted the County of Riverside's 2003 General Plan. The County of Riverside has adopted a modified version of the State of California Noise Land Use Compatibility Matrix (see Table 3). This Matrix establishes standards for outdoor noise levels that are acceptable, conditionally acceptable, and unacceptable for a variety of land uses. For commercial uses, the outdoor noise levels of up to 70 dBA CNEL are "normally acceptable" and levels up to 77.5 dBA CNEL are "conditionally acceptable". In addition, for industrial uses, the outdoor noise levels of up to 75 dBA CNEL are "normally acceptable" and levels up to 80 dBA CNEL are "conditionally acceptable". These standards apply to the proposed project itself. Additional County of Riverside General Plan Policies which apply to the proposed project are presented below.

Policy 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.

Policy N 1.2: Guide noise-tolerant land uses into areas irrevocably committed to land uses that are noise-producing, such as transportation corridors or within the projected noise contours of any adjacent airports.

Policy 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, and places of worship.

Policy 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.

Policy N 1.6: Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise-sensitive uses.

Policy N 2.3: Mitigate exterior and interior noises to the levels listed in Table 6 below to the extent feasible, for stationary sources.

Policy 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 PM and 7:00 AM.
b. 65 dBA-10-minute L_{eq} between 7:00 AM and 10:00 PM.

Policy N 4.3: Ensure any use determined to be a potential generator of significant stationary noise impacts be properly analyzed and ensure that the recommended mitigation measures are implemented.

Policy N 4.4: Require that detailed and independent acoustical studies be conducted for any new or renovated land uses or structures determined to be potential major stationary noise sources.

Policy N 4.5: Encourage major stationary noise-generating sources throughout the County of Riverside to install additional noise buffering or reduction mechanisms within their facilities to reduce noise generation levels to the lowest extent practicable prior to the renewal of Conditional Use Permits or business licenses or prior to the approval and/or issuance of new Conditional Use Permits for said facilities.

Policy N 4.7: Evaluate noise producers for the possibility of pure tone producing noises. Mitigate any pure tones that may be emitted from a noise source.

Policy N 4.8: Require that the parking structures, terminals, and loading docks of commercial or industrial land uses be designed to minimize the potential noise impacts of vehicles on the site as well as on adjacent land uses.

Policy N 6.3: Require commercial or industrial truck delivery hours be limited when adjacent to noise-sensitive land uses unless there is no feasible alternative or there are overriding transportation benefits.

Policy N 8.3: Require development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide for appropriate mitigation measures.

Policy N 8.4: Require that the loading and shipping facilities of commercial and industrial land uses, which abut residential parcels be located and designed to minimize the potential noise impacts upon residential parcels.

Policy N 8.6: Require that all future exterior noise forecasts use Level of Service C, and be based on designed road capacity or 20-year projection of development (whichever is less) for future noise forecasts.

Policy N 12.1: Minimize the impacts of construction noise on adjacent uses within acceptable practices.

Policy 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 noise impacts on surrounding areas.

Policy N 12.4: Require that all construction equipment utilizes noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

Policy N 15.2: Consider the following land uses sensitive to vibration: hospitals, residential areas, concert halls, libraries, sensitive research operations, schools, and offices.

City of Wildomar Municipal Ordinance

Section 9.48.020 Exemptions. Sound emanating from the following sources is exempt from the provisions of Chapter 9.48 Noise Regulation of the City's Municipal Code.

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:

a. Construction does not occur between the hours of 6:00 PM and 6:00 AM during the months of June through September, and

b. Construction does not occur between the hours of 6:00 PM and 7:00 AM during the months of October through May;

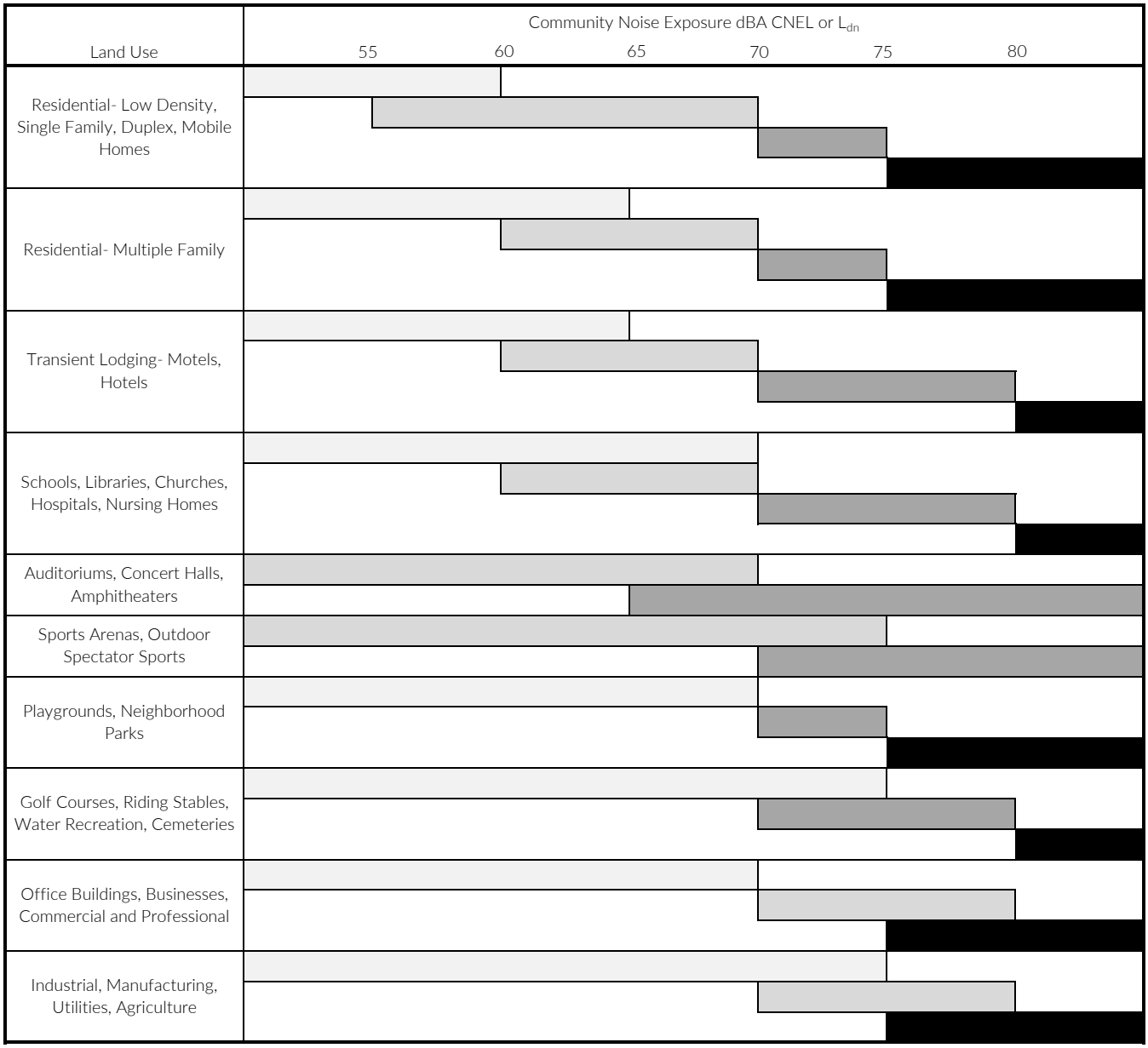
J. Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of 7:00 AM and 8:00 PM;

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;

Section 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 7.

Table 3
Land Use Compatibility for Community Noise Exposure



Normally Acceptable:	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable:	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. Outdoor environment will seem noisy.
Normally Unacceptable:	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded.
Clearly Unacceptable:	New construction or development should generally not be undertaken. Construction cost to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

Source: County of Riverside General Plan Noise Element Table N-1, 2003.

Table 4
Guideline Vibration Damage Potential Threshold Criteria

Structure Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Notes:

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 7 Table 19, April 2020.

(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 5
Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Notes:

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 7 Table 20, April 2020.

(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 6
County of Riverside Stationary Source Land Use Noise Standards

Land Use	Interior Standards	Exterior Standards
Residential		
10:00 PM to 7:00 AM	40 L_{eq} (10 minute)	45 L_{eq} (10 minute)
7:00 AM to 10:00 PM	55 L_{eq} (10 minute)	65 L_{eq} (10 minute)

Source: County of Riverside General Plan Noise Element, 2003.

Notes:

(1) These are only preferred standards; final decision will be made by the Riverside County Planning Department and Office of Public Health.

Table 7
City of Wildomar Sound Level Standards (dB Lmax)

General Plan Foundation Component	General Plan Land Use Designation	General Plan Land Use Designation Name	Density	Maximum Decibel Level	
				7:00 AM to 10:00 PM	10:00 PM to 7:00 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	High 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		76	55
		Specific Plan - Heavy Industrial		76	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

Source: City of Wildomar Municipal Ordinance Section 9.48.040.

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

This section discusses the analysis methodologies used to assess noise impacts.

CONSTRUCTION NOISE MODELING

Construction noise associated with the proposed project was calculated at the sensitive receptor locations, utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Construction noise levels were calculated for each phase based on the equipment assumptions provided in the Air Quality, Global Climate Change, TAC and Energy Impact Analysis report prepared for the project (Ganddini 2022). For construction noise purposes, the distance measured from the project site to sensitive receptors was assumed to be the acoustical center of the project site to the property line of residential properties with existing residential buildings. Sound emission levels associated with typical construction equipment as well as typical usage factors provided in Table 8 were utilized for modeling purposes. Construction noise worksheets are provided in Appendix D.

FEDERAL HIGHWAY ADMINISTRATION (FHWA) TRAFFIC NOISE PREDICTION MODEL

Increases in ambient noise levels due to project generated vehicle traffic were modeled utilizing a computer program that replicates the FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

The FHWA Traffic Noise Prediction 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) Emissions Levels.[1] Adjustments are then made to the REMEL to account for: total average daily traffic volumes, roadway classification (i.e., collector, secondary, major or arterial), the roadway active width (i.e., distance between the center of the outermost travel lanes on each side of the roadway), travel speed, truck mix (i.e., percentage of automobiles, medium trucks, and heavy trucks in the traffic volume), roadway grade and site conditions (hard or soft ground surface relating to the absorption of the ground, pavement, or landscaping). Research conducted by Caltrans identifies that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model.[2] Therefore, surfaces adjacent to all modeled roadways were assumed to have a "soft site". Possible reductions in noise levels due to intervening topography and buildings were not accounted for in this analysis.

Existing and Existing Plus Project average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini 2022). The vehicle/truck mixes and D/E/N splits for use in acoustical studies published by the Riverside County Department of Industrial Hygiene were utilized for noise modeling. Existing Plus Project vehicle mixes were calculated by adding the proposed project trips to existing conditions. FHWA spreadsheets are included in Appendix E.

SOUNDPLAN NOISE MODEL

The SoundPLAN acoustical modeling software was utilized to model project operational worst-case stationary noise impacts from the proposed project to adjacent sensitive uses (e.g., residences). SoundPLAN is capable of evaluating stationary noise sources (e.g., parking lots, drive-thru menus, carwash equipment, vacuums, etc.)

[1] 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.

[2] California Department of Transportation. Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report. June 1995. FHWA/CA/TL-95/23.

and much more. The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. In addition to the information provided below, noise modeling input and outputs assumptions are provided in Appendix F.

Peak hour and nighttime operational noise levels were modeled utilizing representative sound levels in the SoundPLAN model. Modeled noise sources include car wash equipment, vacuum equipment, fueling area, restaurant ques, and parking lot noise, and HVAC equipment. All noise sources were modeled to be in full operation for an entire hour. This is a conservative modeling effort, given that in actuality, several of the noise sources are not in operation continuously for an entire hour. For nighttime noise (10:00 PM to 7:00 AM) it was assumed that the car wash and vacuums would not be in operation, the drive-thru restaurants would generate 50% of peak hour trips and the office warehouse use would generate 33 percent of peak hour traffic.

Car Wash Equipment Noise

The car wash drying system is by far the loudest noise source associated with the car wash tunnel. A representative sound level of 93.1dBA L_{eq}[3] at the tunnel exit was utilized to model the propagation of car wash noise in the SoundPLAN noise model. A point noise source was placed 5 feet from the opening of the end of the car wash tunnel at a height of 8 feet to represent dryer noise.

Vacuum Equipment Noise

Producers are the loudest elements of a vacuum system. Producers will be located in the equipment room. A hose system will extend from these housed systems and hose ends will be available within the parking/vacuum area. A point noise source with a sound pressure level of 76.8 dB was assigned to each vacuum station to represent noise associated with general vacuuming activities. This noise level was collected at a Fast Five Car Wash in the City of Murrieta, California on November 7th, 2017. The measured 76.8 dB at 3 feet noise level is an average of three (3) five-minute noise measurements taken while cleaning the front seat area of a car[4]. This modeling methodology is very conservative as it assumes that all vacuum stations are being utilized at the same time continuously for an entire hour.

Parking Lot Noise

Parking lot noise was calculated using SoundPLAN methodology. Specifically, the traffic volume of the parking lot is entered with the number of parking moves, the hour of the day, and the number of parking bays. The model user defines whether the parking lots are for automobiles, motorcycles, or trucks, and the emission level of a parking lot is automatically adjusted accordingly. The values for the number of parking moves for each time slice is the number of parking moves per reference unit (most often per parking bay), averaged for the hour[5].

SoundPLAN utilizes parking lot noise emission levels from the 6th revised edition of the parking lot study "Recommendations for the Calculation of Sound Emissions of Parking Areas, Motorcar Centers and Bus Stations as well as of Multi-Story Car Parks and Underground Car Parks" published by the Bavarian Landesamt für Umwelt provides calculation methods to determine the emissions of parking lots.

The parking lot emission table documents the reference level (Lw, ref) from the parking lot study.

Lw, ref = Lw0 + KPA + KI + KD + KStrO + 10 log(B) [dB(A)]

[3] Representative Noise Measurement of 12 MacNeil Tech-21 15 HP Dryers at tunnel exit taken at Scrub Bot Express Wash 3965 W. Ray Rd. Chandler, AZ 85226 provided by the equipment manufacturer.

[4] 2017 Noise Measurements, Fast Five Car Wash. City of Murrieta, November 7. Kunzman Associates, Inc.

[5] SoundPLAN Essential 4.0 Manual. SoundPLAN International, LLC. May 2016.

With the following parameters:

Lw0 = Basic sound power, sound power level of one motion / per hour on P+R areas = 63 dB(A)
KPA = Surcharge parking lot type
KI = Surcharge for impulse character
KD = Surcharge for the traffic passaging and searching for parking bays in the driving lanes 2,5 * lg (f * B - 9)
f = Parking bays per unit of the reference value
B = Reference value
KStrO = Surcharge for the road surface
B = Reference value

Drive-Thru Queues

Because drive-thrus are almost always near acoustically significant roadways it is difficult to get representative noise levels of a que without capturing other noise from roadway traffic and drive-thru speakers. In order to model a drive-thru que, a sound power level roughly equivalent of to eight vehicles in a drive-thru was utilized in the SoundPLAN noise model. One vehicle pass-by at 5 miles per hour is approximately 32 dBA Leq at a distance of 50 feet[6]. A full que was assumed to be 8 automobiles which cumulatively result in a sound pressure level of 41.4 dBA Leq at 50 feet.

The sound pressure level of 41.4 dBA Leq at 50 feet is equivalent to a sound power level of 73.0 dBA assuming a half sphere directivity factor. A line noise source representative of each que was entered into the SoundPLAN noise model with a sound power level of 73 dB assigned at every meter (per meter option in SoundPLAN[7]). All of the drive-thru ques were modeled with eight vehicles during the entire peak hour.

It is understood that this mathematical calculation does not include engine noise that may be due to improperly installed mufflers, and loud music. These events are not expected to occur often enough to substantially affect the overall Leq.

Fueling Area

The fueling area was modeled as an area noise source with a sound power level of 65 dBA L_{eq} per square meter to represent normal to loud speech associated with the video/audio screens at each pump as well as general conversation that may occur. Sixty-five dB is the commonly known sound level for conversation. The SoundPLAN Library "speaking, raised voice" spectrum was utilized with a per meter spread for modeling purposes and the area source was set at a height of 5 feet. The resultant modeled noise level in the center of the fueling area is 71 dBA Leq. This is a conservative modeling effort.

Mechanical Equipment (HVAC Units) Noise

A noise reference level of 67.7 dBA at 3 feet (sound power level of 78.7 dB) was utilized to represent rooftop 5 Ton Carrier HVAC units.[8] A rooftop HVAC plan is not available at the time of this analysis so the exact location and number of units per building were estimated. A total of 20 rooftop units were modeled on the proposed rooftops. The noise source height for each HVAC unit was assumed at 1 meter above the roof top. Proposed parapets were not included in the modeling data.

[6] Calveno REMELS in Stamina 2.0 Technical Advisory, Noise TAN 95-03. September 1995.
[7] The "per meter" noise emission option results in the application of the assigned sound power level every meter along the line source, which is a conservative assumption.
[8] MD Acoustics, LLC Noise Measurement Data for RTU – Carrier 50TFQ0006 and car alarm.

Table 8 (1 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	-N/A-	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-N/A-	0
Blasting	Yes	-N/A-	94	-N/A-	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-N/A-	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Forklift[2,3]	No	50	n/a	61	n/a
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-N/A-	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-N/A-	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	50	85	77	9
Paving Equipment	No	50	85	77	9
Pneumatic Tools	No	50	85	85	90

Table 8 (2 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-N/A-	0
Tractor	No	40	84	-N/A-	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

Notes:

(1) Source: FHWA Roadway Construction Noise Model User's Guide January 2006.

(2) Warehouse & Forklift Noise Exposure - NoiseTesting.info Carl Stautins, November 4, 2014 http://www.noisetesting.info/blog/carl-strautins/page-3/

(3) Data provided Leq as measured at the operator. Sound Level at 50 feet is calculated using Inverse Square Law.

6. IMPACT ANALYSIS

This impact discussion analyzes the potential for noise and/or groundborne vibration impacts to cause the exposure of a person to, or generation of, noise levels in excess of established City of Wildomar standards related to: construction and transportation noise related impacts to, or from, the proposed project.

IMPACTS RELATED TO CONSTRUCTION NOISE

Construction activities will occur in phases including site preparation, grading, building construction, paving, and architectural coating. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. Construction activities are anticipated to begin no sooner than the beginning of October 2022 and be completed by early June 2023.

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. The existing surrounding single-family residential uses to the north, east, and southwest of the project site may be affected by short-term noise impacts associated with construction noise.

Construction noise associated with the proposed project was calculated utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the proposed construction activity. Construction noise levels were calculated for each phase. Anticipated noise levels during each construction phase are presented in Table 9. Worksheets for each phase are included as Appendix D.

Modeled unmitigated construction noise levels reached 67.9 dBA L_{eq} at the nearest residential property line along Mauri Court to the northwest, 68.4 dBA L_{eq} at the nearest residential property line along Benetta Court to the northeast, 62.6 dBA L_{eq} at the nearest residential property line along Crimson Lasso Drive to the east, 62.8 dBA L_{eq} at the nearest residential property line along Horseshoe Court to the east, 72.8 dBA L_{eq} at the nearest residential property line to the east of the project site at 36120 Jana Lane, and 61.5 dBA L_{eq} at the nearest residential property line to the southeast of the project site at 36254 Jana Lane. Table 9 also includes a comparison of existing noise levels and project construction noise levels. STNM3 was used to represent the property lines of the residential receptors to northwest, STNM4 was used to represent the property lines of the residential receptors to the northeast, STNM5 was used to represent the property lines of the residential receptors to the east along Crimson Lasso Drive and Horseshoe Court, STNM2 was used to represent the property lines of the residential receptor to the east along Jana Lane, and STNM1 was used to represent the property lines of the residential receptor to the southeast along Jana Lane of the project site.

The expected duration of each phase and the loudest sound level at the nearest sensitive receptor (the single-family residence located to the east of the project site at 36120 Jana Lane) is presented below:

Phase	**Number of Days**	**Maximum L_{eq}**
Site Preparation	5	67.6
Grading	8	72.8
Building Construction	156	73.7
Paving	18	69.9
Architectural Coating	18	59.5

However, project construction will not occur outside of the hours outlined as “exempt” in the City of Wildomar Municipal Code Section 9.48.020 (as follows) and therefore, will not result in or generate 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.

The City's Municipal Code Section 9.48.020 exempts construction noise from the City's noise standards as long as either the construction noise source it is located one-quarter of a mile or more from an inhabited dwelling or if within on-quarter mile of an inhabited dwelling it does not take place between the hours of 6:00 PM and 6:00 AM during the months of June through September and 6:00 PM and 7:00 AM during the months of October through May.

Project construction activities are expected to comply with the above allowed hours. Impacts would be less than significant, and no mitigation is required.

In addition to adherence to the City of Wildomar Municipal Code which limits the construction hours of operation, the following best management practices will be implemented to further reduce construction noise emanating from the proposed project:

Construction Noise - Best Management Practices

1. All construction equipment, fixed or mobile, will be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.

2. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. As applicable, shut off all equipment when not in use.

4. Equipment staging shall be located in areas that create the greatest distance between construction-related noise/vibration sources and sensitive receptors surrounding the project site.

5. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away from existing residences east of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and the nearest off-site residences. The shielding should be without holes and cracks.

6. No amplified music and/or voice will be allowed on the project site.

7. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City's Municipal Code Section 9.48.020.

Off-Site Construction

Construction truck trips would occur throughout the construction period. As sated previously under Section 2 Noise and Vibration Fundamentals, it is widely accepted that the average healthy ear can barely perceive changes of 3 dBA. According to the FHWA, the traffic volumes need to be doubled in order to increase noise levels by 3 dBA CNEL. The estimated existing average daily trips along Clinton Keith Road in the vicinity of the project site range between 18,492 and 36,108 average daily vehicle trips and the existing average daily vehicle trips along Jana Lane are 240 average daily vehicle trips (see Table 10).[9] As shown in the CalEEMod output files provided in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, 2022) the greatest number of construction-related vehicle trips per day would be during building construction at up to 109 vehicle trips per day (78 for worker trips and 31 for vendor trips). Given the project site's proximity to the 15 Freeway, it is anticipated that vendor and/or haul truck

[9] Existing average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini Group, Inc., July 20, 2022).

traffic would take the most direct route to the appropriate freeway ramps. Therefore, the addition of project vendor/haul trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes. Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant. No mitigation measures are required.

Noise Impacts to Off-Site Receptors Due to Project Generated Vehicle Traffic

During operation, the proposed project is expected to generate approximately 5,667 average daily trips with 270 trips during the AM peak-hour and 264 trips during the PM peak-hour. A project generated traffic noise level was modeled utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108. Traffic noise levels were calculated at the right of way from the centerline of the analyzed roadway. The modeling is theoretical and does not take into account any existing barriers, structures, and/or topographical features that may further reduce noise levels. Therefore, the levels are shown for comparative purposes only to show the difference in with and without project conditions. Roadway input parameters including average daily traffic volumes (ADTs), speeds, and vehicle distribution data is shown in Table 10. The potential off-site noise impacts caused by an increase of traffic from operation of the proposed project on the nearby roadways were calculated for the following scenarios:

Existing Year (without Project): This scenario refers to existing year traffic noise conditions and is demonstrated in Table 10.

Existing Year (With Project): This scenario refers to existing year plus project traffic noise conditions and is demonstrated in Table 10.

As shown in Table 11, modeled Existing traffic noise levels range between 49-77 dBA CNEL at the right-of-way of each modeled roadway segment; and the modeled Existing Plus Project traffic noise levels range between 53-77 dBA CNEL at the right-of-way of each modeled roadway segment.

As sated previously, it is widely accepted that the average healthy ear can barely perceive changes of 3 dBA. Therefore, for purposes of this project, increases in ambient noise along affected roadways due to project generated vehicle traffic is considered substantial if they result in an increase of at least 3 dBA CNEL and: (1) the existing noise levels already exceed the applicable land use compatibility standard for the affected sensitive receptors set forth in the Noise Element of the City's General Plan; or (2) the project increases noise levels by at least 3 dBA CNEL and raises the ambient noise level from below the applicable standard to above the applicable standard.

Project generated vehicle traffic along the segment of Jana Lane south of Clinton Keith Road is anticipated to increase the noise by up to approximately 7 dBA CNEL. The existing traffic noise level was modeled at 49 dBA CNEL and the existing plus project noise level was modeled at 57 dBA CNEL along this roadway segment. The majority of the existing land use along the portion of Jana Lane affected by the proposed project generated vehicle trips are that of commercial and/or industrial uses with the exception of one single-family residence at 36120 Jana Lane. Therefore, although the project generated vehicle trips result in an increase above 3 dBA CNEL along the segment of Jana Lane south of Clinton Keith Road, project generated vehicle traffic does not raise the ambient noise level from below the applicable standard to above the applicable standard (60 dBA CNEL for single-family residential uses, see Table 3).

Project generated vehicle traffic along all other modeled roadway segments is anticipated to increase the noise between approximately 0.06 to 1.05 dBA CNEL. Therefore, project generated increases in ambient noise levels would result in less than 3 dBA CNEL increases along these segments.

Impacts from project generated vehicle trips would be considered less than significant. No mitigation is required.

NOISE IMPACTS DUE TO ON-SITE PROJECT OPERATION

As discussed previously, the City of Wildomar has adopted the County of Riverside General Plan. The General Plan Noise Element sets forth stationary noise source property line standards for impacts to residential land uses. The standards are 65 dBA L_{eq}(10 minute) between the hours of 7:00 AM and 10:00 PM; and 45 dBA L_{eq} (10 minute) between the hours of 10:00 PM and 7:00 AM. However, the City of Wildomar has also established stationary noise source standards in section 9.48.040 of the Municipal Code. These standards are established by General Plan land use designation.

The SoundPLAN noise model was utilized to estimate two operational scenarios, peak hour operation and nighttime operation in order to determine if it is likely to exceed the City's applicable noise standards. A description of each noise source and model parameters are discussed in Section 5 of this report. As shown in Figures 6 and 7, peak hour project operational noise levels, which are expected to occur between 7:00 AM and 10:00 PM will range between 39 and 65 dBA L_{eq} at the nearest receptors; and nighttime noise levels at the nearest sensitive receptors will range between 35 and 60 dBA L_{eq} (see Figures 8 and 9). As shown below, project operational noise would not exceed daytime or nighttime noise standards. Impacts would be less than significant. No mitigation is required.

Project Operational Noise

Direction From Project Site	Land Use Designation	Applicable Standards (day/night) (dBA, L_{eq})	Modeled Noise Level (day/night) (dBA, L_{eq})	Exceeds Standards? (day/night)
North	Medium Density Residential	55/45	50/47	No
South	Medium High Density Residential	55/45	40/35	No
East	Business Park	65/45	64/52	No
West	Business Park	65/45	65/60	No

GROUNDBORNE VIBRATION IMPACTS

There are several types of construction equipment that can cause vibration levels high enough to annoy persons in the vicinity and/or result in architectural or structural damage to nearby structures and improvements. For example, as shown in Table 12, a vibratory roller could generate up to 0.21 PPV at a distance of 25 feet; and operation of a large bulldozer could generate up to 0.089 PPV at a distance of 25 feet (two of the most vibratory pieces of construction equipment). Groundborne vibration at sensitive receptors associated with this equipment would drop off as the equipment moves away. For example, as the vibratory roller moves further than 100 feet from the sensitive receptors, the vibration associated with it would drop below 0.0026 PPV. It should be noted that these vibration levels are reference levels and may vary slightly depending upon soil type and specific usage of each piece of equipment.

Architectural Damage

Vibration generated by construction activity generally has the potential to damage structures. This damage could be structural damage, such as cracking of floor slabs, foundations, columns, beams, or wells, or cosmetic architectural damage, such as cracked plaster, stucco, or tile. (California Department of Transportation, 2020)

Table 3 identifies a PPV level of 0.3 in/sec as the threshold at which there is a risk to "architectural" damage to older residential structures and a PPV level of 0.5 in/sec for commercial buildings. Estimated groundborne vibration levels at the nearest structures are presented in Table 12. As shown in Table 12, the threshold of 0.3 in/sec PPV for older residential structures will not be exceeded at nearby residential uses; however, the commercial threshold of 0.5 in/sec PPV has the potential to be exceeded at the commercial structures located to the south and west of the project site. In summary, if a vibratory roller is used within 15 feet of an existing commercial structure or if a large bulldozer is used within 8 feet of an existing structure there will be some potential for this equipment to result in architectural damage and significant impacts. Best management practices prohibiting the use of a vibratory roller within 15 feet or a large bulldozer within 8 feet of existing commercial structures to the south and west of the project site will reduce potential impacts. Vibration worksheets are provided in Appendix G.

With incorporation of best management practices, potential impacts related to architectural damage would be reduced to less than significant.

Annoyance to Persons

The primary effect of perceptible vibration is often a concern. However, secondary effects, such as the rattling of a china cabinet, can also occur, even when vibration levels are well below perception. Any effect (primary perceptible vibration, secondary effects, or a combination of the two) can lead to annoyance. The degree to which a person is annoyed depends on the activity in which they are participating at the time of the disturbance. For example, someone sleeping, or reading will be more sensitive than someone who is running on a treadmill. Reoccurring primary and secondary vibration effects often lead people to believe that the vibration is damaging their home, although vibration levels are well below minimum thresholds for damage potential (California Department of Transportation, 2020).

As shown in Table 4, groundborne vibration becomes distinctly perceptible to sensitive receptors at a level of 0.04 in/sec PPV and severely perceptible at a level of 0.1 in/sec PPV. Operation of a vibratory roller may result in groundborne vibration levels of up to 0.1 at a distance of 41 feet and a large bulldozer at a distance of 23 feet. Due to distance to the nearest sensitive receptors, vibration related annoyance would not occur. Furthermore, annoyance will be short-term and will occur only during site grading and preparation which will be limited to daytime hours. Impacts are less than significant. Vibration worksheets are provided in Appendix G.

Table 9
Construction Noise Levels (dBA L_{eq})

Phase	Receptor Location	Existing Ambient Noise Levels (dBA Leq)[1]	Unmitigated Noise Levels (dBA Leq)[2]
Site Preparation	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	62.7
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	63.2
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	57.4
	Single-family Residential to East (36035 Horseshoe Court)	56.8	57.6
	Single-family Residential to East (36120 Jana Lane)	53.5	67.6
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	56.3
Grading	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	67.9
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	68.4
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	62.6
	Single-family Residential to East (36035 Horseshoe Court)	56.8	62.8
	Single-family Residential to East (36120 Jana Lane)	53.5	72.8
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	61.5
Building Construction	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	67.8
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	68.3
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	62.5
	Single-family Residential to East (36035 Horseshoe Court)	56.8	62.7
	Single-family Residential to East (36120 Jana Lane)	53.5	72.7
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	61.3
Paving	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	65.1
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	65.5
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	59.7
	Single-family Residential to East (36035 Horseshoe Court)	56.8	60.0
	Single-family Residential to East (36120 Jana Lane)	53.5	69.9
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	58.6
Architectural Coating	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	54.6
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	55.1
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	49.3
	Single-family Residential to East (36035 Horseshoe Court)	56.8	49.5
	Single-family Residential to East (36120 Jana Lane)	53.5	59.5
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	48.1

Notes:

(1) See Table 1 for measured ambient noise. STNM3 was used for residential receptors to northwest, STNM4 was used for residential receptors to the northeast, STNM5 was used for residential receptors along Crimson Lasso Drive and Horseshoe Court to the east, STNM2 was used for the residential receptor along Jana Lane to the east, and STNM1 was used for the residential receptor along Jana Lane to the southeast of the project site.

(2) Construction noise worksheets are provided in Appendix D.

Table 10
Project Average Daily Traffic Volumes and Roadway Parameters

Roadway	Segment	Average Daily Traffic Volume[1]		Posted Travel Speeds (MPH)	Site Conditions
		Existing	Existing Plus Project		
Clinton Keith Road	West of I-15 Southbound Ramp	36,108	36,588	35	Soft
	I-15 Southbound Ramp to I-15 Northbound Ramp	34,848	35,652	35	Soft
	I-15 Northbound Ramp to Wildomar Trail	35,112	36,084	35	Soft
	Wildomar Trail to Inland Valley Drive	28,236	29,376	35	Soft
	Inland Valley Drive to Salida Del Sol	21,156	22,452	45	Soft
	Salida Del Sol to Elizabeth Lane	21,276	22,704	45	Soft
	East of Elizabeth Lane	20,280	21,804	45	Soft
	West of Jana Lane	20,196	23,064	45	Soft
	East of Jana Lane	20,100	23,952	45	Soft
	West of Nutmeg Street	18,492	19,284	45	Soft
	East of Nutmeg Street	25,668	26,148	45	Soft
Wildomar Trail	North of Clinton Keith Road	6,036	6,132	40	Soft
	South of Clinton Keith Road	4,032	4,104	40	Soft
Inland Valley Drive	South of Clinton Keith Road	9,564	9,720	45	Soft
Salida Del Sol	North of Clinton Keith Road	480	612	25	Soft
Elizabeth Lane	North of Clinton Keith Road	1,176	1,272	25	Soft
Jana Lane	South of Clinton Keith Road	240	1,285	25	Soft
Nutmeg Street	North of Clinton Keith Road	3,444	3,600	40	Soft
	South of Clinton Keith Road	9,708	9,864	45	Soft

Vehicle Distribution (Light Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)
Automobiles	75.56	13.96	10.49
Medium Trucks	48.91	2.17	48.91
Heavy Trucks	47.30	5.41	47.30

Vehicle Distribution (Heavy Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)
Automobiles	75.54	14.02	10.43
Medium Trucks	48.00	2.00	50.00
Heavy Trucks	48.00	2.00	50.00

Notes:

(1) Existing and Existing Plus Project average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini Group, Inc., July 20, 2022). However, the project generated trips along the segment of Jana Lane south of Clinton Keith Road were calculated with the assumption that half of all of the proposed fast-food restaurant trips and all of the proposed office project generated trips would travel along this segment.

(2) Existing vehicle percentages are based on the Riverside County Industrial Hygiene Letter for Traffic Noise.

Table 11
Change in Existing Noise Levels Along Roadways as a Result of Project (dBA CNEL)

Roadway	Segment	Distance from roadway centerline to right-of-way (feet)[2]	Modeled Noise Levels (dBA CNEL)[1]				
			Existing Without Project at right-of-way	Existing Plus Project at right-of-way	Change in Noise Level	Exceeds Standards[3]	Increase of 3 dB or More
Clinton Keith Road	West of I-15 Southbound Ramp	76	75.13	75.19	0.06	Yes	No
	I-15 SB Ramp to I-15 NB Ramp	76	74.98	75.08	0.10	Yes	No
	I-15 NB Ramp to Wildomar Trail	76	75.01	75.13	0.12	Yes	No
	Wildomar Trail to Inland Valley Dr	76	74.06	74.24	0.18	Yes	No
	Inland Valley Dr to Salida Del Sol	76	74.34	74.60	0.26	Yes	No
	Salida Del Sol to Elizabeth Lane	76	74.37	74.65	0.28	Yes	No
	East of Elizabeth Lane	76	74.16	74.47	0.31	Yes	No
	West of Jana Lane	76	74.14	74.72	0.58	Yes	No
	East of Jana Lane	76	74.12	74.88	0.76	Yes	No
	West of Nutmeg St	55	75.16	75.35	0.19	Yes	No
	East of Nutmeg St	55	76.59	76.67	0.08	Yes	No
Wildomar Trail	North of Clinton Keith Rd	50	65.91	65.98	0.07	Yes	No
	South of Clinton Keith Rd	50	64.16	64.24	0.08	Yes	No
Inland Valley Drive	South of Clinton Keith Rd	50	69.03	69.10	0.07	Yes	No
Salida Del Sol	North of Clinton Keith Rd	37	52.22	53.27	1.05	Yes	No
Elizabeth Lane	North of Clinton Keith Rd	37	56.11	56.45	0.34	Yes	No
Jana Lane	South of Clinton Keith Rd	37	49.21	56.50	7.29	No	Yes
Nutmeg Street	North of Clinton Keith Rd	33	65.28	65.47	0.19	Yes	No
	South of Clinton Keith Rd	44	69.65	69.72	0.07	Yes	No

Notes:

(1) Exterior noise levels calculated 5 feet above pad elevation, perpendicular to subject roadway.

(2) Distance from the roadway centerline to the roadway right-of-way (ROW) were estimated based on the Cit of Wildomar/County of Riverside General Plan Ciruclation Element roadway designations. The ROW distances for Nutmeg Street as well as the segments of Clinton Keith Road west of Nutmeg Street and east of Nutmeg Street were based on the City of Murrieta General Plan 2035 Ciruclation Element roadway designations.

(3) Per the County of Riverside normally acceptbale standard for single-family residential dwelling units (see Table 3).

Table 12
Construction Equipment Vibration Source Levels

Equipment		PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment Manual, 2018.
*RMS velocity in decibels, VdB re 1 micro-in/sec

Table 13
Construction Vibration Levels at the Nearest Receptors

Receptor Location	Distance from Property Line to Nearest Structure (feet)	Equipment	Vibration Level (PPV in/sec)	Threshold Exceeded?[1]	Vibration Level with Best Management Practices[2]	Threshold Exceeded With Best Management Practices?[1,2]
Residential to North	145	Vibratory Roller	0.015	No	-	-
	145	Large Bulldozer	0.006	No	-	-
Commercial to East	91	Vibratory Roller	0.030	No	-	-
	91	Large Bulldozer	0.013	No	-	-
Commercial to South	3	Vibratory Roller	5.052	Yes	0.452	No
	3	Large Bulldozer	2.141	Yes	0.492	No
Commercial to West	1	Vibratory Roller	26.250	Yes	0.452	No
	1	Large Bulldozer	11.125	Yes	0.492	No

Notes:

(1) Caltrans identifies the threshold at which there is a risk of architectural damage to nolder residential structures as a PPV of 0.3 in/sec and to modern industrial/commercial buildings as a PPV of 0.5 in/sec (see Table 4).

(2) Best management practices include prohibiting the use of vibratory rollers, or other similar vibratory equipment, within 15 feet and large bulldozers within 8 feet of commercial structures to the south and west of the project site.

Signs and symbols

- Proposed Project
- Receiver
- Point source (car wash, HVAC, vacuums, speakers, etc.)
- Line source (drive-thru ques)
- Area source (fueling area)
- Parking lot
- Noise Levels (1st Fl/2nd Fl)

Figure 6
Operational Noise Levels - Day

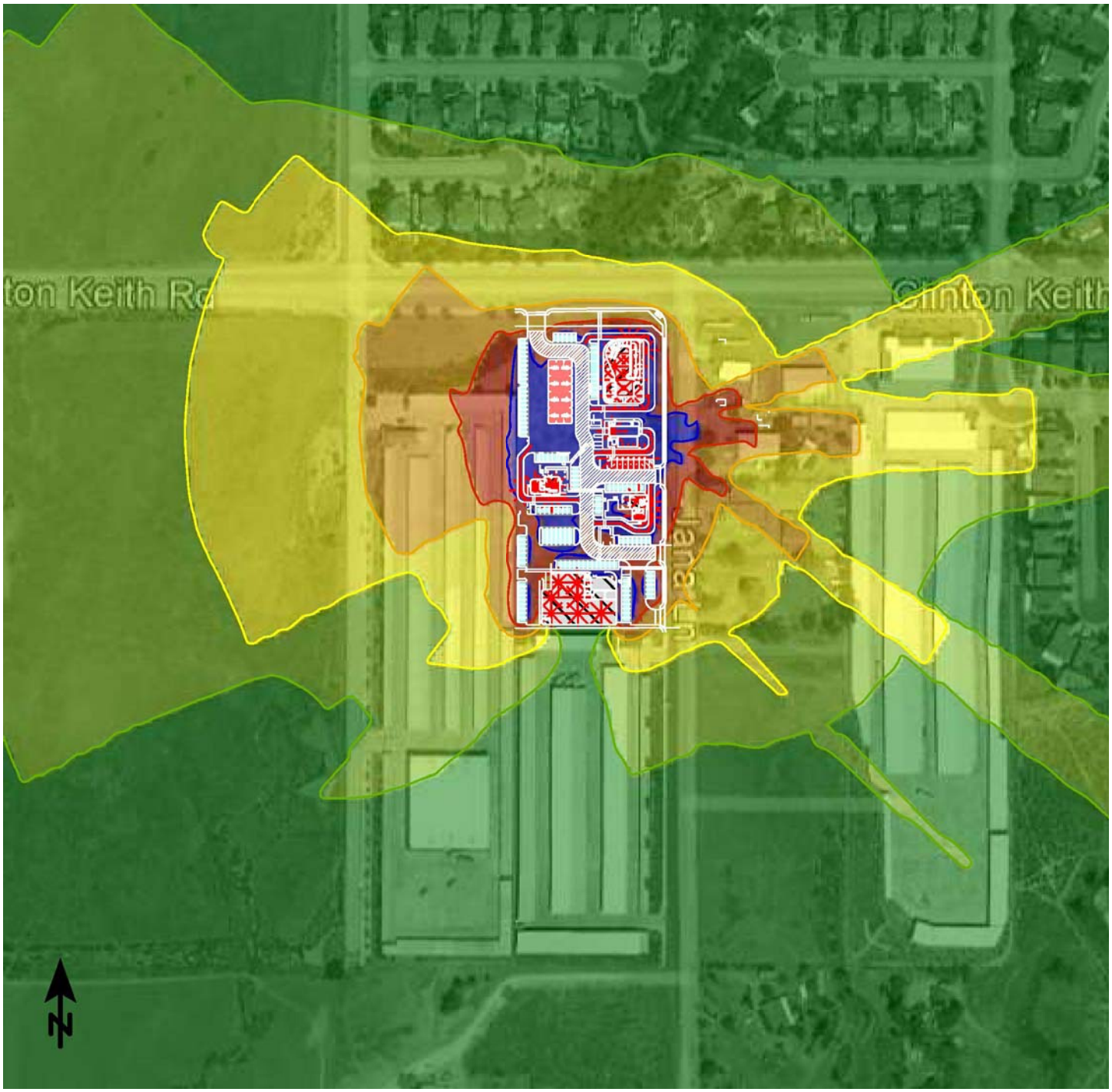


Figure 7
Operational Noise Level Contours - Day

Signs and symbols

- Proposed Project
- Receiver
- Point source (car wash, HVAC, vacuums, speakers, etc.)
- Line source (drive-thru ques)
- Area source (fueling area)
- Parking lot
- Noise Levels (1st Fl/2nd Fl)

Figure 8
Operational Noise Levels - Night

Figure 9
Operational Noise Level Contours - Night

7. CEQA THRESHOLDS & IMPACTS EVALUATION

CALIFORNIA ENVIRONMENTAL QUALITY ACT IMPACT ANALYSIS

Will the project result in the:

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?*

Less Than Significant Impact:

On-Site Construction Noise

Construction activities will occur in phases including site preparation, grading, building construction, paving, and architectural coating. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. Construction activities are anticipated to begin no sooner than the beginning of October 2022 and be completed by early June 2023.

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. The existing surrounding single-family residential uses to the north, east, and southwest of the project site may be affected by short-term noise impacts associated with construction noise.

Construction noise associated with the proposed project was calculated utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the proposed construction activity. Construction noise levels were calculated for each phase. Anticipated noise levels during each construction phase are presented in Table 9. Worksheets for each phase are included as Appendix D.

Modeled unmitigated construction noise levels reached 67.9 dBA L_{eq} at the nearest residential property line along Mauri Court to the northwest, 68.4 dBA L_{eq} at the nearest residential property line along Benetta Court to the northeast, 62.6 dBA L_{eq} at the nearest residential property line along Crimson Lasso Drive to the east, 62.8 dBA L_{eq} at the nearest residential property line along Horseshoe Court to the east, 72.8 dBA L_{eq} at the nearest residential property line to the east of the project site at 36120 Jana Lane, and 61.5 dBA L_{eq} at the nearest residential property line to the southeast of the project site at 36254 Jana Lane. Table 9 also includes a comparison of existing noise levels and project construction noise levels. STNM3 was used to represent the property lines of the residential receptors to northwest, STNM4 was used to represent the property lines of the residential receptors to the northeast, STNM5 was used to represent the property lines of the residential receptors to the east along Crimson Lasso Drive and Horseshoe Court, STNM2 was used to represent the property lines of the residential receptor to the east along Jana Lane, and STNM1 was used to represent the property lines of the residential receptor to the southeast along Jana Lane of the project site.

The expected duration of each phase and the loudest sound level at the nearest sensitive receptor (the single-family residence located to the east of the project site at 36120 Jana Lane) is presented below:

Phase	Number of Days	Maximum L_{eq}
Site Preparation	5	67.6
Grading	8	72.8
Building Construction	156	73.7
Paving	18	69.9
Architectural Coating	18	59.5

However, project construction will not occur outside of the hours outlined as "exempt" in the City of Wildomar Municipal Code Section 9.48.020 (as follows) and therefore, will not result in or generate 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.

The City's Municipal Code Section 9.48.020 exempts construction noise from the City's noise standards as long as either the construction noise source it is located one-quarter of a mile or more from an inhabited dwelling or if within on-quarter mile of an inhabited dwelling it does not take place between the hours of 6:00 PM and 6:00 AM during the months of June through September and 6:00 PM and 7:00 AM during the months of October through May.

Project construction activities are expected to comply with the above allowed hours. Impacts would be less than significant, and no mitigation is required.

Project construction activities are expected to comply with the above allowed hours. Impacts would be less than significant, and no mitigation is required.

In addition to adherence to the City of Wildomar Municipal Code which limits the construction hours of operation, the following best management practices will be implemented to further reduce construction noise emanating from the proposed project:

Construction Noise - Best Management Practices

1. All construction equipment, fixed or mobile, will be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.

2. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. As applicable, shut off all equipment when not in use.

4. Equipment staging shall be located in areas that create the greatest distance between construction-related noise/vibration sources and sensitive receptors surrounding the project site.

5. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away from existing residences east of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and the nearest off-site residences. The shielding should be without holes and cracks.

6. No amplified music and/or voice will be allowed on the project site.

7. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City's Municipal Code Section 9.48.020.

Off-Site Construction Noise

Construction truck trips would occur throughout the construction period. As sated previously under Section 2 Noise and Vibration Fundamentals, it is widely accepted that the average healthy ear can barely perceive changes of 3 dBA. According to the FHWA, the traffic volumes need to be doubled in order to increase noise levels by 3 dBA CNEL. The estimated existing average daily trips along Clinton Keith Road in the vicinity of the project site range between 18,492 and 36,108 average daily vehicle trips and the existing average daily vehicle trips along Jana Lane are 240 average daily vehicle trips (see Table 10).[10] As shown in the CalEEMod output files provided in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, 2022) the greatest number of construction-related vehicle trips per day would be during building construction at up to 109 vehicle trips per day (78 for worker trips and 31 for vendor trips). Given the project site's proximity to the 15 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps. Therefore, the addition of project vendor/haul trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes. Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant. No mitigation measures are required.

Project Operational Noise – Onsite Operations

Peak hour project operational noise levels, which are expected to occur between 7:00 AM and 10:00 PM will range between 39 and 65 dBA L_{eq} at the nearest receptors; and nighttime noise levels at the nearest sensitive receptors will range between 35 and 60 dBA L_{eq} (see Figures 8 and 9). As shown below, project operational noise would not exceed daytime or nighttime noise standards. Impacts would be less than significant. No mitigation is required.

Project Operational Noise

Direction From Project Site	Land Use Designation	Applicable Standards (day/night) (dBA, L_{eq})	Modeled Noise Level (day/night) (dBA, L_{eq})	Exceeds Standards? (day/night)
North	Medium Density Residential	55/45	50/47	No
South	Medium High Density Residential	55/45	39/32	No
East	Business Park	65/45	64/45	No
West	Business Park	65/45	65/59	No

Operational Impacts – Project Generated Vehicle Traffic

During operation, the proposed project is expected to generate approximately 5,667 average daily trips with 270 trips during the AM peak-hour and 264 trips during the PM peak-hour. A Project generated vehicle noise along affected roadways was modeled utilizing a computer program that replicates the FHWA Traffic Noise Prediction Model FHWA-RD-77-108. As shown in the modeling, project generated vehicle traffic along the

[10] Existing average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini Group, Inc., July 20, 2022).

segment of Jana Lane south of Clinton Keith Road is anticipated to increase the noise by up to approximately 7 dBA CNEL. The existing traffic noise level was modeled at 49 dBA CNEL and the existing plus project noise level was modeled at 57 dBA CNEL along this roadway segment. The majority of the existing land use along the portion of Jana Lane affected by the proposed project generated vehicle trips are that of commercial and/or industrial uses with the exception of one single-family residence at 36120 Jana Lane. Therefore, although the project generated vehicle trips result in an increase above 3 dBA CNEL along the segment of Jana Lane south of Clinton Keith Road, project generated vehicle traffic does not raise the ambient noise level from below the applicable standard to above the applicable standard (60 dBA CNEL for single-family residential uses, see Table 3). Project generated vehicle traffic along all other modeled roadway segments is anticipated to increase the noise between approximately 0.06 to 1.05 dBA CNEL. Therefore, project generated increases in ambient noise levels would result in less than 3 dBA CNEL increases along these segments. Impacts from project generated vehicle trips would be considered less than significant. No mitigation is required.

b) Generation of excessive groundborne vibration of groundborne noise levels?

Less Than Significant Impact:

The Caltrans Transportation and Construction Vibration Guidance Manual (2020) provides a comprehensive discussion regarding groundborne vibration and the appropriate thresholds to use to assess the potential for damage. As shown in Table 3, the threshold at which there is a risk of "architectural" damage to historic structures is a peak particle velocity (PPV) of 0.25 in/sec, and a PPV of 0.3 in/sec at older residential structures. There is a risk of architectural damage at newer residential structures and modern commercial/industrial buildings at a PPV of 0.5 in/sec. In addition, the Caltrans Noise and Vibration Manual identifies 0.1 PPV in./sec. as the level that is "strongly perceptible" (Table 4).

Estimated groundborne vibration levels at the nearest structures are presented in Table 13. As shown in Table 13, the threshold of 0.3 in/sec PPV for older residential structures will not be exceeded at nearby residential uses; however, the commercial threshold of 0.5 in/sec PPV has the potential to be exceeded at the commercial structures located to the south and west of the project site. In summary, if a vibratory roller is used within 15 feet of an existing commercial structure or if a large bulldozer is used within 8 feet of an existing structure there will be some potential for this equipment to result in architectural damage and significant impacts. Best management practices prohibiting the use of a vibratory roller within 15 feet or a large bulldozer within 8 feet of existing commercial structures to the south and west of the project site will reduce potential impacts. With incorporation of best management practices, potential impacts related to architectural damage would be reduced to less than significant. Vibration worksheets are provided in Appendix G.

As shown in Table 4, groundborne vibration becomes distinctly perceptible to sensitive receptors at a level of 0.04 in/sec PPV and severely perceptible at a level of 0.1 in/sec PPV. Operation of a vibratory roller may result in groundborne vibration levels of up to 0.1 at a distance of 41 feet and a large bulldozer at a distance of 23 feet. Due to distance to the nearest sensitive receptors, vibration related annoyance would not occur. Furthermore, annoyance will be short-term and will occur only during site grading and preparation which will be limited to daytime hours. Impacts are less than significant.

Operation of the proposed project will involve the movement of passenger vehicles and trucks. Driving surfaces associated with the project will be paved and will generally be smooth. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Caltrans 2020). Groundborne vibration levels associated with passenger vehicles is much lower. The movement of vehicles on the project site would not result in the generation of excessive groundborne vibration or groundborne noise. Impacts would be less than significant. No mitigation is required.

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 area to excessive noise levels?

Less Than Significant Impact:

The closest airport to the project site is the French Valley Airport located as close as approximately 5.66 miles southeast of the project site. The Riverside County Airport Land Use Compatibility Plan Policy Document (October 2007) shows that the project site is well outside the French Valley Airport's land use compatibility zones, as shown on Map FV-1, and outside the 55 dBA CNEL noise contour for the airport, as shown on Map FV-3. Therefore, the proposed project would not expose people residing or working in the area to excessive noise levels. The impact is less than significant, and no mitigation is required.

8. REFERENCES

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2002 Transportation Related Earthborne Vibrations (California Department of Transportation Experiences), Technical Advisory, Vibration TAV-02-01-R9601. February 20.

2020 Transportation and Construction Vibration Manual. April.

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APPENDICES

Appendix A List of Acronyms
Appendix B Glossary
Appendix C Noise Measurement Field Worksheets
Appendix D Construction Noise Calculations
Appendix E FHWA Worksheets
Appendix F SoundPLAN Worksheets
Appendix G Vibration Worksheets

APPENDIX A

LIST OF ACRONYMS

Term	Definition
ADT	Average Daily Traffic
ANSI	American National Standard Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
D/E/N	Day / Evening / Night
dB	Decibel
dBA or dB(A)	Decibel "A-Weighted"
dBA/DD	Decibel per Double Distance
dBA L_{eq}	Average Noise Level over a Period of Time
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
L_{02},L_{08},L_{50},L_{90}	A-weighted Noise Levels at 2 percent, 8 percent, 50 percent, and 90 percent, respectively, of the time period
DNL	Day-Night Average Noise Level
$L_{eq(x)}$	Equivalent Noise Level for '"x" period of time
L_{eq}	Equivalent Noise Level
L_{max}	Maximum Level of Noise (measured using a sound level meter)
L_{min}	Minimum Level of Noise (measured using a sound level meter)
LOS C	Level of Service C
OPR	California Governor's Office of Planning and Research
PPV	Peak Particle Velocities
RCNM	Road Construction Noise Model
REMEL	Reference Energy Mean Emission Level
RMS	Root Mean Square

APPENDIX B

GLOSSARY

Term	Definition
Ambient Noise Level	The all-encompassing noise environment associated with a given environment, at a specified time, usually a composite of sound from many sources, at many directions, near and far, in which usually no particular sound is dominant.
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear.
CNEL	Community Noise Equivalent Level. CNEL is a weighted 24-hour noise level that is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours.
Decibel, dB	A logarithmic unit of noise level measurement that relates the energy of a noise source to that of a constant reference level; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
DNL, Ldn	Day Night Level. The DNL, or Ldn is a weighted 24-hour noise level that is obtained by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the nighttime hours.
Equivalent Continuous Noise Level, L_{eq}	A level of steady state sound that in a stated time period, and a stated location, has the same A-weighted sound energy as the time-varying sound.
Fast/Slow Meter Response	The fast and slow meter responses are different settings on a sound level meter. The fast response setting takes a measurement every 100 milliseconds, while a slow setting takes one every second.
Frequency, Hertz	In a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., the number of cycles per second).
L_{02}, L_{08}, L_{50}, L_{90}	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level, 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
L_{max}, L_{min}	Lmax is the RMS (root mean squared) maximum level of a noise source or environment measured on a sound level meter, during a designated time interval, using fast meter response. Lmin is the minimum level.
Offensive/ Offending/Intrusive Noise	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of sound depends on its amplitude, duration, frequency, and time of occurrence, and tonal information content as well as the prevailing ambient noise level.
Root Mean Square (RMS)	A measure of the magnitude of a varying noise source quantity. The name derives from the calculation of the square root of the mean of the squares of the values. It can be calculated from either a series of lone values or a continuous varying function.

APPENDIX C

NOISE MEASUREMENT FIELD WORKSHEETS

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM1 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 36254 Jana Lane, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Single-family residential use to east, Jana Lane to west w/ vacant land/residential uses further west, commercial uses to northwest.

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 2:10 PM **End Time:** 2:25 PM **Run Time:**

Leq: 49.5 dB **Primary Noise Source:** Bird song, a little residential ambiance, earthwork at job site to SSW.

Lmax 63 dB

L2 56.4 dB **Secondary Noise Sources:** Leaf rustle from 8 mph breeze.

L8 53.0 dB

L25 49.9 dB

L50 47.4 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

PHOTOS:

STNM1 looking WNW across Jana Lane towards Bunny Trail intersection.

STNM1 looking NE towards main entry way to residence 36254 Jana Lane, Wildomar.

Summary			
File Name on Meter	LxT_Data.027.s		
File Name on PC	LxT_0003099-20220504 141059-LxT_Data.027.		
Serial Number	0003099		
Model	SoundTrack LxT®		
Firmware Version	2.404		
User	Ian Edward Gallagher		
Location	STNM1 33°35'38.25"N 117°13'32.87"W		
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar		
Measurement			
Description			
Start	2022-05-04 14:10:59		
Stop	2022-05-04 14:25:59		
Duration	00:15:00.0		
Run Time	00:15:00.0		
Pause	00:00:00.0		
Pre-Calibration	2022-05-04 14:10:41		
Post-Calibration	None		
Overall Settings			
RMS Weight	A Weighting		
Peak Weight	Z Weighting		
Detector	Slow		
Preamplifier	PRMLxT1L		
Microphone Correction	Off		
Integration Method	Linear		
OBA Range	Normal		
OBA Bandwidth	1/1 and 1/3		
OBA Frequency Weighting	Z Weighting		
OBA Max Spectrum	Bin Max		
Overload	122.7 dB		
Results			
LAeq	49.5		
LAE	79.0		
EA	8.907 µPa²h		
EA8	285.031 µPa²h		
EA40	1.425 mPa²h		
LZpeak (max)	2022-05-04 14:17:47	105.2 dB	
LASmax	2022-05-04 14:11:05	63.0 dB	
LASmin	2022-05-04 14:24:21	41.8 dB	
			Statistics
LCeq	65.8 dB	**LA2.00**	56.4 dB
LAeq	49.5 dB	**LA8.00**	53.0 dB
LCeq - LAeq	16.3 dB	**LA25.00**	49.9 dB
LAleq	55.6 dB	**LA50.00**	47.4 dB
LAeq	49.5 dB	**LA66.60**	46.0 dB
LAleq - LAeq	6.2 dB	**LA90.00**	43.9 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.027.s	Computer's File Name	LxT_0003099-20220504 141059-LxT_Data.027.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM1 33°35'38.25"N 117°13'32.87"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 14:10:59	Duration	0:15:00.0
End Time	2022-05-04 14:25:59	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	49.5 dB		
LAE	79.0 dB	SEA	--- dB
EA	8.9 µPa²h	LAFTM5	57.0 dB
EA8	285.0 µPa²h		
EA40	1.4 mPa²h		
LZ_{peak}	105.2 dB	2022-05-04 14:17:47	
LAS_{max}	63.0 dB	2022-05-04 14:11:05	
LAS_{min}	41.8 dB	2022-05-04 14:24:21	
LA_{eq}	49.5 dB		
LC_{eq}	65.8 dB	LC_{eq} - LA_{eq}	16.3 dB
LAI_{eq}	55.6 dB	LAI_{eq} - LA_{eq}	6.2 dB

Exceedances	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

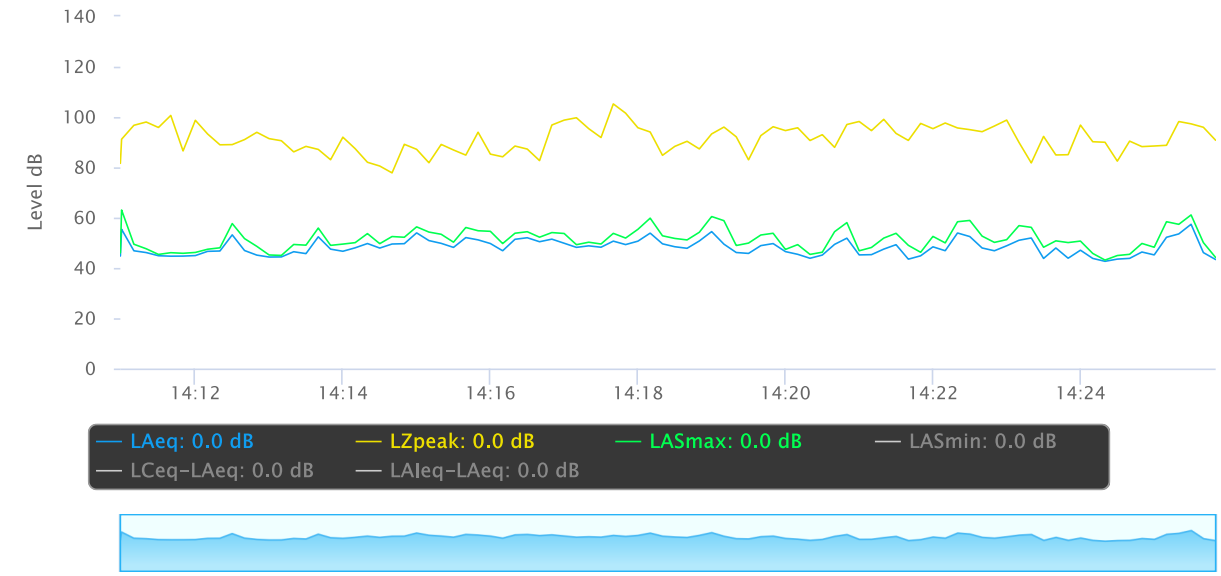
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	49.5 dB		65.8 dB		--- dB	
$L_{S(max)}$	63.0 dB	2022-05-04 14:11:05	--- dB		--- dB	
$L_{S(min)}$	41.8 dB	2022-05-04 14:24:21	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		105.2 dB	2022-05-04 14:17:47

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

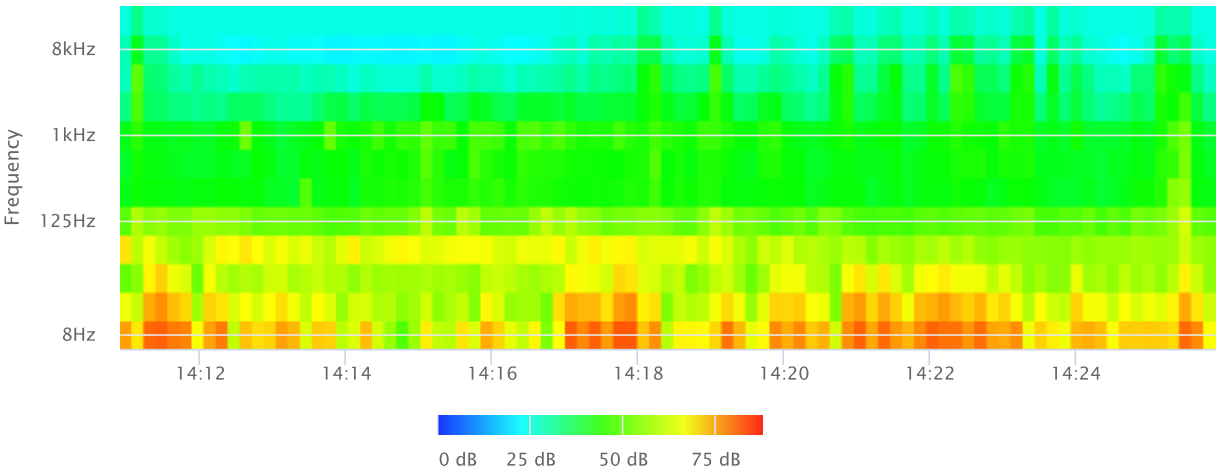
Statistics

LAS 2.0	56.4 dB
LAS 8.0	53.0 dB
LAS 25.0	49.9 dB
LAS 50.0	47.4 dB
LAS 66.6	46.0 dB
LAS 90.0	43.9 dB

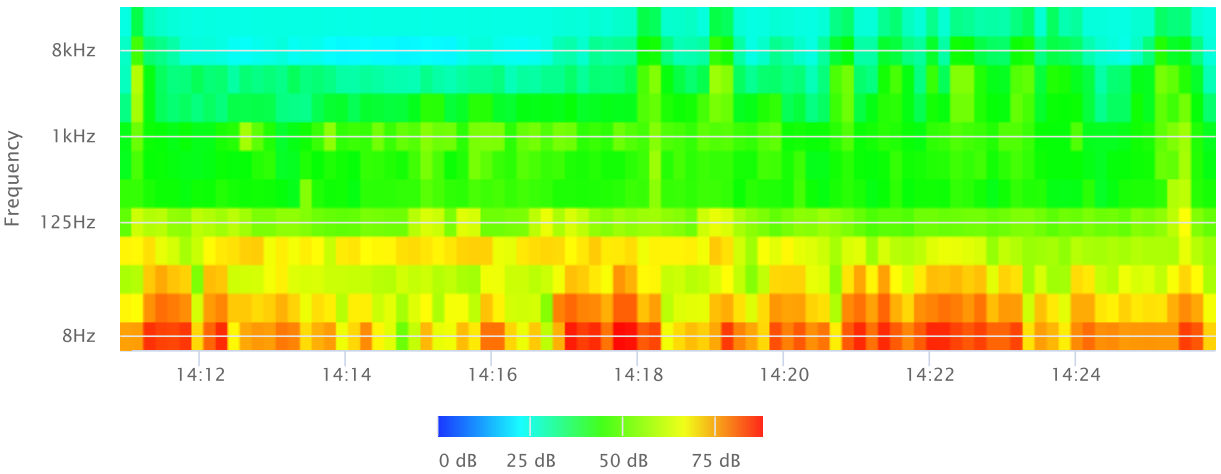
Time History



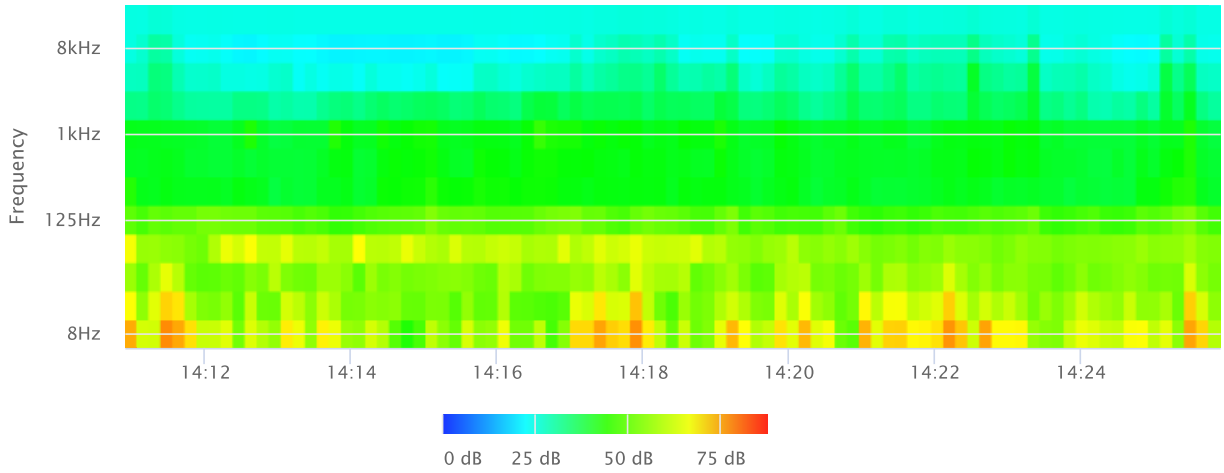
OBA 1/1 Leq



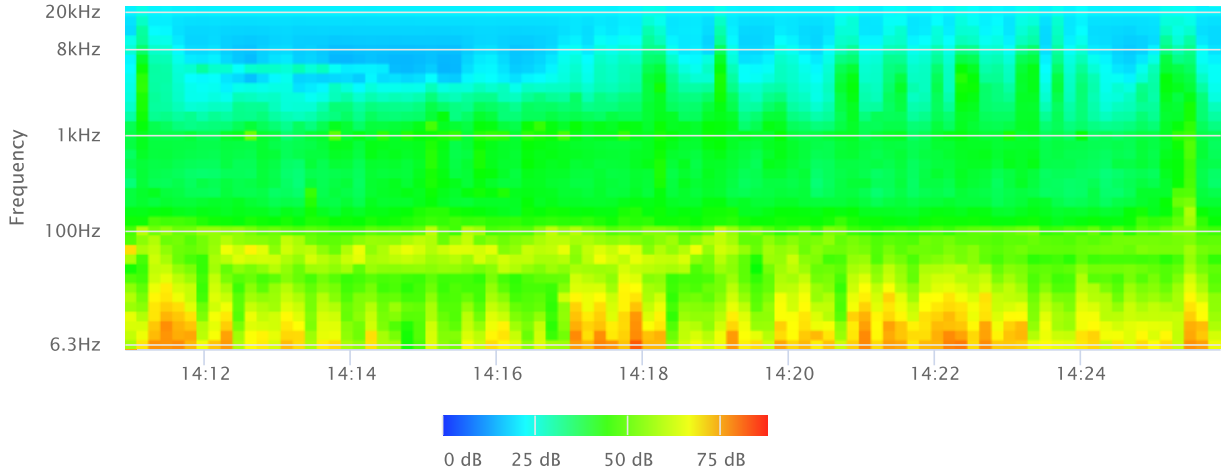
OBA 1/1 Lmax



OBA 1/1 Lmin



OBA 1/3 Leq



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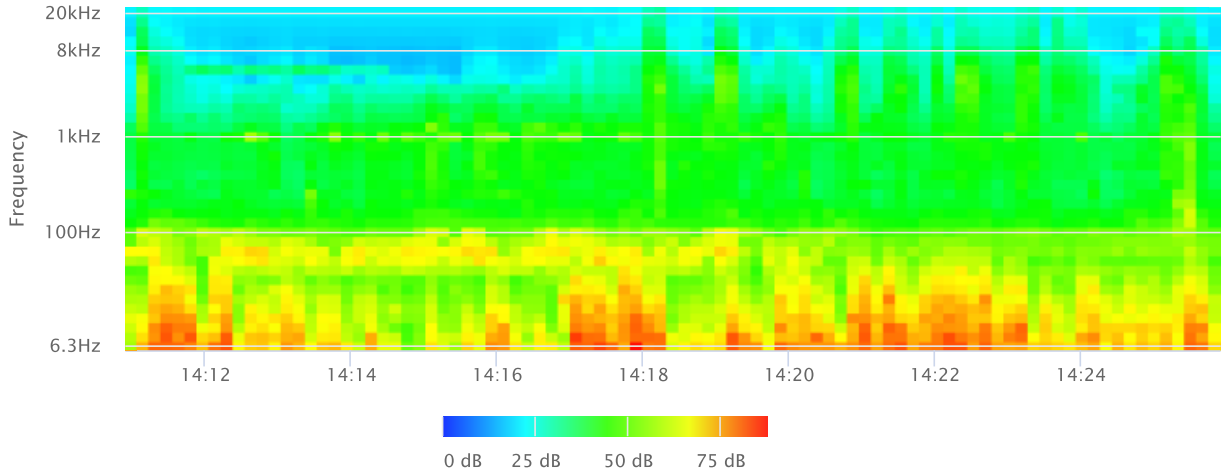
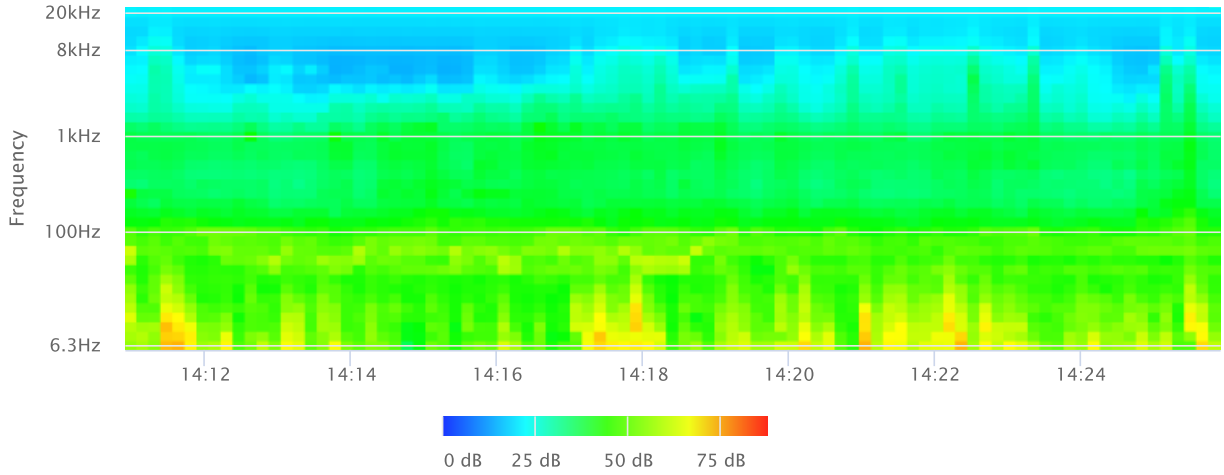


OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:12
14:14
14:16
14:18
14:20
14:22
14:24
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM2 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 36120 Jana Lane, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Jana Lane to west w/ vacant site further west & commercial use to southwest and single-family residential uses to east and northeast.

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 2:44 PM **End Time:** 2:59 PM **Run Time:**

Leq: 53.5 dB

Lmax 71.2 dB

L2 61.6 dB

L8 55.6 dB

L25 51.5 dB

L50 49.5 dB

Primary Noise Source: 4 cars passing microphone traveling down Jana Lane during 15 minute measurement.

Secondary Noise Sources: Leaf rustle from 8 mph breeze. Bird song. Earth being moved at some job siteto SSW of STNM2.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

PHOTOS:

STNM2 looking N up Jana Lane, past entryway to property 36180 Jana Lane. Wildomar (towards Clinton-Keith Road intersection).

STNM2 looking E through chainlink gate and fence towards property 36120 Jana Lane, Wildomar.

Summary	
File Name on Meter	LxT_Data.028.s
File Name on PC	LxT_0003099-20220504 144432-LxT_Data.028.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM2 33°35'46.51"N 117°13'32.94"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 14:44:32
Stop	2022-05-04 14:59:32
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 14:44:11
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.9 dB

Results		
LA_{eq}	53.5	
LAE	83.0	
EA	22.41448 µPa²h	
EA8	717.2634 µPa²h	
EA40	3.586317 mPa²h	
$LZ_{peak\ (max)}$	2022-05-04 14:58:56	107.1 dB
LAS_{max}	2022-05-04 14:52:42	71.2 dB
LAS_{min}	2022-05-04 14:47:01	43.7 dB

		Statistics	
LC_{eq}	67.6 dB	**LA2.00**	61.6 dB
LA_{eq}	53.5 dB	**LA8.00**	55.6 dB
LC_{eq} - LA_{eq}	14.1 dB	**LA25.00**	51.5 dB
LAI_{eq}	56.9 dB	**LA50.00**	49.5 dB
LA_{eq}	53.5 dB	**LA66.60**	48.4 dB
LAI_{eq} - LA_{eq}	3.4 dB	**LA90.00**	46.7 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.028.s	Computer's File Name	LxT_0003099-20220504 144432-LxT_Data.028.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM2 33°35'46.51"N 117°13'32.94"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 14:44:32	Duration	0:15:00.0
End Time	2022-05-04 14:59:32	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	53.5 dB		
LAE	83.0 dB	SEA	--- dB
EA	22.4 µPa²h	LAFTM5	58.8 dB
EA8	717.3 µPa²h		
EA40	3.6 mPa²h		
LZ_{peak}	107.1 dB	2022-05-04 14:58:56	
LAS_{max}	71.2 dB	2022-05-04 14:52:42	
LAS_{min}	43.7 dB	2022-05-04 14:47:01	
LA_{eq}	53.5 dB		
LC_{eq}	67.6 dB	LC_{eq} - LA_{eq}	14.1 dB
LAI_{eq}	56.9 dB	LAI_{eq} - LA_{eq}	3.4 dB

Exceedances	Count	Duration
LAS > 65.0 dB	3	0:00:12.1
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

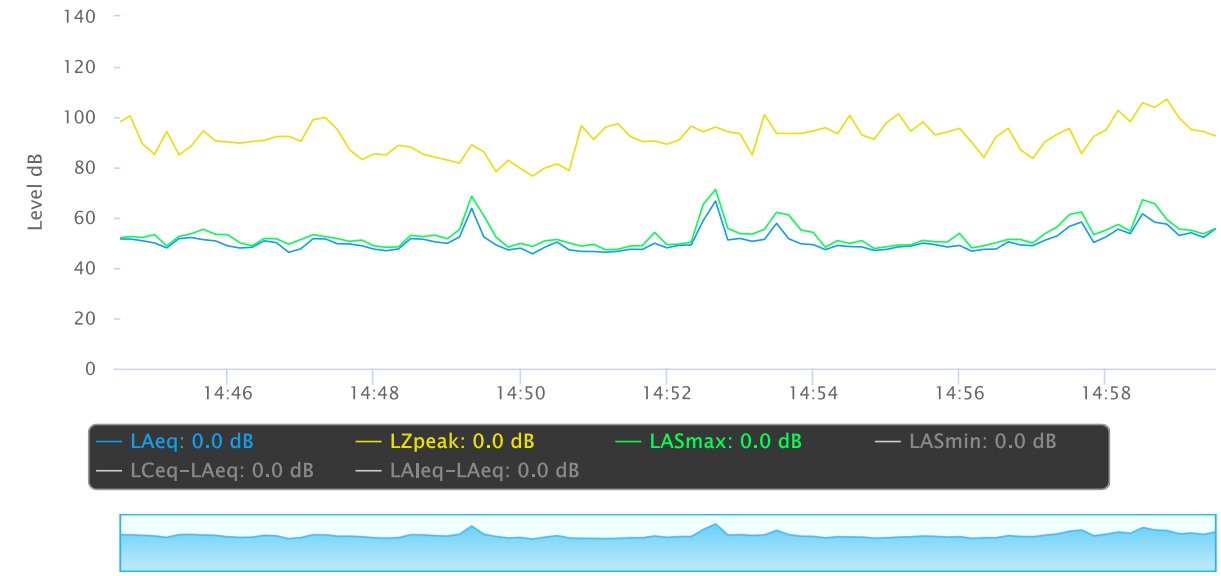
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	53.5 dB		67.6 dB		--- dB	
$L_{S(max)}$	71.2 dB	2022-05-04 14:52:42	--- dB		--- dB	
$L_{S(min)}$	43.7 dB	2022-05-04 14:47:01	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		107.1 dB	2022-05-04 14:58:56

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

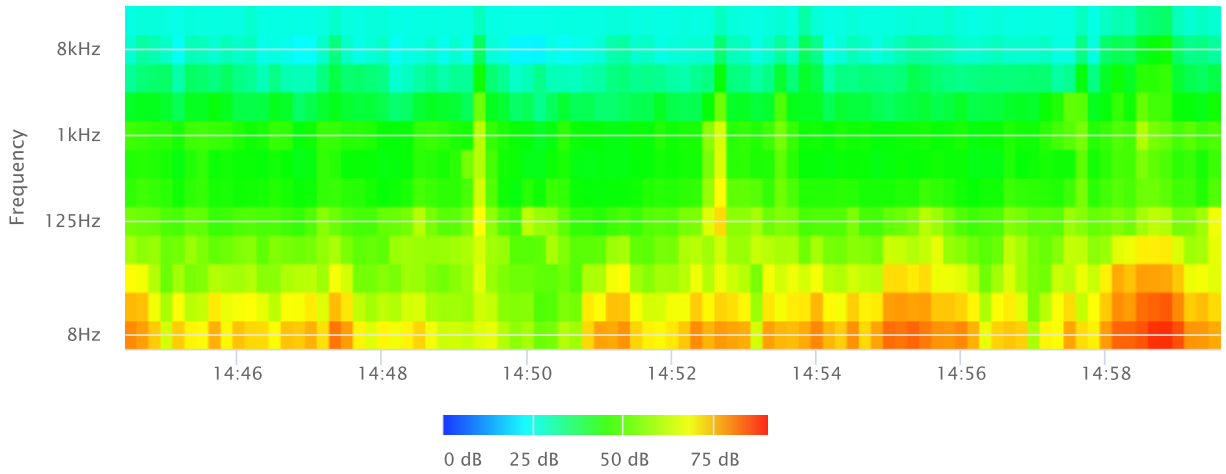
Statistics

LAS 2.0	61.6 dB
LAS 8.0	55.6 dB
LAS 25.0	51.5 dB
LAS 50.0	49.5 dB
LAS 66.6	48.4 dB
LAS 90.0	46.7 dB

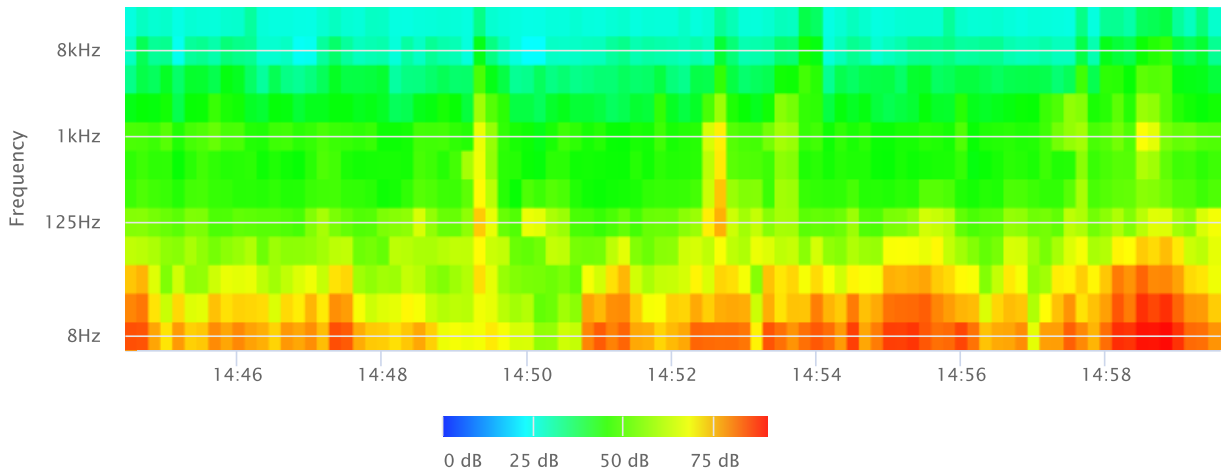
Time History



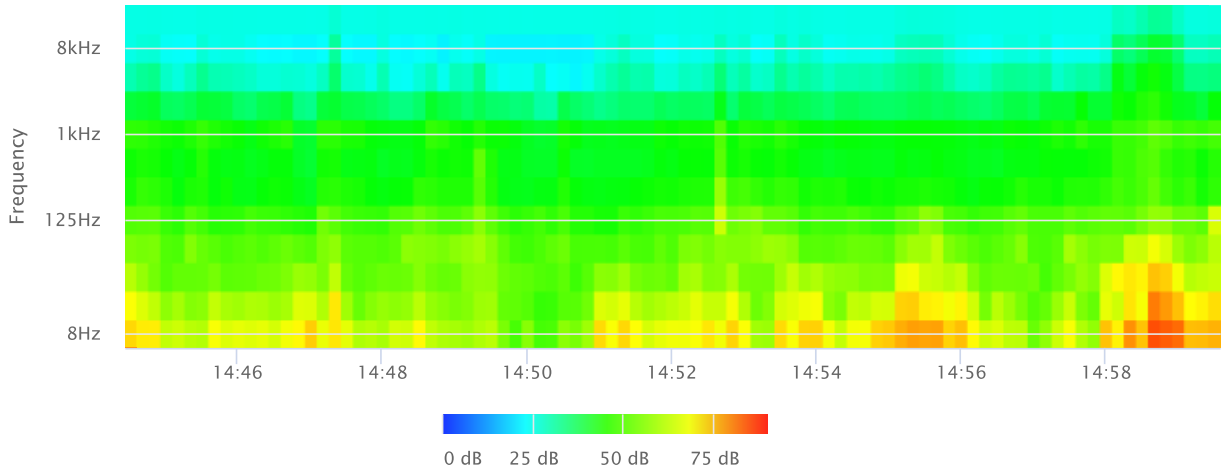
OBA 1/1 Leq



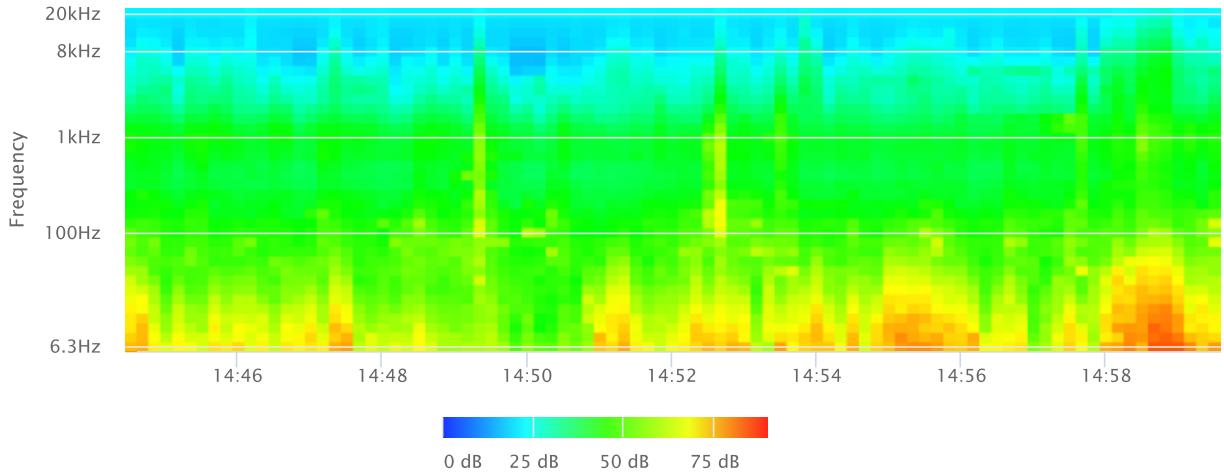
OBA 1/1 Lmax



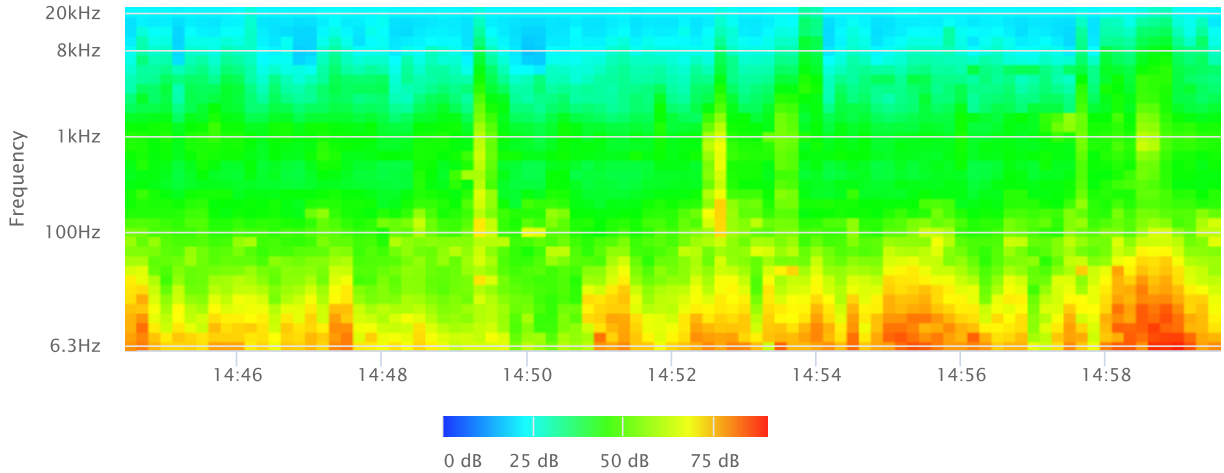
OBA 1/1 Lmin



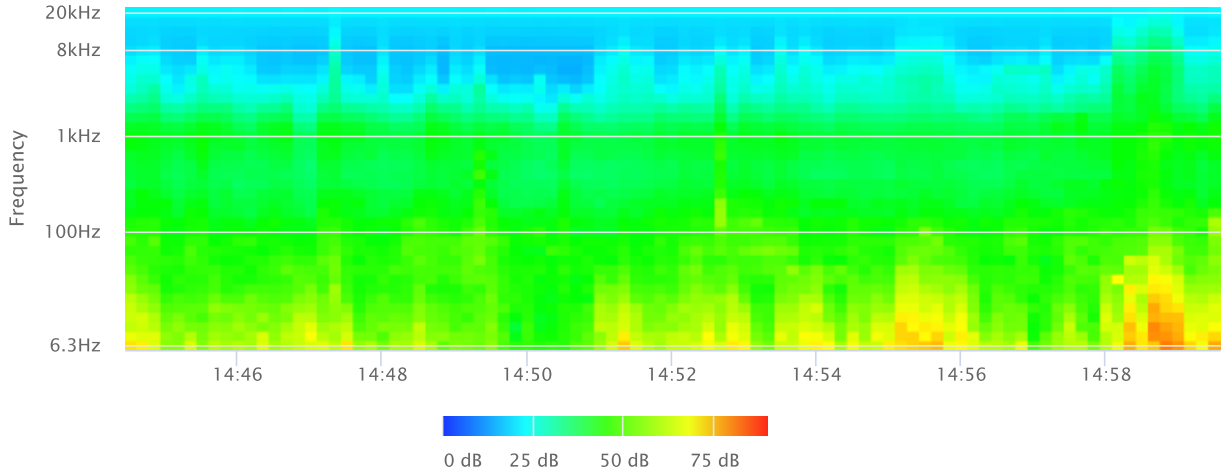
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:46
14:48
14:50
14:52
14:54
14:56
14:58
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM3 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 24811 Benetta Ct, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Jana Lane to south w/ vacant site further south & single-family residential to north (past block wall).

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 3:21 PM **End Time:** 3:36 PM **Run Time:**

Leq: 74.5 dB **Primary Noise Source:** 328 vehicles passing microphone traveling down Clinton-Keith Road during

Lmax 85.1 dB 15 minute tmeasurement.

L2 81.5 dB **Secondary Noise Sources:** Leaf rustle from 8 mph breeze. Bird song. Pedestrians.

L8 79.0 dB

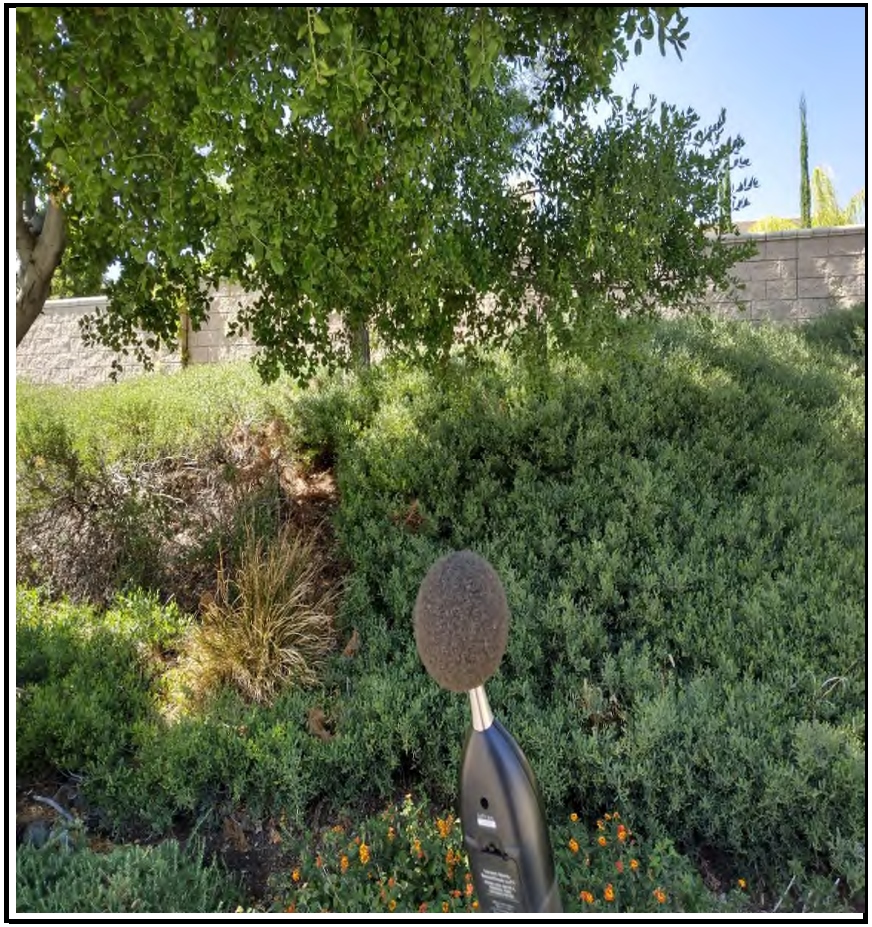
L25 76.5 dB

L50 70.5 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

PHOTOS:

STNM3 looking SW across Clinton-Keith Road towards Elizabeth Lane intersection.



STNM3 looking N at ~12 ft high berm toward a cinderblock ~6 ft tall wall infront of backyard to residence 24811 Benetta Ct, Wildomar.

Summary	
File Name on Meter	LxT_Data.029.s
File Name on PC	LxT_0003099-20220504 152108-LxT_Data.029.l
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM3 33°35'52.56"N 117°13'36.76"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 15:21:08
Stop	2022-05-04 15:36:08
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 15:20:47
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	123.1 dB

Results			
LAeq	74.5		
LAE	104.1		
EA	2.831881	mPa²h	
EA8	90.62019	mPa²h	
EA40	453.1009	mPa²h	
LZpeak (max)	2022-05-04 15:30:36	108.6	dB
LASmax	2022-05-04 15:24:17	85.1	dB
LASmin	2022-05-04 15:30:55	50.9	dB

		Statistics	
LCeq	79.6 dB	**LA2.00**	81.5 dB
LAeq	74.5 dB	**LA8.00**	79.0 dB
LCeq - LAeq	5.1 dB	**LA25.00**	76.5 dB
LAIeq	76.8 dB	**LA50.00**	70.5 dB
LAeq	74.5 dB	**LA66.60**	67.7 dB
LAIeq - LAeq	2.3 dB	**LA90.00**	61.6 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.029.s	Computer's File Name	LxT_0003099-20220504 152108-LxT_Data.029.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM3 33°35'52.56"N 117°13'36.76"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 15:21:08	Duration	0:15:00.0
End Time	2022-05-04 15:36:08	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	74.5 dB		
LAE	104.1 dB	SEA	--- dB
EA	2.8 mPa²h	LAFTM5	79.5 dB
EA8	90.6 mPa²h		
EA40	453.1 mPa²h		
LZ_{peak}	108.6 dB	2022-05-04 15:30:36	
LAS_{max}	85.1 dB	2022-05-04 15:24:17	
LAS_{min}	50.9 dB	2022-05-04 15:30:55	
LA_{eq}	74.5 dB		
LC_{eq}	79.6 dB	LC_{eq} - LA_{eq}	5.1 dB
LAI_{eq}	76.8 dB	LAI_{eq} - LA_{eq}	2.3 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	21	0:12:44.7
LAS > 85.0 dB	1	0:00:01.1
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	74.5 dB		79.6 dB		--- dB	
$L_{S(max)}$	85.1 dB	2022-05-04 15:24:17	--- dB		--- dB	
$L_{S(min)}$	50.9 dB	2022-05-04 15:30:55	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		108.6 dB	2022-05-04 15:30:36

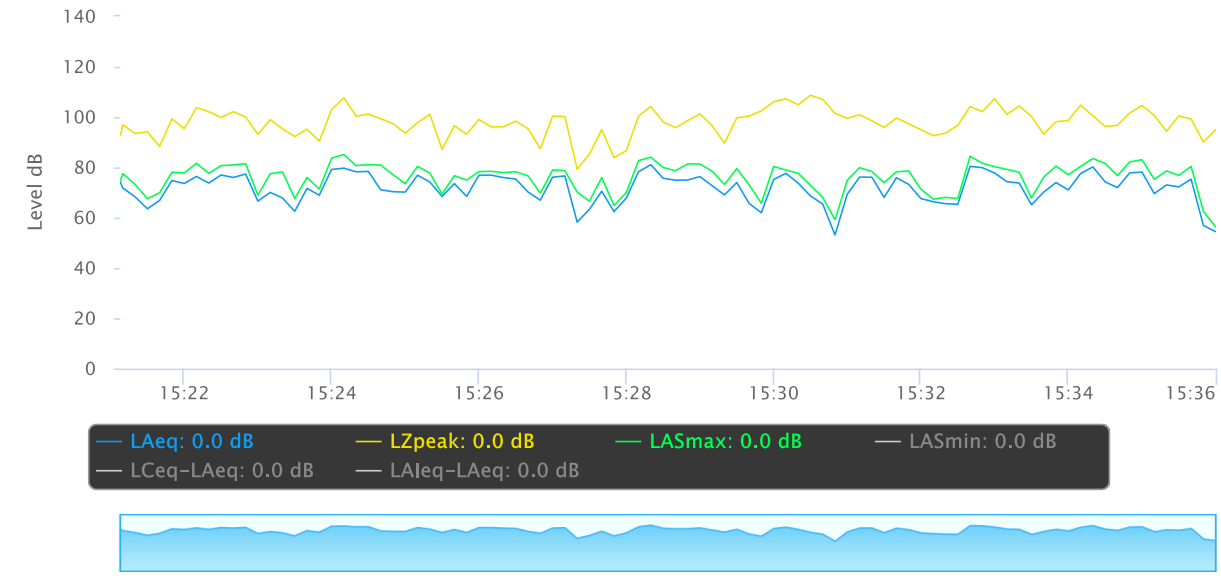
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

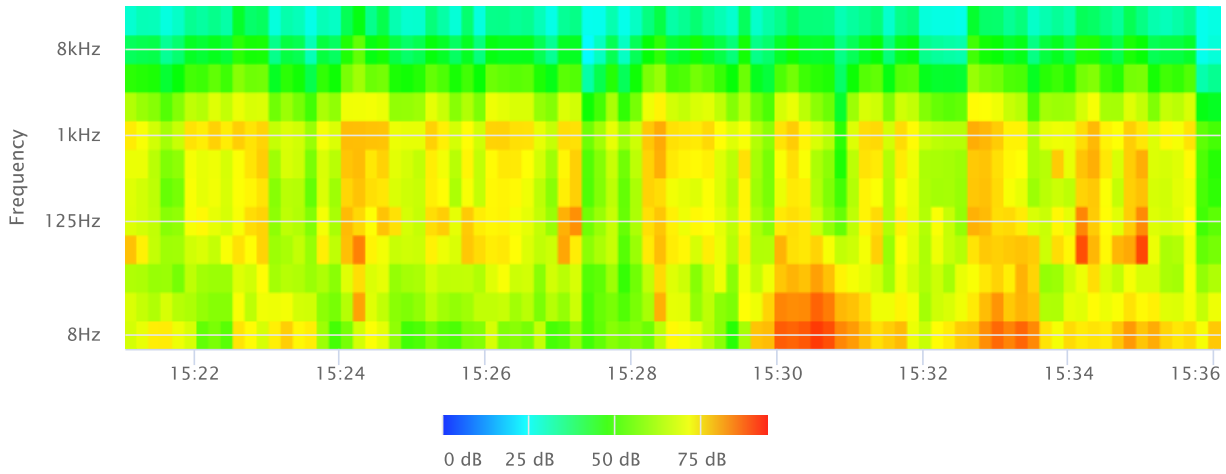
Statistics

LAS 2.0	81.5 dB
LAS 8.0	79.0 dB
LAS 25.0	76.5 dB
LAS 50.0	70.5 dB
LAS 66.6	67.7 dB
LAS 90.0	61.6 dB

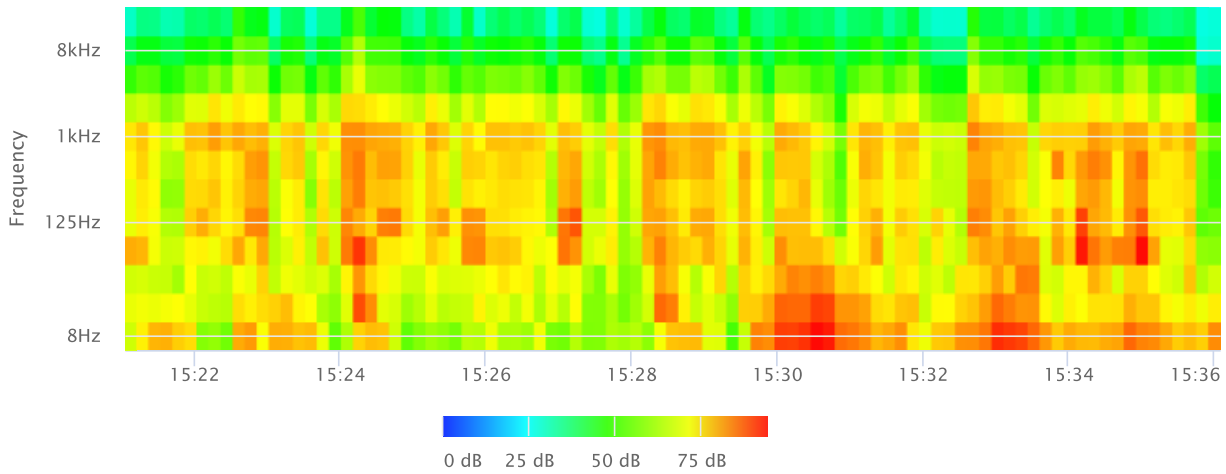
Time History



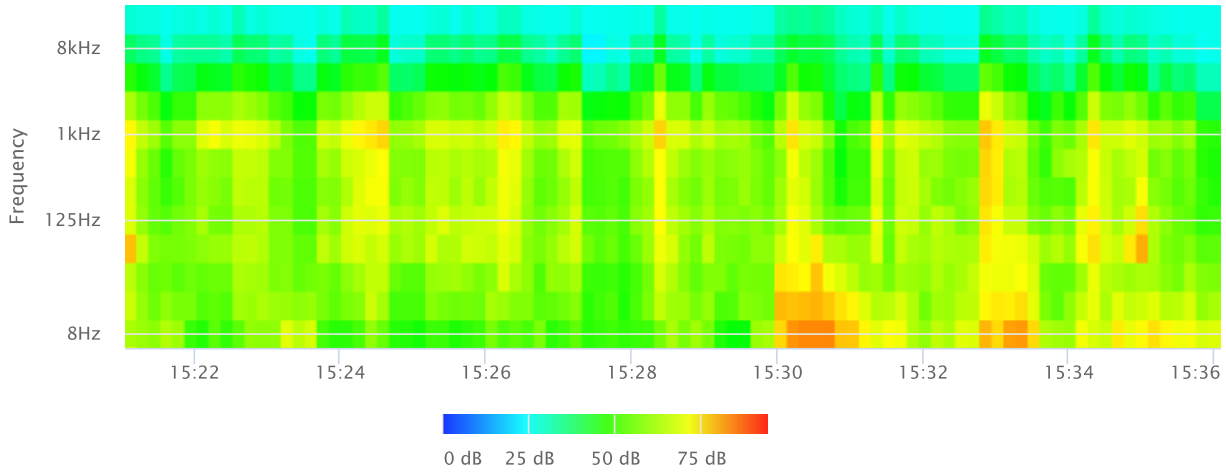
OBA 1/1 Leq



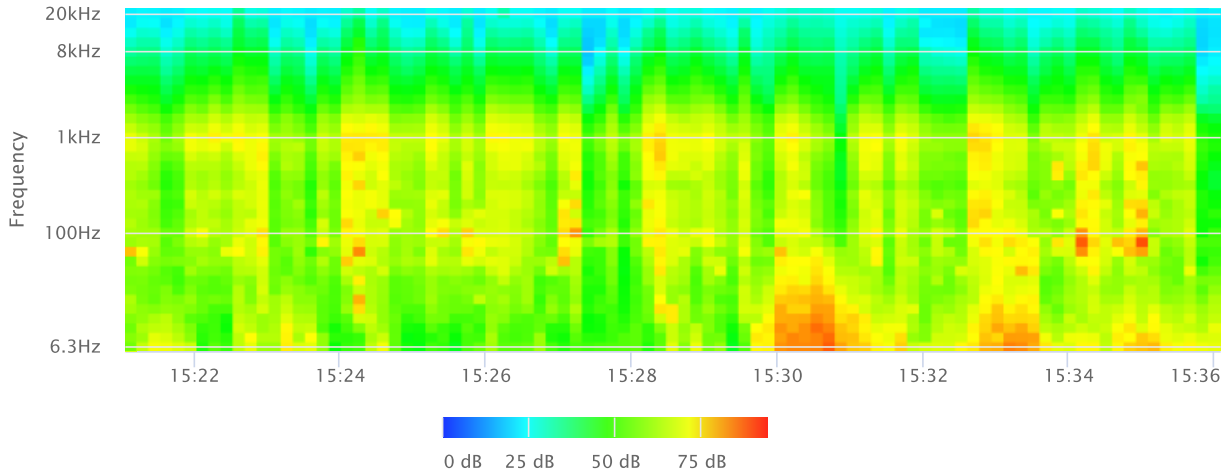
OBA 1/1 Lmax



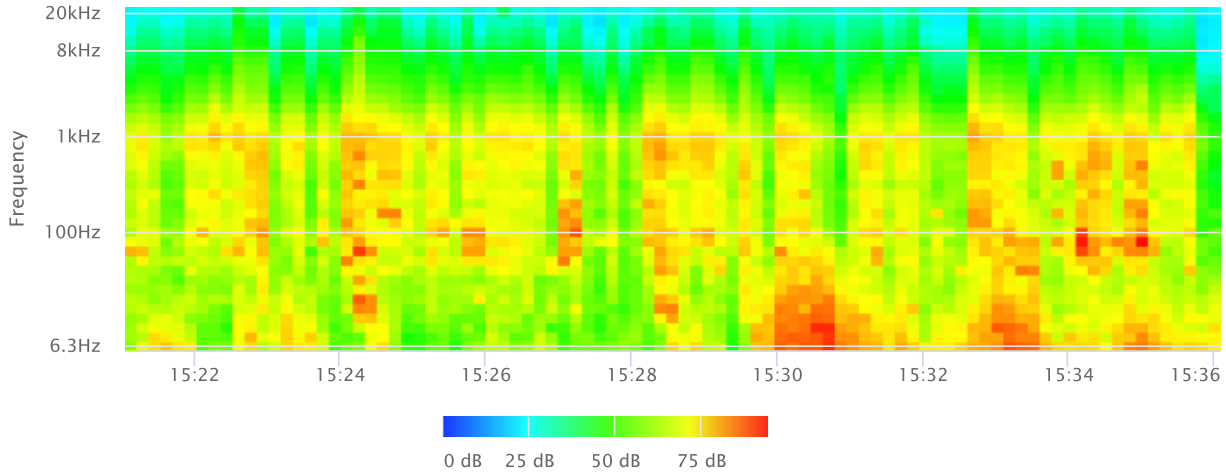
OBA 1/1 Lmin



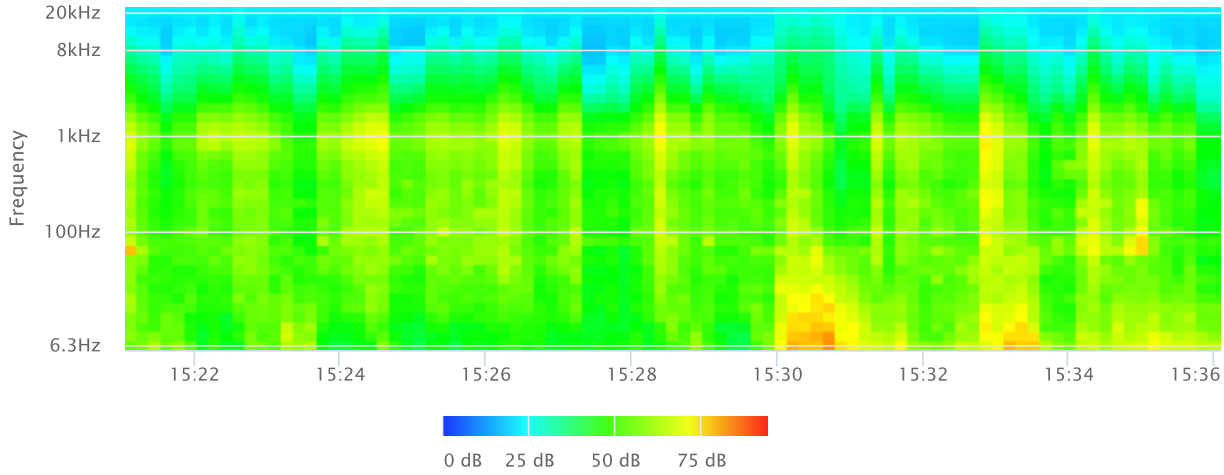
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:22
15:24
15:26
15:28
15:30
15:32
15:34
15:36

0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM4 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 24919 Mauti Ct, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Mauri Court to north and single-family residential uses surrouding.

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 3:52 PM **End Time:** 4:07 PM **Run Time:**

Leq: 50.7 dB **Primary Noise Source:** Traffic ambiance of vehicles traveling along Clinton-Kieth Road S of STNM4 on other side of houses.

Lmax 67 dB

L2 55.5 dB **Secondary Noise Sources:** Leaf rustle from 8 mph breeze. Bird song. Distant dog bark

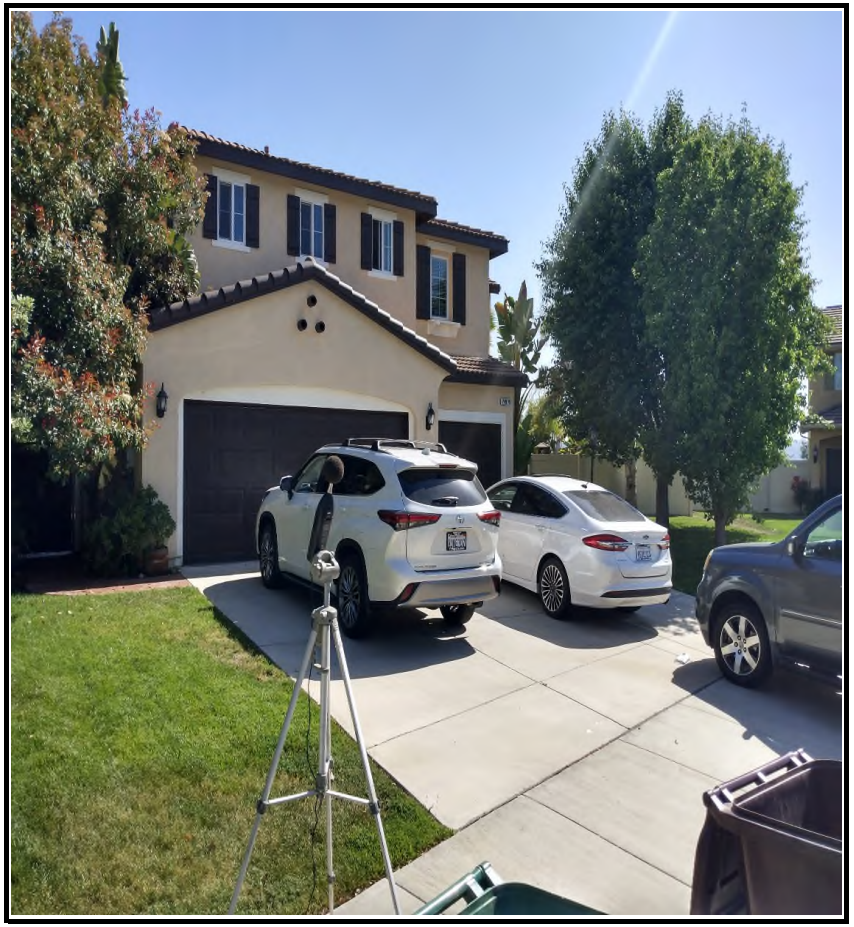
L8 53.3 dB

L25 51.5 dB

L50 49.7 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

PHOTOS:



STNM4 looking SSW across front yard of residence 24919 Mauri Ct. Wildomar.

STNM4 looking W towards the end of Mauri Ct at residence 24895 Mauti Ct, Wildomar.

Summary	
File Name on Meter	LxT_Data.030.s
File Name on PC	LxT_0003099-20220504 155204-LxT_Data.030.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM4 33°35'53.95"N 117°13'30.98"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 15:52:04
Stop	2022-05-04 16:07:04
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 15:51:47
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.9 dB

Results			
LA_{eq}	50.7		
LAE	80.2		
EA	11.74908	µPa²h	
EA8	375.9706	µPa²h	
EA40	1.879853	mPa²h	
$LZ_{peak\ (max)}$	2022-05-04 15:53:01	100.4	dB
LAS_{max}	2022-05-04 15:55:55	67.0	dB
LAS_{min}	2022-05-04 16:00:56	41.5	dB

		Statistics	
LC_{eq}	63.0 dB	**LA2.00**	55.5 dB
LA_{eq}	50.7 dB	**LA8.00**	53.3 dB
LC_{eq} - LA_{eq}	12.3 dB	**LA25.00**	51.5 dB
LAI_{eq}	54.7 dB	**LA50.00**	49.7 dB
LA_{eq}	50.7 dB	**LA66.60**	47.9 dB
LAI_{eq} - LA_{eq}	4.0 dB	**LA90.00**	45.8 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.030.s	Computer's File Name	LxT_0003099-20220504 155204-LxT_Data.030.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM4 33°35'53.95"N 117°13'30.98"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 15:52:04	Duration	0:15:00.0
End Time	2022-05-04 16:07:04	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	50.7 dB		
LAE	80.2 dB	SEA	--- dB
EA	11.7 µPa²h	LAFTM5	56.2 dB
EA8	376.0 µPa²h		
EA40	1.9 mPa²h		
LZ_{peak}	100.4 dB	2022-05-04 15:53:01	
LAS_{max}	67.0 dB	2022-05-04 15:55:55	
LAS_{min}	41.5 dB	2022-05-04 16:00:56	
LA_{eq}	50.7 dB		
LC_{eq}	63.0 dB	LC_{eq} - LA_{eq}	12.3 dB
LAI_{eq}	54.7 dB	LAI_{eq} - LA_{eq}	4.0 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	1	0:00:01.4
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	50.7 dB		63.0 dB		--- dB	
$L_{S(max)}$	67.0 dB	2022-05-04 15:55:55	--- dB		--- dB	
$L_{S(min)}$	41.5 dB	2022-05-04 16:00:56	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		100.4 dB	2022-05-04 15:53:01

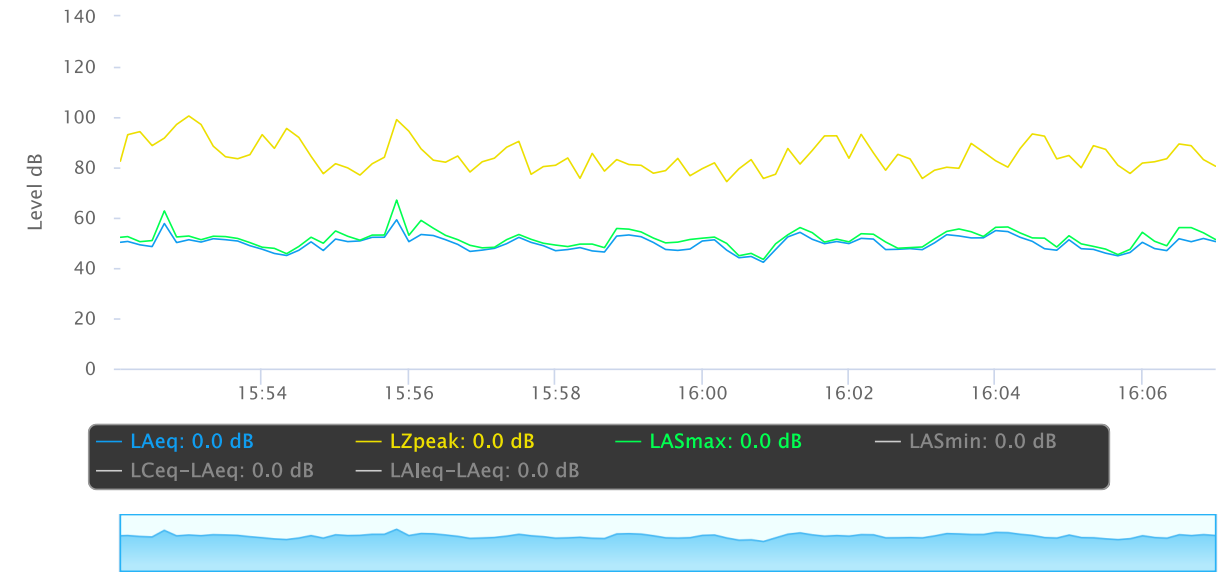
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

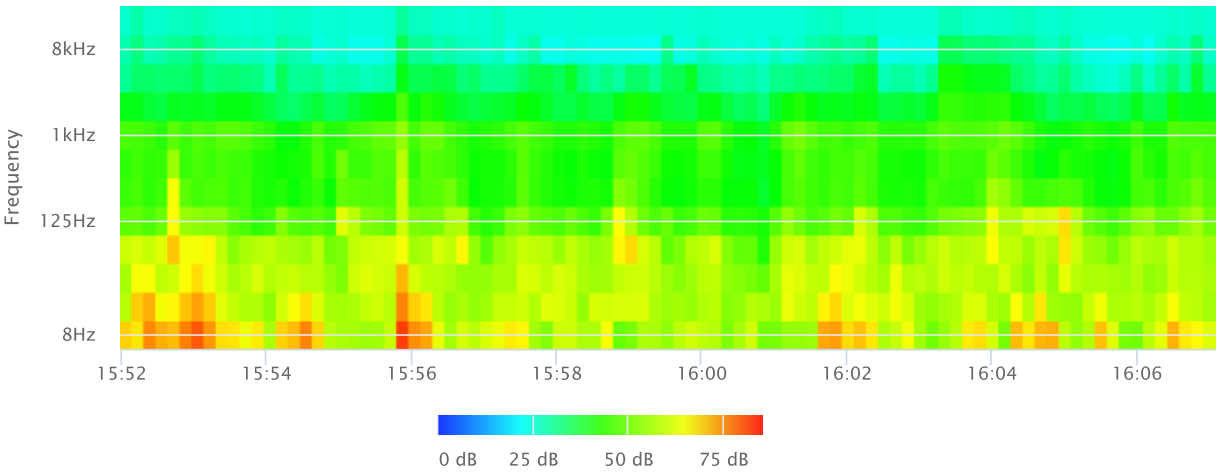
Statistics

LAS 2.0	55.5 dB
LAS 8.0	53.3 dB
LAS 25.0	51.5 dB
LAS 50.0	49.7 dB
LAS 66.6	47.9 dB
LAS 90.0	45.8 dB

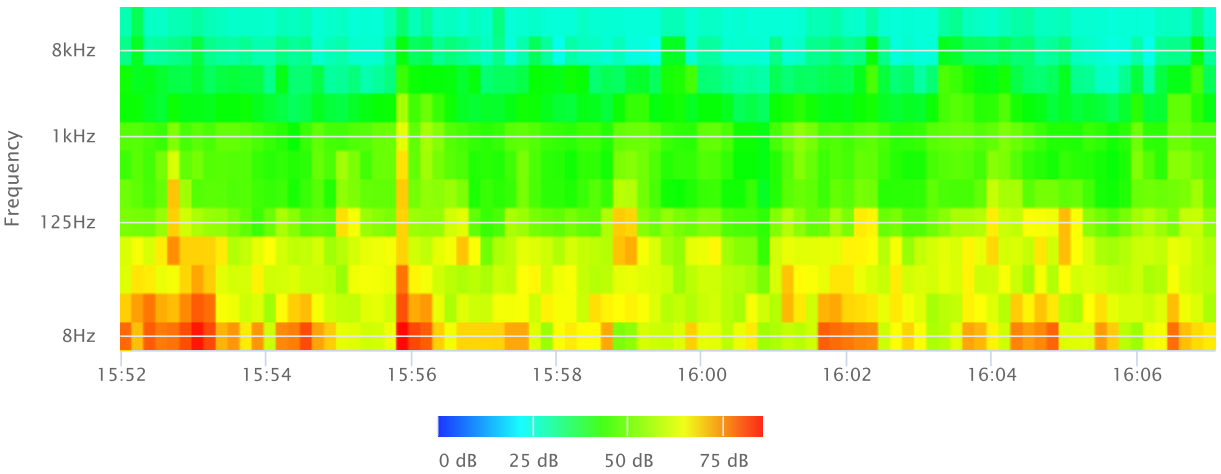
Time History



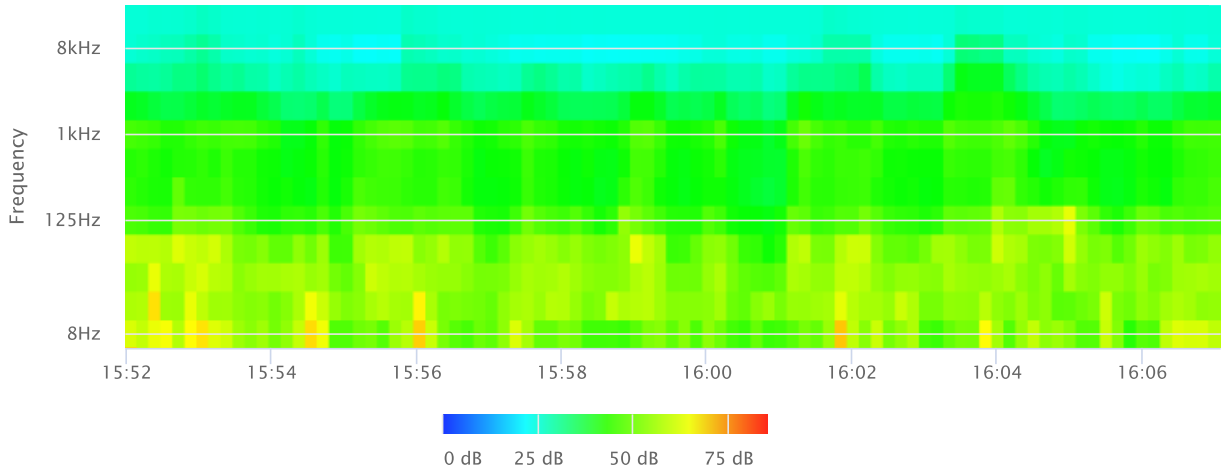
OBA 1/1 Leq



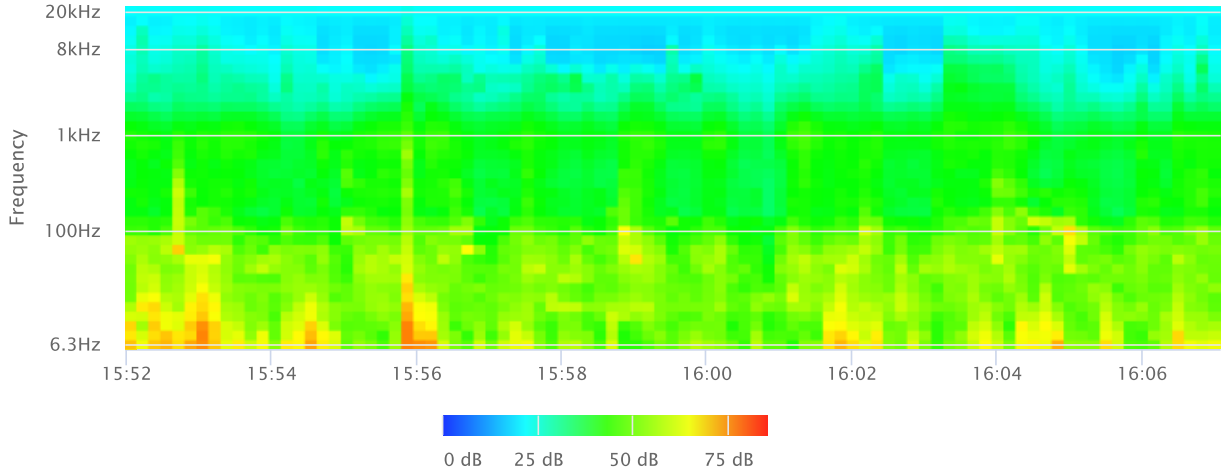
OBA 1/1 Lmax



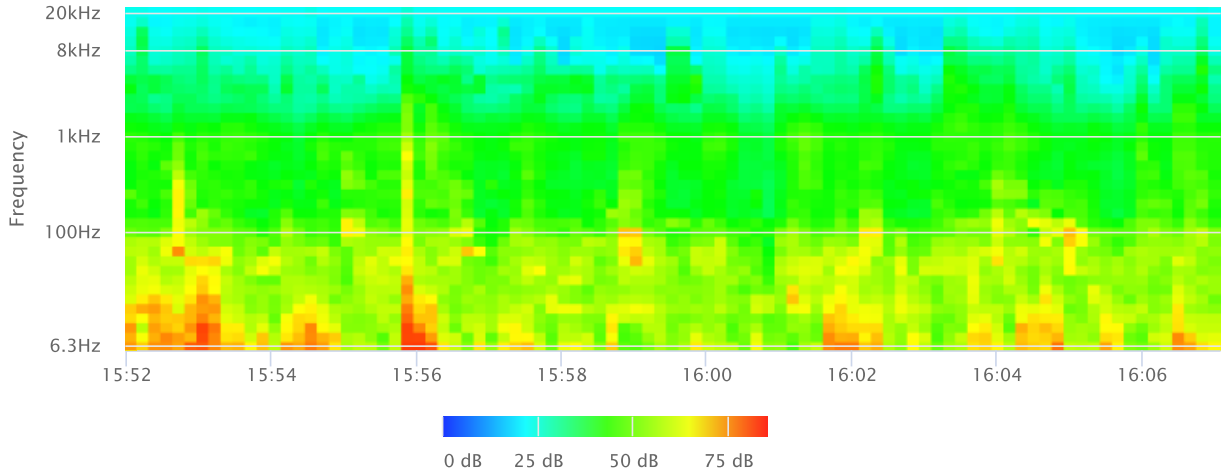
OBA 1/1 Lmin



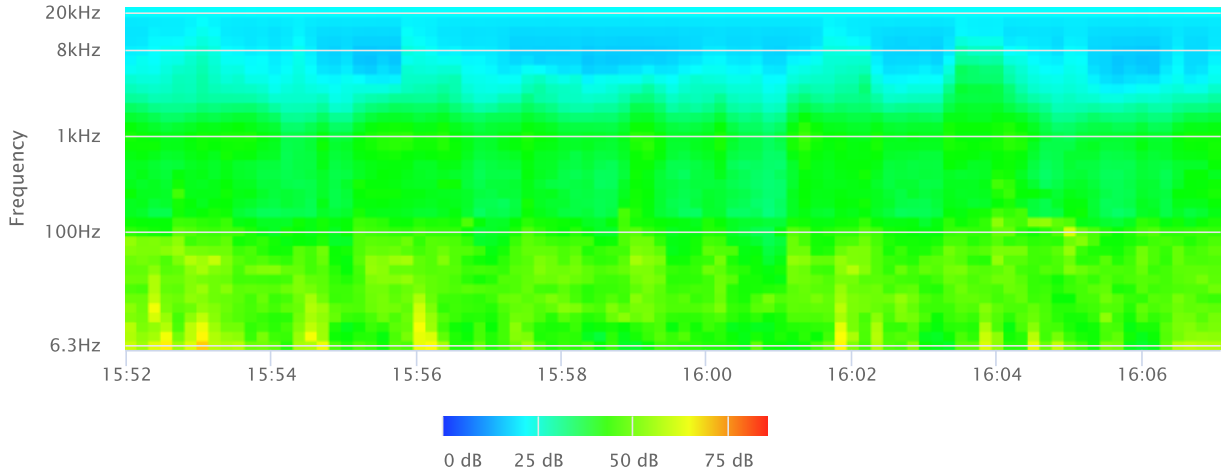
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:52
15:54
15:56
15:58
16:00
16:02
16:04
16:06
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM5 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 25006 Crimson Lasso Dr, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Single-family res to north and northeast, Crimson Lasso Dr to south and west with single-family res further south and commercial uses further west.

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 4:36 PM **End Time:** 4:51 PM **Run Time:**

Leq: 56.8 dB **Primary Noise Source:** Traffic ambiance of vehicles traveling along Clinton-Kieth Rd N of STNM5.

Lmax 68.6 dB 17 vehicles passed microphone traveling along Smith Ranch Road.

L2 63.2 dB **Secondary Noise Sources:** Leaf rustle from 8 mph breeze. Some overhead air traffic.

L8 60.2 dB

L25 57.4 dB

L50 55.3 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

PHOTOS:

STNM5 looking NNE towards frontyard of residence 25006 Crimson Lasso Drive, Wildomar.

STNM5 looking NW across Smith Ranch Road towards Clinton-Keith Road intersection.

Summary	
File Name on Meter	LxT_Data.031.s
File Name on PC	LxT_0003099-20220504 163647-LxT_Data.031.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM5 33°35'50.16"N 117°13'25.27"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 16:36:47
Stop	2022-05-04 16:51:47
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 16:36:28
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	123.1 dB

Results			
LA_{eq}	56.8		
LAE	86.3		
EA	47.6102	µPa²h	
EA8	1.523526	mPa²h	
EA40	7.617632	mPa²h	
$LZ_{peak\ (max)}$	2022-05-04 16:45:21	110.0	dB
LAS_{max}	2022-05-04 16:39:17	68.6	dB
LAS_{min}	2022-05-04 16:47:25	44.8	dB

		Statistics	
LC_{eq}	70.5 dB	**LA2.00**	63.2 dB
LA_{eq}	56.8 dB	**LA8.00**	60.2 dB
LC_{eq} - LA_{eq}	13.7 dB	**LA25.00**	57.4 dB
LAI_{eq}	58.4 dB	**LA50.00**	55.3 dB
LA_{eq}	56.8 dB	**LA66.60**	53.9 dB
LAI_{eq} - LA_{eq}	1.6 dB	**LA90.00**	49.4 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.031.s	Computer's File Name	LxT_0003099-20220504 163647-LxT_Data.031.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM5 33°35'50.16"N 117°13'25.27"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 16:36:47	Duration	0:15:00.0
End Time	2022-05-04 16:51:47	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	56.8 dB		
LAE	86.3 dB	SEA	--- dB
EA	47.6 µPa²h	LAFTM5	60.7 dB
EA8	1.5 mPa²h		
EA40	7.6 mPa²h		
LZ_{peak}	110.0 dB	2022-05-04 16:45:21	
LAS_{max}	68.6 dB	2022-05-04 16:39:17	
LAS_{min}	44.8 dB	2022-05-04 16:47:25	
LA_{eq}	56.8 dB		
LC_{eq}	70.5 dB	LC_{eq} - LA_{eq}	13.7 dB
LAI_{eq}	58.4 dB	LAI_{eq} - LA_{eq}	1.6 dB

Exceedances	Count	Duration
LAS > 65.0 dB	5	0:00:11.4
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

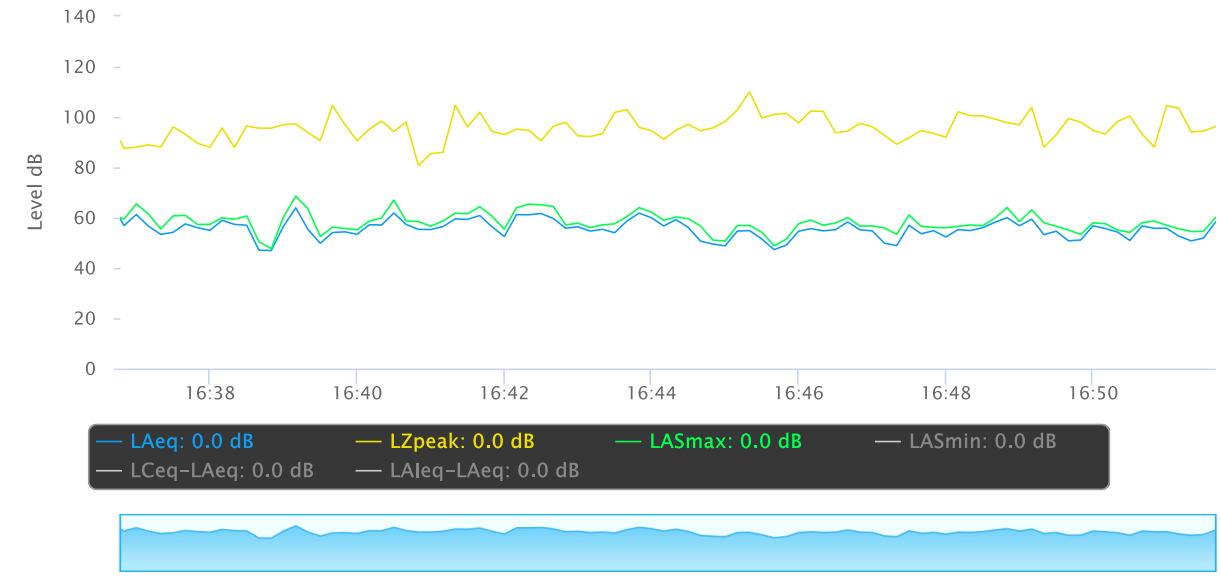
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	56.8 dB		70.5 dB		--- dB	
$L_{S(max)}$	68.6 dB	2022-05-04 16:39:17	--- dB		--- dB	
$L_{S(min)}$	44.8 dB	2022-05-04 16:47:25	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		110.0 dB	2022-05-04 16:45:21

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

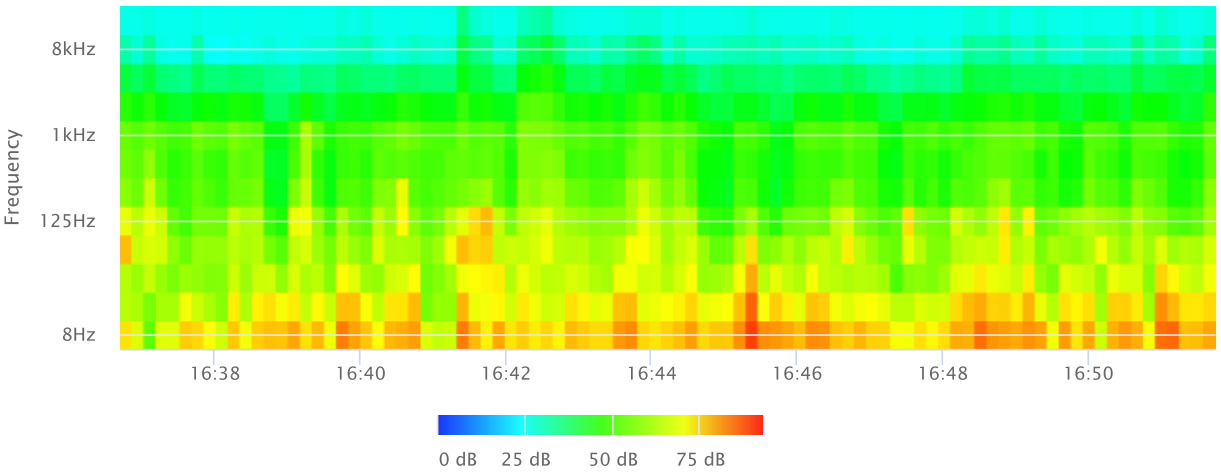
Statistics

LAS 2.0	63.2 dB
LAS 8.0	60.2 dB
LAS 25.0	57.4 dB
LAS 50.0	55.3 dB
LAS 66.6	53.9 dB
LAS 90.0	49.4 dB

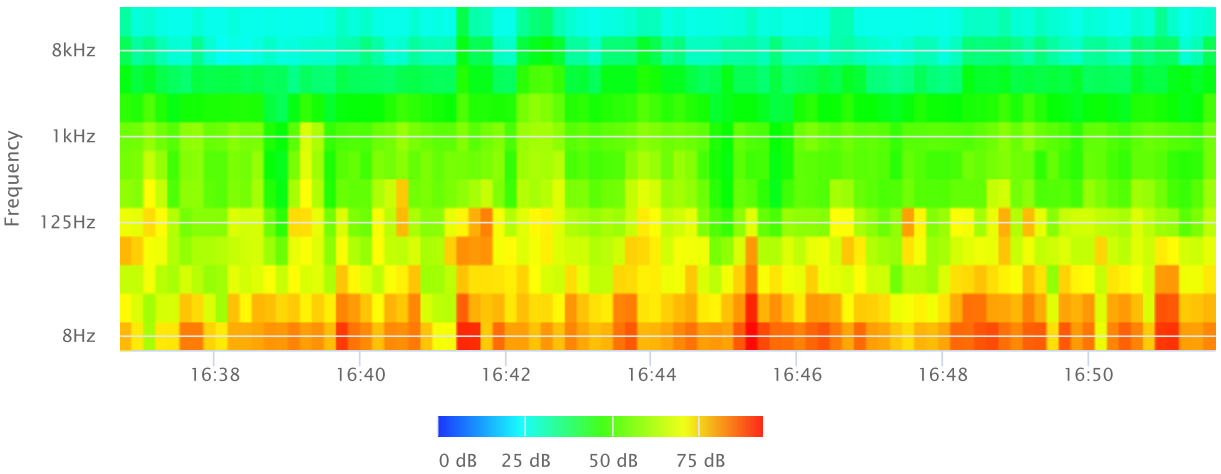
Time History



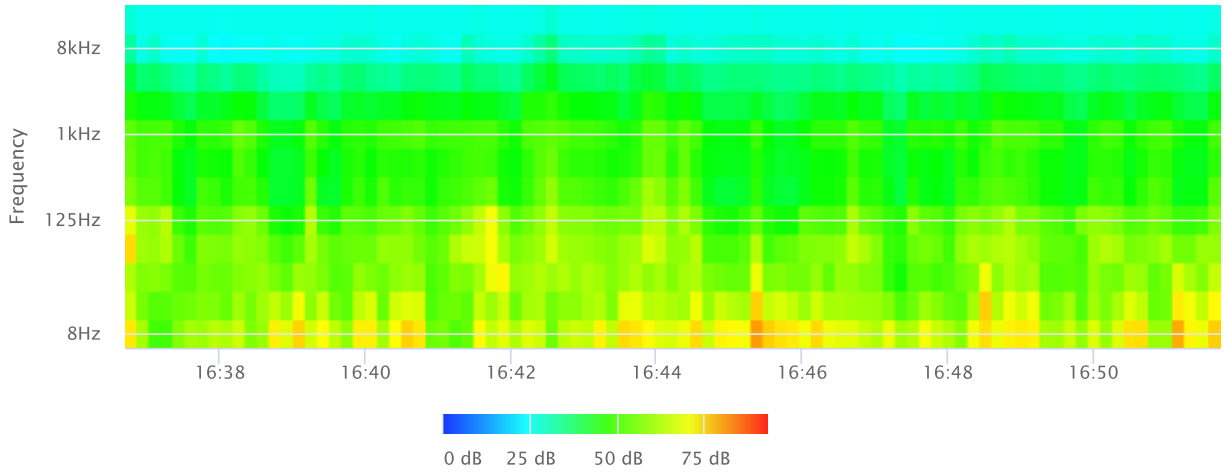
OBA 1/1 Leq



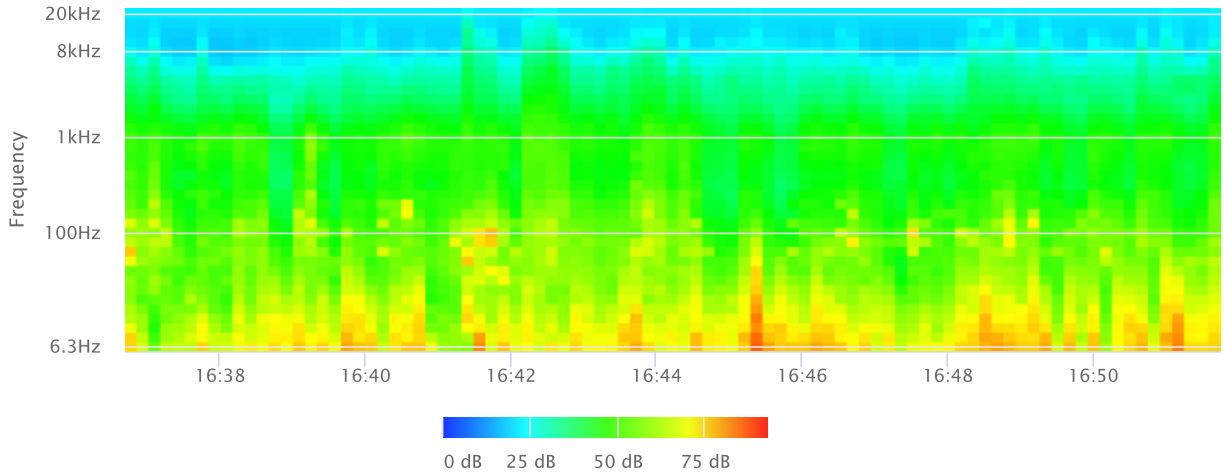
OBA 1/1 Lmax



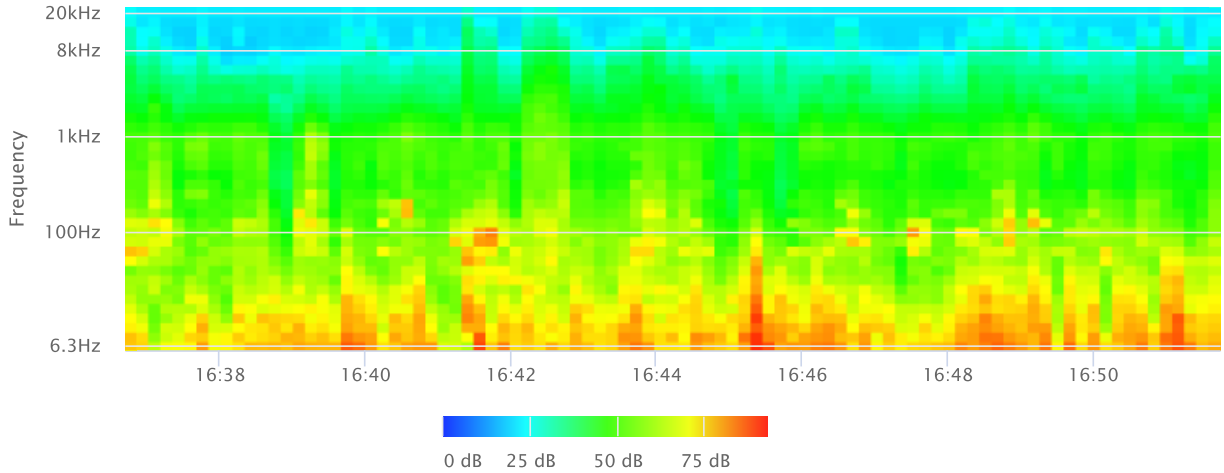
OBA 1/1 Lmin



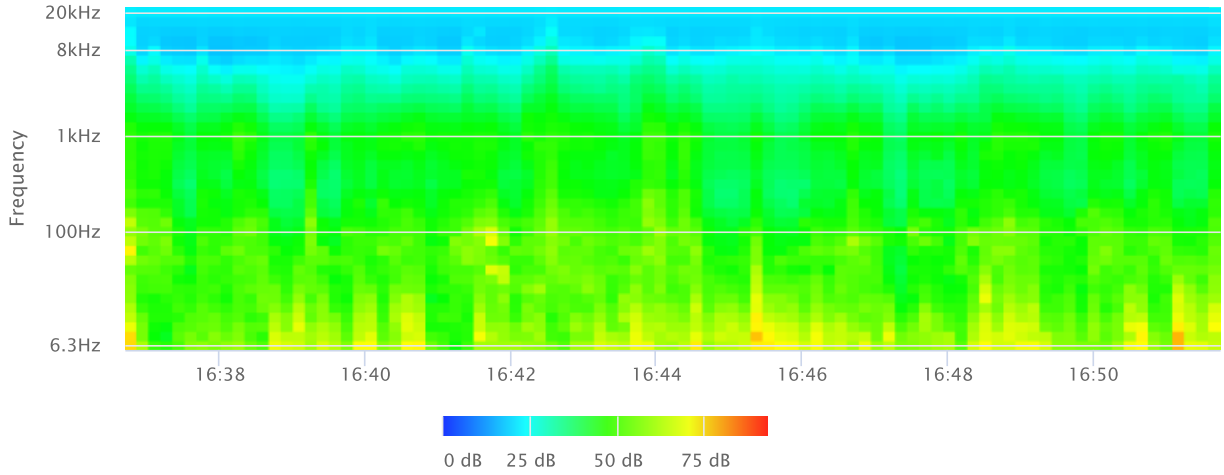
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
16:38
16:40
16:42
16:44
16:46
16:48
16:50

0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar **Date:** May 4 to 5, 2022

Project #: 19510

Noise Measurement #: LTNM1 Run Time: 24 hours (24 x 1 hours) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: Jana Lane & Clinton-Keith Road

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Vacant project site surrouding with Clinton-Keith Road to north.

Weather: Clear skies, sunnrise/set: **Settings:** SLOW FAST

Temperature: 59 -88 deg F **Wind:** 0-9 mph **Humidity:** 14-40% **Terrain:** Flat

Start Time: 7:00 PM **End Time:** 7:00 PM **Run Time:**

Leq: 60.6 dB **Primary Noise Source:** Vehicles traveling along Clinton-Keith Road, traffic ambiance from other roads.

Lmax 90.1 dB

L2 67.2 dB **Secondary Noise Sources:** Leaf rustle from 8 mph breeze. Bird song by day, crickets at night.

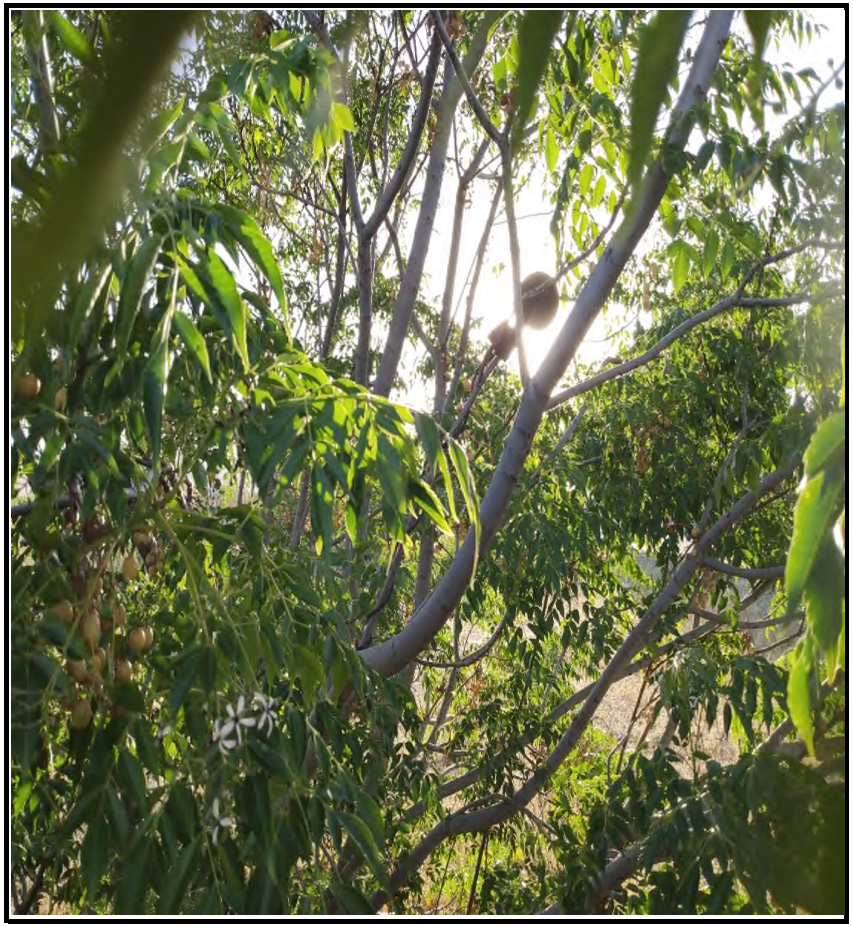
L8 64.8 dB Occassional overhead air traffic.

L25 61.8 dB

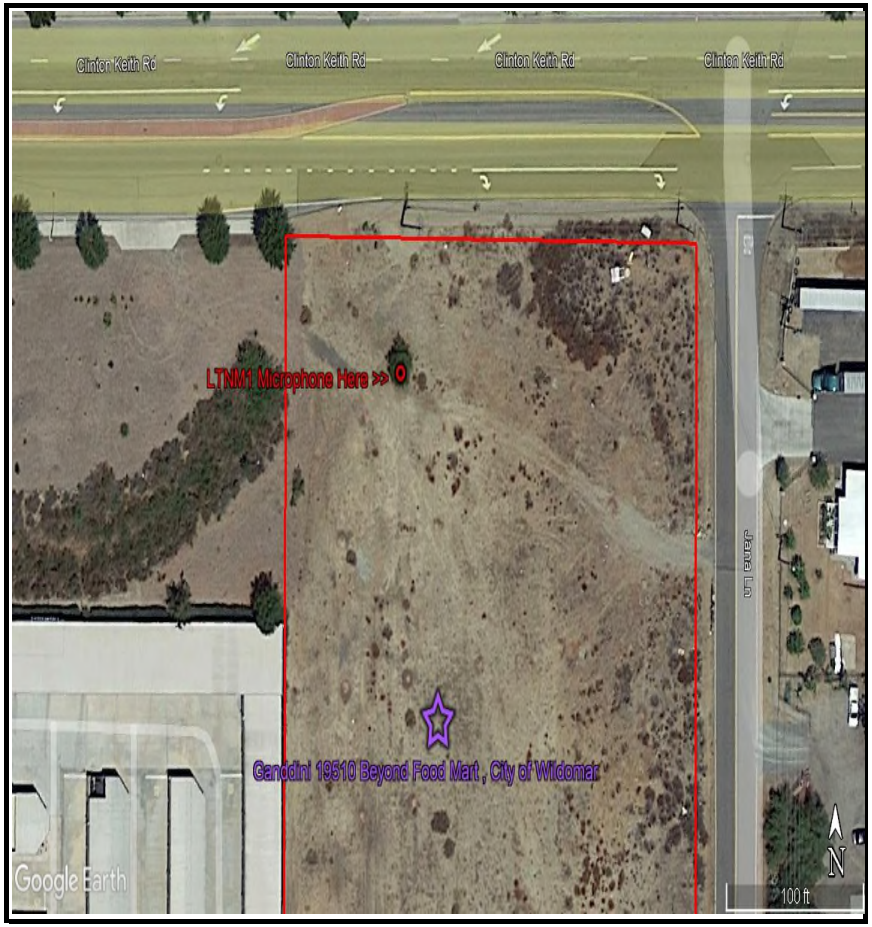
L50 57.8 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

PHOTOS:



LTNM1 looking W, microphone located in small tree. Microphone ~6.5 ft above the ground.



LTNM1 aerial view showing location of microphone in relation to surrounding area.

Summary	
File Name on Meter	LxT_Data.032.s
File Name on PC	LxT_0003099-20220504 190000-LxT_Data.032.ldb
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	LTNM1 33°35'50.97"N 117°13'36.08"W
Job Description	24 hour noise measurement (24 x 1 hours)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 19:00:00
Stop	2022-05-05 19:00:00
Duration	24:00:00.0
Run Time	24:00:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 18:03:20
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	122.9 dB

Results			
LAeq	60.6		
LAE	110.0		
EA	11.04384	mPa²h	
EA8	3.681278	mPa²h	
EA40	18.40639	mPa²h	
LApeak (max)	2022-05-04 19:32:17	106.7	dB
LASmax	2022-05-05 12:10:07	90.1	dB
LASmin	2022-05-05 02:12:44	34.4	dB

		Statistics	
LCeq	66.7 dB	**LA2.00**	67.2 dB
LAeq	60.6 dB	**LA8.00**	64.8 dB
LCeq - LAeq	6.1 dB	**LA25.00**	61.9 dB
LAIeq	61.9 dB	**LA50.00**	57.8 dB
LAeq	60.6 dB	**LA90.00**	44.4 dB
LAIeq - LAeq	1.3 dB	**LA99.00**	38.6 dB
Overload Count	0		

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LASmin	LASmin Time	LASmax	LASmax Time	LAS2.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	LAS99.00
1	2022-05-04	19:00:00	01:00:00.0	01:00:00.0	00:00:00.0	64.3	43.8	19:28:14	79.0	19:32:18	69.6	68.0	66.0	62.9	51.9	46.7
2	2022-05-04	20:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.5	37.7	20:59:38	75.0	20:38:08	67.4	65.6	63.0	60.0	48.8	42.7
3	2022-05-04	21:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.5	36.8	21:57:12	83.2	21:28:53	67.2	65.0	62.4	58.7	46.1	41.5
4	2022-05-04	22:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.0	34.6	22:09:02	75.5	22:53:44	66.2	64.0	60.5	54.1	43.6	38.4
5	2022-05-04	23:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.8	36.1	23:35:45	70.1	23:13:33	64.7	62.2	57.9	49.9	41.3	37.6
6	2022-05-05	00:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.8	37.5	00:50:56	68.9	00:39:54	64.1	60.5	53.5	46.9	40.5	38.3
7	2022-05-05	01:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.2	36.3	01:47:00	73.0	01:37:08	63.6	60.2	50.9	45.3	39.0	37.3
8	2022-05-05	02:00:00	01:00:00.0	01:00:00.0	00:00:00.0	53.4	34.4	02:12:44	68.5	02:48:43	63.2	59.0	50.2	45.3	40.3	36.8
9	2022-05-05	03:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.2	37.7	03:00:08	70.6	03:23:32	64.9	61.8	55.3	49.3	43.6	40.4
10	2022-05-05	04:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.3	43.2	04:21:23	76.5	04:37:31	67.2	64.9	61.4	56.1	48.2	45.0
11	2022-05-05	05:00:00	01:00:00.0	01:00:00.0	00:00:00.0	62.3	46.9	05:18:33	81.0	05:27:53	68.0	66.2	63.8	60.2	52.9	48.1
12	2022-05-05	06:00:00	01:00:00.0	01:00:00.0	00:00:00.0	63.8	47.5	06:30:36	81.9	06:11:26	69.0	67.2	65.1	62.6	53.9	49.7
13	2022-05-05	07:00:00	01:00:00.0	01:00:00.0	00:00:00.0	62.7	45.3	07:57:18	73.7	07:22:09	67.4	66.0	64.2	62.1	53.3	48.2
14	2022-05-05	08:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.8	39.4	08:37:15	76.8	08:09:07	67.1	65.4	63.3	60.8	49.9	42.3
15	2022-05-05	09:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.5	36.4	09:35:55	73.0	09:21:25	66.4	64.4	62.1	59.0	46.3	39.5
16	2022-05-05	10:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.5	35.4	10:38:47	72.5	10:41:51	65.6	63.5	60.9	57.8	43.5	36.8
17	2022-05-05	11:00:00	01:00:00.0	01:00:00.0	00:00:00.0	58.6	34.7	11:16:17	72.7	11:23:30	64.8	62.8	60.1	56.7	42.8	37.0
18	2022-05-05	12:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.1	36.3	12:18:42	90.1	12:10:07	65.2	62.9	60.3	57.1	43.8	39.0
19	2022-05-05	13:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.3	38.0	13:24:53	76.9	13:17:09	65.4	62.5	60.3	57.6	47.5	40.2
20	2022-05-05	14:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.5	39.4	14:10:50	79.9	14:15:27	66.4	63.5	61.3	58.7	50.0	43.2
21	2022-05-05	15:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.7	40.1	15:18:37	77.7	15:46:41	65.8	64.0	62.1	59.7	49.8	42.8
22	2022-05-05	16:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.1	42.8	16:25:42	77.3	16:37:05	66.2	64.4	62.6	60.1	51.2	46.9
23	2022-05-05	17:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.3	40.9	17:53:14	76.2	17:50:19	65.9	64.5	62.8	60.7	50.7	44.7
24	2022-05-05	18:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.2	40.8	18:57:08	77.3	18:03:40	66.3	64.6	62.7	60.1	49.5	43.3

Measurement Report

Report Summary

Meter's File Name	LxT_Data.032.s	Computer's File Name	LxT_0003099-20220504 190000-LxT_Data.032.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	LTNM1 33°35'50.97"N 117°13'36.08"W
Job Description	24 hour noise measurement (24 x 1 hours)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 19:00:00	Duration	24:00:00.0
End Time	2022-05-05 19:00:00	Run Time	24:00:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	60.6 dB		
LAE	110.0 dB	SEA	--- dB
EA	11.0 mPa²h	LAFTM5	63.9 dB
EA8	3.7 mPa²h		
EA40	18.4 mPa²h		
LA_{peak}	106.7 dB	2022-05-04 19:32:17	
LAS_{max}	90.1 dB	2022-05-05 12:10:07	
LAS_{min}	34.4 dB	2022-05-05 02:12:44	
LA_{eq}	60.6 dB		
LC_{eq}	66.7 dB	LC_{eq} - LA_{eq}	6.1 dB
LAI_{eq}	61.9 dB	LAI_{eq} - LA_{eq}	1.3 dB

Exceedances	Count	Duration
LAS > 65.0 dB	1273	2:41:24.2
LAS > 85.0 dB	1	0:00:02.5
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

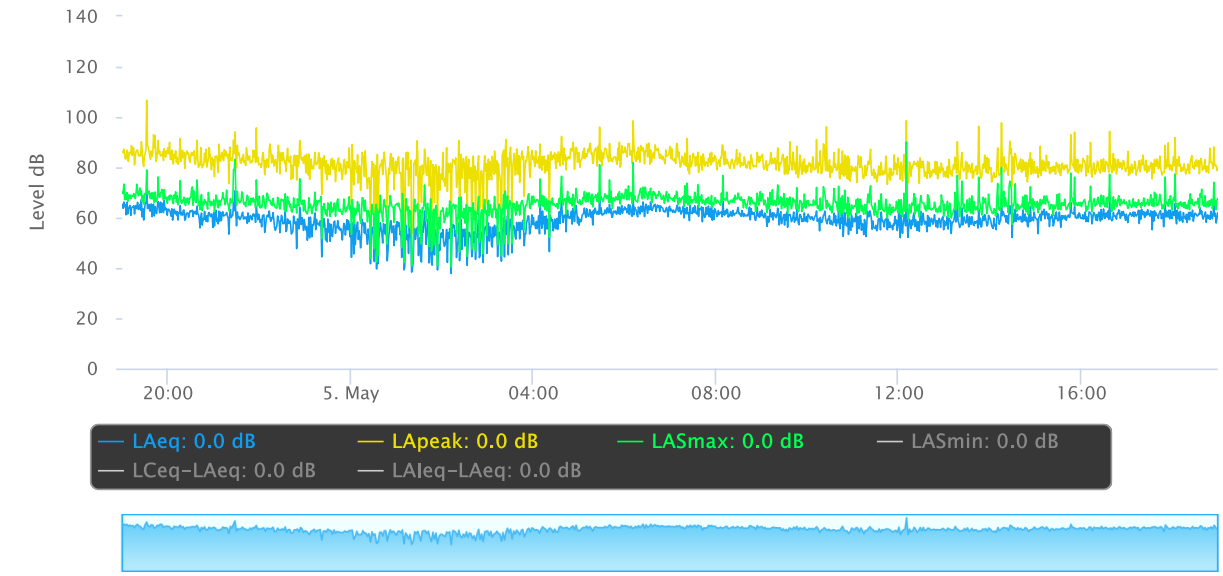
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	60.6 dB		66.7 dB		--- dB	
$L_{S(max)}$	90.1 dB	2022-05-05 12:10:07	--- dB		--- dB	
$L_{S(min)}$	34.4 dB	2022-05-05 02:12:44	--- dB		--- dB	
$L_{Peak(max)}$	106.7 dB	2022-05-04 19:32:17	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

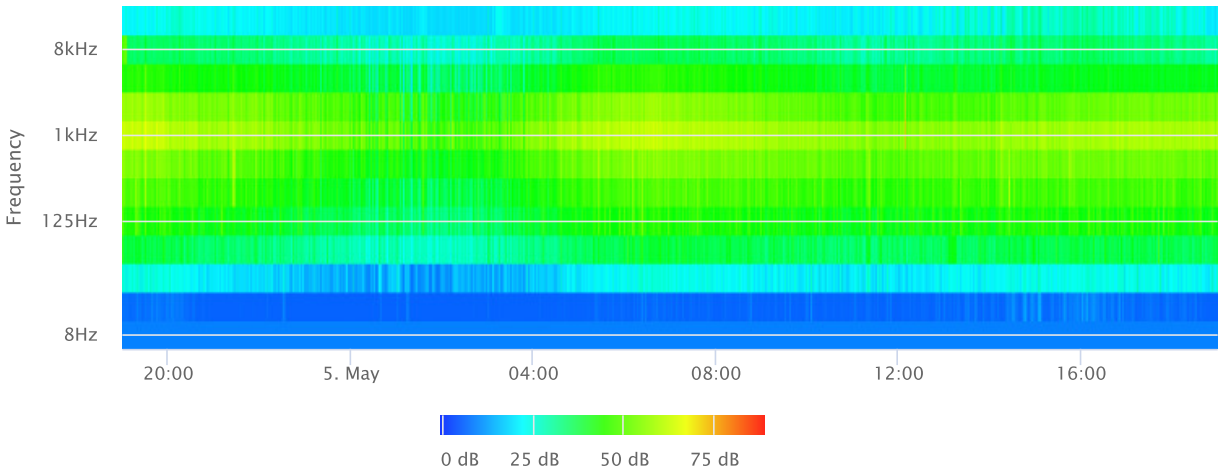
Statistics

LAS 2.0	67.2 dB
LAS 8.0	64.8 dB
LAS 25.0	61.9 dB
LAS 50.0	57.8 dB
LAS 90.0	44.4 dB
LAS 99.0	38.6 dB

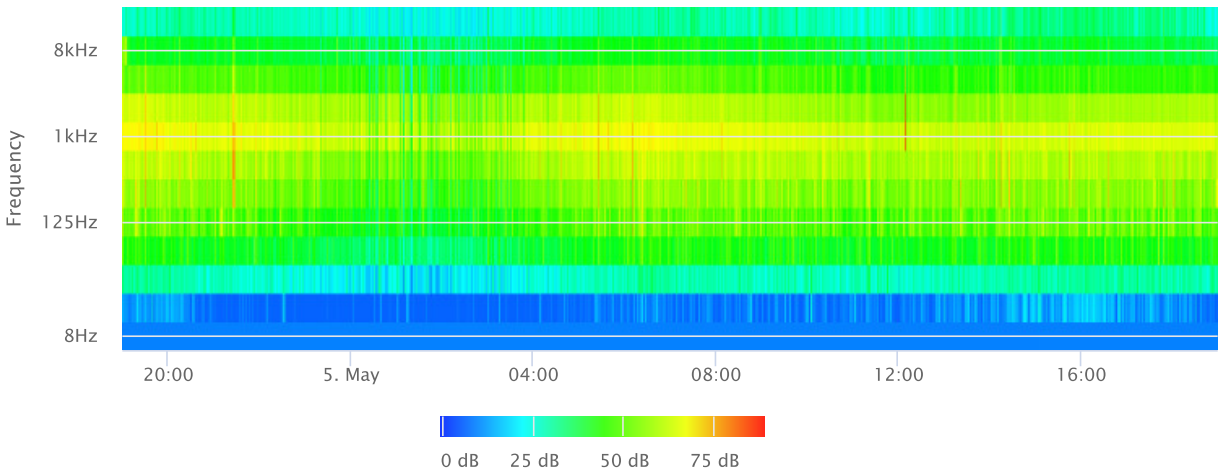
Time History



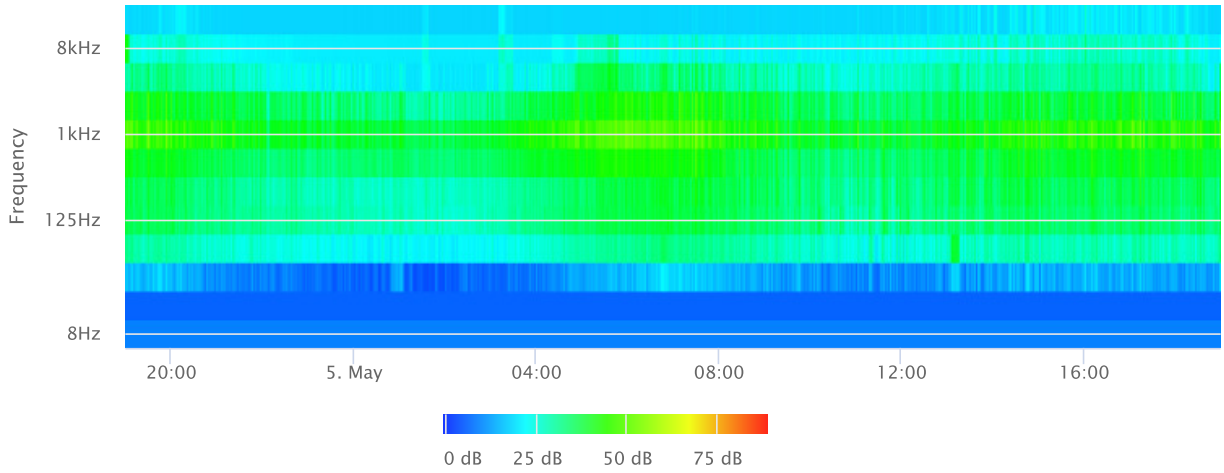
OBA 1/1 Leq



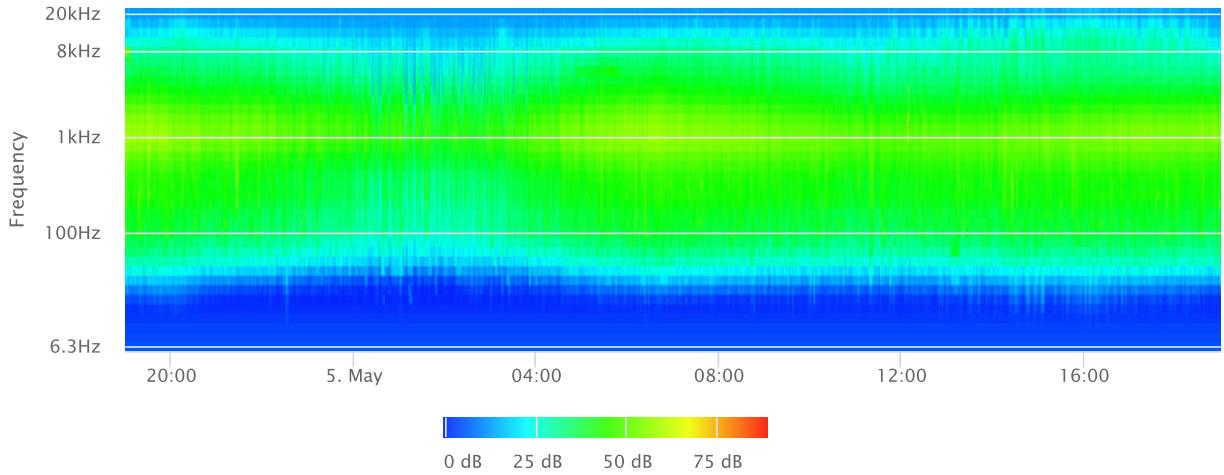
OBA 1/1 Lmax



OBA 1/1 Lmin



OBA 1/3 Leq



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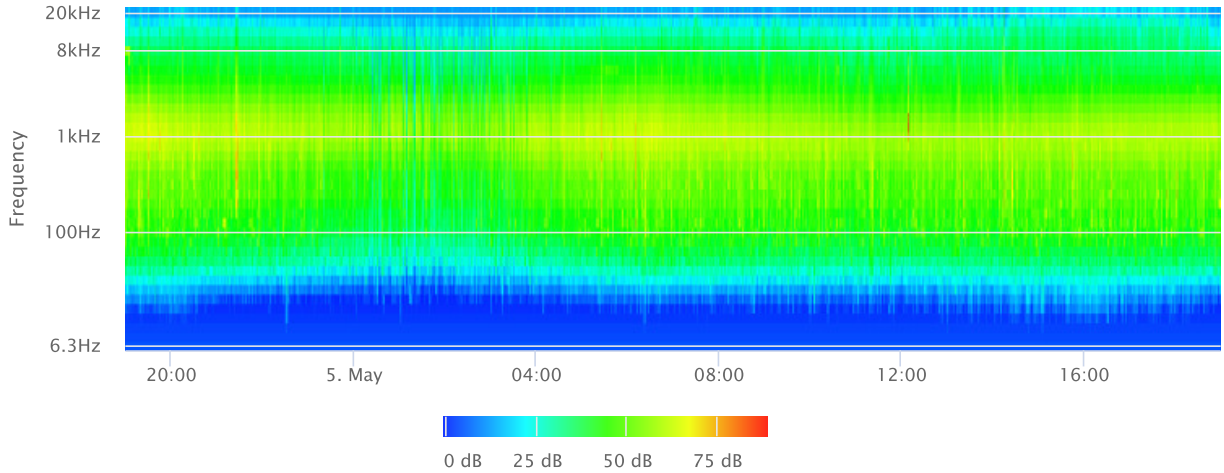
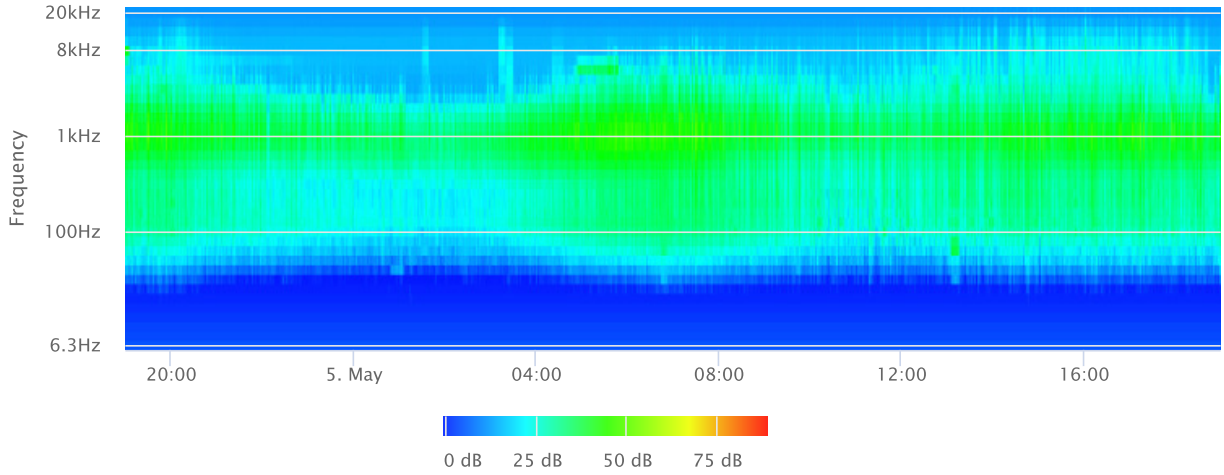


OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
20:00
5. May
04:00
08:00
12:00
16:00
0 dB
25 dB
50 dB
75 dB

APPENDIX D

CONSTRUCTION NOISE CALCULATIONS

Receptor - Single-family Residential to Northwest (24907 Mauri Ct)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	467	40	0.40	-19.4	-4.0	62.6	58.6
Tractors/Loaders/Backhoes	1	84	467	40	0.40	-19.4	-4.0	64.6	60.6
								Log Sum	62.7
Grading									
Excavator	1	81	467	40	0.40	-19.4	-4.0	61.6	57.6
Rubber Tired Dozers	1	82	467	40	0.40	-19.4	-4.0	62.6	58.6
Tractors/Loaders/Backhoes	3	84	467	40	1.20	-19.4	0.8	64.6	65.4
Graders	1	85	467	40	0.40	-19.4	-4.0	65.6	61.6
								Log Sum	67.9
Building Construction									
Cranes	2	81	467	16	0.32	-19.4	-4.9	61.6	56.6
Forklifts[2]	3	48	467	40	1.20	-19.4	0.8	28.6	29.4
Generator Sets	1	81	467	50	0.50	-19.4	-3.0	61.6	58.6
Welders	2	74	467	40	0.80	-19.4	-1.0	54.6	53.6
Tractors/Loaders/Backhoes	4	84	467	40	1.60	-19.4	2.0	64.6	66.6
								Log Sum	67.8
Paving									
Cement and Mortar Mixers	2	79	467	40	0.80	-19.4	-1.0	59.6	58.6
Pavers	1	77	467	50	0.50	-19.4	-3.0	57.6	54.6
Paving Equipment	2	77	467	50	1.00	-19.4	0.0	57.6	57.6
Rollers	2	80	467	20	0.40	-19.4	-4.0	60.6	56.6
Tractors/Loaders/Backhoes	1	84	467	40	0.40	-19.4	-4.0	64.6	60.6
								Log Sum	65.1
Architectural Coating									
Air Compressors	1	78	467	40	0.40	-19.4	-4.0	58.6	54.6
								Log Sum	54.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to Northeast (24811 Benetta Ct)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	443	40	0.40	-18.9	-4.0	63.1	59.1
Tractors/Loaders/Backhoes	1	84	443	40	0.40	-18.9	-4.0	65.1	61.1
								Log Sum	63.2
Grading									
Excavator	1	81	443	40	0.40	-18.9	-4.0	62.1	58.1
Rubber Tired Dozers	1	82	443	40	0.40	-18.9	-4.0	63.1	59.1
Tractors/Loaders/Backhoes	3	84	443	40	1.20	-18.9	0.8	65.1	65.8
Graders	1	85	443	40	0.40	-18.9	-4.0	66.1	62.1
								Log Sum	68.4
Building Construction									
Cranes	2	81	443	16	0.32	-18.9	-4.9	62.1	57.1
Forklifts[2]	3	48	443	40	1.20	-18.9	0.8	29.1	29.8
Generator Sets	1	81	443	50	0.50	-18.9	-3.0	62.1	59.0
Welders	2	74	443	40	0.80	-18.9	-1.0	55.1	54.1
Tractors/Loaders/Backhoes	4	84	443	40	1.60	-18.9	2.0	65.1	67.1
								Log Sum	68.3
Paving									
Cement and Mortar Mixers	2	79	443	40	0.80	-18.9	-1.0	60.1	59.1
Pavers	1	77	443	50	0.50	-18.9	-3.0	58.1	55.0
Paving Equipment	2	77	443	50	1.00	-18.9	0.0	58.1	58.1
Rollers	2	80	443	20	0.40	-18.9	-4.0	61.1	57.1
Tractors/Loaders/Backhoes	1	84	443	40	0.40	-18.9	-4.0	65.1	61.1
								Log Sum	65.5
Architectural Coating									
Air Compressors	1	78	443	40	0.40	-18.9	-4.0	59.1	55.1
								Log Sum	55.1

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to East (25006 Crimson lasso Drive)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	861	40	0.40	-24.7	-4.0	57.3	53.3
Tractors/Loaders/Backhoes	1	84	861	40	0.40	-24.7	-4.0	59.3	55.3
								Log Sum	57.4
Grading									
Excavator	1	81	861	40	0.40	-24.7	-4.0	56.3	52.3
Rubber Tired Dozers	1	82	861	40	0.40	-24.7	-4.0	57.3	53.3
Tractors/Loaders/Backhoes	3	84	861	40	1.20	-24.7	0.8	59.3	60.1
Graders	1	85	861	40	0.40	-24.7	-4.0	60.3	56.3
								Log Sum	62.6
Building Construction									
Cranes	2	81	861	16	0.32	-24.7	-4.9	56.3	51.3
Forklifts[2]	3	48	861	40	1.20	-24.7	0.8	23.3	24.1
Generator Sets	1	81	861	50	0.50	-24.7	-3.0	56.3	53.3
Welders	2	74	861	40	0.80	-24.7	-1.0	49.3	48.3
Tractors/Loaders/Backhoes	4	84	861	40	1.60	-24.7	2.0	59.3	61.3
								Log Sum	62.5
Paving									
Cement and Mortar Mixers	2	79	861	40	0.80	-24.7	-1.0	54.3	53.3
Pavers	1	77	861	50	0.50	-24.7	-3.0	52.3	49.3
Paving Equipment	2	77	861	50	1.00	-24.7	0.0	52.3	52.3
Rollers	2	80	861	20	0.40	-24.7	-4.0	55.3	51.3
Tractors/Loaders/Backhoes	1	84	861	40	0.40	-24.7	-4.0	59.3	55.3
								Log Sum	59.7
Architectural Coating									
Air Compressors	1	78	861	40	0.40	-24.7	-4.0	53.3	49.3
								Log Sum	49.3

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to East (36035 Horseshoe Court)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	839	40	0.40	-24.5	-4.0	57.5	53.5
Tractors/Loaders/Backhoes	1	84	839	40	0.40	-24.5	-4.0	59.5	55.5
								Log Sum	57.6
Grading									
Excavator	1	81	839	40	0.40	-24.5	-4.0	56.5	52.5
Rubber Tired Dozers	1	82	839	40	0.40	-24.5	-4.0	57.5	53.5
Tractors/Loaders/Backhoes	3	84	839	40	1.20	-24.5	0.8	59.5	60.3
Graders	1	85	839	40	0.40	-24.5	-4.0	60.5	56.5
								Log Sum	62.8
Building Construction									
Cranes	2	81	839	16	0.32	-24.5	-4.9	56.5	51.6
Forklifts[2]	3	48	839	40	1.20	-24.5	0.8	23.5	24.3
Generator Sets	1	81	839	50	0.50	-24.5	-3.0	56.5	53.5
Welders	2	74	839	40	0.80	-24.5	-1.0	49.5	48.5
Tractors/Loaders/Backhoes	4	84	839	40	1.60	-24.5	2.0	59.5	61.5
								Log Sum	62.7
Paving									
Cement and Mortar Mixers	2	79	839	40	0.80	-24.5	-1.0	54.5	53.5
Pavers	1	77	839	50	0.50	-24.5	-3.0	52.5	49.5
Paving Equipment	2	77	839	50	1.00	-24.5	0.0	52.5	52.5
Rollers	2	80	839	20	0.40	-24.5	-4.0	55.5	51.5
Tractors/Loaders/Backhoes	1	84	839	40	0.40	-24.5	-4.0	59.5	55.5
								Log Sum	60.0
Architectural Coating									
Air Compressors	1	78	839	40	0.40	-24.5	-4.0	53.5	49.5
								Log Sum	49.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to East (36120 Jana Lane)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	266	40	0.40	-14.5	-4.0	67.5	63.5
Tractors/Loaders/Backhoes	1	84	266	40	0.40	-14.5	-4.0	69.5	65.5
								Log Sum	67.6
Grading									
Excavator	1	81	266	40	0.40	-14.5	-4.0	66.5	62.5
Rubber Tired Dozers	1	82	266	40	0.40	-14.5	-4.0	67.5	63.5
Tractors/Loaders/Backhoes	3	84	266	40	1.20	-14.5	0.8	69.5	70.3
Graders	1	85	266	40	0.40	-14.5	-4.0	70.5	66.5
								Log Sum	72.8
Building Construction									
Cranes	2	81	266	16	0.32	-14.5	-4.9	66.5	61.5
Forklifts[2]	3	48	266	40	1.20	-14.5	0.8	33.5	34.3
Generator Sets	1	81	266	50	0.50	-14.5	-3.0	66.5	63.5
Welders	2	74	266	40	0.80	-14.5	-1.0	59.5	58.5
Tractors/Loaders/Backhoes	4	84	266	40	1.60	-14.5	2.0	69.5	71.5
								Log Sum	72.7
Paving									
Cement and Mortar Mixers	2	79	266	40	0.80	-14.5	-1.0	64.5	63.5
Pavers	1	77	266	50	0.50	-14.5	-3.0	62.5	59.5
Paving Equipment	2	77	266	50	1.00	-14.5	0.0	62.5	62.5
Rollers	2	80	266	20	0.40	-14.5	-4.0	65.5	61.5
Tractors/Loaders/Backhoes	1	84	266	40	0.40	-14.5	-4.0	69.5	65.5
								Log Sum	69.9
Architectural Coating									
Air Compressors	1	78	266	40	0.40	-14.5	-4.0	63.5	59.5
								Log Sum	59.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to Southeast (36254 Jana Lane)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	984	40	0.40	-25.9	-4.0	56.1	52.1
Tractors/Loaders/Backhoes	1	84	984	40	0.40	-25.9	-4.0	58.1	54.1
								Log Sum	56.3
Grading									
Excavator	1	81	984	40	0.40	-25.9	-4.0	55.1	51.1
Rubber Tired Dozers	1	82	984	40	0.40	-25.9	-4.0	56.1	52.1
Tractors/Loaders/Backhoes	3	84	984	40	1.20	-25.9	0.8	58.1	58.9
Graders	1	85	984	40	0.40	-25.9	-4.0	59.1	55.1
								Log Sum	61.5
Building Construction									
Cranes	2	81	984	16	0.32	-25.9	-4.9	55.1	50.2
Forklifts[2]	3	48	984	40	1.20	-25.9	0.8	22.1	22.9
Generator Sets	1	81	984	50	0.50	-25.9	-3.0	55.1	52.1
Welders	2	74	984	40	0.80	-25.9	-1.0	48.1	47.2
Tractors/Loaders/Backhoes	4	84	984	40	1.60	-25.9	2.0	58.1	60.2
								Log Sum	61.3
Paving									
Cement and Mortar Mixers	2	79	984	40	0.80	-25.9	-1.0	53.1	52.2
Pavers	1	77	984	50	0.50	-25.9	-3.0	51.1	48.1
Paving Equipment	2	77	984	50	1.00	-25.9	0.0	51.1	51.1
Rollers	2	80	984	20	0.40	-25.9	-4.0	54.1	50.1
Tractors/Loaders/Backhoes	1	84	984	40	0.40	-25.9	-4.0	58.1	54.1
								Log Sum	58.6
Architectural Coating									
Air Compressors	1	78	984	40	0.40	-25.9	-4.0	52.1	48.1
								Log Sum	48.1

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

APPENDIX E

FHWA WORKSHEETS

Existing Traffic Noise

1	:Id
Clinton Keith Road	:Road
West of I-15 Southbound Ramp	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	36108
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2091.16	43.33	72.22	1552.45	7.22	12.04	384.98	60.18	100.30
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.46	10.62	12.84	26.16	2.84	5.06	20.11	12.05	14.27
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.68	58.56	66.00	64.39	50.78	58.22	58.33	59.99	67.42
	DAY LEQ	69.24		EVENING LEQ	65.47		NIGHT LEQ	68.58	

F	CNEL	75.13	
	DAY LEQ	69.24	

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

1	:Id
Clinton Keith Road	:Road
West of I-15 Southbound Ramp	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	36588
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2118.96	43.91	73.18	1573.09	7.32	12.20	390.09	60.98	101.63
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.51	10.68	12.90	26.22	2.90	5.12	20.17	12.11	14.32
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.74	58.62	66.05	64.44	50.84	58.27	58.39	60.05	67.48
	DAY LEQ	69.30		EVENING LEQ	65.53		NIGHT LEQ	68.63	

CNEL	75.19
DAY LEQ	69.30

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

2	:Id	
Clinton Keith Road	:Road	
I-15 Southbound Ramp to I-15 Northbound Ramp	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	34848
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2018.19	41.82	69.70	1498.28	6.97	11.62	371.54	58.08	96.80
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.30	10.47	12.69	26.01	2.69	4.90	19.95	11.89	14.11
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.52	58.41	65.84	64.23	50.63	58.06	58.17	59.83	67.27
	DAY LEQ	69.09		EVENING LEQ	65.32		NIGHT LEQ	68.42	

CNEL	74.98
DAY LEQ	69.09

Day hour	90.00
Absorptive?	no
Use hour?	no
GRADE dB	1.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

2	:Id	
Clinton Keith Road	:Road	
I-15 Southbound Ramp to I-15 Northbound Ramp	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	35652
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2064.75	42.78	71.30	1532.85	7.13	11.88	380.11	59.42	99.03
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.40	10.57	12.78	26.11	2.78	5.00	20.05	11.99	14.21
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.62	58.51	65.94	64.33	50.72	58.16	58.27	59.93	67.37
	DAY LEQ	69.18		EVENING LEQ	65.42		NIGHT LEQ	68.52	

CNEL	75.08
DAY LEQ	69.18

Day hour	90.00
Absorptive?	no
Use hour?	no
GRADE dB	1.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

3	:Id
Clinton Keith Road	:Road
I-15 Northbound Ramp to Wildomar Trail	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	35112
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2033.48	42.13	70.22	1509.63	7.02	11.70	374.36	58.52	97.53
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.34	10.50	12.72	26.04	2.72	4.94	19.99	11.93	14.15
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.56	58.44	65.88	64.26	50.66	58.09	58.21	59.87	67.30
	DAY LEQ	69.12		EVENING LEQ	65.35		NIGHT LEQ	68.45	

CNEL	75.01
DAY LEQ	69.12

Day hour	91.00
Absorptive?	no
Use hour?	no
GRADE dB	2.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

3	:Id
Clinton Keith Road	:Road
I-15 Northbound Ramp to Wildomar Trail	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	36084
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2089.77	43.30	72.17	1551.42	7.22	12.03	384.72	60.14	100.23
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.45	10.62	12.84	26.16	2.84	5.06	20.10	12.05	14.26
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.68	58.56	65.99	64.38	50.78	58.21	58.33	59.98	67.42
	DAY LEQ	69.24		EVENING LEQ	65.47		NIGHT LEQ	68.57	

CNEL	75.13
DAY LEQ	69.24

Day hour	91.00
Absorptive?	no
Use hour?	no
GRADE dB	2.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

4	:Id
Clinton Keith Road	:Road
Wildomar Trail to Inland Valley Drive	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	28236
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1635.26	33.88	56.47	1214.00	5.65	9.41	301.05	47.06	78.43
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	26.39	9.55	11.77	25.10	1.77	3.99	19.04	10.98	13.20
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.61	57.49	64.93	63.32	49.71	57.15	57.26	58.92	66.36
	DAY LEQ	68.17		EVENING LEQ	64.41		NIGHT LEQ	67.51	

CNEL	74.06
DAY LEQ	68.17

Day hour	92.00
Absorptive?	no
Use hour?	no
GRADE dB	3.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

4	:Id
Clinton Keith Road	:Road
Wildomar Trail to Inland Valley Drive	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	29376
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1701.28	35.25	58.75	1263.01	5.88	9.79	313.20	48.96	81.60
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	26.56	9.73	11.94	25.27	1.94	4.16	19.21	11.15	13.37
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.78	57.66	65.10	63.49	49.88	57.32	57.43	59.09	66.53
	DAY LEQ	68.34		EVENING LEQ	64.58		NIGHT LEQ	67.68	

CNEL	74.24
DAY LEQ	68.34

Day hour	92.00
Absorptive?	no
Use hour?	no
GRADE dB	3.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

5	:Id
Clinton Keith Road	:Road
Inland Valley Drive to Salida Del Sol	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	21156
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1225.23	25.39	42.31	909.60	4.23	7.05	225.56	35.26	58.77
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.04	7.21	9.43	22.75	-0.57	1.65	16.69	8.63	10.85
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.50	57.94	64.68	65.21	50.16	56.90	59.15	59.37	66.11
	DAY LEQ	69.05		EVENING LEQ	65.92		NIGHT LEQ	67.61	

CNEL	**74.34**
DAY LEQ	69.05

Day hour	93.00
Absorptive?	no
Use hour?	no
GRADE dB	4.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

5	:Id
Clinton Keith Road	:Road
Inland Valley Drive to Salida Del Sol	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	22452
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1300.29	26.94	44.90	965.32	4.49	7.48	239.38	37.42	62.37
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.30	7.47	9.68	23.01	-0.32	1.90	16.95	8.89	11.11
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.76	58.20	64.94	65.46	50.42	57.16	59.41	59.63	66.36
	DAY LEQ	69.30		EVENING LEQ	66.18		NIGHT LEQ	67.87	

CNEL	74.60
DAY LEQ	69.30

Day hour	93.00
Absorptive?	no
Use hour?	no
GRADE dB	4.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

6	:Id
Clinton Keith Road	:Road
Salida Del Sol to Elizabeth Lane	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	21276
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1232.18	25.53	42.55	914.75	4.26	7.09	226.84	35.46	59.10
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.07	7.23	9.45	22.78	-0.55	1.67	16.72	8.66	10.88
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.52	57.97	64.70	65.23	50.18	56.92	59.18	59.39	66.13
	DAY LEQ	69.07		EVENING LEQ	65.95		NIGHT LEQ	67.63	

CNEL	74.37
DAY LEQ	69.07

Day hour	94.00
Absorptive?	no
Use hour?	no
GRADE dB	5.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

6	:Id
Clinton Keith Road	:Road
Salida Del Sol to Elizabeth Lane	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	22704
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1314.88	27.24	45.41	976.15	4.54	7.57	242.07	37.84	63.07
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.35	7.51	9.73	23.06	-0.27	1.95	17.00	8.94	11.16
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.81	58.25	64.99	65.51	50.47	57.21	59.46	59.68	66.41
	DAY LEQ	69.35		EVENING LEQ	66.23		NIGHT LEQ	67.92	

CNEL	74.65
DAY LEQ	69.35

Day hour	94.00
Absorptive?	no
Use hour?	no
GRADE dB	5.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

7	:Id	Vehicle Distribution (Heavy Truck Mix)				ADT	20280
Clinton Keith Road	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	45
East of Elizabeth Lane	:Segment	Automobiles	75.54	14.02	10.43	92.00	Distance	76
		Medium Trucks	48.00	2.00	50.00	3.00	Left Angle	-90
		Heavy Trucks	48.00	2.00	50.00	5.00	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1174.50	24.34	40.56	871.93	4.06	6.76	216.22	33.80	56.33
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.86	7.02	9.24	22.57	-0.76	1.46	16.51	8.45	10.67
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.32	57.76	64.50	65.02	49.98	56.71	58.97	59.18	65.92
	DAY LEQ	68.86		EVENING LEQ	65.74		NIGHT LEQ	67.43	

CNEL	74.16	Day hour	95.00
DAY LEQ	68.86	Absorptive?	no
		Use hour?	no
		GRADE dB	6.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

7	:Id	
Clinton Keith Road	:Road	
East of Elizabeth Lane	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	21804
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1262.76	26.16	43.61	937.46	4.36	7.27	232.47	36.34	60.57
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.18	7.34	9.56	22.88	-0.44	1.78	16.83	8.77	10.98
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.63	58.07	64.81	65.34	50.29	57.03	59.28	59.50	66.24
	DAY LEQ	69.18		EVENING LEQ	66.05		NIGHT LEQ	67.74	

CNEL	74.47
DAY LEQ	69.18

Day hour	95.00
Absorptive?	no
Use hour?	no
GRADE dB	6.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

8	:Id	Vehicle Distribution (Heavy Truck Mix)				ADT	20196
Clinton Keith Road	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	45
West of Jana Lane	:Segment	Automobiles	75.54	14.02	10.43	92.00	Distance	76
		Medium Trucks	48.00	2.00	50.00	3.00	Left Angle	-90
		Heavy Trucks	48.00	2.00	50.00	5.00	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1169.63	24.24	40.39	868.32	4.04	6.73	215.33	33.66	56.10
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.84	7.01	9.22	22.55	-0.78	1.44	16.49	8.43	10.65
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.30	57.74	64.48	65.00	49.96	56.70	58.95	59.17	65.90
	DAY LEQ	68.84		EVENING LEQ	65.72		NIGHT LEQ	67.41	

CNEL	74.14	Day hour	96.00
DAY LEQ	68.84	Absorptive?	no
		Use hour?	no
		GRADE dB	7.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

8	:Id	
Clinton Keith Road	:Road	
West of Jana Lane	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	23064
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1335.73	27.68	46.13	991.63	4.61	7.69	245.90	38.44	64.07
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.42	7.58	9.80	23.13	-0.20	2.02	17.07	9.01	11.23
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.88	58.32	65.05	65.58	50.54	57.27	59.53	59.74	66.48
	DAY LEQ	69.42		EVENING LEQ	66.30		NIGHT LEQ	67.98	

CNEL	74.72
DAY LEQ	69.42

Day hour	96.00
Absorptive?	no
Use hour?	no
GRADE dB	7.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

9	:Id
Clinton Keith Road	:Road
East of Jana Lane	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	20100
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1164.07	24.12	40.20	864.19	4.02	6.70	214.30	33.50	55.83
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.82	6.99	9.20	22.53	-0.80	1.42	16.47	8.41	10.63
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.28	57.72	64.46	64.98	49.94	56.68	58.93	59.15	65.88
	DAY LEQ	68.82		EVENING LEQ	65.70		NIGHT LEQ	67.39	

CNEL	74.12
DAY LEQ	68.82

Day hour	97.00
Absorptive?	no
Use hour?	no
GRADE dB	8.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

9	:Id	
Clinton Keith Road	:Road	
East of Jana Lane	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	23952
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1387.16	28.74	47.90	1029.81	4.79	7.98	255.37	39.92	66.53
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.58	7.75	9.97	23.29	-0.03	2.18	17.23	9.17	11.39
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	67.04	58.48	65.22	65.75	50.70	57.44	59.69	59.91	66.65
	DAY LEQ	69.58		EVENING LEQ	66.46		NIGHT LEQ	68.15	

F	CNEL	74.88	
	DAY LEQ	69.58	

Day hour	97.00
Absorptive?	no
Use hour?	no
GRADE dB	8.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

10	:Id	
Clinton Keith Road	:Road	
West of Nutmeg Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	18492
Speed	45
Distance	55
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1070.95	22.19	36.98	795.06	3.70	6.16	197.16	30.82	51.37
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.46	6.62	8.84	22.17	-1.16	1.06	16.11	8.05	10.27
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	67.32	58.76	65.50	66.03	50.98	57.72	59.97	60.19	66.93
	DAY LEQ	69.87		EVENING LEQ	66.74		NIGHT LEQ	68.43	

CNEL	75.16
DAY LEQ	69.87

Day hour	98.00
Absorptive?	no
Use hour?	no
GRADE dB	9.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

10	:Id	
Clinton Keith Road	:Road	
West of Nutmeg Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	19284
Speed	45
Distance	55
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1116.81	23.14	38.57	829.11	3.86	6.43	205.60	32.14	53.57
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.64	6.81	9.02	22.35	-0.98	1.24	16.29	8.23	10.45
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	67.50	58.94	65.68	66.21	51.16	57.90	60.15	60.37	67.11
	DAY LEQ	70.05		EVENING LEQ	66.92		NIGHT LEQ	68.61	

CNEL	75.35
DAY LEQ	70.05

Day hour	98.00
Absorptive?	no
Use hour?	no
GRADE dB	9.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

11	:Id	
Clinton Keith Road	:Road	
East of Nutmeg Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	25668
Speed	45
Distance	55
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1486.54	30.80	51.34	1103.59	5.13	8.56	273.67	42.78	71.30
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.88	8.05	10.27	23.59	0.27	2.48	17.53	9.47	11.69
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	68.74	60.19	66.92	67.45	52.40	59.14	61.39	61.61	68.35
	DAY LEQ	71.29		EVENING LEQ	68.17		NIGHT LEQ	69.85	

CNEL	76.59
DAY LEQ	71.29

Day hour	99.00
Absorptive?	no
Use hour?	no
GRADE dB	10.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

11	:Id
Clinton Keith Road	:Road
East of Nutmeg Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	26148
Speed	45
Distance	55
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1514.34	31.38	52.30	1124.22	5.23	8.72	278.78	43.58	72.63
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.96	8.13	10.35	23.67	0.35	2.57	17.61	9.55	11.77
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	68.82	60.27	67.00	67.53	52.48	59.22	61.48	61.69	68.43
	DAY LEQ	71.37		EVENING LEQ	68.25		NIGHT LEQ	69.93	

CNEL	76.67
DAY LEQ	71.37

Day hour	99.00
Absorptive?	no
Use hour?	no
GRADE dB	10.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

12	:Id
Wildomar Trail	:Road
North of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6036
Speed	40
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	370.19	4.53	1.76	273.57	0.80	0.81	68.52	6.04	2.35
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	19.36	0.23	-3.87	18.04	-7.28	-7.27	12.03	1.48	-2.62
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.65	51.47	52.22	60.33	43.97	48.82	54.32	52.72	53.47
	DAY LEQ	62.48		EVENING LEQ	60.72		NIGHT LEQ	58.33	

CNEL	65.91
DAY LEQ	62.48

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

12	:Id
Wildomar Trail	:Road
North of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6132
Speed	40
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	376.07	4.60	1.79	277.92	0.82	0.82	69.61	6.13	2.38
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	19.43	0.30	-3.80	18.11	-7.21	-7.20	12.10	1.55	-2.55
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.72	51.54	52.29	60.40	44.03	48.89	54.39	52.79	53.54
	DAY LEQ	62.54		EVENING LEQ	60.79		NIGHT LEQ	58.39	

CNEL	65.98
DAY LEQ	62.54

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

13	:Id
Wildomar Trail	:Road
South of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4032
Speed	40
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	247.28	3.02	1.18	182.74	0.54	0.54	45.77	4.03	1.57
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	17.61	-1.52	-5.62	16.29	-9.03	-9.02	10.28	-0.27	-4.37
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.90	49.72	50.47	58.58	42.21	47.07	52.57	50.97	51.72
	DAY LEQ	60.72		EVENING LEQ	58.97		NIGHT LEQ	56.57	

CNEL	64.16
DAY LEQ	60.72

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

13	:Id
Wildomar Trail	:Road
South of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4104
Speed	40
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	251.70	3.08	1.20	186.01	0.55	0.55	46.59	4.10	1.60
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	17.68	-1.44	-5.55	16.37	-8.95	-8.94	10.36	-0.19	-4.30
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.97	49.80	50.54	58.66	42.29	47.15	52.65	51.05	51.79
	DAY LEQ	60.80		EVENING LEQ	59.05		NIGHT LEQ	56.65	

CNEL	64.24
DAY LEQ	60.80

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

14	:Id	
Inland Valley Drive	:Road	
South of Clinton Keith Road	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	9564
Speed	45
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	586.56	7.17	2.79	433.47	1.27	1.28	108.58	9.56	3.72
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	20.85	1.72	-2.38	19.53	-5.79	-5.78	13.52	2.97	-1.13
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.12	54.27	54.69	63.81	46.76	51.29	57.79	55.52	55.94
	DAY LEQ	65.81		EVENING LEQ	64.12		NIGHT LEQ	61.31	

CNEL	69.03
DAY LEQ	65.81

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

14	:Id
Inland Valley Drive	:Road
South of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	9720
Speed	45
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	596.12	7.29	2.84	440.54	1.29	1.30	110.35	9.72	3.78
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	20.92	1.79	-2.31	19.60	-5.72	-5.71	13.59	3.04	-1.06
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.19	54.34	54.76	63.88	46.83	51.36	57.86	55.59	56.01
	DAY LEQ	65.88		EVENING LEQ	64.19		NIGHT LEQ	61.38	

CNEL	69.10
DAY LEQ	65.88

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

15	:Id	
Salida Del Sol	:Road	
North of Clinton Keith Road	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	480
Speed	25
Distance	37
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	29.44	0.36	0.14	21.76	0.06	0.06	5.45	0.48	0.19
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	10.40	-8.72	-12.82	9.09	-16.23	-16.22	3.08	-7.47	-11.57
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	46.08	38.60	40.65	44.77	31.09	37.26	38.76	39.85	41.90
	DAY LEQ	47.74		EVENING LEQ	45.63		NIGHT LEQ	45.14	

CNEL	52.22
DAY LEQ	47.74

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

15	:Id	Vehicle Distribution (Light Truck Mix)				ADT	612
Salida Del Sol	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	25
North of Clinton Keith Road	:Segment	Automobiles	75.56	13.96	10.49	97.40	Distance	37
		Medium Trucks	48.91	2.17	48.91	1.84	Left Angle	-90
		Heavy Trucks	47.30	5.41	47.30	0.74	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	37.53	0.46	0.18	27.74	0.08	0.08	6.95	0.61	0.24
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	11.46	-7.67	-11.77	10.15	-15.18	-15.16	4.13	-6.42	-10.52
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	47.14	39.66	41.71	45.82	32.15	38.31	39.81	40.91	42.96
	DAY LEQ	48.80		EVENING LEQ	46.69		NIGHT LEQ	46.20	

CNEL	53.27	Day hour	0.00
DAY LEQ	48.80	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

16	:Id	Vehicle Distribution (Light Truck Mix)				ADT	1176
Elizabeth Lane	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	25
North of Clinton Keith Road	:Segment	Automobiles	75.56	13.96	10.49	97.40	Distance	37
		Medium Trucks	48.91	2.17	48.91	1.84	Left Angle	-90
		Heavy Trucks	47.30	5.41	47.30	0.74	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	72.12	0.88	0.34	53.30	0.16	0.16	13.35	1.18	0.46
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	14.30	-4.83	-8.93	12.98	-12.34	-12.33	6.97	-3.58	-7.68
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	49.97	42.49	44.55	48.66	34.99	41.15	42.65	43.74	45.80
	DAY LEQ	51.63		EVENING LEQ	49.52		NIGHT LEQ	49.03	

CNEL	56.11	Day hour	0.00
DAY LEQ	51.63	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

16	:Id	
Elizabeth Lane	:Road	
North of Clinton Keith Road	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	1272
Speed	25
Distance	37
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	78.01	0.95	0.37	57.65	0.17	0.17	14.44	1.27	0.49
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	14.64	-4.49	-8.59	13.32	-12.00	-11.99	7.31	-3.24	-7.34
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	50.31	42.83	44.89	49.00	35.33	41.49	42.99	44.08	46.14
	DAY LEQ	51.97		EVENING LEQ	49.87		NIGHT LEQ	49.37	

CNEL	56.45
DAY LEQ	51.97

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

17	:Id
Jana Lane	:Road
South of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	240
Speed	25
Distance	37
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	14.72	0.18	0.07	10.88	0.03	0.03	2.72	0.24	0.09
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	7.39	-11.73	-15.83	6.08	-19.24	-19.23	0.07	-10.48	-14.58
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	43.07	35.59	37.64	41.76	28.08	34.25	35.75	36.84	38.89
	DAY LEQ	44.73		EVENING LEQ	42.62		NIGHT LEQ	42.13	

CNEL	49.21
DAY LEQ	44.73

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

17	:Id
Jana Lane	:Road
South of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	1285
Speed	25
Distance	37
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	78.81	0.96	0.37	58.24	0.17	0.17	14.59	1.28	0.50
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	14.68	-4.45	-8.55	13.37	-11.95	-11.94	7.35	-3.20	-7.30
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	50.36	42.88	44.93	49.04	35.37	41.53	43.03	44.13	46.18
	DAY LEQ	52.02		EVENING LEQ	49.91		NIGHT LEQ	49.42	

CNEL	56.50
DAY LEQ	52.02

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

18	:Id
Nutmeg Street	:Road
North of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	3444
Speed	40
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	211.22	2.58	1.00	156.09	0.46	0.46	39.10	3.44	1.34
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	16.92	-2.21	-6.31	15.61	-9.71	-9.70	9.60	-0.96	-5.06
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.02	50.84	51.59	59.70	43.33	48.19	53.69	52.09	52.84
	DAY LEQ	61.84		EVENING LEQ	60.09		NIGHT LEQ	57.69	

CNEL	65.28
DAY LEQ	61.84

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

18	:Id	Vehicle Distribution (Light Truck Mix)				ADT	3600
Nutmeg Street	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	40
North of Clinton Keith Road	:Segment	Automobiles	75.56	13.96	10.49	97.40	Distance	33
		Medium Trucks	48.91	2.17	48.91	1.84	Left Angle	-90
		Heavy Trucks	47.30	5.41	47.30	0.74	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	220.79	2.70	1.05	163.16	0.48	0.48	40.87	3.60	1.40
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	17.11	-2.01	-6.11	15.80	-9.52	-9.51	9.79	-0.76	-4.86
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.21	51.03	51.78	59.89	43.53	48.38	53.88	52.28	53.03
	DAY LEQ	62.04		EVENING LEQ	60.28		NIGHT LEQ	57.89	

CNEL	65.47	Day hour	0.00
DAY LEQ	62.04	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

19	:Id	
Nutmeg Street	:Road	
South of Clinton Keith Road	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	9708
Speed	45
Distance	44
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	595.39	7.28	2.83	440.00	1.29	1.30	110.21	9.71	3.78
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	20.91	1.78	-2.32	19.60	-5.73	-5.71	13.58	3.03	-1.07
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.74	54.89	55.31	64.43	47.38	51.91	58.41	56.14	56.56
	DAY LEQ	66.43		EVENING LEQ	64.74		NIGHT LEQ	61.93	

CNEL	69.65
DAY LEQ	66.43

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

19	:Id	Vehicle Distribution (Light Truck Mix)				ADT	9864
Nutmeg Street	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	45
South of Clinton Keith Road	:Segment	Automobiles	75.56	13.96	10.49	97.40	Distance	44
		Medium Trucks	48.91	2.17	48.91	1.84	Left Angle	-90
		Heavy Trucks	47.30	5.41	47.30	0.74	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	604.95	7.40	2.88	447.07	1.31	1.32	111.98	9.86	3.84
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	20.98	1.85	-2.25	19.67	-5.66	-5.64	13.65	3.10	-1.00
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.81	54.96	55.38	64.50	47.45	51.98	58.48	56.21	56.63
	DAY LEQ	66.50		EVENING LEQ	64.81		NIGHT LEQ	61.99	

CNEL	69.72	Day hour	0.00
DAY LEQ	66.50	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

APPENDIX F

SOUNDPLAN WORKSHEETS

Source name	Refere	Level	Frequency spectrum [dB(A)]																												Correctio		
			31	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1	1.3	1.6	2	2.5	3.2	4	5	6.3	8	10	12.5	16	Cwa	CI	CT
		dB(A	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	dB	dB	dB
Que 1	Lw/m	Da 73.0																													-	-	-
Que 2	Lw/m	Da 73.0																													-	-	-
Que 3	Lw/m	Da 73.0																													-	-	-
Que 4	Lw/m	Da 73.0																													-	-	-
Service Window	Lw/unit	Da 50.0	-	-	-	-	-	-	-	-	-	-	-	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 1	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Window	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 2	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Window	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 3	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Car Wash Dryin	Lw/unit	Da 109	58	63	69	73	77	82	85	88	91	93	95	99	101	102	103	104	105	103	103	103	100	100	100	94	93	91	80	78	-	-	-
Vacuum 1	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 2	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 3	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 4	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 5	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 6	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vaccum 7	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
HVAC 1	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 2	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 3	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 4	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 5	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 6	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 7	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 8	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 9	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 10	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 11	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 12	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 13	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 14	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 15	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 16	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 17	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 18	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 19	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 20	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
Fueling Area1	Lw/m²	Da 65.0	-	-	-	-	-	-	-	-	-	-	-	-	65.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Noise emissions of parking lot traffic

Name	Parking bays	Movements			Corrections		Level	
		Day	Evening	Night	Parking lot type	dB(A)	Day dB(A)	Evening dB(A)
Parking 1	5.0	2.800	0.000	0.000		0.0	48.5	0.0
Parking 2	11.0	2.800	0.000	0.000		0.0	51.9	0.0
Parking 3	21.0	2.800	0.000	0.000		0.0	54.7	0.0
Parking 4	6.0	2.800	0.000	0.000		0.0	49.3	0.0
Parking 5	5.0	2.800	0.000	0.000		0.0	48.5	0.0
Parking 6	8.0	2.800	0.000	0.000		0.0	50.5	0.0
Parking 7	8.0	2.800	0.000	0.000		0.0	50.5	0.0
Parking 8	4.0	2.800	0.000	0.000		0.0	47.5	0.0
Parking 9	7.0	2.800	0.000	0.000		0.0	49.9	0.0
Parking 10	8.0	2.800	0.000	0.000		0.0	50.5	0.0
Parking 11	14.0	2.800	0.000	0.000		0.0	52.9	0.0
Parking 12	7.0	2.800	0.000	0.000		0.0	49.9	0.0
Parking 13	13.0	2.800	0.000	0.000		0.0	52.6	0.0
Parking 14	9.0	2.800	0.000	0.000		0.0	51.0	0.0
Parking 15	10.0	2.800	0.000	0.000		0.0	51.5	0.0
Parking 16	6.0	2.800	0.000	0.000		0.0	49.3	0.0

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	Receiver 2	-	EG	-	52.7	-
2		-	EG	-	39.4	-
			1.OG	-	39.7	-
3	Receiver 3	-	EG	-	49.1	-
			1.OG	-	49.6	-
4	Receiver 4	-	EG	-	45.7	-
			1.OG	-	45.8	-
5	Receiver 5	-	EG	-	46.5	-
			1.OG	-	46.6	-
6	Receiver 6	-	EG	-	48.5	-
			1.OG	-	49.0	-
7	Receiver 7	-	EG	-	48.5	-
			1.OG	-	49.0	-
8	Receiver 8	-	EG	-	63.9	-
9	Receiver 9	-	EG	-	65.2	-

Noise emissions of industry sources

Source name	Referen	Level	Frequency spectrum [dB(A)]																											Correctio		
			31	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1	1.3	1.6	2	2.5	3.2	4	5	6.3	8	10	12.5	16	Cwa	Cl	CT
		dB(A	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	dB	dB	dB
Que 1	Lw/m	Da 73.0																													-	-	-
Que 2	Lw/m	Da 73.0																													-	-	-
Que 3	Lw/m	Da 73.0																													-	-	-
Que 4	Lw/m	Da 73.0																													-	-	-
Service Wind	Lw/unit	Da 50.0	-	-	-	-	-	-	-	-	-	-	-	-	50.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 1	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Wind	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 2	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Wind	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 3	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HVAC 1	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 2	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 3	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 4	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 5	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 6	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 7	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 8	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 9	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 10	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 11	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 12	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 13	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 14	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 15	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 16	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 17	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 18	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 19	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 20	Lw/unit	Da 56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
Fueling Area	Lw/m²	Da 65.0	-	-	-	-	-	-	-	-	-	-	-	-	65.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Noise emissions of parking lot traffic

Name	Parking bays	Movements			Corrections		Level	
		Day	Evening	Night	Parking lot type	dB(A)	Day dB(A)	Evening dB(A)
Parking 1	5.0	1.400	0.000	0.000		0.0	45.5	0.0
Parking 2	11.0	1.400	0.000	0.000		0.0	48.9	0.0
Parking 3	21.0	1.400	0.000	0.000		0.0	51.7	0.0
Parking 4	6.0	1.400	0.000	0.000		0.0	46.2	0.0
Parking 5	5.0	1.400	0.000	0.000		0.0	45.5	0.0
Parking 6	8.0	1.400	0.000	0.000		0.0	47.5	0.0
Parking 7	8.0	1.400	0.000	0.000		0.0	47.5	0.0
Parking 8	4.0	1.400	0.000	0.000		0.0	44.5	0.0
Parking 9	7.0	1.400	0.000	0.000		0.0	46.9	0.0
Parking 10	8.0	1.400	0.000	0.000		0.0	47.5	0.0
Parking 11	14.0	1.400	0.000	0.000		0.0	49.9	0.0
Parking 12	7.0	1.400	0.000	0.000		0.0	46.9	0.0
Parking 13	13.0	1.400	0.000	0.000		0.0	49.6	0.0
Parking 14	9.0	0.930	0.000	0.000		0.0	46.2	0.0
Parking 15	10.0	0.930	0.000	0.000		0.0	46.7	0.0
Parking 16	6.0	0.930	0.000	0.000		0.0	44.5	0.0

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	Receiver 2	-	EG	-	48.5	-
2		-	EG	-	35.1	-
			1.OG	-	35.4	-
3	Receiver 3	-	EG	-	46.1	-
			1.OG	-	46.7	-
4	Receiver 4	-	EG	-	42.5	-
			1.OG	-	42.9	-
5	Receiver 5	-	EG	-	38.2	-
			1.OG	-	38.4	-
6	Receiver 6	-	EG	-	46.3	-
			1.OG	-	47.0	-
7	Receiver 7	-	EG	-	46.1	-
			1.OG	-	46.7	-
8	Receiver 8	-	EG	-	51.7	-
9	Receiver 9	-	EG	-	59.5	-

APPENDIX G

VIBRATION WORKSHEETS

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lane)	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to the North		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	145.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.015	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to the North		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	145.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.006	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lane)	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to East		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	91.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.030	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to East		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	91.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.013	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lane)	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to South		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	3.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	5.052	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to South		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	3.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	2.141	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lane)	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	1.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	26.250	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	1.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	11.125	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Mitigated		
Location:	Commercial Uses to South & West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	15.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.452	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Mitigated		
Location:	Commercial Uses to South & West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	8.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.492	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Annoyance Threshold		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	41.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.100	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Annoyance Threshold		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	23.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.101	IN/SEC	OUTPUT IN BLUE

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Appendix 10

Traffic Impact Analysis

BEYOND FOOD MART (CLINTON KEITH ROAD & JANA LANE) REVISED TRAFFIC IMPACT ANALYSIS

City of Wildomar

November 30, 2022

gandini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

1294

BEYOND FOOD MART (CLINTON KEITH ROAD & JANA LANE) REVISED TRAFFIC IMPACT ANALYSIS

City of Wildomar

November 30, 2022

prepared by

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Project No. 19510

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EXECUTIVE SUMMARY

The approximately 4.35-acre project site is located on the southeast corner of Jana Lane and Clinton Keith Road in the City of Wildomar.

The currently vacant site is proposed to include a 16 fueling position convenience store/gas station, and automated car wash, 3,800 square feet of fast-food restaurant with drive-thru, and 14,500 square feet of general office. The project site proposes one access driveway to Clinton Keith Road and three access driveways to Jana Lane. The project driveway on Clinton Keith Road will be restricted to right turns in/out only. The three project driveways on Jana Lane will be full access. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2024.

Existing Conditions

The study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions, except for the following study intersection which currently operates at unacceptable Levels of Service (E or F) during the peak hours:

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5 (AM/PM Peak Hours – LOS E)

Project Trips

The proposed project is forecast to generate a total of approximately 5,667 daily trips, including 270 trips during the AM peak hour and 264 trips during the PM peak hour.

Levels of Service/Operational Analysis Findings (Non-CEQA)

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Ambient Growth Plus Project conditions, except for the following study intersections which are projected to operate at unacceptable Levels of Service (E or F) during the peak hours:

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5 (AM/PM Peak Hours – LOS F)
- Jana Lane (NS) at Clinton Keith Road (EW) - #7 (AM/PM Peak Hours – LOS F)

The following improvements are recommended for Existing Plus Ambient Growth Plus Project conditions to maintain acceptable Level of Service:

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5
  - Restrict the southbound approach to right turns only during weekday peak periods (7-9 AM, 4-6 PM). This intersection currently operates at unacceptable LOS. Based on the HCM delay methodology, the deficient LOS reported is primarily associated with left turns from the minor street (Salida Del Sol); east-west approaches along the major street (Clinton Keith Road) are uncontrolled and would operate within acceptable LOS. The intersection is not forecast to satisfy the MUTCD peak hour volume warrant; therefore, installation of a traffic signal is not warranted.

- Jana Lane (NS) at Clinton Keith Road (EW) - #7
  - Install a traffic signal
  - Construct northbound left turn lane
  - Restripe northbound shared left/right turn lane to right turn lane.

The proposed project is forecast to result in no substantial operational deficiencies at the study intersections for Existing Plus Ambient Growth Plus Project conditions with implementation of the recommended improvements.

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions, except for the following study intersections which are projected to operate at unacceptable Levels of Service (E or F) during the peak hours:

- Inland Valley Drive (NS) at Clinton Keith Road (EW) - #4 (PM Peak Hour – LOS E)
- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5 (AM/PM Peak Hours – LOS F)
- Elizabeth Lane (NS) at Clinton Keith Road (EW) - #6 (AM/PM Peak Hours – LOS F)
- Jana Lane (NS) at Clinton Keith Road (EW) - #7 (AM/PM Peak Hours – LOS F)

The following improvements are recommended for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions to maintain acceptable Level of Service:

- Inland Valley Drive (NS) at Clinton Keith Road (EW) - #4
  - Construct additional eastbound through lane receiving lane
  - Construct additional westbound through lane

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5
  - Install a traffic signal
  - Construct northbound, southbound, and westbound left turn lanes.
  - Restripe northbound, southbound, and westbound shared left/through/right turn lane to shared through/right turn lane.

- Elizabeth Lane (NS) at Clinton Keith Road (EW) - #6
  - Install a traffic signal
  - Construct northbound and southbound left turn lanes.
  - Restripe northbound and southbound shared left/through/right turn lane to shared through/right turn lane.
  - Construct additional eastbound through lane.

- Jana Lane (NS) at Clinton Keith Road (EW) - #7
  - Install a traffic signal
  - Construct northbound left turn lane
  - Restripe northbound shared left/right turn lane to right turn lane.

The proposed project is forecast to result in no substantial operational deficiencies at the study intersections for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions with implementation of the recommended improvements.

VMT Analysis Findings (CEQA)

The 14,500 square feet of office is greater than the screening threshold of 10,000 square feet of office or less. Based on the WRCOG VMT Screening Tool, the 14,500 square feet of office will reduce the City required VMT by at least 3 percent. Therefore, the project meets the City established VMT screening criteria for locally serving retail 50,000 square feet or less (commercial retail portion of the project site) and the requirement of reducing VMT by at least 3 percent (office portion of the project site) and can be presumed to result in a less than significant impact.

1. INTRODUCTION

This section introduces the proposed project and the general scope of the analysis.

PURPOSE AND OBJECTIVES

The purpose of this study is to evaluate the potential for transportation impacts resulting from development of the proposed project both in the context of the City of Wildomar's discretionary authority for conformance with locally established operational standards and the California Environmental Quality Act (CEQA). Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with terms related to transportation engineering.

This study was prepared in consultation with City of Wildomar staff and in accordance with the procedures and methodologies for assessing transportation impacts established by the City of Wildomar. To assess the project's conformance with local operational standards, this study evaluates the project's effect on traffic operations and, if necessary, identifies recommended improvements or corrective measures to alleviate operational deficiencies substantially caused or worsened by the proposed project. For CEQA purposes, this study also evaluates the significance of project-related transportation impacts as measured by vehicle miles traveled (VMT) relative to thresholds established by the City of Wildomar as the lead agency and, if necessary, identifies feasible mitigation measures to mitigate any significant impacts.

PROJECT DESCRIPTION

The approximately 4.35-acre project site is located on the southeast corner of Jana Lane and Clinton Keith Road in the City of Wildomar, California. Figure 1 shows the project location map.

The currently vacant site is proposed to include a 16 fueling position convenience store/gas station, and automated car wash, 3,800 square feet of fast-food restaurant with drive-thru, and 14,500 square feet of general office. The project site proposes one access driveway to Clinton Keith Road and three access driveways to Jana Lane. The project driveway on Clinton Keith Road will be restricted to right turns in/out only. The three project driveways on Jana Lane will be full access. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2024. Figure 2 illustrates the project site plan.

SCOPE OF ANALYSIS

The scope of this analysis was determined in consultation with City of Wildomar staff as documented in the City-approved scoping agreement provided in Appendix B.

Study Area

Based on the study intersections identified in the approved scoping agreement (Appendix B), the study area consists of the following study intersections within City of Wildomar jurisdiction:

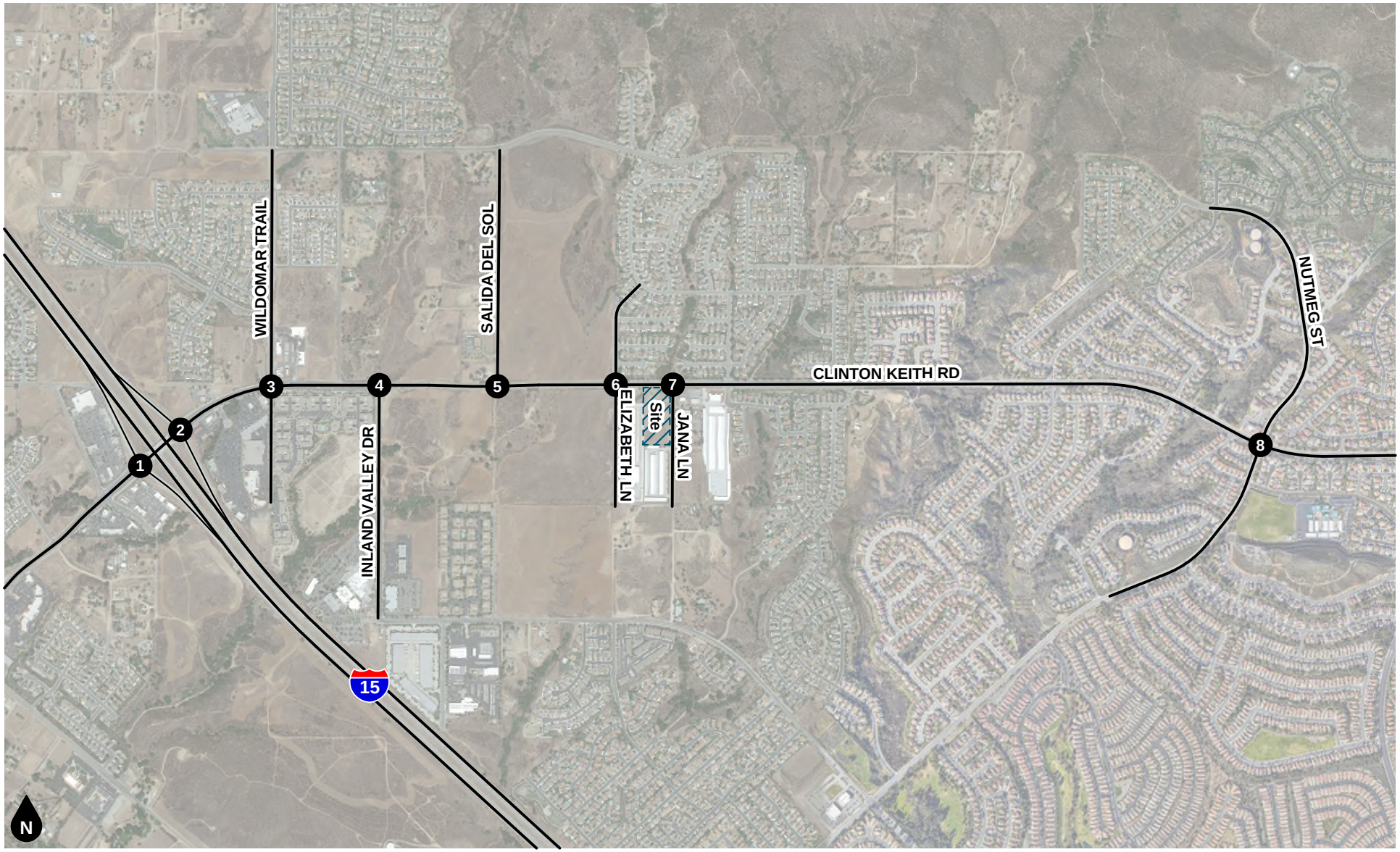
Study Intersections[1]	Jurisdiction[2]
1. I-215 SB Ramps (NS) at Clinton Keith Road (EW)	Caltrans
2. I-215 NB Ramps (NS) at Clinton Keith Road (EW)	Caltrans
3. Wildomar Trail (NS) at Clinton Keith Road (EW)	City of Wildomar
4. Inland Valley Drive (NS) at Clinton Keith Road (EW)	City of Wildomar
5. Salida Del Sol (NS) at Clinton Keith Road (EW)	City of Wildomar
6. Elizabeth Lane (NS) at Clinton Keith Road (EW)	City of Wildomar
7. Jana Lane (NS) at Clinton Keith Road (EW)	City of Wildomar
8. Nutmeg Street (NS) at Clinton Keith Road (EW)	City of Murrieta

Notes:
1. (NS) = North-South roadway; (EW) = East-West roadway; NB = Northbound; SB = Southbound
2. Caltrans = California Department of Transportation

Analysis Scenarios

The following scenarios are analyzed for weekday AM and PM peak hour conditions:

- Existing [2022]
- Existing Plus Ambient Growth Plus Project [2024]
- Existing Plus Ambient Growth Plus Project Plus Cumulative [2024]



Legend

(#) Study Intersection

Figure 1
Project Location Map

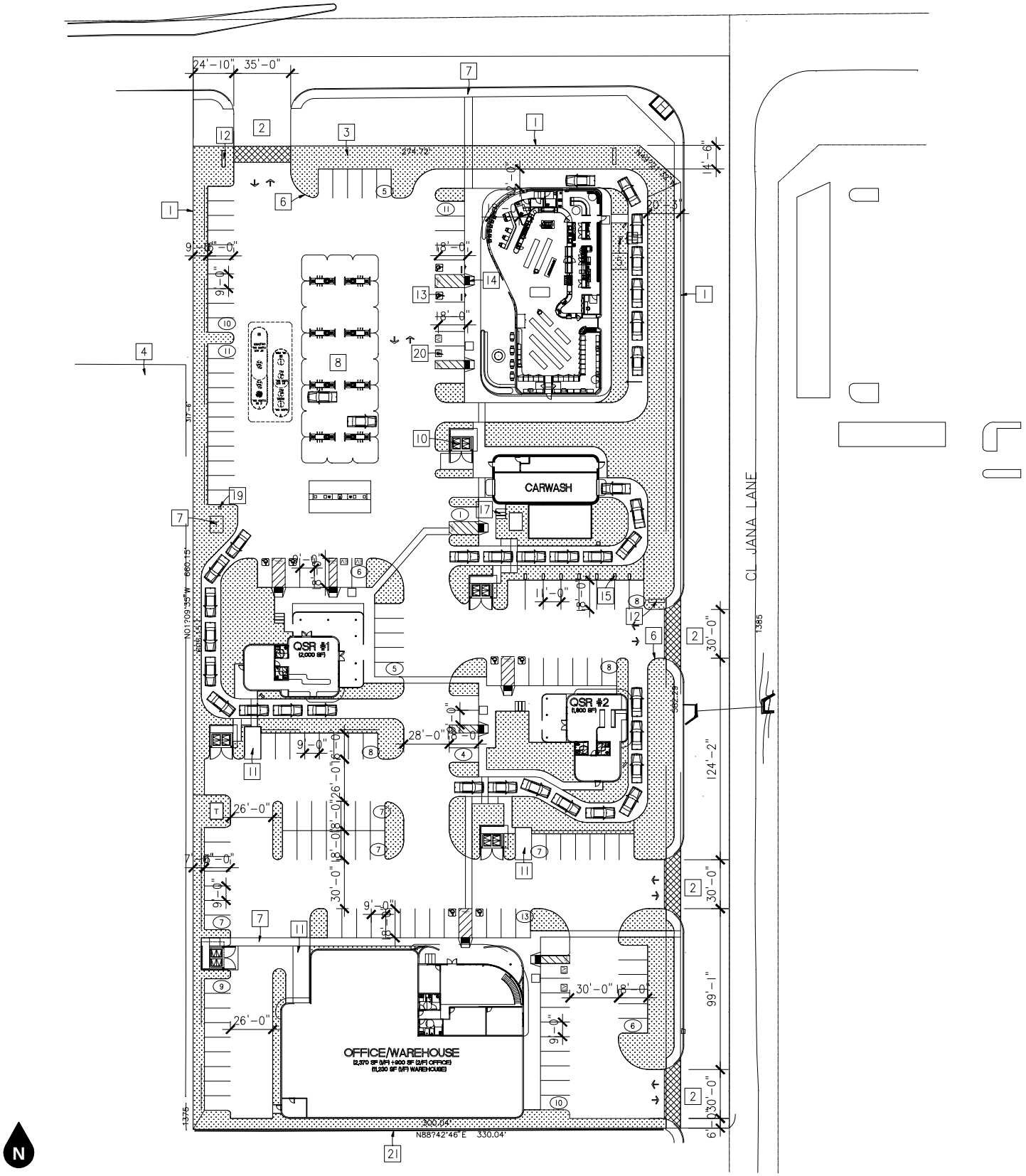


Figure 2
Site Plan

2. METHODOLOGY

This section discusses the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies.

LEVEL OF SERVICE ANALYTICAL METHODOLOGY (NON-CEQA)

Level of Service analysis is performed for assessing conformance with General Plan and operational standards established by the applicable agencies. In accordance with current CEQA provisions, a project's effect on automobile delay (as measured by Level of Service) shall not constitute a significant environmental impact.

Intersection Delay Methodology

The technique used to assess the performance of intersections is known as the intersection delay methodology based on the procedures contained in the *Highway Capacity Manual* (Transportation Research Board, 6th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service. Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board, Highway Capacity Manual (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane). Intersection delay and Level of Service calculations were performed using the Vistro software.

Performance Standards

City of Wildomar

The City of Wildomar defines intersection performance deficiency standards consistent with those of the County of Riverside General Plan Circulation Element. The Riverside County General Plan Policy C 2.1 states that the County will maintain the following County-wide target Level of Service:

The following minimum target levels of service have been designated for the review of development proposals in the unincorporated areas of Riverside County with respect to transportation impacts on roadways designated in the Riverside County Circulation Plan which are currently County maintained, or are intended to be accepted into the County maintained roadway system:

- *Level of Service C shall apply to all development proposals in any area of the Riverside County not located within the boundaries of an Area Plan, as well as those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non-Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley, and Temescal Canyon Area Plans.*

- *Level of Service D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley, and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley, and Temescal Canyon Area Plans.*

- *Level of service E may be allowed by the Board of Supervisors within designated areas where transit-oriented development and walkable communities are proposed.*

The applicable minimum Level of Service utilized for purposes of this analysis for the intersections located within the City of Wildomar is Level of Service D per the County-wide target Level of Service for projects located within a Community Development Area.

California Department of Transportation

As stated in the Guide for the Preparation of Traffic Impact Studies (State of California, 2002), "California Department of Transportation endeavors to maintain a target LOS [Level of Service] at the transition between LOS "C" and LOS "D" on State highway facilities". The California Department of Transportation acknowledges this may not always be feasible and recommends consultation with the California Department of Transportation to determine the appropriate target Level of Service. For consistency with local requirements, this analysis defines Level of Service D as the minimum acceptable Level of Service for State Highway facilities.

City of Murrieta

The City of Murrieta General Plan has established the typical acceptable peak hour Level of Service D for intersections. The City of Murrieta General Plan has established daily Level of Service C for roadway segments, unless the segments are within General Plan Focus Areas where Level of Service D is allowed.

Substantial Operational Deficiency Criteria

The following criteria are used to determine whether a project causes a substantial operational deficiency and should be required to provide improvements or corrective measures.

City of Wildomar

In the City of Wildomar, a project is considered to result in a substantial operational deficiency at a study intersection if one or more of the following conditions are satisfied:

- The addition of project generated trips is forecast to cause an intersection to deteriorate from acceptable Level of Service (D or better) to unacceptable Level of Service (E or F); or,

- The addition of project generated trips worsens the pre-project delay by 5 seconds or more at an intersection operating at an unacceptable Level of Service (E or F) in the baseline condition.

California Department of Transportation

Based on the established performance standards for County of Riverside, a potentially operational transportation impact is defined to occur if:

- The addition of project-generated trips is forecast to cause the performance of a study intersection to deteriorate from acceptable Level of Service (D or better) to unacceptable Level of Service (E or F); or,

- The addition of project generated trips is forecast to worsen the performance of a study intersection operating at unacceptable Level of Service (E or F) in the baseline condition.

City of Murrieta

The City of Murrieta TIA Guidelines establish the following operating requirements for general plan consistency.

Signalized Intersections

- Any study intersection operating at an acceptable Level of Service (D or better) without project traffic in which the addition of project traffic causes the intersection to degrade to a Level of Service (E or F) shall identify improvements to improve operations to Level of Service (D or better).

- Any signalized study intersection that is operating at unacceptable Level of Service (E or F) without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.

Unsignalized Intersections

An operational improvement would be required if the study determines that either section a) or both sections b) and c) occur:

a) The addition of project related traffic causes the intersection to degrade from an acceptable Level of Service D or better to Level of Service E or F.

OR

b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at a Level of Service E or F.

AND

c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

If the conditions above are satisfied, improvements should be identified that achieve the following:

- LOS D or better for case a) above or to pre-project LOS and delay for case b) above.

If a project is forecast to result in a substantial operational deficiency, recommended corrective measures are identified that would reduce the project's effect to a level that does not exceed the specified deficiency criteria. Corrective measures can be in many forms, including the construction of physical improvements (e.g., addition of travel lanes, traffic control modifications, etc.) or the implementation of transportation demand management measures.

VEHICLE MILES TRAVELED ANALYTICAL METHODOLOGY (CEQA)

The metric used to evaluate the transportation impact of land use and transportation projects under CEQA is known as vehicle miles traveled (VMT). In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Additional information and a detailed project assessment is provided in the Vehicle Miles Traveled section presented later in this report.

3. EXISTING CONDITIONS

EXISTING ROADWAY SYSTEM

Figure 3 identifies the lane geometry and intersection traffic controls for Existing conditions based on a field survey of the study area. Regional access to the project site is provided by the I-15 Freeway located approximately 1.15 miles west of the project site. Key roadways providing local circulation include Clinton Keith Road, Wildomar Trail, Inland Valley Drive, Salida Del Sol, Elizabeth Lane, Jana Lane, and Nutmeg Street.

GENERAL PLAN CONTEXT

Figure 4 shows the City of Wildomar General Plan Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Wildomar standard roadway cross-sections is illustrated on Figure 5.

TRANSIT SERVICE

Figure 6 shows Existing public transit facilities and routes in the project vicinity. As shown on Figure 6, the study area is currently served by the Riverside Transit Agency bus service. Route 23 runs along Clinton Keith Road west of Inland Valley Drive and east of Nutmeg Street, and Inland Valley Drive south of Clinton Keith Road.

BICYCLE AND PEDESTRIAN FACILITIES

The City of Wildomar Community/Regional Roadside, Off-Road Multi-Use Trails are illustrated on Figure 7. There are currently on-street existing bicycle lanes along Clinton Keith Road from east of Inland Valley Drive westbound and from the City of Murrieta boundary eastbound. Salida Del Sol is a Regional: Roadside, Countryside, and Creekside: Multi-Use Trail.

Existing pedestrian facilities in the project vicinity are shown on Figure 8. Sidewalks are currently not provided on Clinton Keith Road or Jana Lane adjacent to the project site.

EXISTING ROADWAY VOLUMES

Figure 9 and Figure 10 show the Existing weekday AM and PM peak hour intersection turning movement volumes. Existing peak hour intersection volumes are based upon weekday AM and PM peak period intersection turning movement counts obtained in May 2022 during typical weekday conditions. The weekday AM peak period was counted between 7:00 AM and 9:00 PM and the weekday PM peak period was counted between 4::00 PM and 6:00 PM; these periods generally capture the peak times for commuter traffic when the roadway system is typically experiencing peak demand. The actual peak hour within each two-hour count period is determined based on the sum of the four consecutive 15-minute periods with the highest total volume. Thus, the weekday PM peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest total volume and may vary at other intersections. Intersection turning movement count worksheets are provided in Appendix C.

EXISTING LEVELS OF SERVICE

The intersection Levels of Service for Existing conditions are shown in Table 1. Existing intersection Level of Service worksheets are provided in Appendix D.

As shown in Table 1, the study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions, except for the following study intersection which currently operates at unacceptable Levels of Service (E or F) during the peak hours:

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5 (AM/PM Peak Hours – LOS E)

Table 1
Existing Intersection Levels of Service

Study Intersection	Jurisdiction[1]	Traffic Control[2]	AM Peak Hour		PM Peak Hour	
			Delay[3]	LOS[4]	Delay[3]	LOS[4]
1. I-215 SB Ramps (NS) at Clinton Keith Rd (EW)	Caltrans	TS	18.8	B	15.1	B
2. I-215 NB Ramps (NS) at Clinton Keith Rd (EW)	Caltrans	TS	15.2	B	17.1	B
3. Wildomar Tr (NS) at Clinton Keith Rd (EW)	Wildomar	TS	18.3	B	19.2	B
4. Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Wildomar	TS	13.1	B	14.8	B
5. Salida Del Sol (NS) at Clinton Keith Rd (EW)	Wildomar	CSS	43.7	E	47.0	E
6. Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Wildomar	CSS	20.3	C	27.0	D
7. Jana Ln (NS) at Clinton Keith Rd (EW)	Wildomar	CSS	15.5	C	23.6	C
8. Nutmeg St (NS) at Clinton Keith Rd (EW)	Murrieta	TS	19.7	B	19.9	B

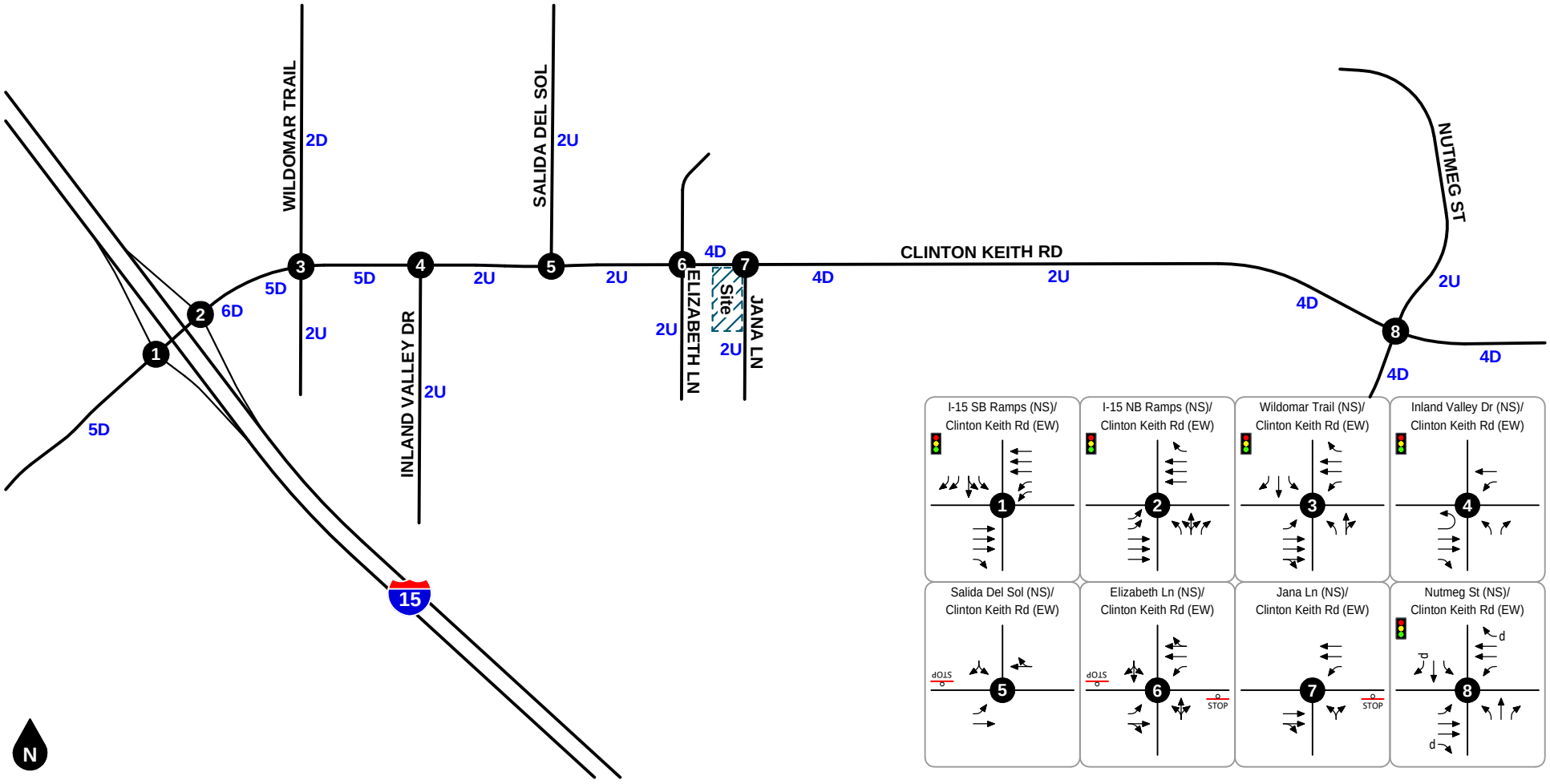
Notes:

(1) Caltrans = California Department of Transportation

(2) TS = Traffic Signal; CSS = Cross Street Stop

(3) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual approach.

(4) LOS = Level of Service



Legend

- Traffic Signal
- Stop Sign
- #D #-Lane Divided Roadway
- #U #-Lane Undivided Roadway
- Existing Lane
- d De Facto Right Turn Lane

Figure 3
Existing Lane Geometry and Intersection Traffic Controls

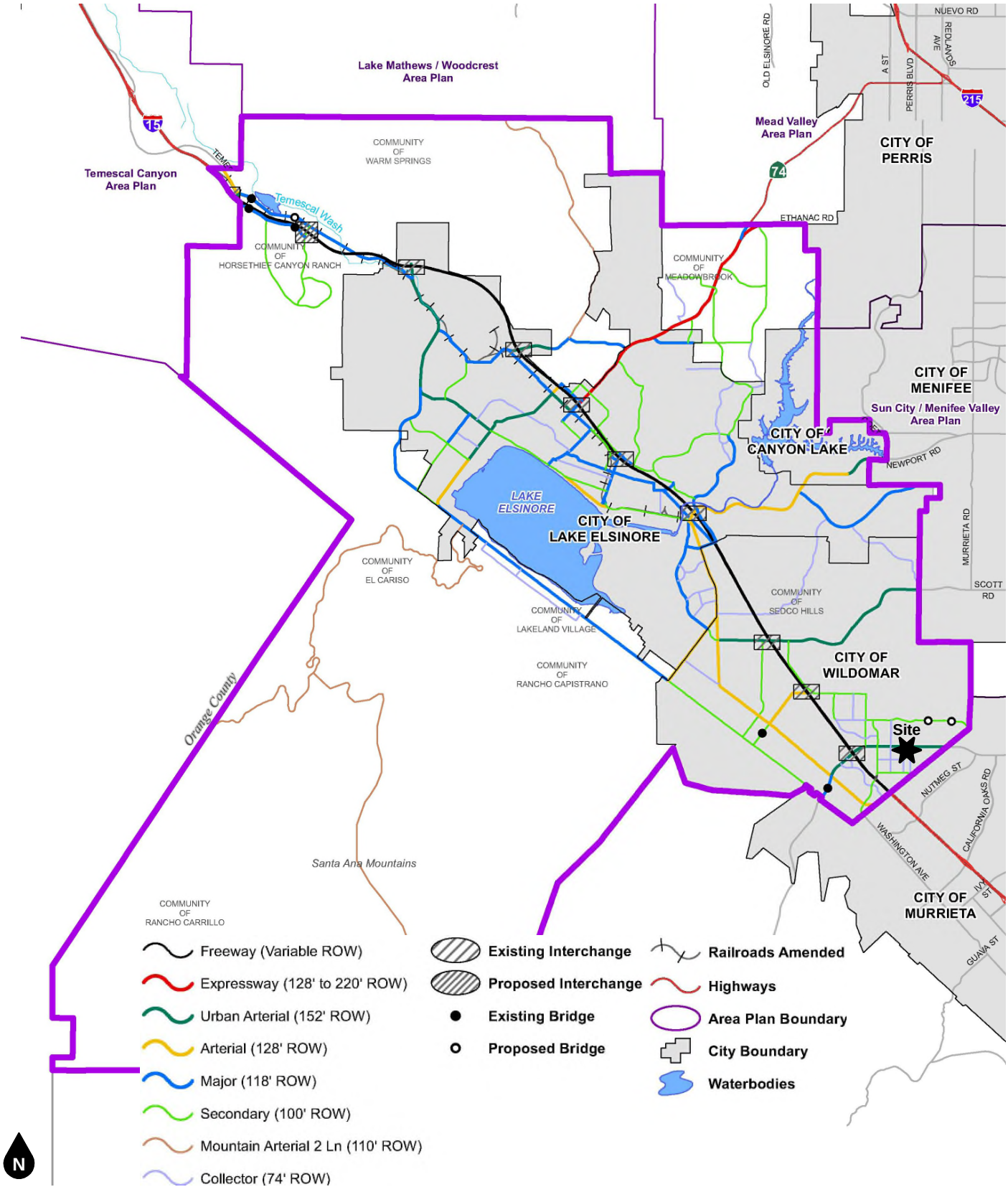


Figure 4
City of Wildomar General Plan Circulation Element

Source: City of Wildomar

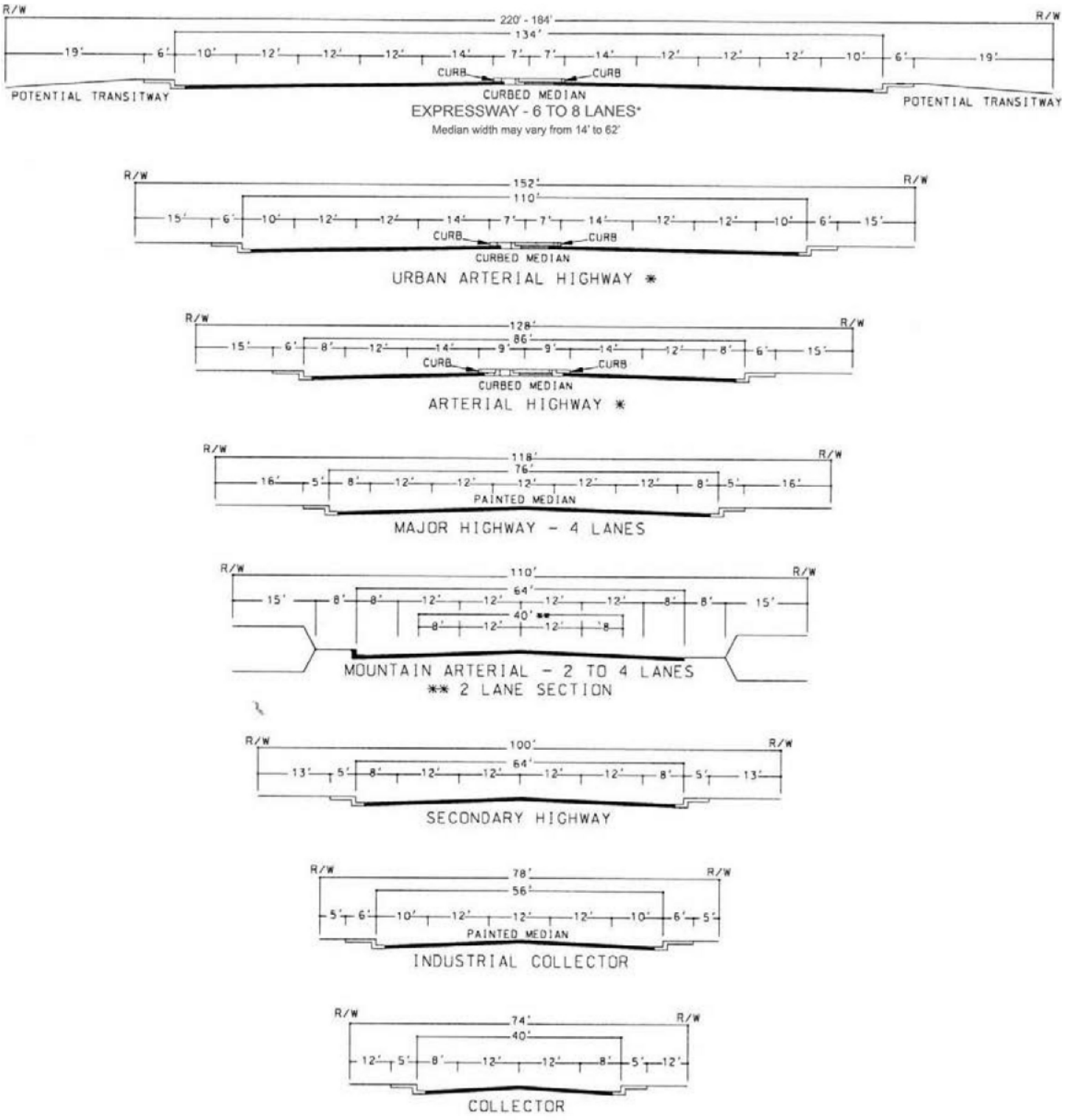


Figure 5
City of Wildomar General Plan Roadway Cross-Sections

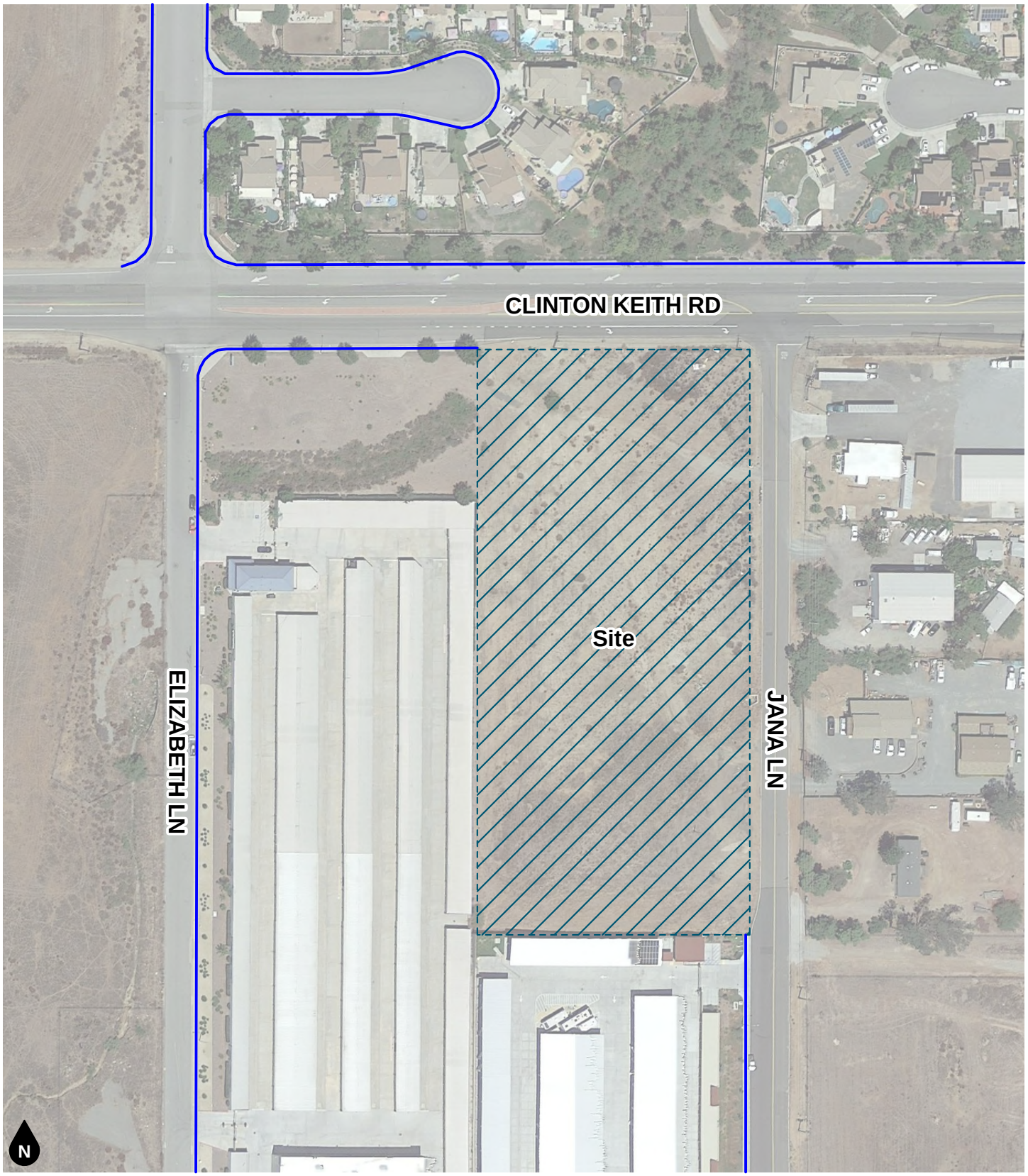
Source: County of Riverside

Figure 6
Existing Transit Routes

Source: Riverside Transit Agency

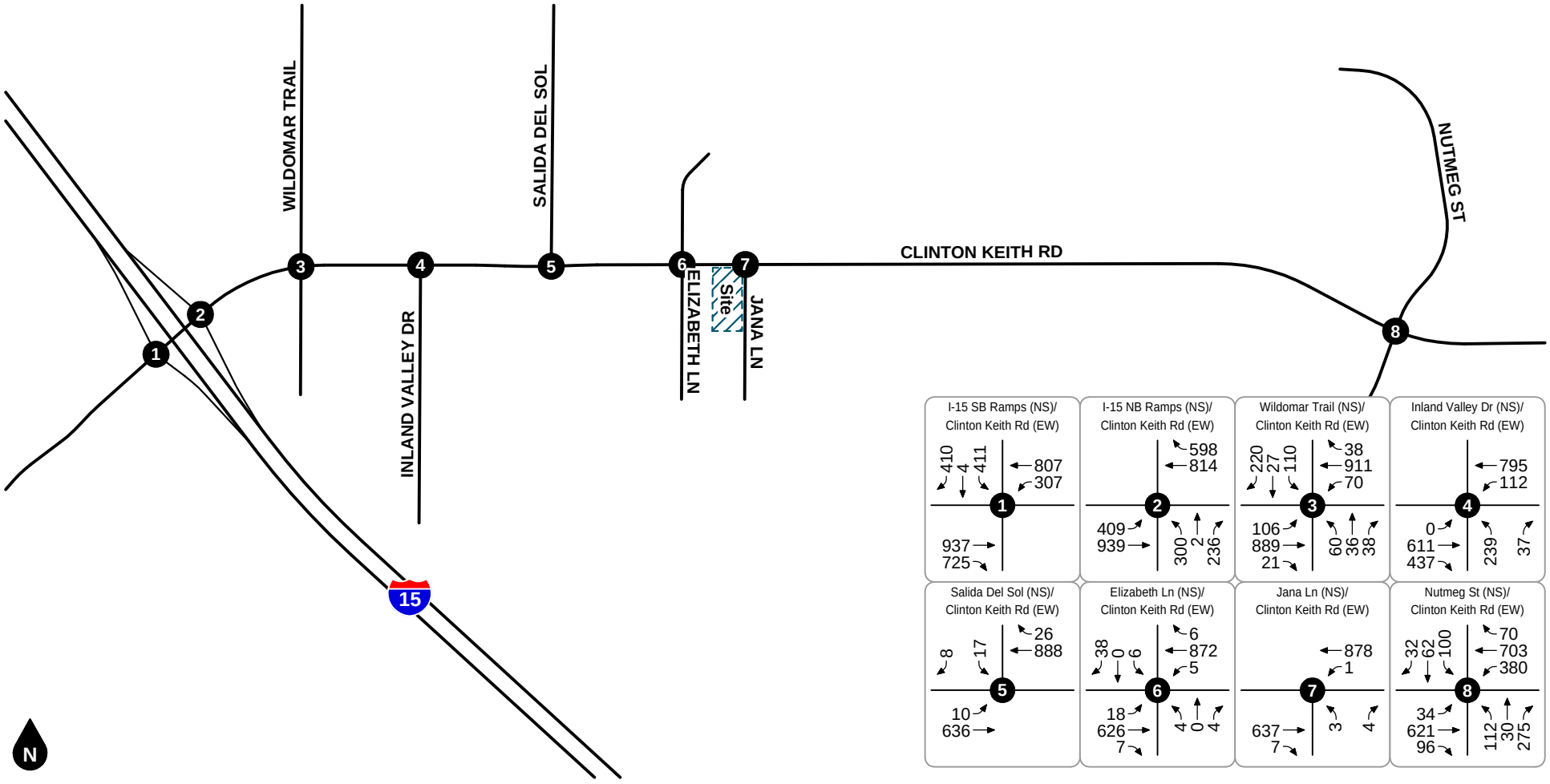
Figure 7
City of Wildomar Community/Regional Roadside, Off-Road Multi-Use Trails

Source: City of Wildomar



Legend
Sidewalk

Figure 8
Existing Pedestrian Facilities



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Study Intersection

Figure 9
Existing Weekday
AM Peak Hour Intersection Turning Movement Volumes

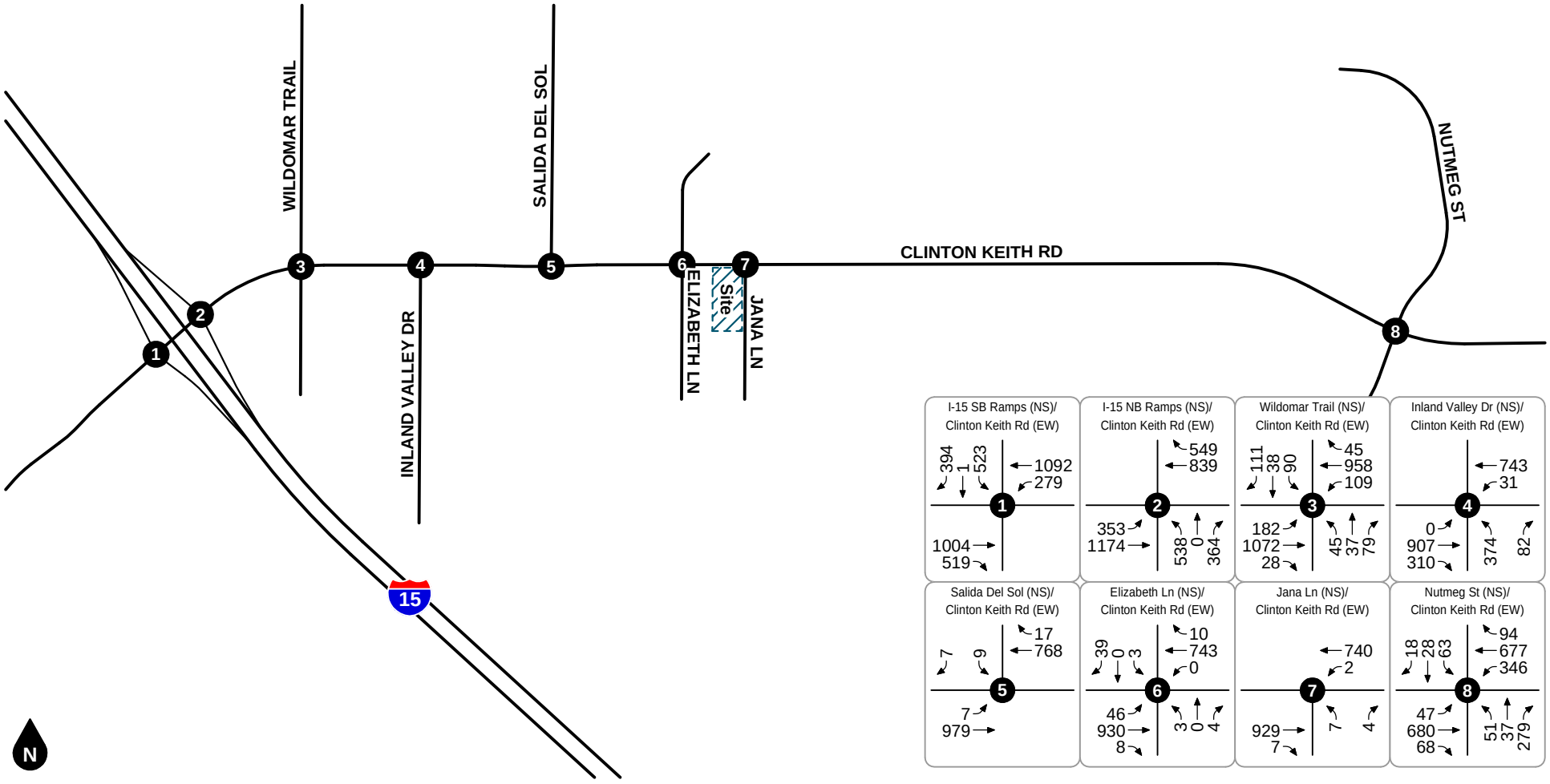


Figure 10
Existing Weekday
PM Peak Hour Intersection Turning Movement Volumes

4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated on figures contained in this section.

PROJECT TRIP GENERATION

Table 2 shows the project trip generation based upon rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021) and the *(Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG, April 2002). ITE land use code 945 (Convenience Store/Gas Station), land use code 934 (Fast-Food Restaurant with Drive-Thru, and land use code 710 (General Office) have been used to estimate the site-specific trip generation estimates for the project site land uses.

ITE land use code 948 (Automated Car Wash) provides trip generation rates for the PM peak hour but not the AM peak hour or daily. The PM peak hour rates are based on three survey sites from the 1990's and 2000's. In consultation with City staff, multiple more recent trip generation data sources were analyzed and it was determined that the automated car wash land use will be based on rates provided in the *Newport Pointe Traffic Impact Analysis Report* (Linscott, Law & Greenspan, Engineers, April 28, 2021), which was derived from traffic counts on February 7, 2014 at the Victorville Speedwash located at 12147 Industrial Boulevard. The trip generation rates land use variable is based on the linear feet of the wash tunnel. The result is that the AM peak hour trip generation is a bit higher and the daily trip generation lower than the *(Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG, April 2002). The PM peak hour trip generation is near identical to ITE land use code 948. Therefore, these rates are similar to other sources and appropriate to use for the automated car wash land use.

The project trip generation forecast shown in Table 2 also includes pass-by trip adjustments. Convenience store/gas station and restaurant land uses will often locate next to busy roadways to attract motorists already on the street. Since the trip generation rates shown in Table 2 represent vehicles entering and exiting at the site driveway(s), it is appropriate to reduce the initial trip generation forecast by the applicable pass-by trip rate when calculating the net new trips that will be added to the surrounding street system. Pass-by trip adjustments were applied to the existing and project trip generation in accordance with pass-by rates noted in the ITE *Trip Generation Manual* (11th Edition, 2021).

As shown in Table 2, the proposed project is forecast to generate a total of approximately 5,667 daily trips, including 270 trips during the AM peak hour and 264 trips during the PM peak hour.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Figure 11 to Figure 13 show the forecast directional distribution patterns for the project generated trips. The project trip distribution patterns are based on review of existing volume data, surrounding land uses, designated truck routes, and the local and regional roadway facilities in the project vicinity.

Project weekday AM and PM peak hour intersection turning movement volumes expected from the project are depicted on Figure 14 and Figure 15, respectively.

SITE ACCESS

This analysis assumes the following improvements will be constructed by the project to provide project site access:

- Project Driveway (NS) at Clinton Keith Road (EW)
  - Construct one inbound lane and one outbound lane with northbound stop control
  - Northbound: one right turn lane
  - Eastbound: one through lane and one shared through/right turn lane
  - Westbound: two through lanes

- Jana Lane (NS) at Project Driveway (EW) – three driveways
  - Construct one inbound lane and one outbound lane with eastbound stop control
  - Northbound: one shared left/through lane
  - Southbound: one shared through/right turn lane
  - Eastbound: one shared left/right turn lane

Table 2
Project Trip Generation

Trip Generation Rates									
			AM Peak Hour			PM Peak Hour			
Land Use	Source[1]	Land Use Variable[2]	% In	% Out	Rate	% In	% Out	Rate	Daily Rate
Convenience Store/Gas Station - GFA (5.5 - 10k)	ITE 945	VFP	50%	50%	31.60	50%	50%	26.90	345.75
Automated Car Wash	[a]	LFWT	58%	42%	0.66	50%	50%	1.25	11.87
Fast-Food Restaurant with Drive-Thru	ITE 934	TSF	51%	49%	44.61	52%	48%	33.03	467.48
General Office	ITE 710	TSF	88%	12%	1.52	17%	83%	1.44	10.84

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Source	Quantity	In	Out	Total	In	Out	Total	Daily
Convenience Store/Gas Station - GFA (5.5 - 10k)	ITE 945	16 VFP	253	253	506	215	215	430	5,532
Pass-by Trips (76%AM,75%PM,38%Daily)[3]	ITE 945		*-192*	*-192*	*-384*	*-161*	*-161*	*-322*	*-2,102*
Subtotal			61	61	122	54	54	108	3,430
Automated Car Wash	[a]	63 LFWT	24	18	42	39	40	79	748
Fast-Food Restaurant with Drive-Thru	ITE 934	3.800 TSF	86	83	169	65	60	125	1,776
Pass-by Trips (50%AM,55%PM,25%Daily)[3]	ITE 934		*-43*	*-42*	*-85*	*-36*	*-33*	*-69*	*-444*
Subtotal			43	41	84	29	27	56	1,332
General Office	ITE 710	14.500 TSF	19	3	22	4	17	21	157
TOTAL TRIPS GENERATED			**147**	**123**	**270**	**126**	**138**	**264**	**5,667**

Notes:

1. ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code.
   All rates based on General Urban/Suburban setting unless otherwise noted.
   [a] Automated car wash based on rates provided in the *Newport Pointe Traffic Impact Analysis Report* (Linscott, Law & Greenspan, Engineers), April 28, 2021 which was derived from traffic counts on February 7, 2014 at the Victorville Speedwash (12147 Industrial Boulevard).
2. VFP = Vehicle Fueling Positions; TSF = Thousand Square Feet; LFWT = Linear Feet of Wash Tunnel
3. For time periods with no pass-by data provided in ITE *Trip Generation Manual* (e.g., daily), pass-by rates assumed as half of ITE peak hour rate.

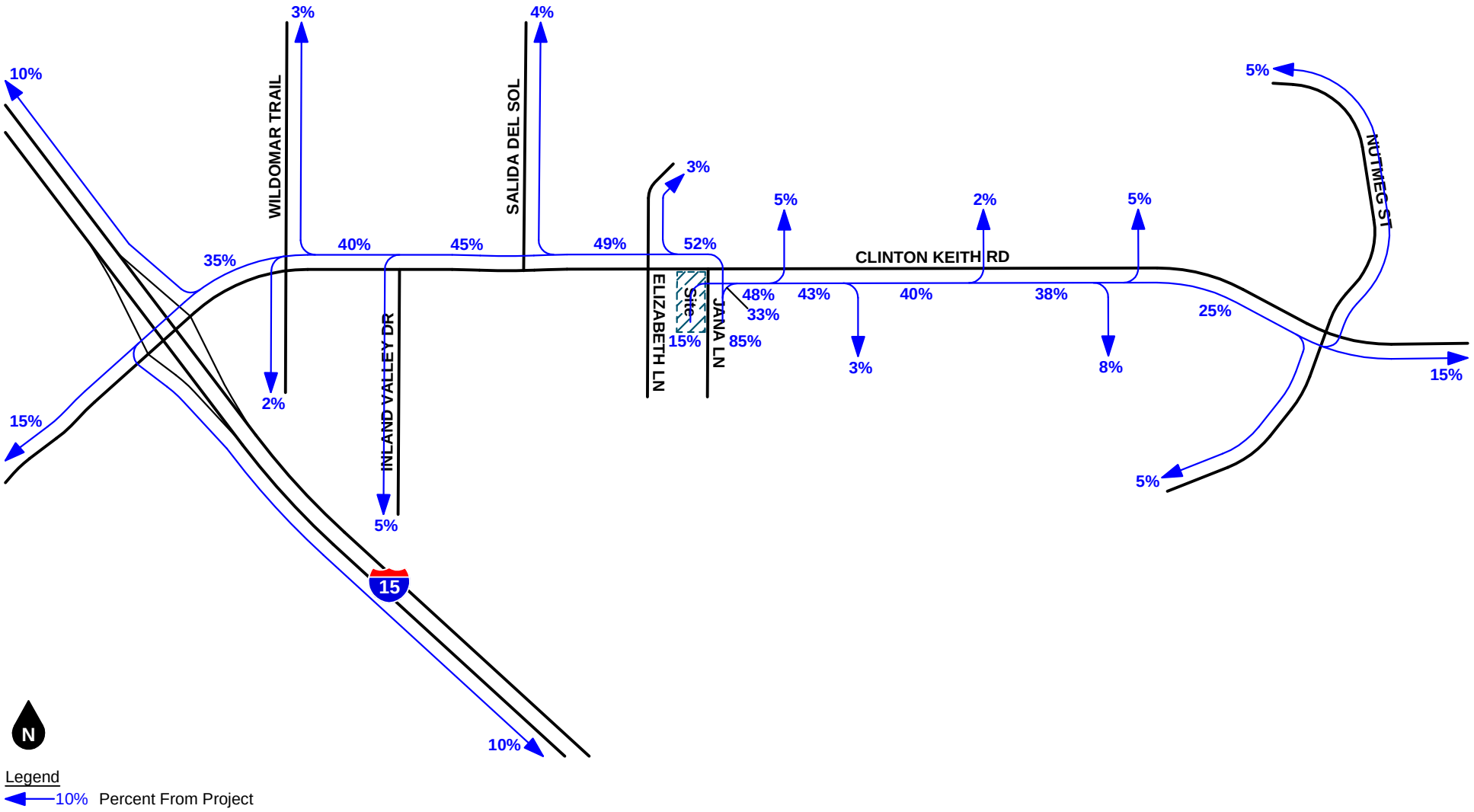


Figure 11
Project Outbound Trip Distribution

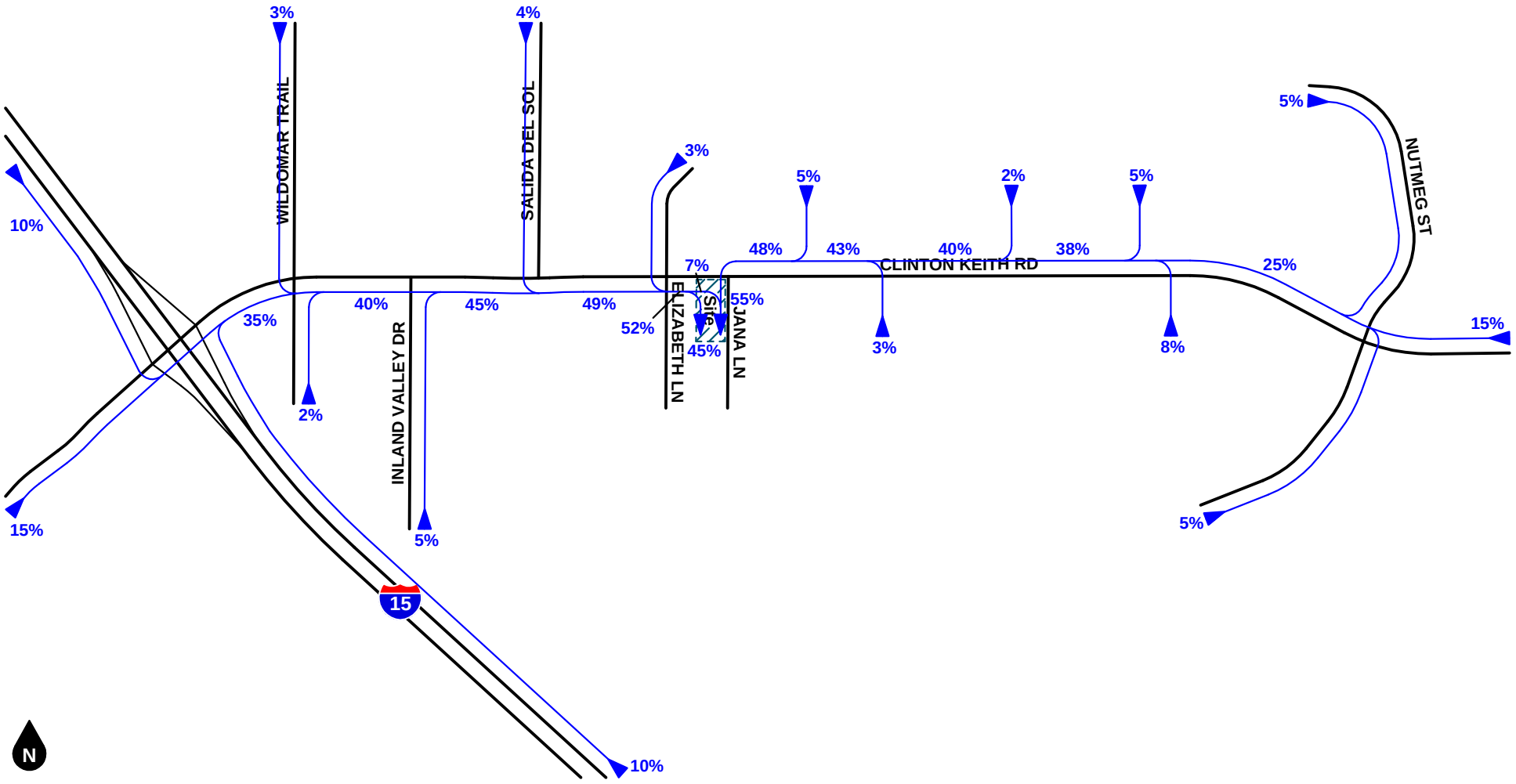


Figure 12
Project Inbound Trip Distribution

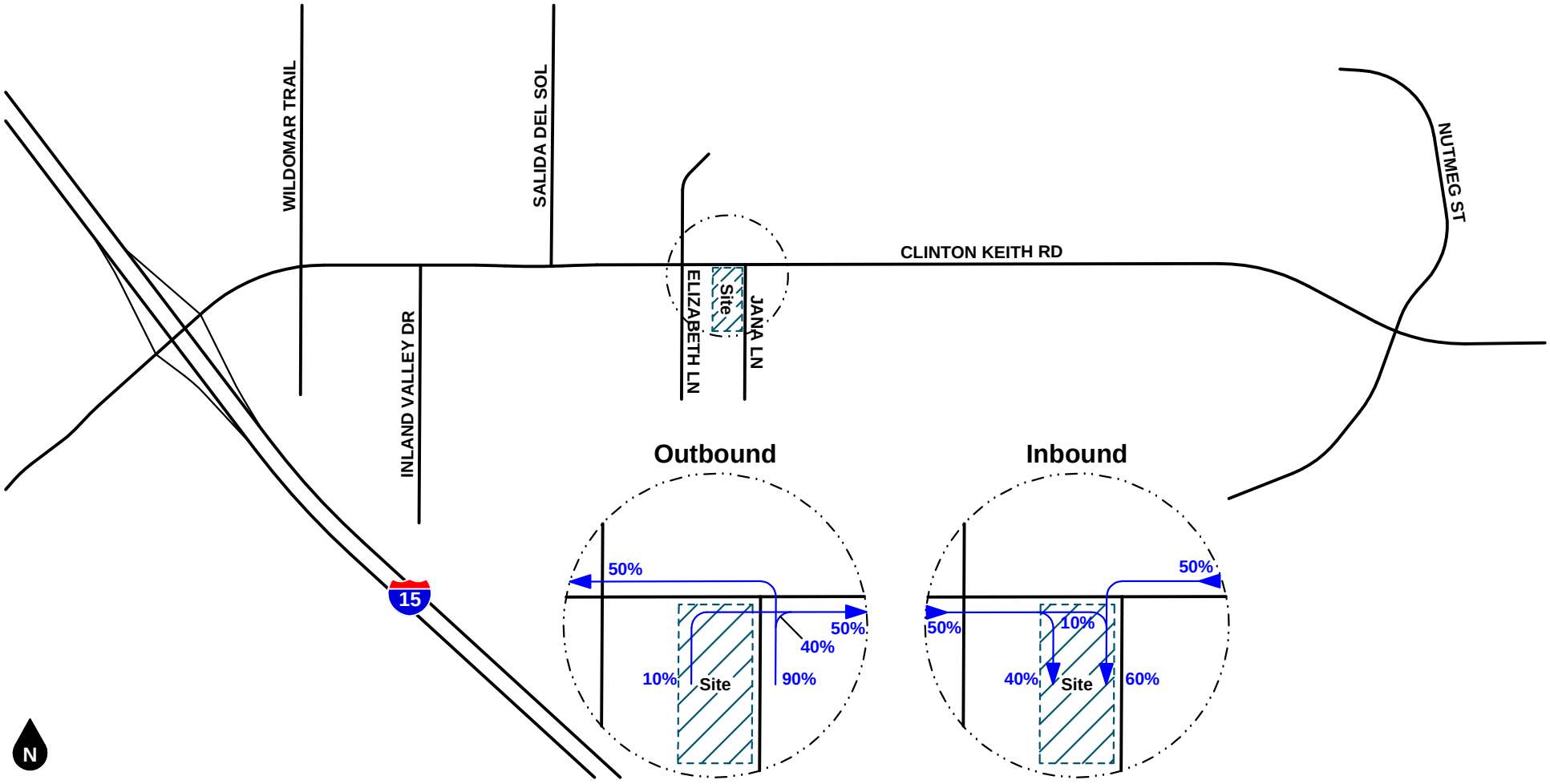
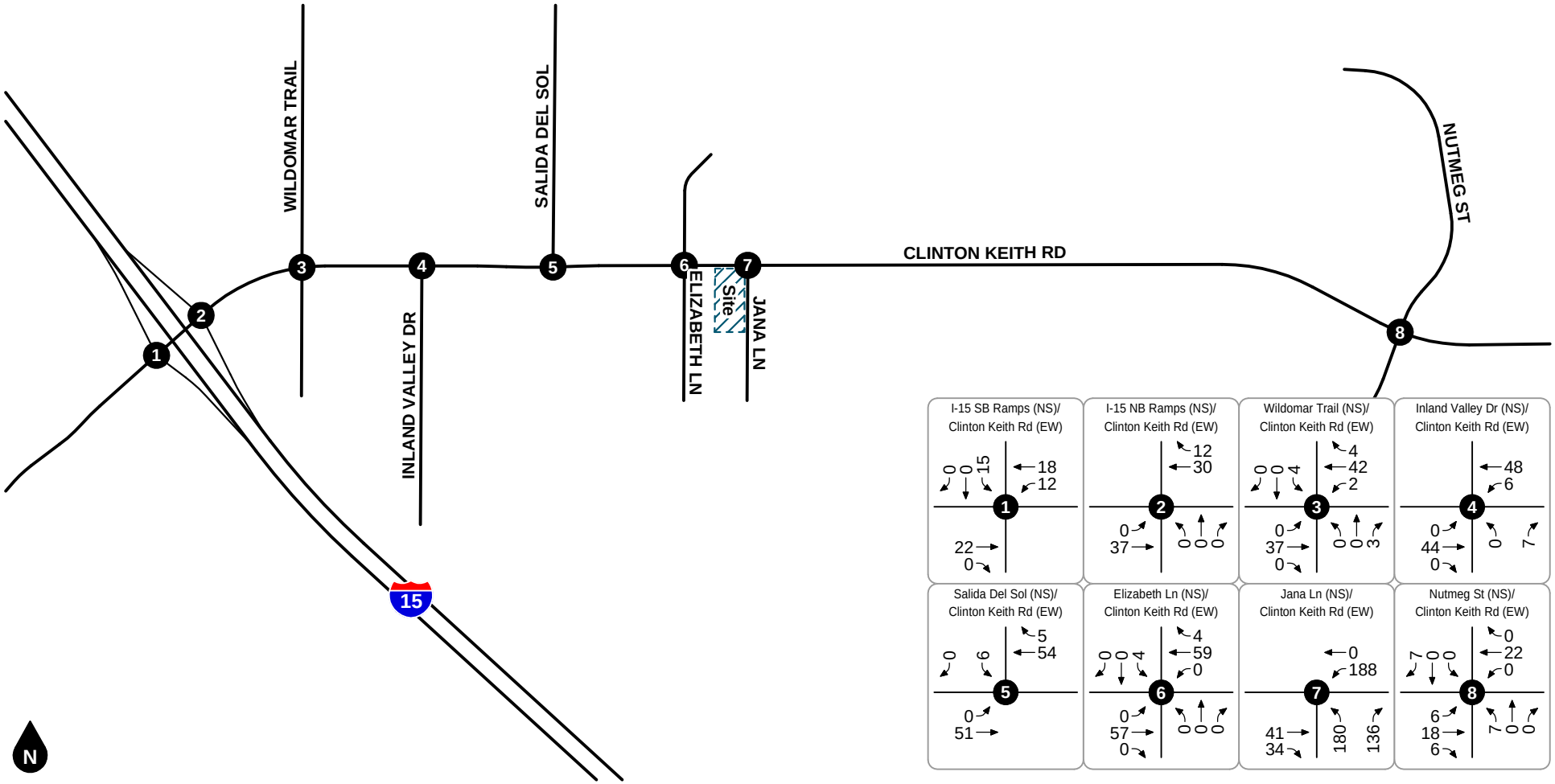


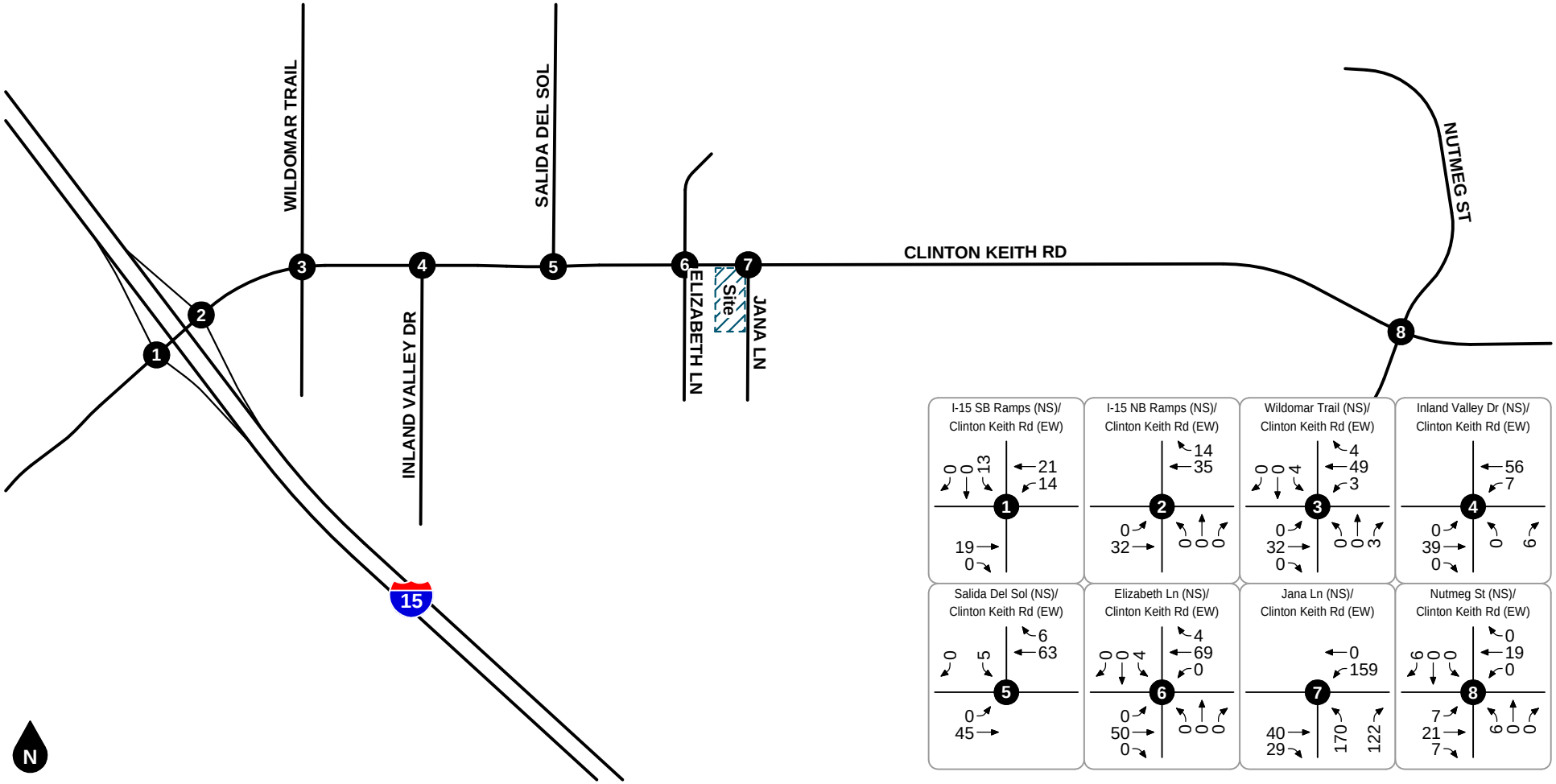
Figure 13
Project Pass-By Trip Disribution



Legend

Study Intersection

Figure 14
Project Weekday
AM Peak Hour Intersection Turning Movement Volumes



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Study Intersection

Figure 15
Project Weekday
PM Peak Hour Intersection Turning Movement Volumes

5. FUTURE VOLUME FORECASTS

This section describes how future volume forecasts for each analysis scenario were developed. Forecast study area volumes are illustrated on figures contained in this section.

CUMULATIVE TRIPS

Ambient Growth Rate

To account for ambient growth on roadways, existing 2022 roadway volumes were increased by a growth rate of two percent (2%) per year over two years for Opening Year (2024) conditions. This equates to a total growth factor of approximately 1.0404. The ambient growth rate was conservatively applied to all movements at the study intersections.

Other Development

To account for trips generated by future development, trips generated by pending or approved other development projects located within a 1.5-mile radius of the project site in the City of Wildomar were added to the study area.. Table 3 shows the other development trip generation and Figure 16 exhibits the other development location map.

Figure 17 and Figure 18 show the forecast AM and PM peak hour intersection turning movement volumes for trips generated by other developments.

ANALYSIS SCENARIO VOLUME FORECASTS

Existing Plus Ambient Growth Plus Project

Existing Plus Ambient Growth Plus Project volume forecasts were derived by adding ambient growth and project generated trips to Existing volumes. Existing Plus Ambient Growth Plus Project AM and PM peak hour intersection turning movement volumes are shown on Figure 19 and Figure 20.

Existing Plus Ambient Growth Plus Project Plus Cumulative

To develop Existing Plus Ambient Growth Plus Project Plus Cumulative volume forecasts, other development was added to Existing Plus Ambient Growth Plus Project volumes. Existing Plus Ambient Growth Plus Project Plus Cumulative AM and PM peak hour intersection turning movement volumes are shown on Figure 21 and Figure 22.

Table 3
Other Development Trip Generation

Map ID	Planning Application No.	Land Use	Quantity[1]	Trips Generated							
				Source[2]	AM Peak Hour			PM Peak Hour			Daily
					In	Out	Total	In	Out	Total	
1	TTM 31896	Single-Family Detached	131 DU	ITE 210	24	68	92	78	46	124	1,235
2	PA 16-0070	Condominiums	163 DU	ITE 220	16	50	66	52	31	83	1,099
3	PA 16-0134	Commercial Retail	27.000 TSF	[a]	95	63	158	74	71	145	2,377
4	PA 21-0033	Commercial Retail	71.490 TSF	[b]	169	129	298	196	191	387	4,390
5	PA 17-0111	Church	45.155 TSF	ITE 560	9	5	14	10	12	22	343
6	PA 13-0082	Condominiums	191 DU	[c]	313	275	588	644	567	1,211	13,574
		Commercial Retail	118.354 TSF								
7	PA 15-0129	Single-Family Detached	77 DU	ITE 210	14	40	54	46	27	73	726
8	PA 21-0145	Apartments	150 DU	ITE 220	14	46	60	48	28	76	1,011
		Commercial Retail	35.422 TSF	ITE 821	78	48	126	154	166	320	3,347
		Pass-By Reduction (40% PM)			--	--	--	-62	-66	-128	-128
		Total			92	94	186	140	128	268	4,230
9	PA 20-0116	Hospital	202 BEDS	ITE 210	260	101	361	113	229	342	4,509
10	PA 20-0044	Apartments	288 DU	ITE 220	28	88	116	93	54	147	1,941
11	PA 14-0069	Apartments	162 DU	ITE 220	16	49	65	52	31	83	1,092
		Commercial Retail	50.000 TSF	ITE 821	109	67	176	217	235	452	4,725
		Pass-By Reduction (40% PM)			--	--	--	-87	-94	-181	-181
		Total			125	116	241	182	172	354	5,636
12	PA 12-0053	Business Park	294.900 TSF	ITE 220	338	60	398	94	266	360	3,669
13	PA 14-0040	Condominiums	138 DU	ITE 220	13	42	55	44	26	70	930
		Assisted Living Facility	86 DU	ITE 253	4	3	7	8	8	16	190
		Total			17	45	62	52	34	86	1,120
14	PA 13-0089	Apartments	170 DU	ITE 220	16	52	68	55	32	87	1,146
Total					1,516	1,186	2,702	1,829	1,860	3,689	45,995

Notes:

(1) TSF = Thousand Square Feet; DU = Dwelling Units

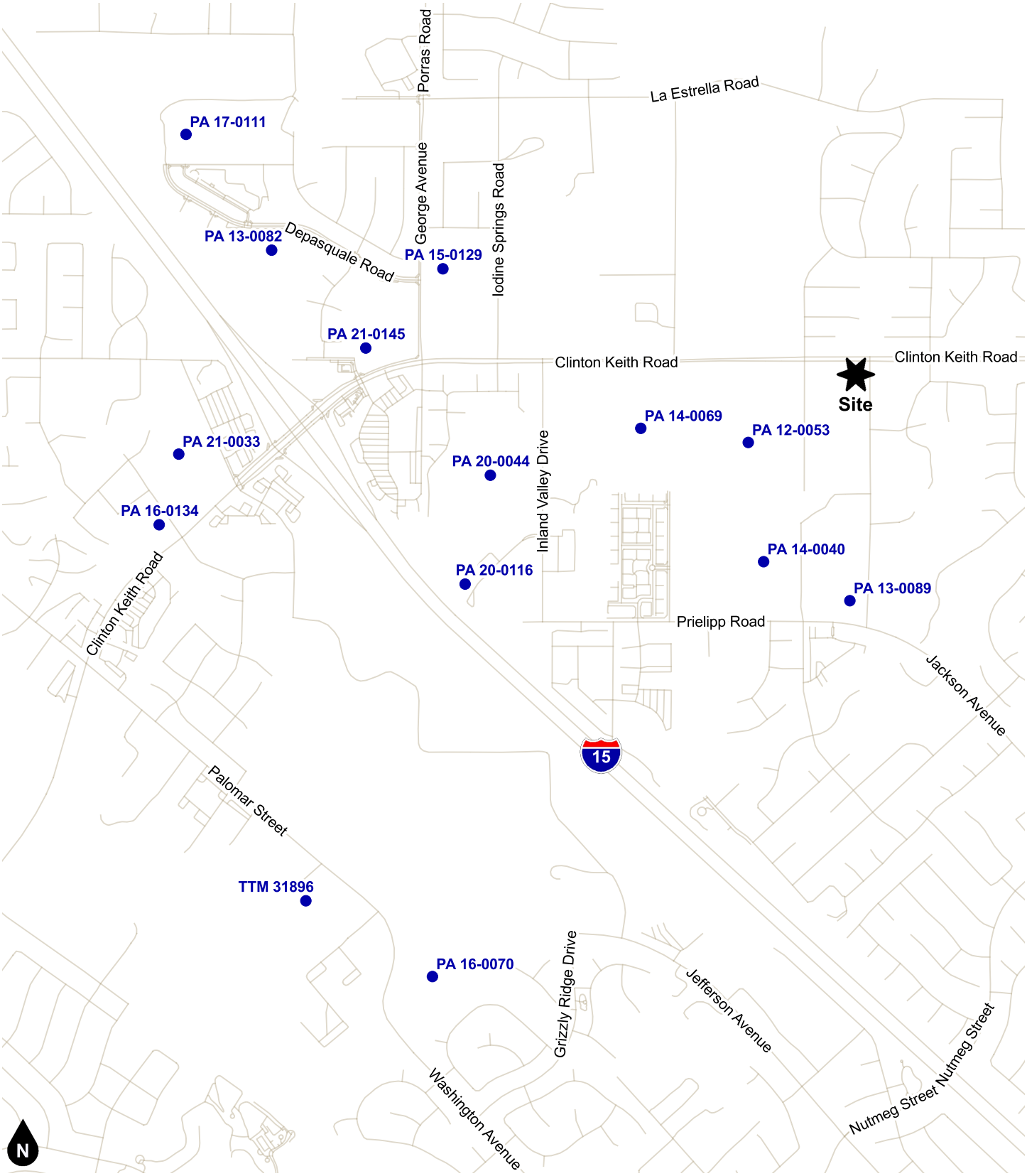
(2) Trip Generation Sources:

ITE = Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021); ### = ITE Land Use Code.

[a] *Wildomar Crossings Traffic Impact Analysis* (Urban Crossorads, May 4, 2017)

[b] *Clinton Keith Marketplace Trip Generation Assessment* (Urban Crossorads, October 21, 2021)

[c] *PA 13-0082 Westpark Promenade Final EIR Response to Comments* (ESA, October 2016)



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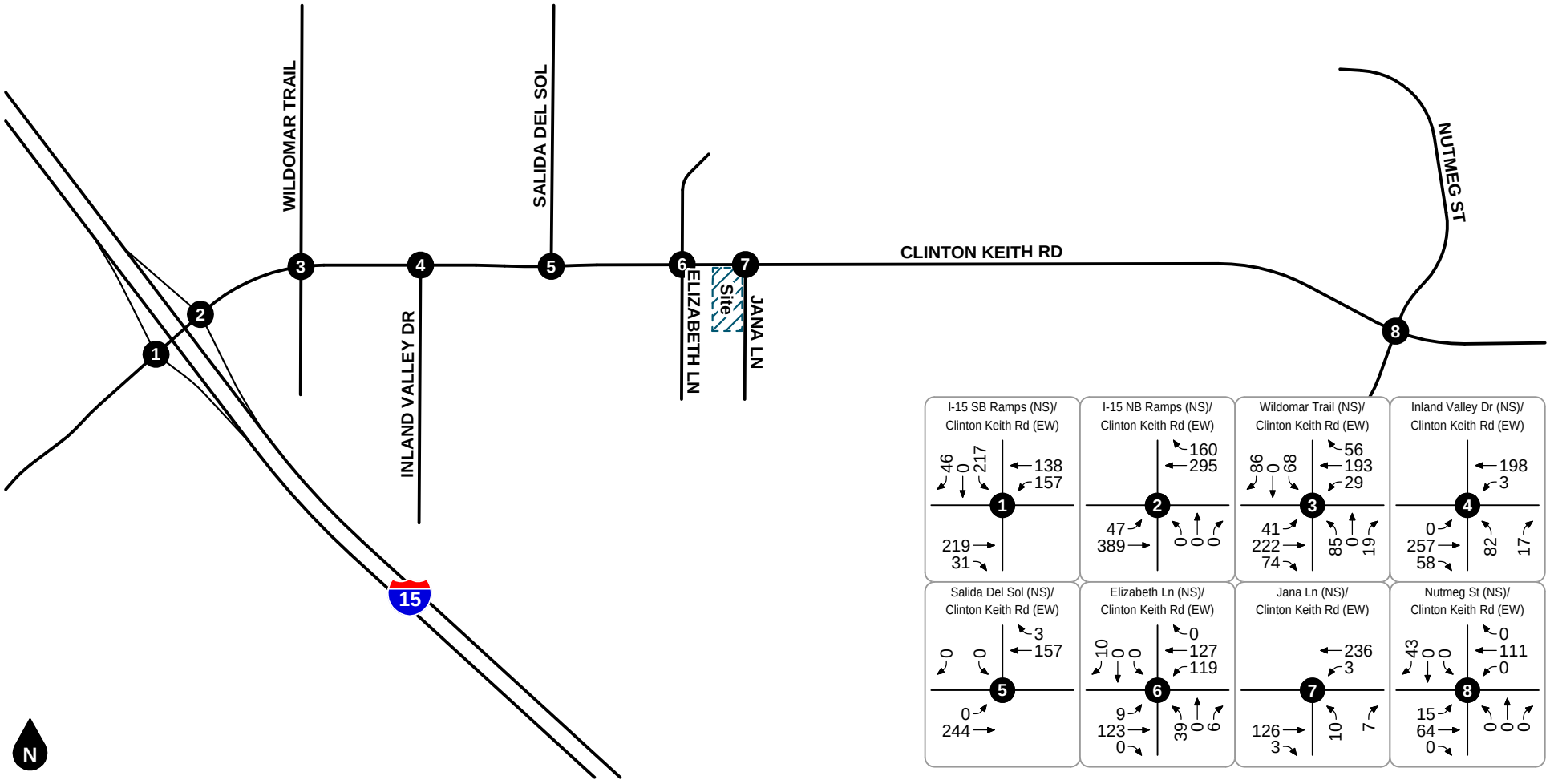
- Other Development

Figure 16
Other Development Location Map



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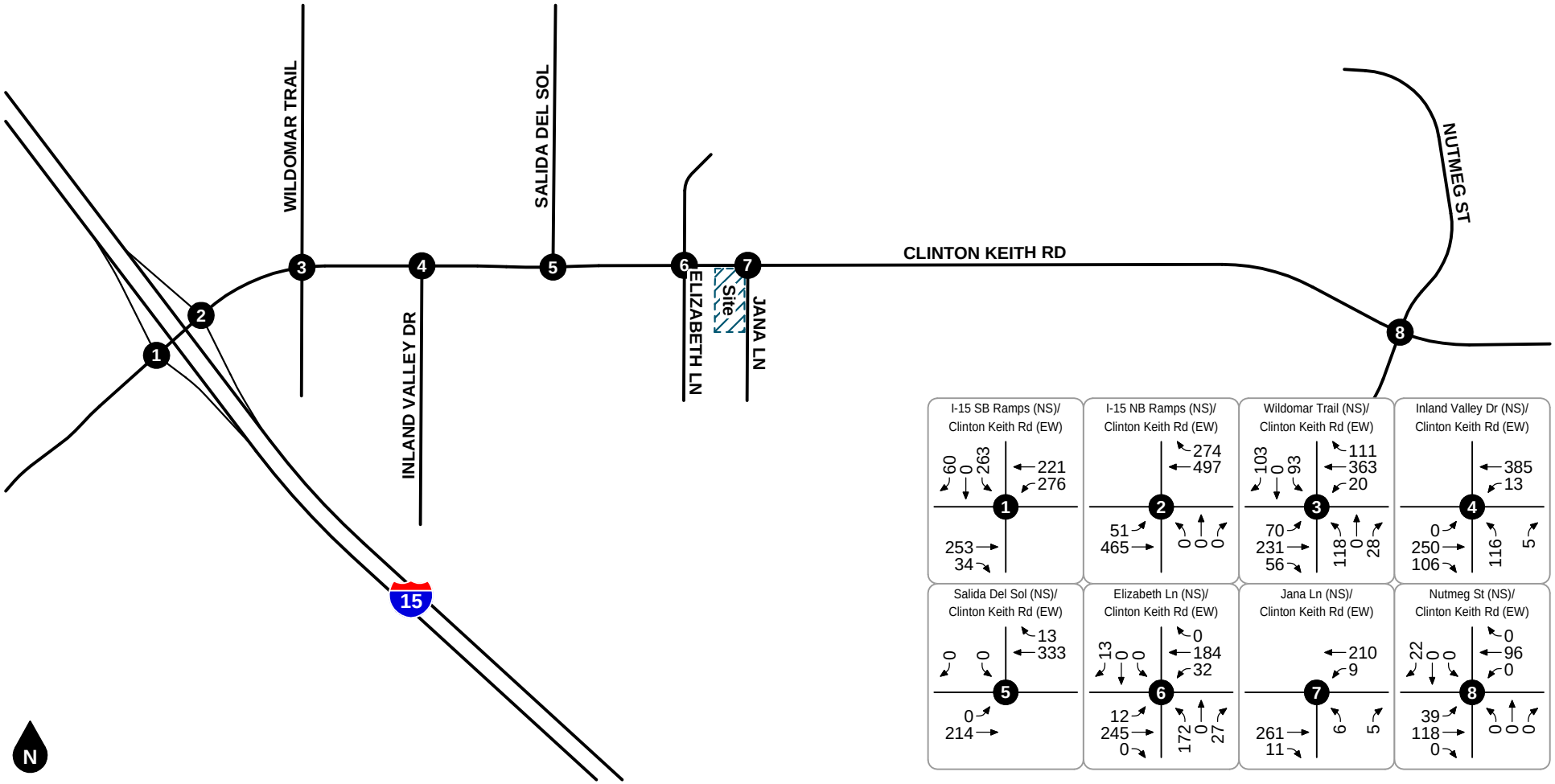
Study Intersection

Figure 17
Other Development Weekday
AM Peak Hour Intersection Turning Movement Volumes



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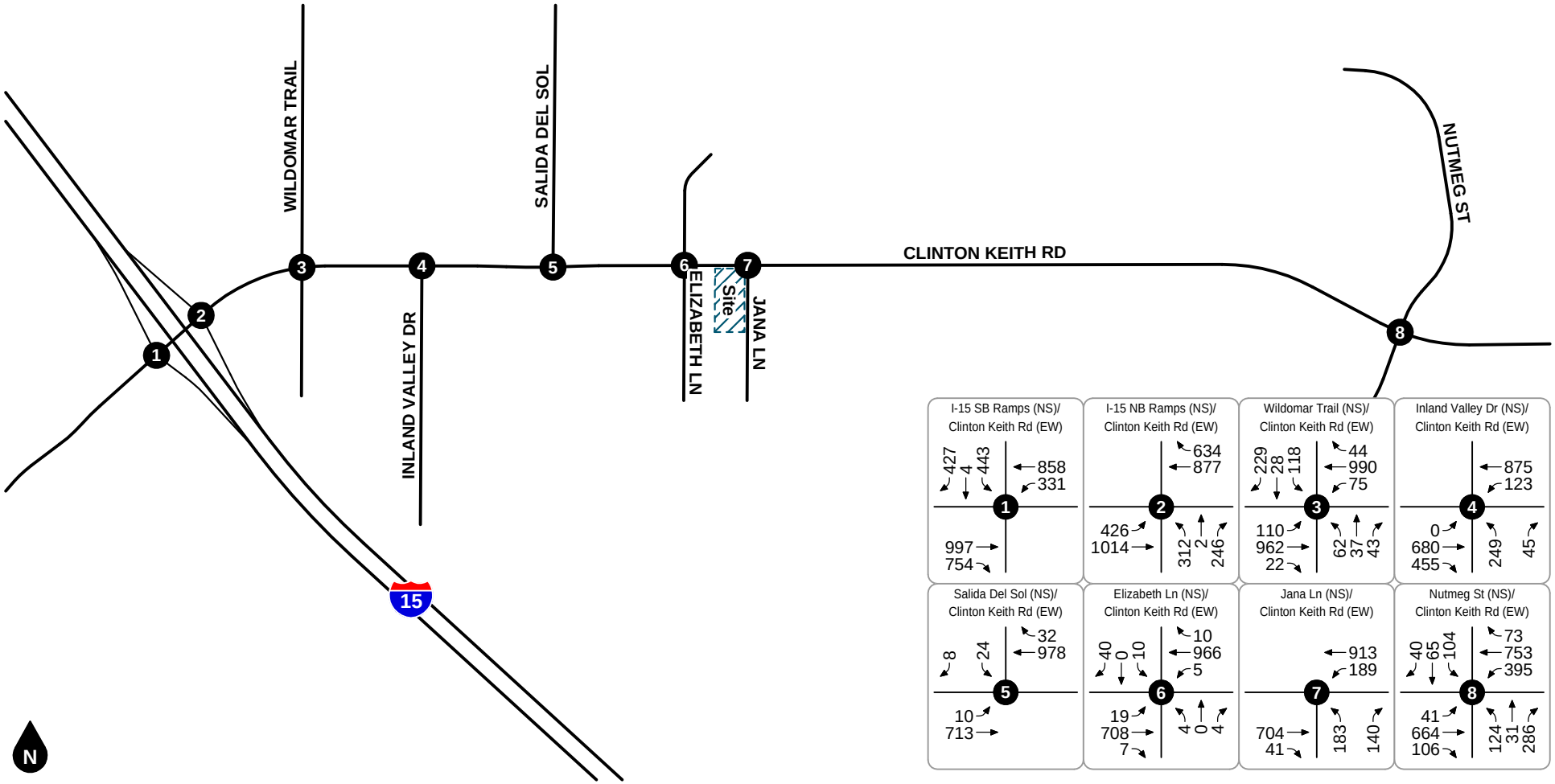
Study Intersection

Figure 18
Other Development Weekday
PM Peak Hour Intersection Turning Movement Volumes



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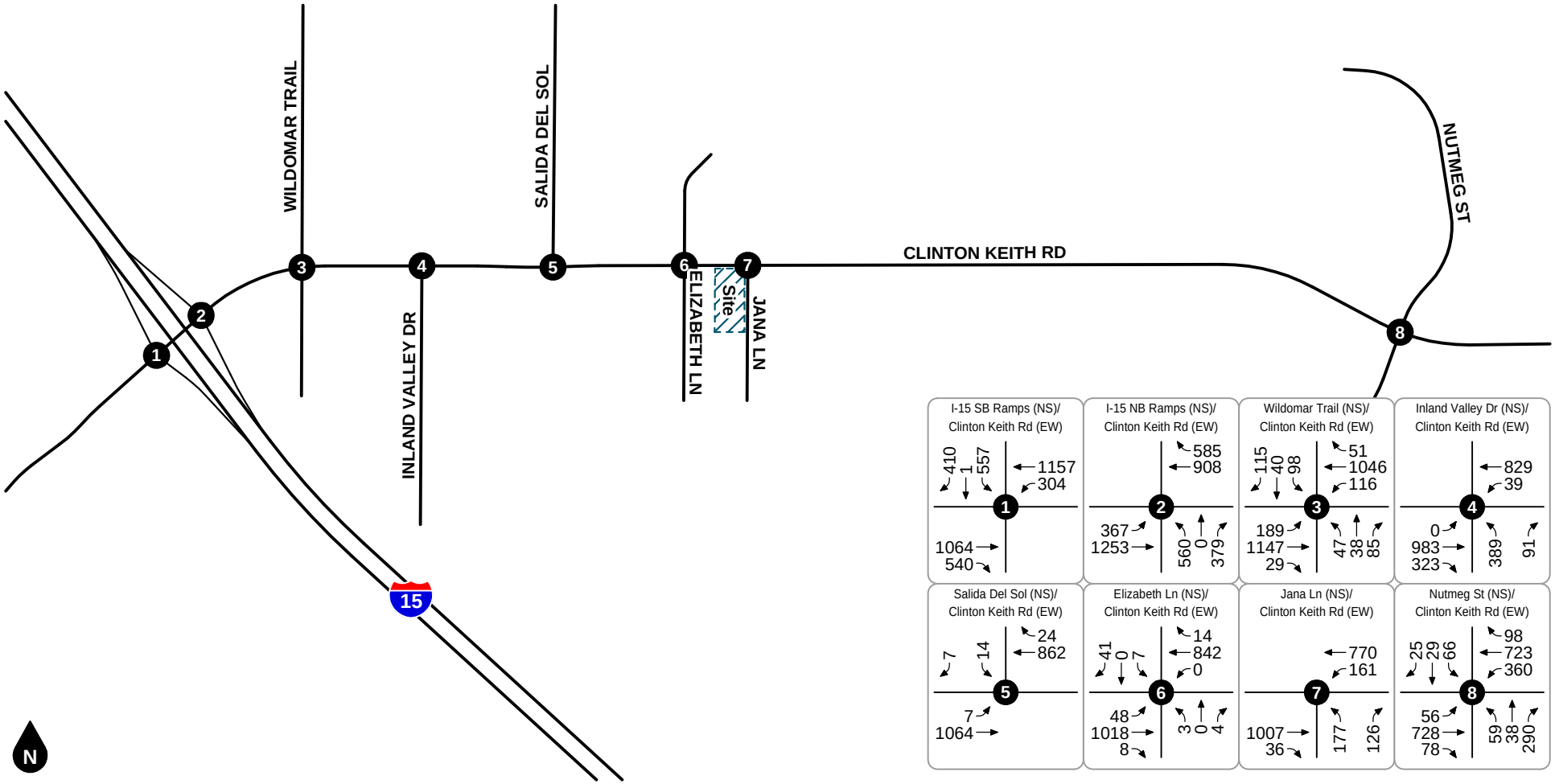
Study Intersection

Figure 19
Existing Plus Ambient Growth Plus Project Weekday AM Peak Hour Intersection Turning Movement Volumes



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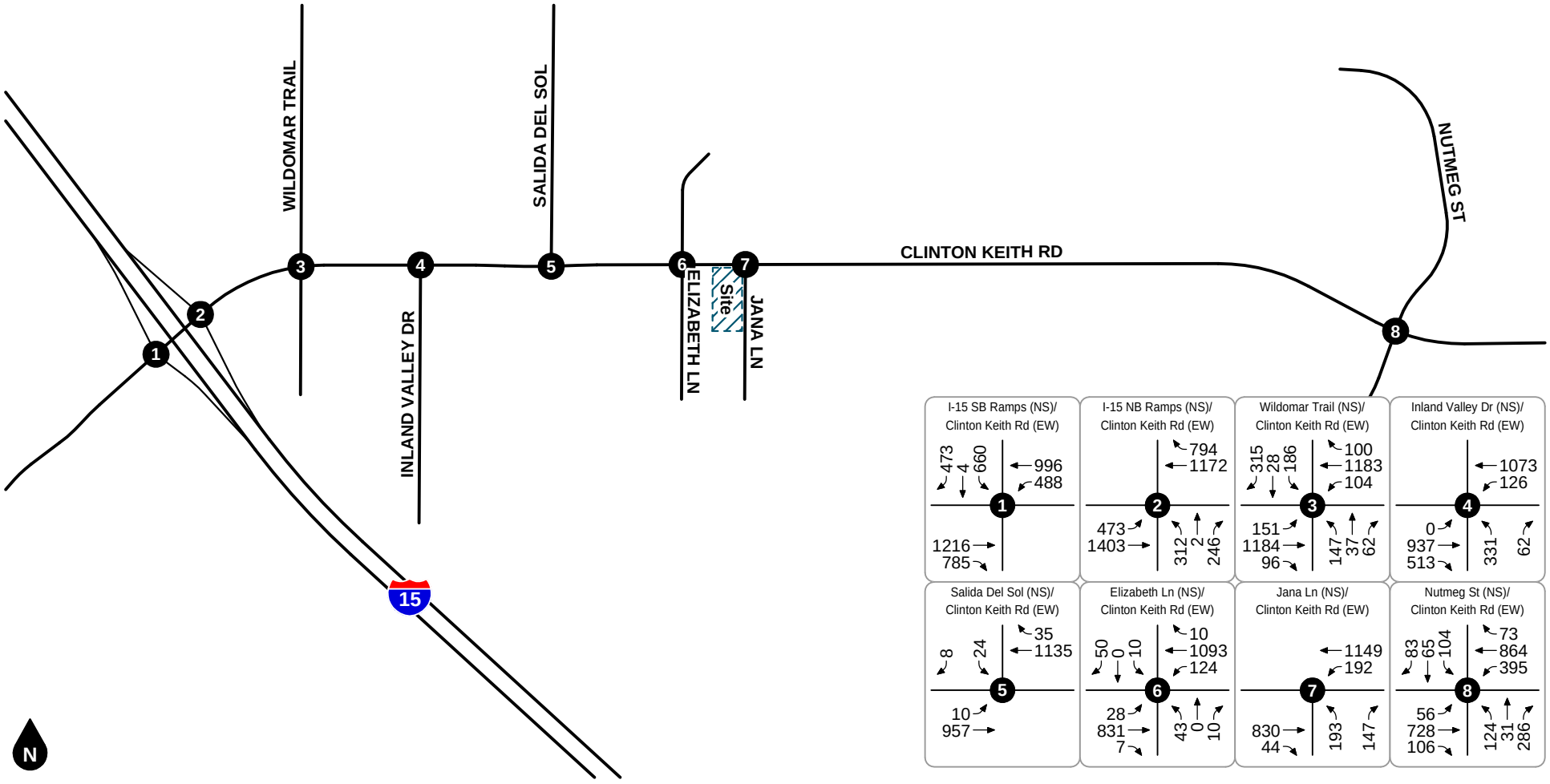
Study Intersection

Figure 20
Existing Plus Ambient Growth Plus Project Weekday PM Peak Hour Intersection Turning Movement Volumes



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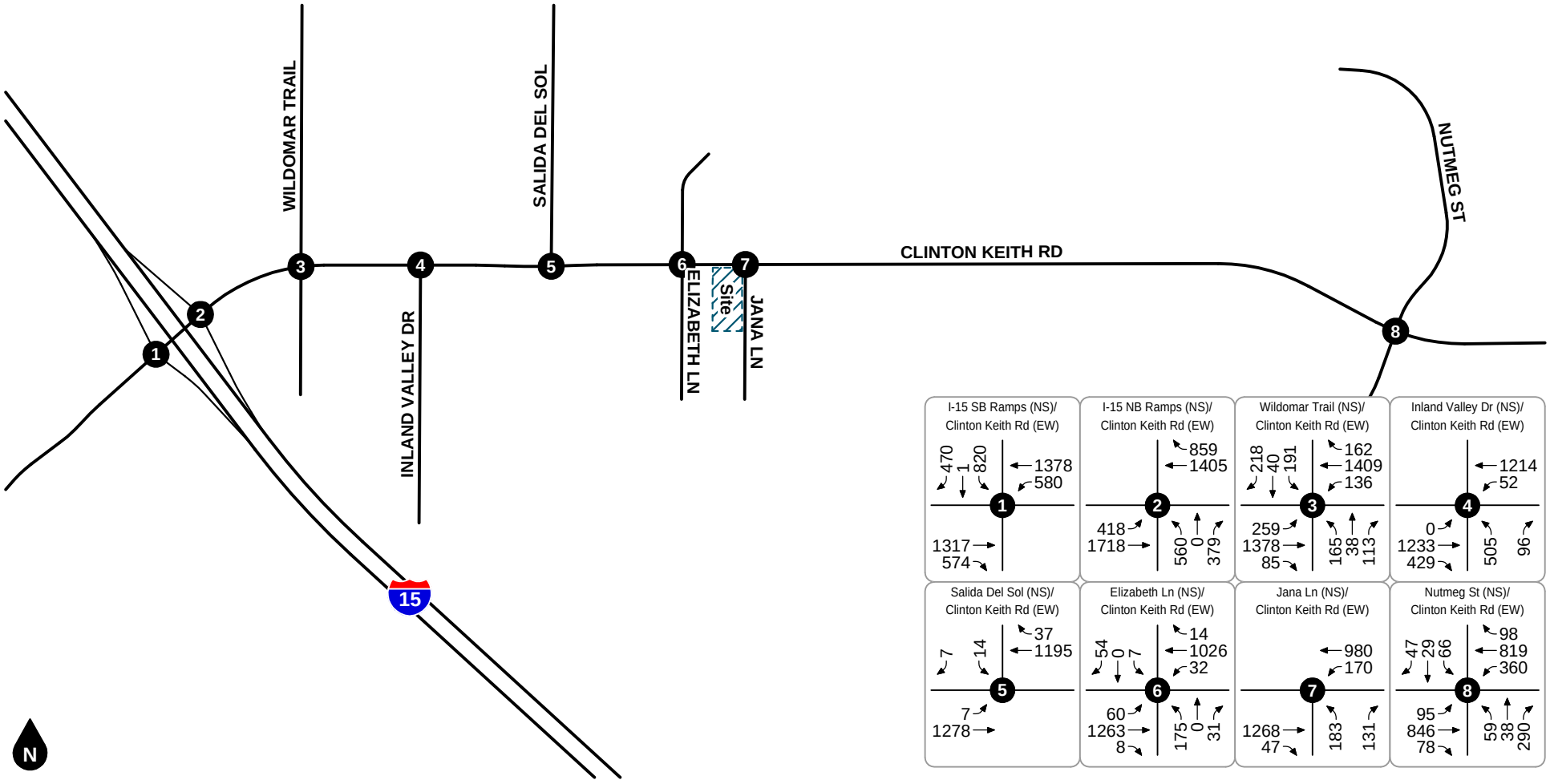
Study Intersection

Figure 21
Existing Plus Ambient Growth Plus Project Plus Cumulative Weekday AM Peak Hour Intersection Turning Movement Volumes



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Study Intersection

Figure 22
Existing Plus Ambient Growth Plus Project Plus Cumulative Weekday PM Peak Hour Intersection Turning Movement Volumes

6. FUTURE OPERATIONAL ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix D.

EXISTING PLUS AMBIENT GROWTH PLUS PROJECT

The intersection Levels of Service for Existing Plus Ambient Growth Plus Project conditions are shown in Table 4. As shown in Table 4, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Ambient Growth Plus Project conditions, except for the following study intersections which are projected to operate at unacceptable Levels of Service (E or F) during the peak hours:

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5 (AM/PM Peak Hours – LOS F)
- Jana Lane (NS) at Clinton Keith Road (EW) - #7 (AM/PM Peak Hours – LOS F)

The following improvements are recommended for Existing Plus Ambient Growth Plus Project conditions to maintain acceptable Level of Service:

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5
  - Restrict the southbound approach to right turns only during weekday peak periods (7-9 AM, 4-6 PM). This intersection currently operates at unacceptable LOS. Based on the HCM delay methodology, the deficient LOS reported is primarily associated with left turns from the minor street (Salida Del Sol); east-west approaches along the major street (Clinton Keith Road) are uncontrolled and would operate within acceptable LOS. The intersection is not forecast to satisfy the MUTCD peak hour volume warrant; therefore, installation of a traffic signal is not warranted.

- Jana Lane (NS) at Clinton Keith Road (EW) - #7
  - Install a traffic signal
  - Construct northbound left turn lane
  - Restripe northbound shared left/right turn lane to right turn lane.

The proposed project is forecast to result in no substantial operational deficiencies at the study intersections for Existing Plus Ambient Growth Plus Project conditions with implementation of the recommended improvements.

EXISTING PLUS AMBIENT GROWTH PLUS PROJECT PLUS CUMULATIVE

The intersection Levels of Service for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions are shown in Table 5. As shown in Table 5, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions, except for the following study intersections which are projected to operate at unacceptable Levels of Service (E or F) during the peak hours:

- Inland Valley Drive (NS) at Clinton Keith Road (EW) - #4 (PM Peak Hour – LOS E)
- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5 (AM/PM Peak Hours – LOS F)
- Elizabeth Lane (NS) at Clinton Keith Road (EW) - #6 (AM/PM Peak Hours – LOS F)
- Jana Lane (NS) at Clinton Keith Road (EW) - #7 (AM/PM Peak Hours – LOS F)

The following improvements are recommended for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions to maintain acceptable Level of Service:

- Inland Valley Drive (NS) at Clinton Keith Road (EW) - #4.
  - Construct additional eastbound through lane receiving lane
  - Construct additional westbound through lane

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5
  - Install a traffic signal.
  - Construct northbound, southbound, and westbound left turn lanes.
  - Restripe northbound, southbound, and westbound shared left/through/right turn lane to shared through/right turn lane.

- Elizabeth Lane (NS) at Clinton Keith Road (EW) - #6
  - Install a traffic signal.
  - Construct northbound and southbound left turn lanes.
  - Restripe northbound and southbound shared left/through/right turn lane to shared through/right turn lane.
  - Construct additional eastbound through lane.

- Jana Lane (NS) at Clinton Keith Road (EW) - #7
  - Install a traffic signal.
  - Construct northbound left turn lane.
  - Restripe northbound shared left/right turn lane to right turn lane.

The proposed project is forecast to result in no substantial operational deficiencies at the study intersections for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions with implementation of the recommended improvements.

FUTURE TRAFFIC SIGNAL WARRANTS

The need for a traffic control signal at the currently unsignalized study intersections of Salida Del Sol at Clinton Keith Road (Int #5), Elizabeth Lane at Clinton Keith Road (Int #6), and Jana Lane at Clinton Keith Road (Int #7) have been evaluated using the peak hour traffic signal warrant criteria (Warrant 3) in accordance with the California Manual on Uniform Traffic Control Devices (2014 Revision 6, March 30, 2021). Traffic signal warrant analysis worksheets are provided in Appendix E.

The peak hour traffic signal warrant (Warrant 3) is forecast to be satisfied at the currently unsignalized study intersection of Jana Lane at Clinton Keith Road (Int #7) for Existing Plus Ambient Growth Plus Project conditions.

The peak hour traffic signal warrant (Warrant 3) is forecast to be satisfied at the currently unsignalized study intersections of Salida Del Sol at Clinton Keith Road (Int #5) and Elizabeth Lane at Clinton Keith Road (Int #6), for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions.

QUEUING ANALYSIS

A turn pocket queuing analysis has been conducted at the study intersections at the request of City staff for turning movements that are projected to operate at unacceptable Levels of Service for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions. This analysis has been done regardless of whether the intersection is projected to operate at acceptable Levels of Service. To provide a conservative estimate, the 95th percentile queue was used to calculate required storage lengths.

Typically, when an exclusive left turn lane is required, a minimum length for two passenger cars should be provided at 25 feet per vehicle (i.e., 50 feet minimum storage length). Where possible, the recommended minimum pocket length used on roadways should be 100 feet where the speed is 30 miles per hour and 150 feet for arterials with speeds of 40 miles per hour or more. The recommended maximum single turn lane storage length is 300 feet; therefore, dual left turn lanes should be used when over 300 feet of storage is required or when necessary to provide acceptable levels of service at the intersection. For local streets and driveways, smaller storage lengths are permitted when volumes permit.

Table 6 summarizes results of the queuing analyses for turning movements conducted at the study area intersections to determine if adequate storage length is provided for individual movements that are projected to operate at unacceptable Levels of Service. The values represent the projected queue length necessary for satisfactory operations. It is recommended that the ultimate turn bay length exceed the projected queue length. The queuing analysis reports are based on the 95th percentile queue length conducted as part of the Highway Capacity Manual intersection delay analysis using the Vistro software (see Appendix D).

As shown in Table 6, existing storage lengths/intersection spacing is forecast to adequately serve the turning movements except for the eastbound dual left turn lanes and westbound right turn lanes at the intersection of I-215 NB Ramps at Clinton Keith Road, and the southbound left turn lane at the intersection of Wildomar Trail at Clinton Keith Road.

The I-215 Northbound Ramps at Clinton Keith Road intersection (#2) is entirely within Caltrans' jurisdiction and increasing the turn lane storage lengths is not feasible due to opposing left turn lanes for the SB ramps. Further, traffic from the proposed project is considered part of the background development growth assumed in all traffic analyses because it is consistent with the general plan and zoning for the City, and in another jurisdiction. Payment of the Transportation Uniform Mitigation Fee (TUMF) by the project as required by Wildomar Municipal Code Section 3.4, addresses the project's proportionate share of regional transportation improvements.

Deficient queuing 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 queuing operations to satisfactory operations. As a Condition of Approval, the project would be required to contribute to the ITS program. ITS uses various methods, such as intersection cameras, loop detection, and timing modifications to optimize intersection operations in real time.

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 would ensure that roadway hazards are reduced, and impacts are less than significant.

The southbound left turn lane at the intersection of Wildomar Trail at Clinton Keith Road can be extended from 95 feet to a minimum of 250 feet to provide for adequate storage.

PROJECT FAIR SHARE CONTRIBUTION

Table 7 shows the project fair share contributions and summary of improvements recommended for cumulative conditions. The project fair share contribution is based on the proportion of project peak hour intersection turning movement volumes contributed to the improvement location relative to the total new peak hour intersection turning movement volumes. The intersection fair share cost calculations are typically based on the higher of the AM or PM peak hour traffic volumes. The fair share calculations are intended only for the discussion purposes of this traffic impact analysis, and do not imply any legal responsibility or formula for contributions or mitigation.

Table 4
Existing Plus Ambient Growth Plus Project Intersection Levels of Service

Study Intersection	Jurisdiction[1]	Traffic Control[2]	AM Peak Hour		PM Peak Hour	
			Delay[3]	LOS[4]	Delay[3]	LOS[4]
1. I-215 SB Ramps (NS) at Clinton Keith Rd (EW)	Caltrans	TS	20.9	C	15.6	B
2. I-215 NB Ramps (NS) at Clinton Keith Rd (EW)	Caltrans	TS	16.0	B	17.8	B
3. Wildomar Tr (NS) at Clinton Keith Rd (EW)	Wildomar	TS	18.5	B	19.1	B
4. Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Wildomar	TS	14.1	B	16.5	B
5. Salida Del Sol (NS) at Clinton Keith Rd (EW)	Wildomar	CSS	72.4	F	82.6	F
6. Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Wildomar	CSS	24.0	C	33.0	D
7. Jana Ln (NS) at Clinton Keith Rd (EW)	Wildomar	CSS	2780.2	F	4079.2	F
- With Improvements[5]		CSS	11.6	B	11.8	B
8. Nutmeg St (NS) at Clinton Keith Rd (EW)	Murrieta	TS	19.9	B	20.0	B

Notes:

(1) Caltrans = California Department of Transportation

(2) TS = Traffic Signal; CSS = Cross Street Stop

(3) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual approach.

(4) LOS = Level of Service

(5) Although the intersection is projected to operate at unacceptable LOS during the peak hours, mitigation is not recommended. The minor street approach volumes do not meet the minimum requirements to warrant the installation of a traffic signal and additional travel lanes would not reduce the LOS to an acceptable level.

Table 5
Existing Plus Ambient Growth Plus Project Plus Cumulative Intersection Levels of Service

Study Intersection	Jurisdiction[1]	Traffic Control[2]	AM Peak Hour		PM Peak Hour	
			Delay[3]	LOS[4]	Delay[3]	LOS[4]
1. I-215 SB Ramps (NS) at Clinton Keith Rd (EW)	Caltrans	TS	42.2	D	30.7	C
2. I-215 NB Ramps (NS) at Clinton Keith Rd (EW)	Caltrans	TS	18.7	B	32.0	C
3. Wildomar Trl (NS) at Clinton Keith Rd (EW)	Wildomar	TS	21.1	C	30.7	C
4. Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Wildomar	TS	21.2	C	69.6	E
- With Improvements		TS	12.9	B	19.2	B
5. Salida Del Sol (NS) at Clinton Keith Rd (EW)	Wildomar	CSS	1742.6	F	10000.0	F
- With Improvements		TS	13.3	B	23.9	C
6. Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Wildomar	CSS	410.6	F	9540.4	F
- With Improvements		TS	9.4	A	14.4	B
7. Jana Ln (NS) at Clinton Keith Rd (EW)	Wildomar	CSS	5388.9	F	10000.0	F
- With Improvements		TS	11.5	B	12.6	B
8. Nutmeg St (NS) at Clinton Keith Rd (EW)	Murrieta	TS	20.1	C	20.4	C

Notes:

(1) Caltrans = California Department of Transportation

(2) TS = Traffic Signal; CSS = Cross Street Stop

(3) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual approach.

(4) LOS = Level of Service

Table 6
Queuing Analysis[1]

Study Intersection	Turning Movement	Existing Plus Ambient Growth Plus Project Plus Cumulative		Available Storage Length[2]	Adequate Storage
		AM Peak Hour	PM Peak Hour		
I-215 SB Ramps (NS) at Clinton Keith Rd (EW)	Southbound Left Turn Lane	617.09 Feet	484.57 Feet	>1,000 Feet	Yes
	Southbound Left/Through Lane	615.81 Feet	484.49 Feet	680 Feet	Yes
	Southbound Dual Right Turn Lanes	336.40 Feet	n/a[3]	600 Feet	Yes
I-215 NB Ramps (NS) at Clinton Keith Rd (EW)	Northbound Left Turn Lane	n/a[3]	354.42 Feet	>1,000 Feet	Yes
	Northbound Left/Through/Right Turn Lane	n/a[3]	364.31 Feet	650 Feet	Yes
	Northbound Right Turn Lane	n/a[3]	417.44 Feet	650 Feet	Yes
	Eastbound Dual Left Turn Lanes	n/a[3]	241.04 Feet	200 Feet	No
	Westbound Right Turn Lane	n/a[3]	864.68 Feet	280 Feet	No
Wildomar Trl (NS) at Clinton Keith Rd (EW)	Southbound Left Turn Lane	n/a[3]	247.74 Feet	95 Feet	No
Salida Del Sol (NS) at Clinton Keith Rd (EW)	Northbound Left Turn Lane	62.37 Feet	95.73 Feet	150 Feet[4]	Yes
	Southbound Left Turn Lane	33.05 Feet	19.10 Feet	150 Feet[4]	Yes
	Eastbound Left Turn Lane	15.86 Feet	11.66 Feet	150 Feet	Yes
	Westbound Left Turn Lane	24.22 Feet	34.01 Feet	150 Feet[4]	Yes

Notes:

(1) Queuing analysis based on 95th-Percentile Queue Length. See Appendix D.

(2) Available storage lengths based on field observations.

(3) n/a = not applicable. Turning movement projected to operate at an acceptable LOS.

(4) Turn lanes are recommended improvements. A 150 foot storage length is recommended.

Table 7
Project Fair Share Contribution

Study Intersection	Jurisdiction[1]	Peak Hour	Intersection Turning Movement Volumes				
			Existing	Existing Plus Ambient Plus Project Plus Cumulative	Project Trips	Total New Trips	Project Share of Total New Trips
4. Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Wildomar	AM	2,231	3,042	105	811	12.9%
		PM	2,447	3,529	108	1,082	10.0%
5. Salida Del Sol (NS) at Clinton Keith Rd (EW)	Wildomar	AM	1,585	2,248	116	663	17.5%
		PM	1,787	2,654	119	867	13.7%
6. Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Wildomar	AM	1,586	2,206	124	620	20.0%
		PM	1,786	2,670	127	884	14.4%
7. Jana Ln (NS) at Clinton Keith Rd (EW)	Wildomar	AM	1,530	2,555	579	1,025	56.5%
		PM	1,689	2,779	520	1,090	47.7%

Study Intersection	Improvements
4. Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Construct additional WB through lane and EB through lane receiving lane.
5. Salida Del Sol (NS) at Clinton Keith Rd (EW)	Install traffic signal. Construct NB, SB, and WB left turn lanes. Restripe NB, SB, and WB shared left/through/right turn lane to shared through/right turn lane.
6. Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Install traffic signal. Construct NB and SB left turn lanes. Restripe NB and SB shared left/through/right turn lane to shared through/right turn lane. Construct additional EB through lane.
7. Jana Ln (NS) at Clinton Keith Rd (EW)	Install traffic signal. Construct NB left turn lane. Restripe NB shared left/right turn lane to right turn lane.

7. SITE ACCESS AND CIRCULATION

This section includes a description of project improvements necessary to provide site access.

PROJECT DESIGN FEATURES

This analysis assumes the proposed project shall construct one right turn in/out only access driveway on Clinton Keith Road and three full access driveways on Jana Lane to provide site access.

Figure 23 shows a conceptual striping plan for the project frontage on Clinton Keith Road and Jana Lane. Driveways on the east side of Jana Lane have been included to show how they line up with the driveways for the proposed project.

Figure 24 exhibits truck turning templates for a delivery truck navigating to/from the project site.

This analysis also assumes the project shall comply with the following conditions as part of the City of Wildomar standard development review process:

- A construction work site traffic control plan shall comply with State standards set forth in the California Manual of Uniform Traffic Control Devices and shall be submitted to the City for review and approval prior to the issuance of a grading permit or start of construction. The plan shall identify any roadway, sidewalk, bike route, or bus stop closures and detours as well as haul routes and hours of operation. All construction related trips shall be restricted to off-peak hours to the extent possible.

- All on-site and off-site roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project shall be constructed in accordance with applicable State/Federal engineering standards and to the satisfaction of the City of Wildomar.

- Site-adjacent roadways shall be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Wildomar.

- Adequate emergency vehicle access shall be provided to the satisfaction of the Riverside County Fire Authority.

- The final grading, landscaping, and street improvement plans shall demonstrate that sight distance requirements are met in accordance with applicable City of Wildomar/California Department of Transportation sight distance standards.

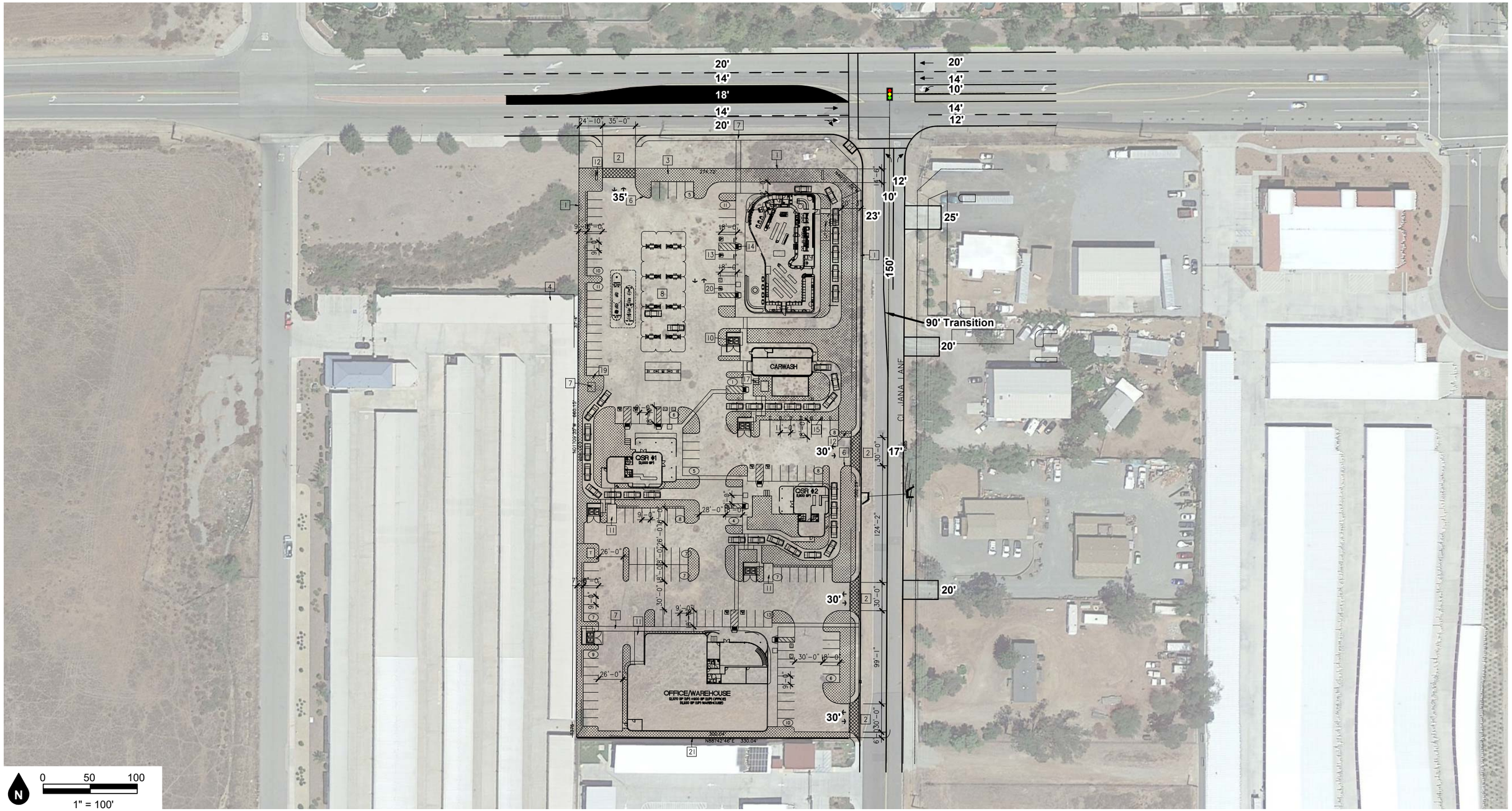
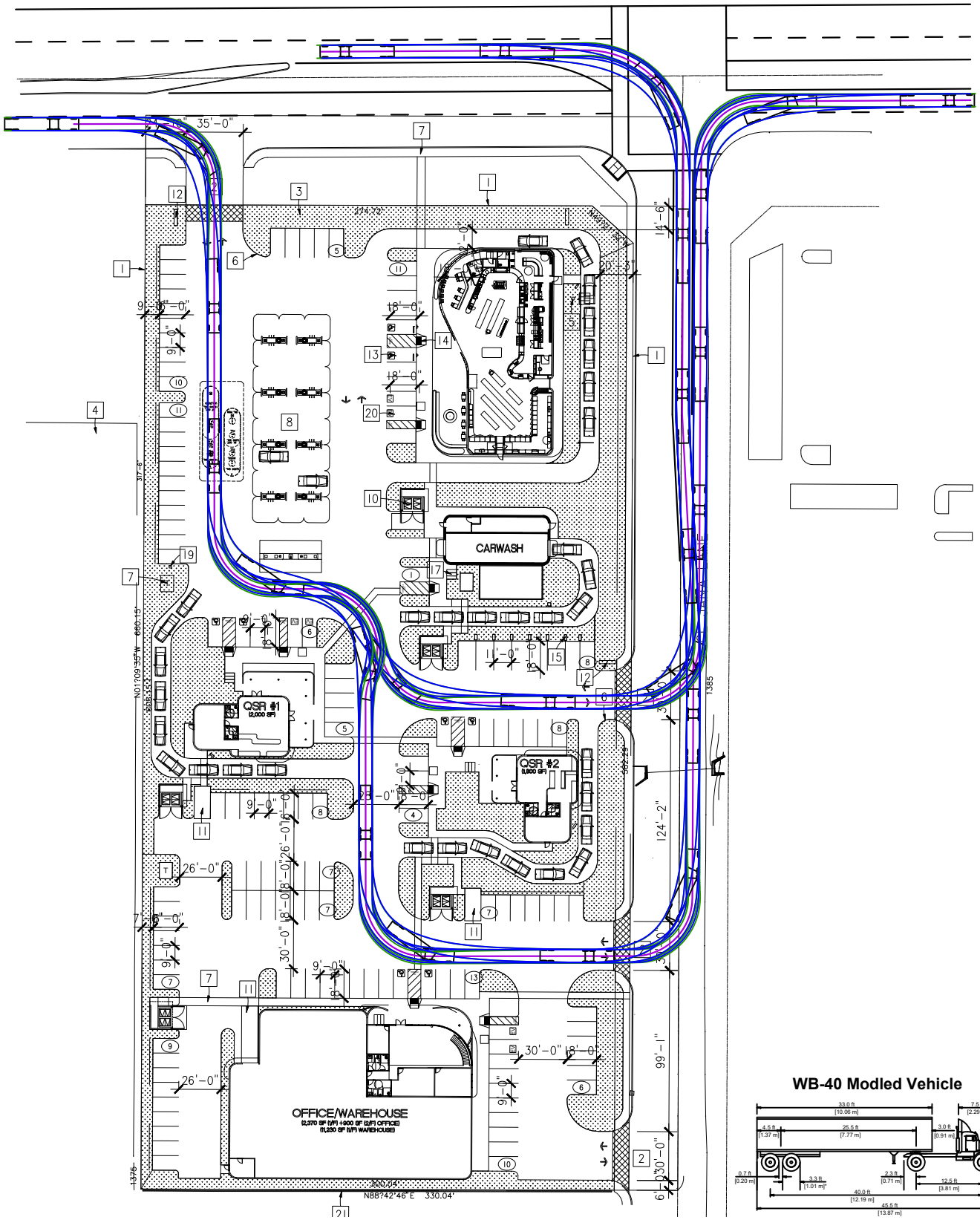
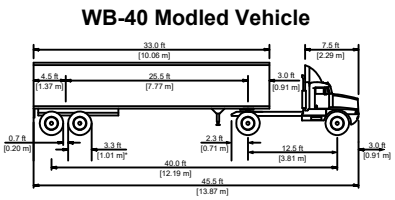


Figure 23
Conceptual Striping Plan





Legend
- Vehicle Wheel Path
- Vehicle Overhang
- Vehicle Centerline

Figure 24
Truck Turning Template

8. VEHICLES MILES TRAVELED (VMT)

BACKGROUND

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. All agencies and projects State-wide are required to utilize the updated CEQA guidelines recommending use of VMT for evaluating transportation impacts as of July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California, December 2018) ["OPR Technical Advisory"] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT.

VMT ASSESSMENT AND SCREENING

The June 10, 2020 City Council meeting adopted a resolution which provided guidelines for VMT thresholds of significance for analyzing traffic impacts under CEQA. Exhibit 1 of this resolution provides project screening criteria which exempts projects from conducting a detailed VMT analysis. The project screening includes a land use type screening whereas locally serving retail 50,000 square feet or less and 10,000 square feet or less of office is screened out and not required to conduct a VMT analysis.

The WRCOG VMT Screening Tool was used to access the project site. The project site is located within APN: 380290002 (TAZ: 3,297). According to the WRCOG VMT Screening Tool, the project is not located within a Transit Priority Area (TPA). The project TAZ 2022 daily home-based work VMT per worker is 16.2, whereas the jurisdictional average 2022 daily total home-based work VMT per worker is 17.1. Therefore, the project TAZ 2022 daily home-based work VMT per worker is 5.17% less than the jurisdictional average 2022 daily home-based work VMT per worker. Exhibit A shows the results of the WRCOG VMT Screening Tool.

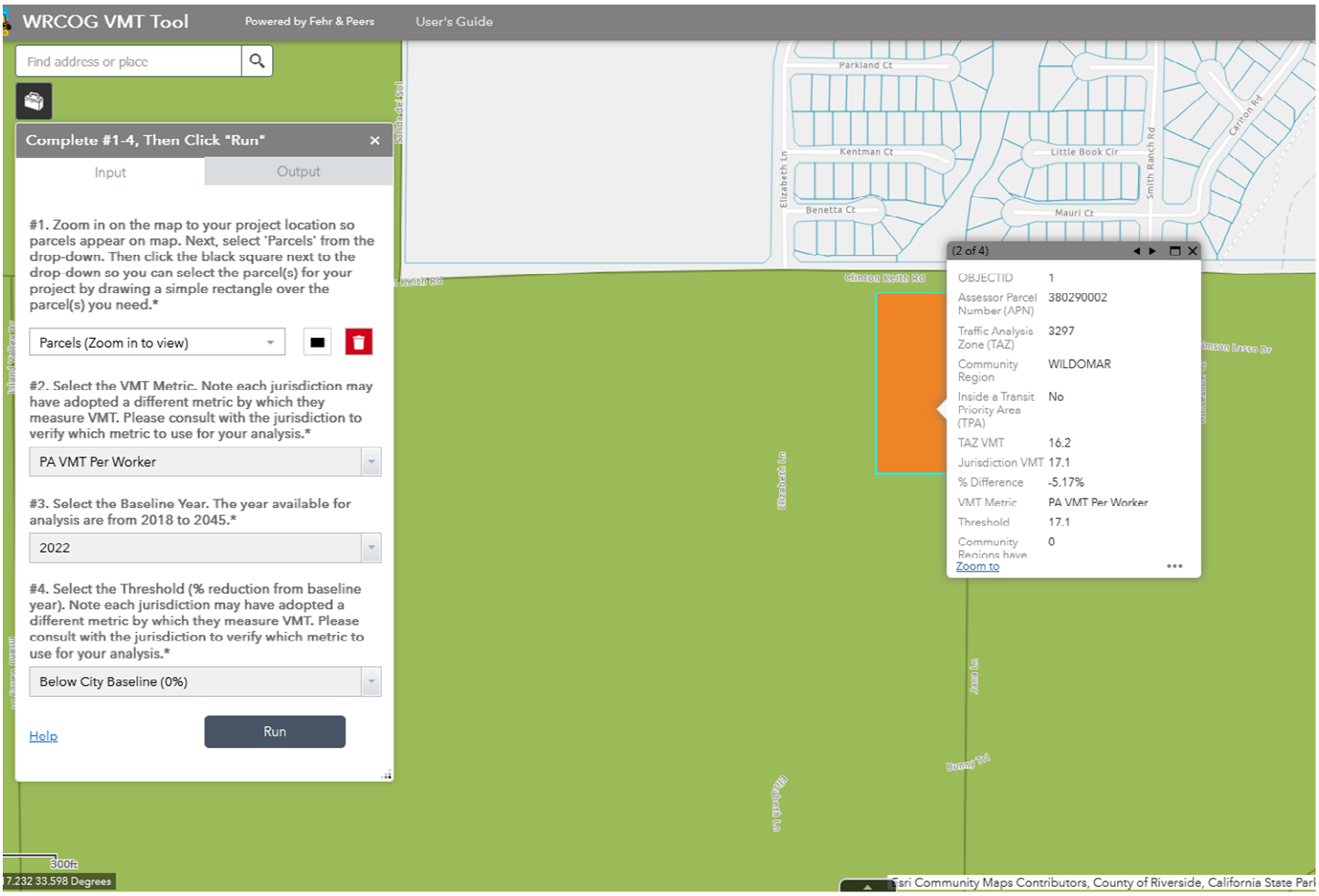


Exhibit A – WRCOG1 VMT Screening Tool Results for the Project

The June 10, 2020 City Council adopted resolution recommends that future projects demonstrate that they will reduce existing VMT by at least 3 percent. Since the project TAZ 20222 daily home-based VMT per worker is 5.17% less than the jurisdictional average 2022 daily home-based work VMT per worker, the proposed development meets the requirement to reduce VMT by at least 3 percent.

The commercial retail portion of the proposed project is screened out and exempt from a detailed VMT analysis since the commercial retail portion of the proposed project consists of locally serving retail 50,000 square feet or less. The 14,500 square feet of office is greater than the screening threshold of 10,000 square feet of office or less. Based on the WRCOG VMT Screening Tool, the 14,500 square feet of office will reduce the City required VMT by at least 3 percent. Therefore, the project meets the City established VMT screening criteria for locally serving retail 50,000 square feet or less (commercial retail portion of the project site) and the requirement of reducing VMT by at least 3 percent (office portion of the project site) and can be presumed to result in a less than significant impact.

9. CONCLUSIONS

This section summarizes the findings and recommended improvements, or mitigation measures (if any) identified in previous sections of this study.

PROJECT TRIP GENERATION

The proposed project is forecast to generate a total of approximately 5,667 daily trips, including 270 trips during the AM peak hour and 264 trips during the PM peak hour.

LEVELS OF SERVICE/OPERATIONAL ANALYSIS FINDINGS (NON-CEQA)

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Ambient Growth Plus Project conditions, except for the following study intersections which are projected to operate at unacceptable Levels of Service (E or F) during the peak hours:

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5 (AM/PM Peak Hours – LOS F)
- Jana Lane (NS) at Clinton Keith Road (EW) - #7 (AM/PM Peak Hours – LOS F)

The following improvements are recommended for Existing Plus Ambient Growth Plus Project conditions to maintain acceptable Level of Service:

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5
  - Restrict the southbound approach to right turns only during weekday peak periods (7-9 AM, 4-6 PM). This intersection currently operates at unacceptable LOS. Based on the HCM delay methodology, the deficient LOS reported is primarily associated with left turns from the minor street (Salida Del Sol); east-west approaches along the major street (Clinton Keith Road) are uncontrolled and would operate within acceptable LOS. The intersection is not forecast to satisfy the MUTCD peak hour volume warrant; therefore, installation of a traffic signal is not warranted.

- Jana Lane (NS) at Clinton Keith Road (EW) - #7
  - Install a traffic signal
  - Construct northbound left turn lane
  - Restripe northbound shared left/right turn lane to right turn lane.

The proposed project is forecast to result in no substantial operational deficiencies at the study intersections for Existing Plus Ambient Growth Plus Project conditions with implementation of the recommended improvements.

The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions, except for the following study intersections which are projected to operate at unacceptable Levels of Service (E or F) during the peak hours:

- Inland Valley Drive (NS) at Clinton Keith Road (EW) - #4 (PM Peak Hour – LOS E)
- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5 (AM/PM Peak Hours – LOS F)
- Elizabeth Lane (NS) at Clinton Keith Road (EW) - #6 (AM/PM Peak Hours – LOS F)
- Jana Lane (NS) at Clinton Keith Road (EW) - #7 (AM/PM Peak Hours – LOS F)

The following improvements are recommended for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions to maintain acceptable Level of Service:

- Inland Valley Drive (NS) at Clinton Keith Road (EW) - #4
  - Construct additional eastbound through lane receiving lane
  - Construct additional westbound through lane

- Salida Del Sol (NS) at Clinton Keith Road (EW) - #5
  - Install a traffic signal
  - Construct northbound, southbound, and westbound left turn lanes.
  - Restripe northbound, southbound, and westbound shared left/through/right turn lane to shared through/right turn lane.

- Elizabeth Lane (NS) at Clinton Keith Road (EW) - #6
  - Install a traffic signal
  - Construct northbound and southbound left turn lanes.
  - Restripe northbound and southbound shared left/through/right turn lane to shared through/right turn lane.
  - Construct additional eastbound through lane.

- Jana Lane (NS) at Clinton Keith Road (EW) - #7
  - Install a traffic signal
  - Construct northbound left turn lane
  - Restripe northbound shared left/right turn lane to right turn lane.

The proposed project is forecast to result in no substantial operational deficiencies at the study intersections for Existing Plus Ambient Growth Plus Project Plus Cumulative conditions with implementation of the recommended improvements.

VMT Analysis Findings (CEQA)

The proposed project consists of locally serving retail 50,000 square feet or less, with 14,500 square feet of office. The 14,500 square feet of office is greater than the screening threshold of 10,000 square feet of office or less. The proposed project is screened out and exempt from a VMT since the proposed project meets the screening criteria for locally serving retail 50,000 square feet or less, and the 14,500 square feet of office will reduce the City required VMT by at least 3 percent. Therefore, the project meets the City established VMT screening criteria and can be presumed to result in a less than significant impact.

APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Volume Count Worksheets
Appendix D Level of Service Worksheets
Appendix E Traffic Signal Warrant Worksheets

APPENDIX A

GLOSSARY

ACRONYMS

AC	Acres
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
DU	Dwelling Unit
ICU	Intersection Capacity Utilization
GFA	Gross Floor Area
LOS	Level of Service
PCE	Passenger Car Equivalent
SP	Service Population
TSF	Thousand Square Feet
V/C	Volume/Capacity
VMT	Vehicle Miles Traveled

TERMS

ACTUATED SIGNAL CONTROL: A type of traffic signal control in which display of each phase depends on whether the corresponding phase detector has registered a service call or the phase is on recall.

ACTUATION: Detection of a roadway user that is forwarded to the signal controller.

AVERAGE DAILY TRAFFIC: The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A point of constriction along a roadway that limits the amount of traffic that can proceed downstream from its location.

CALL: An indication within a signal controller that a particular phase is waiting for service, either through actuation from a roadway user or phase recall.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass through a roadway facility during a specified period.

CHANNELIZATION: The separation of conflicting traffic movements by use of pavement markings, raised curbs, or other suitable means to facilitate free flow movement.

CLEARANCE INTERVAL: Equal to the yellow plus all-red time, if any, when a traffic signal changes between phases (i.e., the amount of time between the end of a green light from one movement to the beginning of a green light for the next).

COORDINATED SIGNAL CONTROL: A type of traffic signal control in which non-coordinated phases associated with minor movements are constrained such that the coordinated phases are served at a specific time during the signal cycle, thus maintaining the efficient progression of traffic flow along the major roadway.

CONTROL DELAY: The portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign). It includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay.

CORDON: An imaginary boundary line around or across a study area across which vehicles, persons, or other information can be collected for survey and analytical purposes.

CORNER SIGHT DISTANCE: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic traveling at a given speed to radically alter their speed or trajectory.

CYCLE: A complete sequence of signal indications for all phases.

CYCLE LENGTH: The total time for a traffic signal to complete one full cycle.

DAILY CAPACITY: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

DELAY: The total additional travel time experienced by a roadway user (driver, passenger, bicyclist, or pedestrian) beyond that required to travel at a desired speed.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device used to count or determine the presence of a roadway user.

DESIGN SPEED: A speed used for purposes of designing horizontal and vertical alignments of a highway.

DIRECTIONAL SPLIT: The percent of two-way traffic traveling in a specified direction.

DIVERSION: The rerouting of traffic from a normal path of travel between two points, such as to avoid congestion or perform a secondary trip.

FREE FLOW: Traffic flow that is unaffected by a traffic control and/or or upstream or downstream conditions.

GAP: Time or distance between two vehicles measured from rear bumper of the front vehicle to front bumper of the second vehicle.

GAP ACCEPTANCE: The method by which a driver accepts an available gap in traffic to enter or cross the road.

HEADWAY: Time or distance between two successive vehicles measured from same point on both vehicles (i.e., front bumper to front bumper).

LEVEL OF SERVICE: A grading scale of quantitative performance measures representing the quality of service of a transportation facility or service from an average traveler's perspective.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MULTI-MODAL: More than one mode, such as automobile, transit, bicycle, and pedestrian.

OFFSET: The time interval between the beginning of a traffic signal cycle at one intersection and the beginning of signal cycle an adjacent intersection.

PLATOON: A set of vehicles traveling at similar speed and moving as a general group with clear separation between other vehicles ahead and behind.

PASSENGER CAR EQUIVALENT: A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

PEDESTRIAN CLEARANCE INTERVAL: Also known as the "Flashing Don't Walk" interval, it signals the end of pedestrian entry into the crosswalk following the "Walk" indication and provides time for pedestrians who have already entered the crosswalk to finishing crossing.

PEAK HOUR: The hour within a day in which the maximum volume occurs.

PEAK HOUR FACTOR: The peak hour volume divided by the four times the peak 15-minute flow rate.

PHASE: In traffic signals, the green, yellow, and red clearance intervals assigned to a specified traffic movement.

PRETIMED SIGNAL: A traffic signal operation in which the cycle length, phasing sequence, and phasing times are predetermined and fixed, regardless of actual demand for any given traffic movement. Also known as a fixed time signal.

PROGRESSION: The coordinated movement of vehicles through signalized intersections along a corridor.

QUEUE: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

QUEUE LENGTH: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

RECALL: A signal phasing operation in which a specified phase places a call to the signal controller each time a conflicting phase is served, thus ensuring the specified phase will be serviced again.

SEMI-ACTUATED CONTROL: A type of traffic signal control in which only the minor movements are provided detection.

SIGHT DISTANCE: The continuous length of roadway visible to a driver or roadway user.

STACKING DISTANCE: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queuing to occur.

STOPPING SIGHT DISTANCE: The minimum distance required by the driver of a vehicle traveling at a given speed to bring the vehicle to a stop after an object on the road becomes visible, including reaction and response time.

TRIP OR TRIP END: The one-directional movement of a person or vehicle. Every trip has an origin and a destination at its respective ends (i.e., trip ends). In terms of site trip generation, the same vehicle entering and exiting a site generates two trips: one inbound trip and one outbound trip.

TRIP GENERATION RATE: The rate at which a land use generates trips per the specified land use variable, such per dwelling unit or per thousand square feet.

TRUCK: A heavy motor vehicle generally used for transporting goods.

VEHICLE MILES TRAVELED: A measure of the amount and distance of automobile travel essentially calculated as the sum of each trip times the trip length.

APPENDIX B

SCOPING AGREEMENT

MEMORANDUM OF UNDERSTANDING

TO: CITY OF WILDOMAR

FROM: Bryan Crawford, Senior Transportation Planner | GANDDINI GROUP, INC.

DATE: June 27, 2022

SUBJECT: Beyond Food Mart (Clinton Keith Road and Jana Lane) Traffic Impact Analysis Scoping

INTRODUCTION

The purpose of this traffic study scoping document is to outline the proposed traffic analysis parameters and assumptions for review/concurrence by City of Wildomar staff.

PROJECT DESCRIPTION

Figure 1 shows the project location map. The project site is located on the southeast corner of Jana Lane and Clinton Keith Road in the City of Wildomar, as exhibited in Figure 2.

The site plan is show in Figure 2. The 4.35-acre project site is proposed to include a 16 fueling position convenience store/gas station, and automated car wash, 3,800 square feet of fast-food restaurant with drive-thru, and 14,500 square feet of general office. The proposed project is anticipated to be constructed and fully operational by year 2024.

The project site is proposed to provide one access driveway to Clinton Keith Road and three access driveways to Jana Lane. The project driveway on Clinton Keith Road will be restricted to right turns in/out only. The three project driveways on Jana Lane will be full access.

PROJECT TRIP GENERATION

Table 1 shows the project trip generation based upon rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021) and the *(Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG, April 2002). ITE land use code 945 (Convenience Store/Gas Station), land use code 934 (Fast-Food Restaurant with Drive-Thru, and land use code 710 (General Office) have been used to estimate the site-specific trip generation estimates for the project site land uses.

ITE land use code 948 (Automated Car Wash) provides trip generation rates for the PM peak hour but not the AM peak hour or daily. The PM peak hour rates are based on three survey sites from the 1990's and 2000's. In consultation with City staff, multiple more recent trip generation data sources were analyzed and it was determined that the automated car wash land use will be based on rates provided in the Newport Pointe Traffic Impact Analysis Report (Linscott, Law & Greenspan, Engineers, April 28, 2021), which was derived from traffic counts on February 7, 2014 at the Victorville Speedwash located at 12147 Industrial Boulevard. The trip generation rates land use variable is based on the linear feet of the wash tunnel. The result is that the AM peak hour trip generation is a bit higher and the daily trip generation lower than the *(Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG, April 2002). The PM peak hour trip

generation is near identical to ITE land use code 948. Therefore, these rates are similar to other sources and appropriate to use for the automated car wash land use.

The project trip generation forecast shown in Table 1 also includes pass-by trip adjustments. Convenience store/gas station and restaurant land uses will often locate next to busy roadways to attract motorists already on the street. Since the trip generation rates shown in Table 1 represent vehicles entering and exiting at the site driveway(s), it is appropriate to reduce the initial trip generation forecast by the applicable pass-by trip rate when calculating the net new trips that will be added to the surrounding street system. Pass-by trip adjustments were applied to the existing and project trip generation in accordance with pass-by rates noted in the ITE *Trip Generation Manual* (11th Edition, 2021).

As shown in Table 1, the proposed project is forecast to generate approximately 5,667 daily trips, including 270 trips during the AM peak hour and 264 trips during the PM peak hour.

PROJECT TRIP DISTRIBUTION

Figure 3 to Figure 5 illustrate the forecast outbound and inbound directional distribution patterns of project-generated trips.

STUDY AREA

Based on the County of Riverside *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled* (December 2020), a TIS (Traffic Impact Study) for LOS (Level of Service) evaluation is required for projects which will add 50 or more peak hour trips to any intersection of 2 or more "Collector" or higher classification streets. Since the project is anticipated to generate more than 50 peak hour trips to intersections of 2 or more "Collector" or higher classification streets, a full TIA (Traffic Impact Analysis) is required.

Intersections identified for analysis typically include classified intersections at which a project is forecast to contribute 50 or more trips during the AM or PM peak hours. The study area is proposed to consist of the following eight (8) study intersections, even if the project may not contribute 50 or more trips during either the AM or PM peak hours but are the adjacent or primary intersections impacted by the proposed project.

Study Intersections (Figure 1)

1. I-15 SB Ramps (NS) at Clinton Keith Road (EW)
2. I-15 NB Ramps (NS) at Clinton Keith Road (EW)
3. Wildomar Trail (NS) at Clinton Keith Road (EW)
4. Inland Valley Road (NS) at Clinton Keith Road (EW)
5. Salida Del Sol (NS) at Clinton Keith Road (EW)
6. Elizabeth Lane (NS) at Clinton Keith Road (EW)
7. Jana Lane (NS) at Clinton Keith Road (EW)
8. Nutmeg Street (NS) at Clinton Keith Road (EW)

TRAFFIC COUNTS

Intersection turning movement counts will be used at the study intersections during the AM peak period (7:00 AM – 9:00 AM) and PM peak period (4:00 PM – 6:00 PM) on a typical weekday (Tuesday, Wednesday, or Thursday).

ANALYSIS SCENARIOS

The traffic study shall evaluate the following analysis scenarios for weekday AM and PM peak hour conditions:

- Existing [2022]
- Existing Plus Ambient Growth Plus Project [2024]
- Existing Plus Ambient Growth Plus Project Plus Cumulative [2024]

FORECASTING METHODOLOGY

Ambient Growth Rate

To account for area-wide ambient growth, the Opening Year 2024 will include a 2% annual growth for 2 years (total growth factor = 1.04) over the 2022 base volumes. The 2% annual growth rate is consistent to other traffic studies conducted in the area as well as County of Riverside standards. However, City staff shall confirm that this growth rate is still applicable and refine as necessary.

Other Cumulative Projects

A list of pending and approved cumulative development projects will been obtained from City of Wildomar staff. This list will be narrowed down to include projects within a 1.5-mile radius of the project site.

Trip forecasts for other development projects within the project study area will be determined based on the Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021 and will be added to existing roadway volumes for the applicable analysis scenarios.

VEHICLES MILES TRAVELED (VMT) ANALYSIS

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Agencies may currently opt-in to applying the updated CEQA guidelines for VMT analysis and implementation is required State-wide by July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) ["Technical Advisory"] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT.

The June 10, 2020 City Council meeting adopted a resolution which provided guidelines for VMT thresholds of significance for analyzing traffic impacts under CEQA. Exhibit 1 of this resolution provides project screening criteria which exempts projects from conducting a detailed VMT analysis. The project screening includes a

land use type screening whereas locally serving retail 50,000 square feet or less and 10,000 square feet or less of office is screened out and not required to conduct a VMT analysis.

The WRCOG VMT Screening Tool was used to access the project site. The project site is located within APN: 380290002 (TAZ: 3,297). According to the WRCOG VMT Screening Tool, the project is not located within a Transit Priority Area (TPA). The project TAZ 2022 daily home-based work VMT per worker is 16.2, whereas the jurisdictional average 2022 daily total home-based work VMT per worker is 17.1. Therefore, the project TAZ 2022 daily home-based work VMT per worker is 5.17% less than the jurisdictional average 2022 daily home-based work VMT per worker. Exhibit A shows the results of the WRCOG VMT Screening Tool

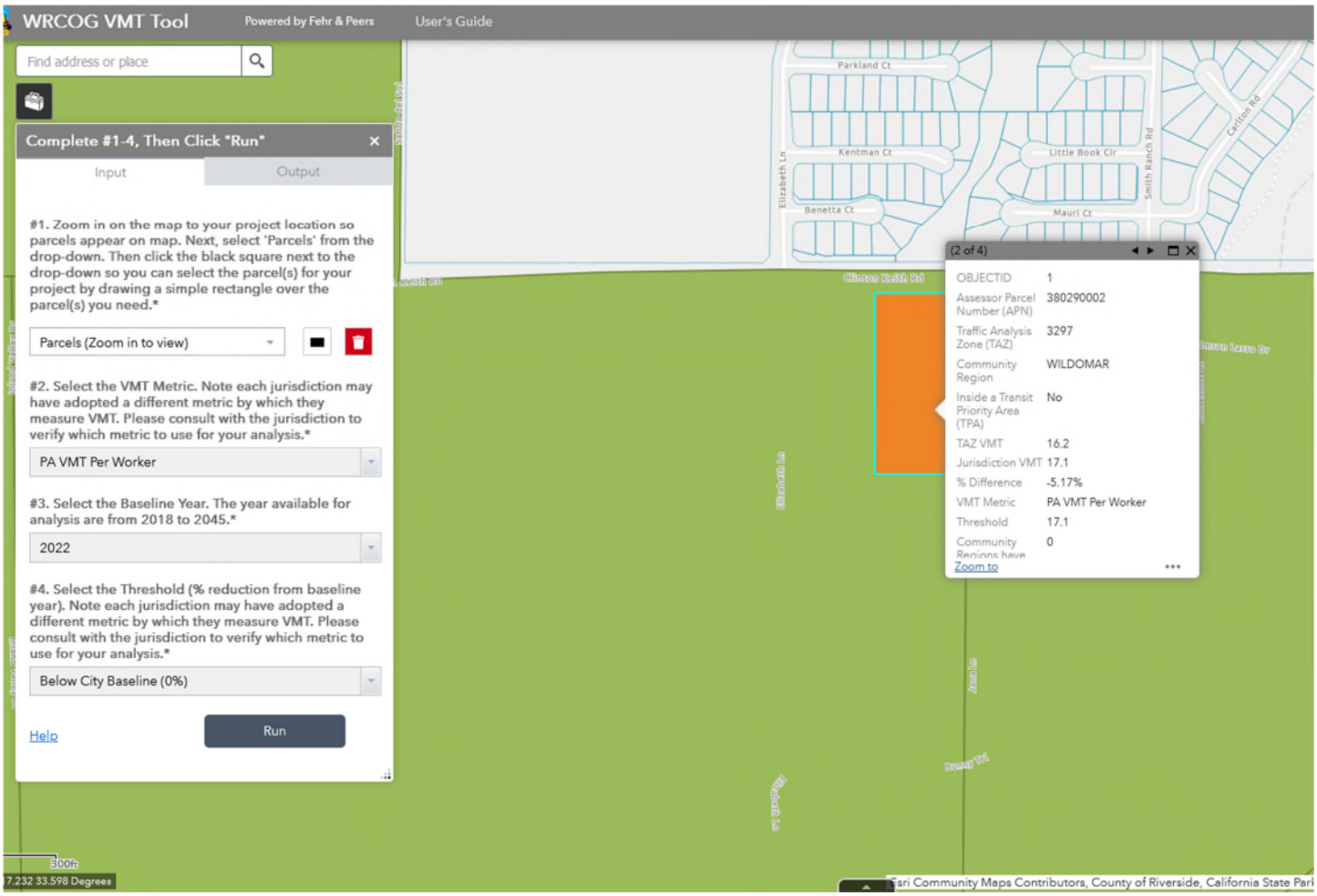


Exhibit A – WRCOG VMT Screening Tool Results for the Project

The June 10, 2020 City Council adopted resolution recommends that future projects demonstrate that they will reduce existing VMT by at least 3 percent. Since the project TAZ 20222 daily home-based VMT per worker is 5.17% less than the jurisdictional average 2022 daily home-based work VMT per worker, the proposed development meets the requirement to reduce VMT by at least 3 percent.

The proposed project consists of locally serving retail 50,000 square feet or less, with 14,500 square feet of office. The 14,500 square feet of office is greater than the screening threshold of 10,000 square feet of office or less. The proposed project is screened out and exempt from a VMT since the proposed project meets the

screening criteria for locally serving retail 50,000 square feet or less, and the 14,500 square feet of office will reduce the City required VMT by at least 3 percent. Therefore, the project meets the City established VMT screening criteria and can be presumed to result in a less than significant impact.

CONCLUSION

We appreciate the opportunity to provide this scoping document for your review. Should you have any questions or comments regarding the proposed scope, please contact Bryan Crawford at (714) 795-3100 x 104 or bryan@ganddini.com.

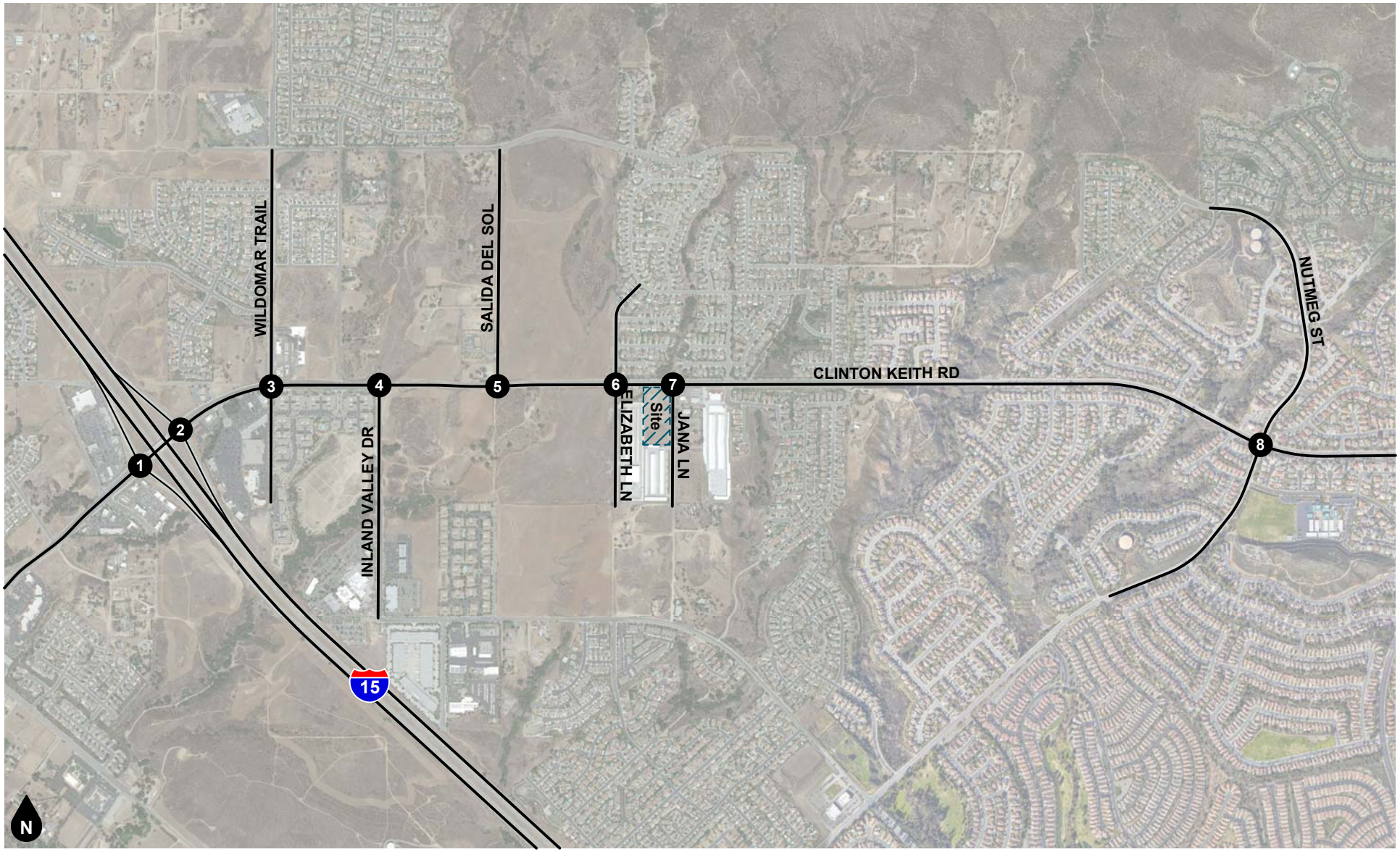
Table S-1
Draft Project Trip Generation

Trip Generation Rates									
Land Use	Source[1]	Land Use Variable[2]	AM Peak Hour			PM Peak Hour			Daily Rate
			% In	% Out	Rate	% In	% Out	Rate	
Convenience Store/Gas Station - GFA (5.5 - 10k)	ITE 945	FP	50%	50%	31.60	50%	50%	26.90	345.75
Automated Car Wash	[a]	LFWT	58%	42%	0.66	50%	50%	1.25	11.87
Fast-Food Restaurant with Drive-Thru	ITE 934	TSF	51%	49%	44.61	52%	48%	33.03	467.48
General Office	ITE 710	TSF	88%	12%	1.52	17%	83%	1.44	10.84

Trips Generated									
Land Use	Source	Quantity	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Convenience Store/Gas Station - GFA (5.5 - 10k)	ITE 945	16 FP	253	253	506	215	215	430	5,532
Pass-by Trips (76%AM,75%PM,38%Daily)[3]	ITE 945		*-192*	*-192*	*-384*	*-161*	*-161*	*-322*	*-2,102*
Subtotal			61	61	122	54	54	108	3,430
Automated Car Wash	[a]	63 LFWT	24	18	42	39	40	79	748
Fast-Food Restaurant with Drive-Thru	ITE 934	3.800 TSF	86	83	169	65	60	125	1,776
Pass-by Trips (50%AM,55%PM,25%Daily)[3]	ITE 934		*-43*	*-42*	*-85*	*-36*	*-33*	*-69*	*-444*
Subtotal			43	41	84	29	27	56	1,332
General Office	ITE 710	14.500 TSF	19	3	22	4	17	21	157
TOTAL TRIPS GENERATED			**147**	**123**	**270**	**126**	**138**	**264**	**5,667**

Notes:

1. ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code.
   All rates based on General Urban/Suburban setting unless otherwise noted.
   [a] Automated car wash based on rates provided in the *Newport Pointe Traffic Impact Analysis Report* (Linscott, Law & Greenspan, Engineers), April 28, 2021 which was derived from traffic counts on February 7, 2014 at the Victorville Speedwash (12147 Industrial Boulevard).
2. FP = Fueling Positions; TSF = Thousand Square Feet; LFWT = Linear Feet of Wash Tunnel
3. For time periods with no pass-by data provided in ITE *Trip Generation Manual* (e.g., daily), pass-by rates assumed as half of ITE peak hour rate.



Legend

Study Intersection

Figure 1
Project Location Map

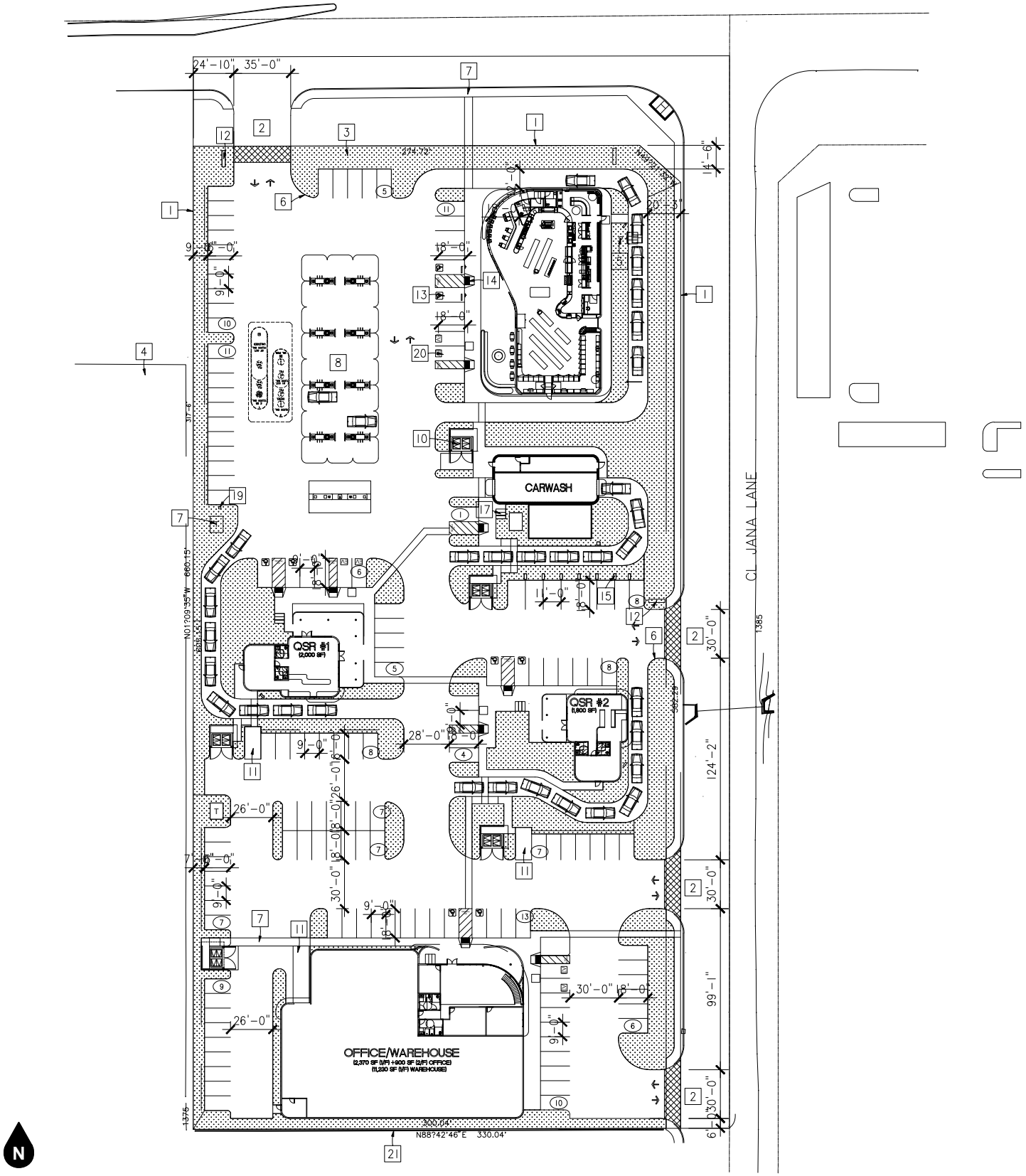


Figure 2
Site Plan

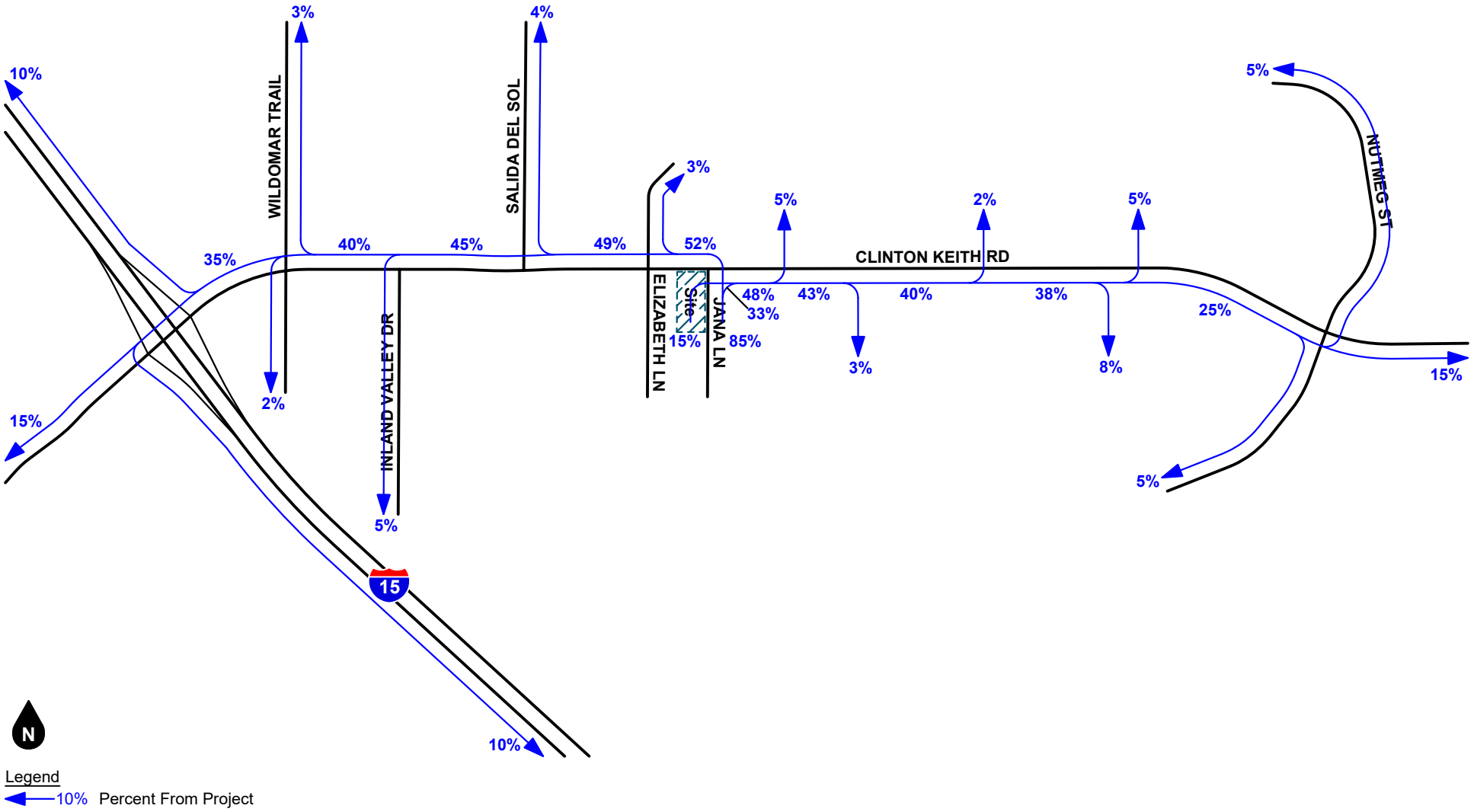


Figure 3
Project Outbound Trip Distribution

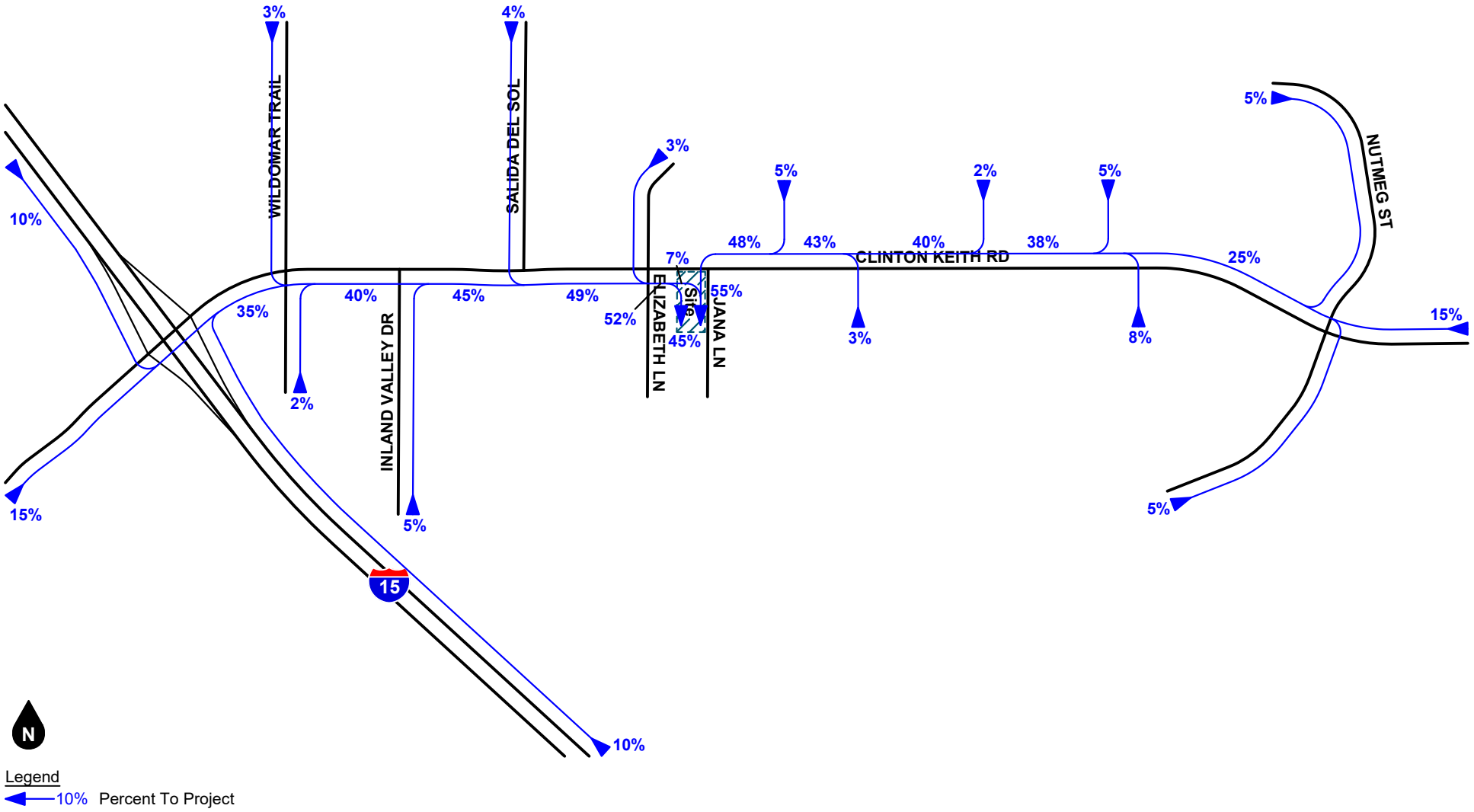


Figure 4
Project Inbound Trip Distribution

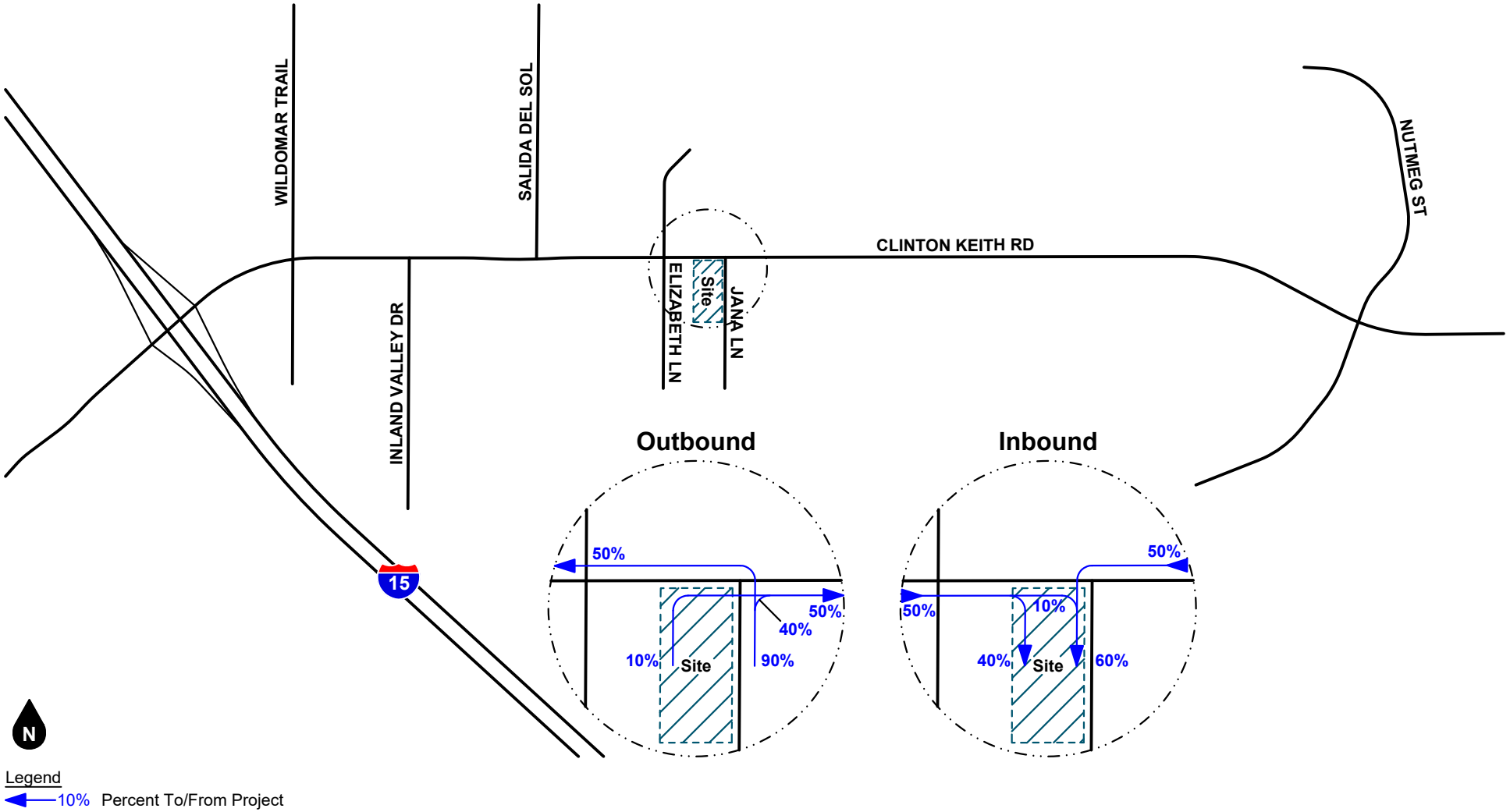


Figure 5
Project Pass-By Trip Disribution

APPENDIX C

VOLUME COUNT WORKSHEETS

INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

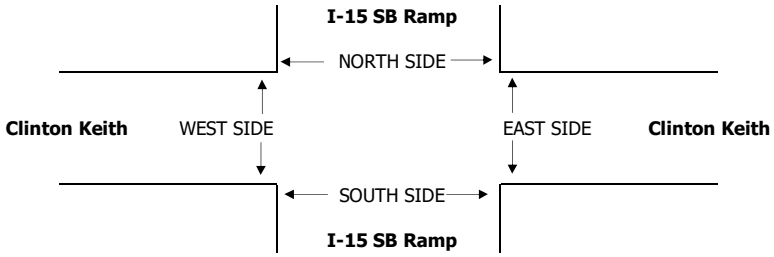
DATE:	LOCATION:	Murrieta	PROJECT #:	SC3467
Thu, May 26, 22	NORTH & SOUTH:	I-15 SB Ramp	LOCATION #:	8
	EAST & WEST:	Clinton Keith	CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER — ▲ N, ◄ W, E ►, S ▼

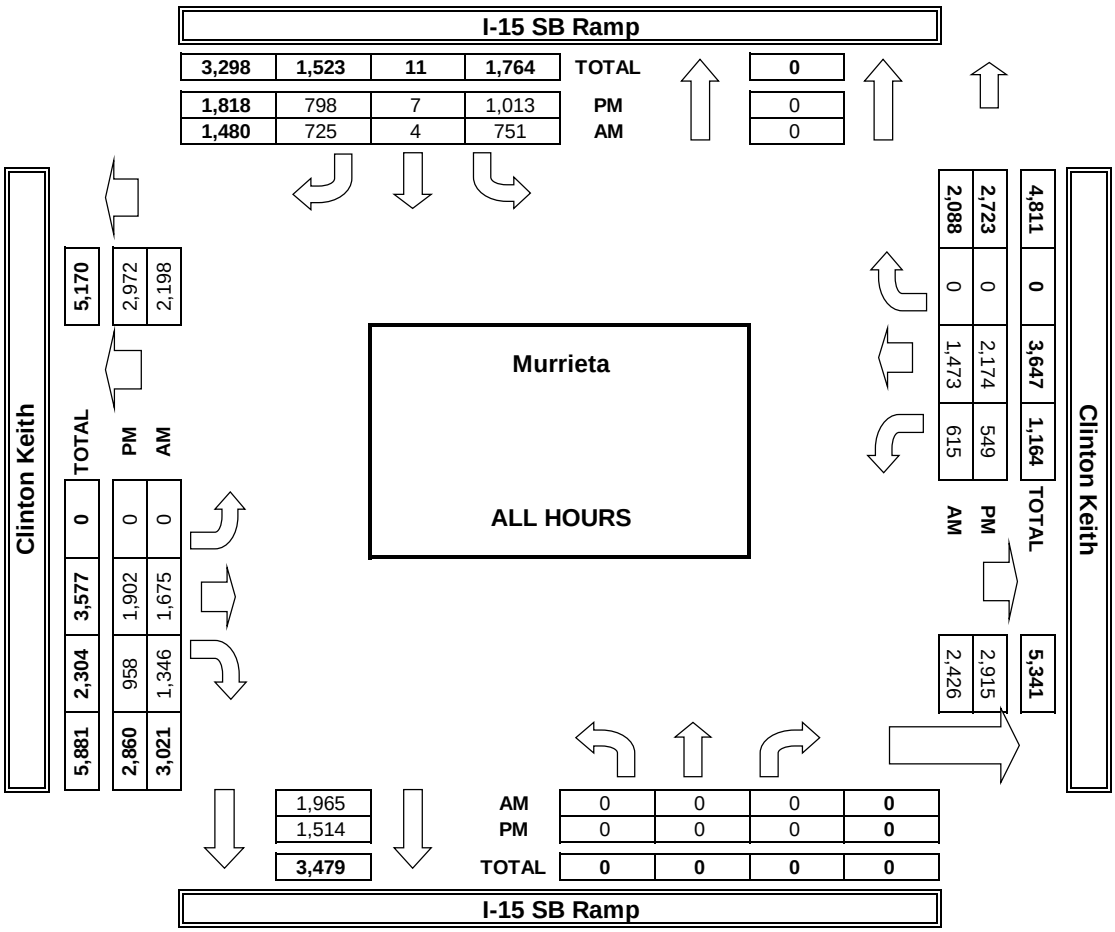
☑ Add U-Turns to Left Turns

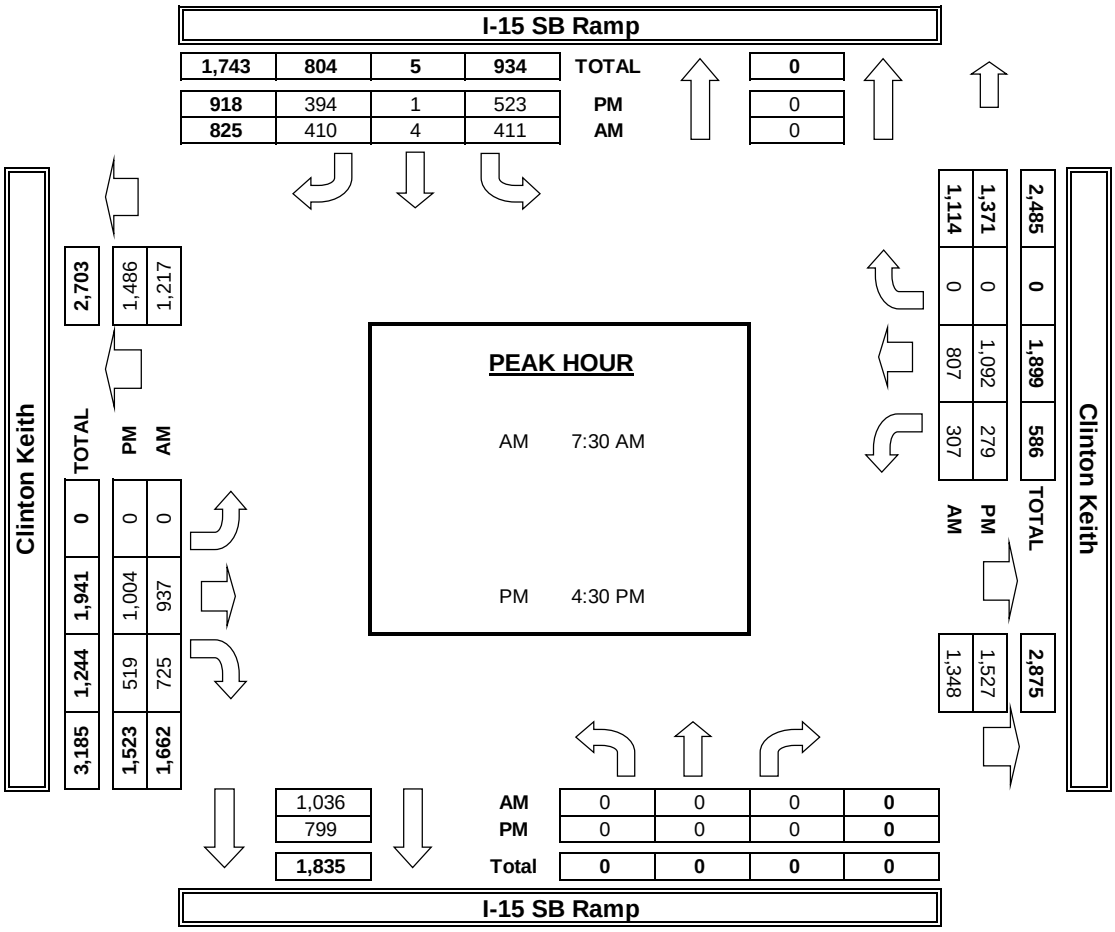
		NORTHBOUND I-15 SB Ramp			SOUTHBOUND I-15 SB Ramp			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 1.5	ST 0.5	SR 2	EL X	ET 3	ER 1	WL 2	WT 3	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	70	0	89	0	159	132	76	130	0	656	0	0	0	0	0
	7:15 AM	0	0	0	75	0	64	0	156	152	66	129	0	642	0	0	0	0	0
	7:30 AM	0	0	0	118	2	102	0	246	192	74	193	0	927	0	0	0	0	0
	7:45 AM	0	0	0	86	1	101	0	251	173	68	224	0	904	0	0	0	0	0
	8:00 AM	0	0	0	108	0	115	0	210	184	76	200	0	893	0	0	0	0	0
	8:15 AM	0	0	0	99	1	92	0	230	176	89	190	0	877	0	0	0	0	0
	8:30 AM	0	0	0	106	0	94	0	218	167	84	185	0	854	0	0	0	0	0
	8:45 AM	0	0	0	89	0	68	0	205	170	82	222	0	836	0	0	0	0	0
	VOLUMES	0	0	0	751	4	725	0	1,675	1,346	615	1,473	0	6,589	0	0	0	0	0
	APPROACH %	0%	0%	0%	51%	0%	49%	0%	55%	45%	29%	71%	0%						
	APP/DEPART	0	/	0	1,480	/	1,965	3,021	/	2,426	2,088	/	2,198	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	411	4	410	0	937	725	307	807	0	3,601					
	APPROACH %	0%	0%	0%	50%	0%	50%	0%	56%	44%	28%	72%	0%						
	PEAK HR FACTOR		0.000			0.925			0.949			0.954		0.971					
	APP/DEPART	0	/	0	825	/	1,036	1,662	/	1,348	1,114	/	1,217	0					
PM	4:00 PM	0	0	0	116	1	96	0	244	119	74	265	0	915	0	0	0	0	0
	4:15 PM	0	0	0	120	1	94	0	200	118	63	263	0	859	0	0	0	0	0
	4:30 PM	0	0	0	129	0	101	0	246	117	84	286	0	963	0	0	0	0	0
	4:45 PM	0	0	0	137	0	104	0	237	128	67	239	0	912	0	0	0	0	0
	5:00 PM	0	0	0	119	0	95	0	243	148	67	261	0	933	0	0	0	0	0
	5:15 PM	0	0	0	138	1	94	0	278	126	61	306	0	1,004	0	0	0	0	0
	5:30 PM	0	0	0	123	2	108	0	255	109	63	289	0	949	0	0	0	0	0
	5:45 PM	0	0	0	131	2	106	0	199	93	70	265	0	866	0	0	0	0	0
	VOLUMES	0	0	0	1,013	7	798	0	1,902	958	549	2,174	0	7,401	0	0	0	0	0
	APPROACH %	0%	0%	0%	56%	0%	44%	0%	67%	33%	20%	80%	0%						
	APP/DEPART	0	/	0	1,818	/	1,514	2,860	/	2,915	2,723	/	2,972	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	0	0	523	1	394	0	1,004	519	279	1,092	0	3,812					
	APPROACH %	0%	0%	0%	57%	0%	43%	0%	66%	34%	20%	80%	0%						
	PEAK HR FACTOR		0.000			0.952			0.942			0.926		0.949					
	APP/DEPART	0	/	0	918	/	799	1,523	/	1,527	1,371	/	1,486	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

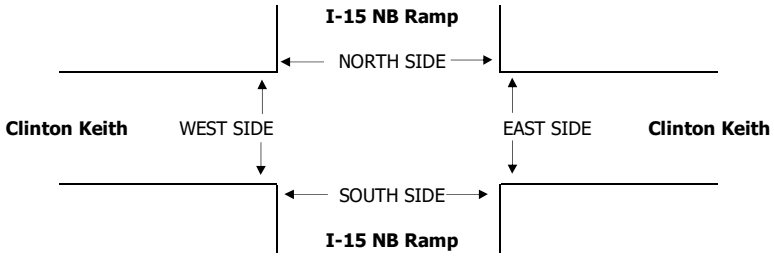
DATE:	LOCATION:	Murrieta	PROJECT #:	SC3467
Thu, May 26, 22	NORTH & SOUTH:	I-15 NB Ramp	LOCATION #:	7
	EAST & WEST:	Clinton Keith	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

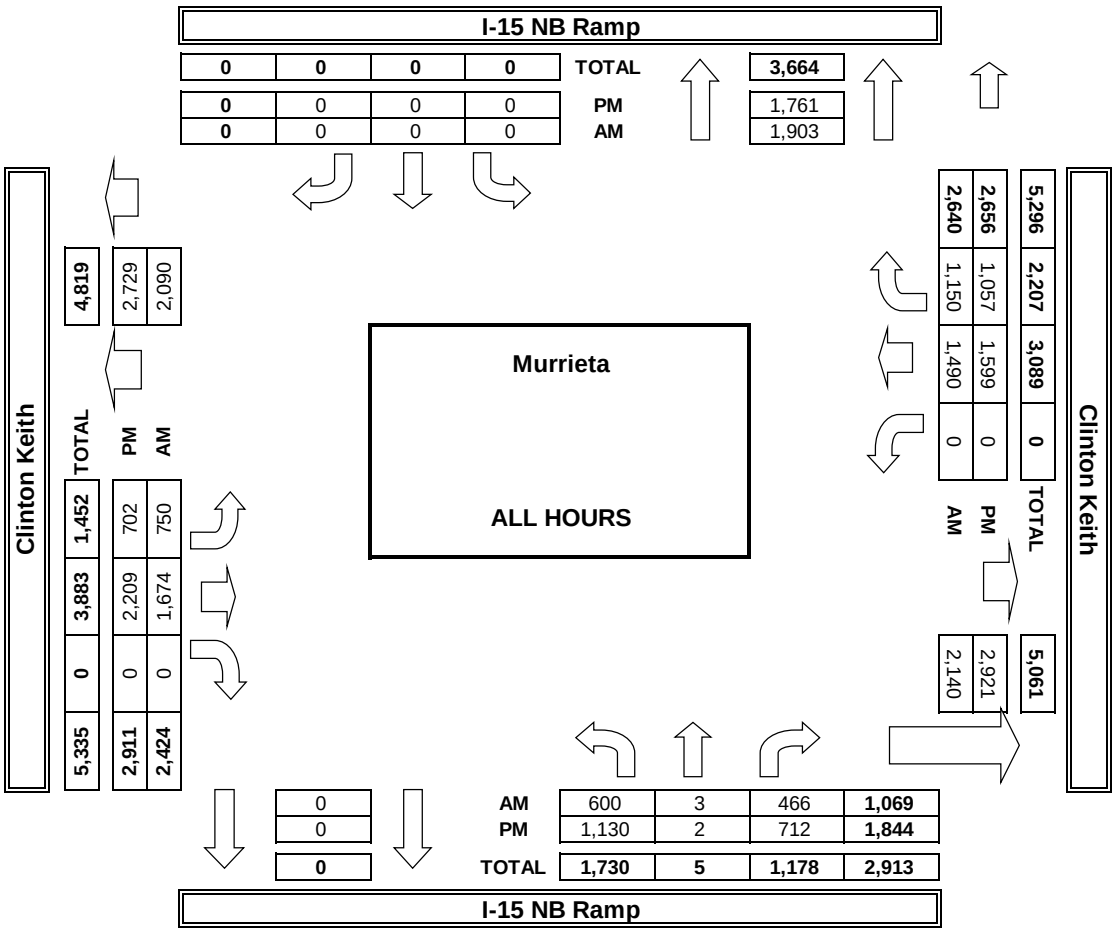
☑ Add U-Turns to Left Turns

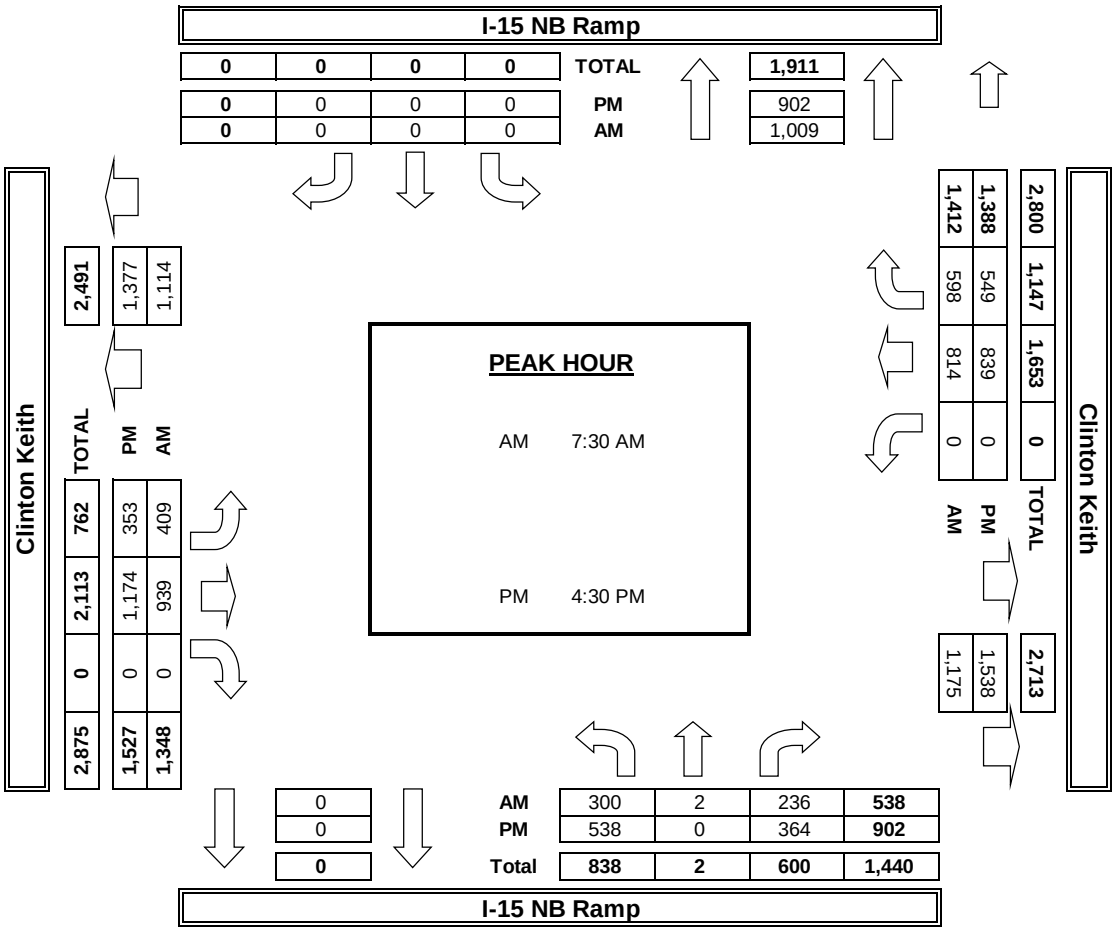
		NORTHBOUND I-15 NB Ramp			SOUTHBOUND I-15 NB Ramp			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 1.3	NT 0.3	NR 1.3	SL X	ST X	SR X	EL 2	ET 3	ER X	WL X	WT 3	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	54	0	45	0	0	0	87	140	0	0	154	158	638	0	0	0	0	0
	7:15 AM	60	0	49	0	0	0	65	166	0	0	135	144	619	0	0	0	0	0
	7:30 AM	78	0	57	0	0	0	119	245	0	0	189	166	854	0	0	0	0	0
	7:45 AM	82	1	63	0	0	0	112	225	0	0	210	166	859	0	0	0	0	0
	8:00 AM	70	0	54	0	0	0	87	231	0	0	206	122	770	0	0	0	0	0
	8:15 AM	70	1	62	0	0	0	91	238	0	0	209	144	815	0	0	0	0	0
	8:30 AM	96	1	66	0	0	0	103	221	0	0	173	137	797	0	0	0	0	0
	8:45 AM	90	0	70	0	0	0	86	208	0	0	214	113	781	0	0	0	0	0
	VOLUMES	600	3	466	0	0	0	750	1,674	0	0	1,490	1,150	6,133	0	0	0	0	0
	APPROACH %	56%	0%	44%	0%	0%	0%	31%	69%	0%	0%	56%	44%						
	APP/DEPART	1,069	/	1,903	0	/	0	2,424	/	2,140	2,640	/	2,090	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	300	2	236	0	0	0	409	939	0	0	814	598	3,298					
	APPROACH %	56%	0%	44%	0%	0%	0%	30%	70%	0%	0%	58%	42%						
	PEAK HR FACTOR		0.921			0.000			0.926			0.939		0.960					
	APP/DEPART	538	/	1,009	0	/	0	1,348	/	1,175	1,412	/	1,114	0					
PM	4:00 PM	144	0	82	0	0	0	98	262	0	0	195	131	912	0	0	0	0	0
	4:15 PM	158	2	94	0	0	0	84	236	0	0	168	122	864	0	0	0	0	0
	4:30 PM	120	0	93	0	0	0	65	310	0	0	250	136	974	0	0	0	0	0
	4:45 PM	136	0	84	0	0	0	85	289	0	0	176	146	916	0	0	0	0	0
	5:00 PM	123	0	107	0	0	0	103	259	0	0	205	138	935	0	0	0	0	0
	5:15 PM	159	0	80	0	0	0	100	316	0	0	208	129	992	0	0	0	0	0
	5:30 PM	140	0	86	0	0	0	81	297	0	0	212	140	956	0	0	0	0	0
	5:45 PM	150	0	86	0	0	0	86	240	0	0	185	115	862	0	0	0	0	0
	VOLUMES	1,130	2	712	0	0	0	702	2,209	0	0	1,599	1,057	7,411	0	0	0	0	0
	APPROACH %	61%	0%	39%	0%	0%	0%	24%	76%	0%	0%	60%	40%						
	APP/DEPART	1,844	/	1,761	0	/	0	2,911	/	2,921	2,656	/	2,729	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	538	0	364	0	0	0	353	1,174	0	0	839	549	3,817					
	APPROACH %	60%	0%	40%	0%	0%	0%	23%	77%	0%	0%	60%	40%						
	PEAK HR FACTOR		0.944			0.000			0.918			0.899		0.962					
	APP/DEPART	902	/	902	0	/	0	1,527	/	1,538	1,388	/	1,377	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 24, 22

LOCATION: Wildomar
NORTH & SOUTH: Wildomar Trail
EAST & WEST: Clinton Keith

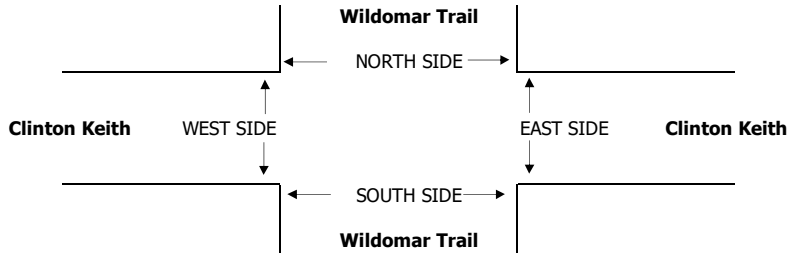
PROJECT #: SC3467
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Wildomar Trail			SOUTHBOUND Wildomar Trail			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	0	6	15	5	41	13	125	4	4	223	7	454	0	0	0	0	0
	7:15 AM	16	3	4	10	4	27	36	150	8	19	183	9	469	0	0	0	3	3
	7:30 AM	12	10	3	30	5	66	36	193	7	20	235	12	629	0	0	0	1	1
	7:45 AM	27	11	11	33	9	71	22	207	5	10	251	15	672	0	0	0	1	1
	8:00 AM	13	7	10	27	7	49	20	241	6	19	218	4	621	0	0	1	3	4
	8:15 AM	8	8	14	20	6	34	28	248	3	21	207	7	604	1	0	0	4	5
	8:30 AM	10	3	14	23	8	41	28	182	4	19	225	9	566	0	0	0	1	1
	8:45 AM	12	2	10	14	4	31	28	193	6	21	222	14	557	0	0	0	1	1
	VOLUMES	109	44	72	172	48	360	211	1,539	43	133	1,764	77	4,572	1	0	1	14	16
	APPROACH %	48%	20%	32%	30%	8%	62%	12%	86%	2%	7%	89%	4%						
	APP/DEPART	225	/	331	580	/	211	1,793	/	1,797	1,974	/	2,233	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	60	36	38	110	27	220	106	889	21	70	911	38	2,526					
	APPROACH %	45%	27%	28%	31%	8%	62%	10%	88%	2%	7%	89%	4%						
	PEAK HR FACTOR		0.684			0.790			0.910			0.923		0.940					
	APP/DEPART	134	/	179	357	/	110	1,016	/	1,046	1,019	/	1,191	0					
PM	4:00 PM	12	5	15	15	4	32	52	237	7	18	230	17	644	0	0	1	1	2
	4:15 PM	16	5	17	22	6	29	46	236	6	33	207	11	634	0	0	0	5	5
	4:30 PM	12	7	18	16	12	28	43	246	6	23	254	11	676	0	0	0	3	3
	4:45 PM	10	11	28	29	11	25	47	250	5	31	211	13	671	0	0	0	3	3
	5:00 PM	12	13	21	25	8	18	51	269	7	33	273	11	741	0	0	0	5	5
	5:15 PM	11	6	12	20	7	40	41	307	10	22	220	10	706	0	0	0	3	3
	5:30 PM	24	6	14	23	13	38	40	227	2	18	184	10	599	0	0	1	4	5
	5:45 PM	12	10	20	17	15	25	44	254	9	25	174	5	610	0	0	1	6	7
	VOLUMES	109	63	145	167	76	235	364	2,026	52	203	1,753	88	5,281	0	0	3	30	33
	APPROACH %	34%	20%	46%	35%	16%	49%	15%	83%	2%	10%	86%	4%						
	APP/DEPART	317	/	512	478	/	301	2,442	/	2,368	2,044	/	2,100	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	45	37	79	90	38	111	182	1,072	28	109	958	45	2,794					
	APPROACH %	28%	23%	49%	38%	16%	46%	14%	84%	2%	10%	86%	4%						
	PEAK HR FACTOR		0.821			0.892			0.895			0.877		0.943					
	APP/DEPART	161	/	264	239	/	161	1,282	/	1,255	1,112	/	1,114	0					



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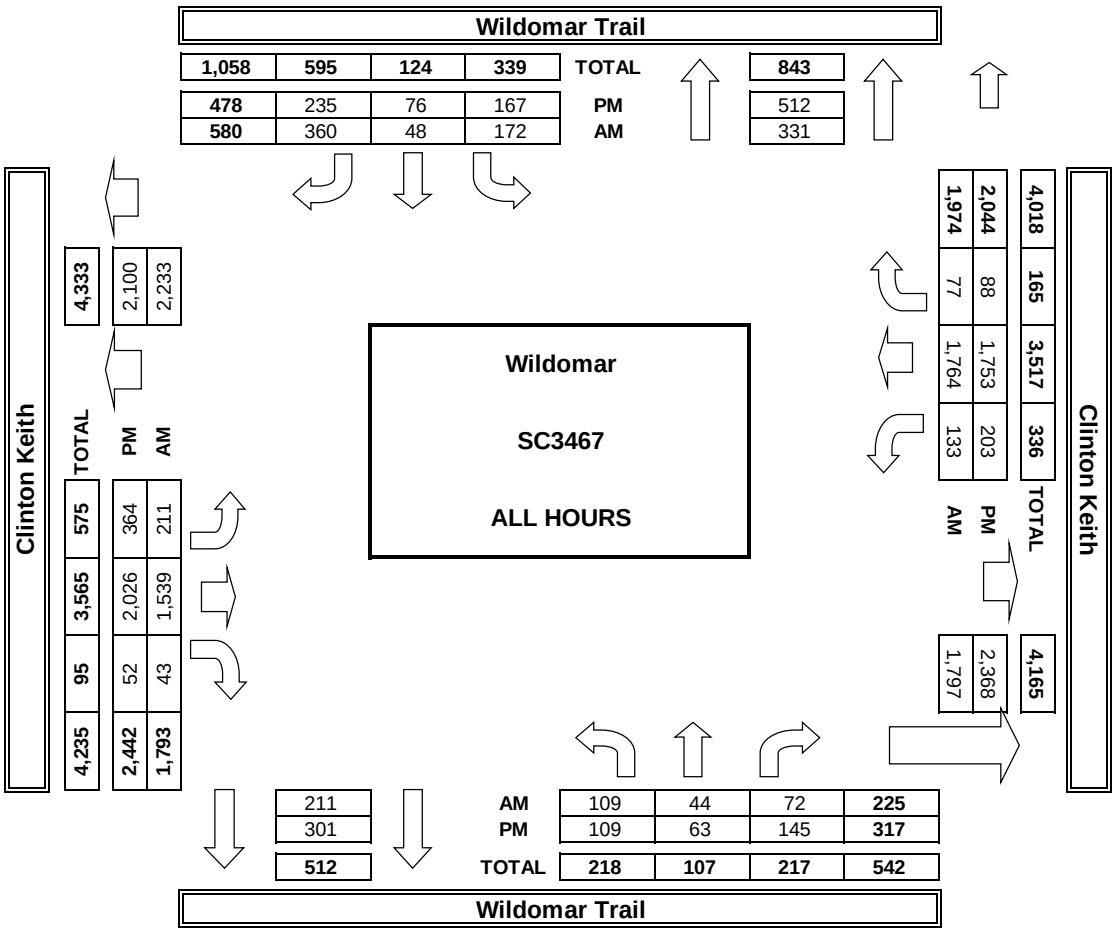
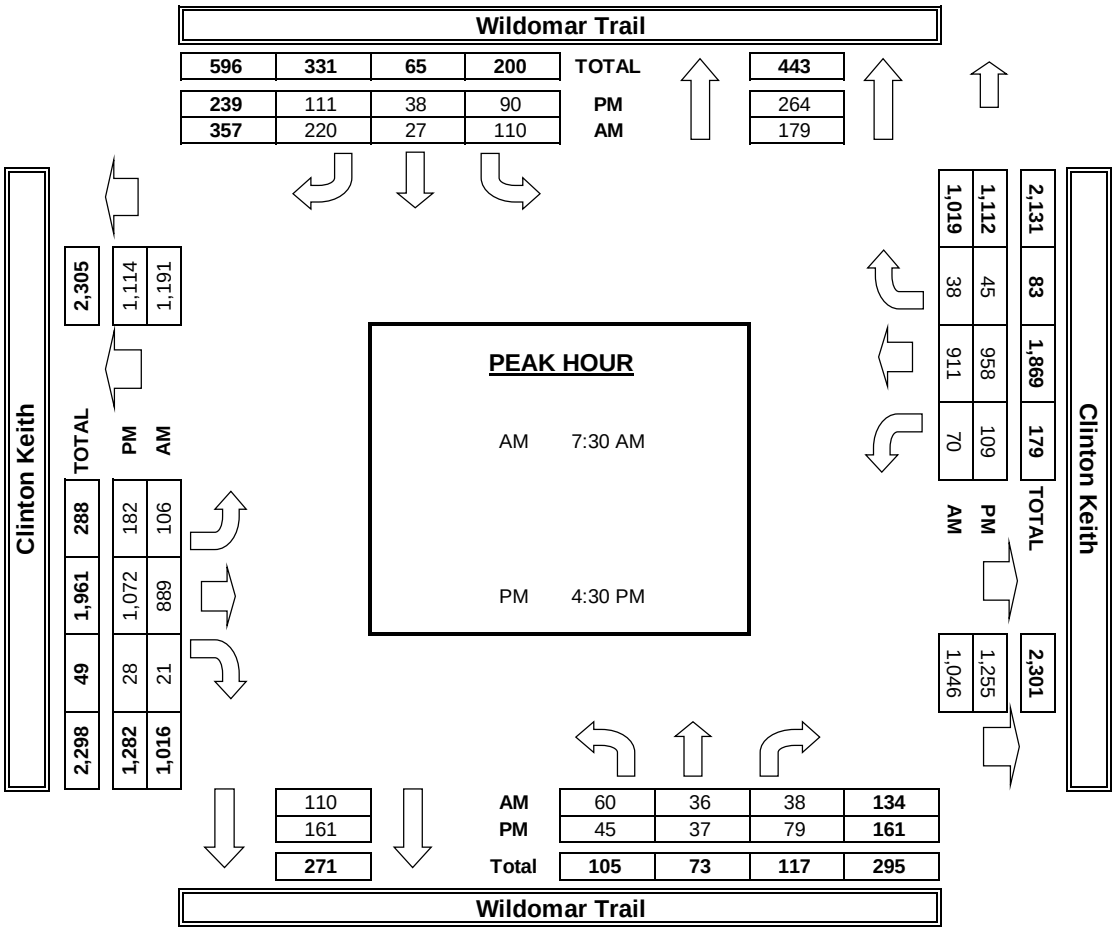
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

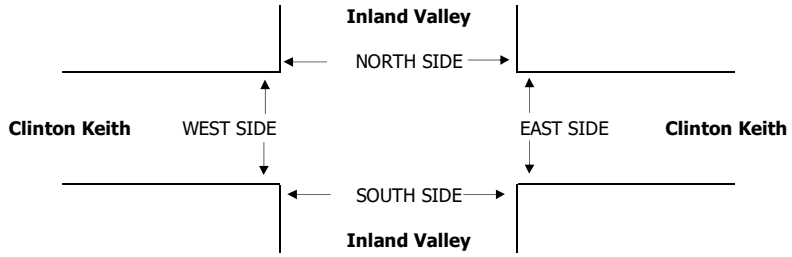
DATE:					
Tue, May 24, 22	LOCATION:	Wildomar	PROJECT #:	SC3467
	NORTH & SOUTH:	Inland Valley	LOCATION #:	3
	EAST & WEST:	Clinton Keith	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

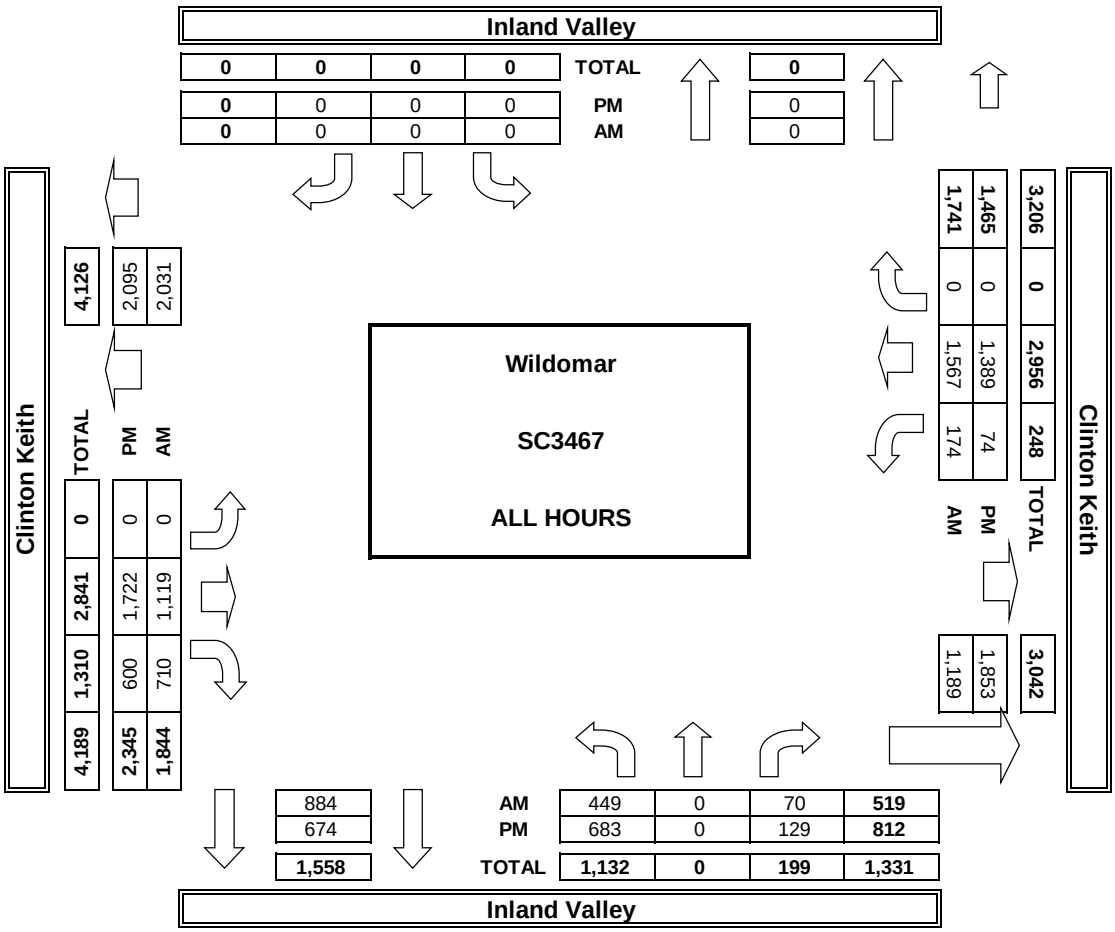
☐ Add U-Turns to Left Turns

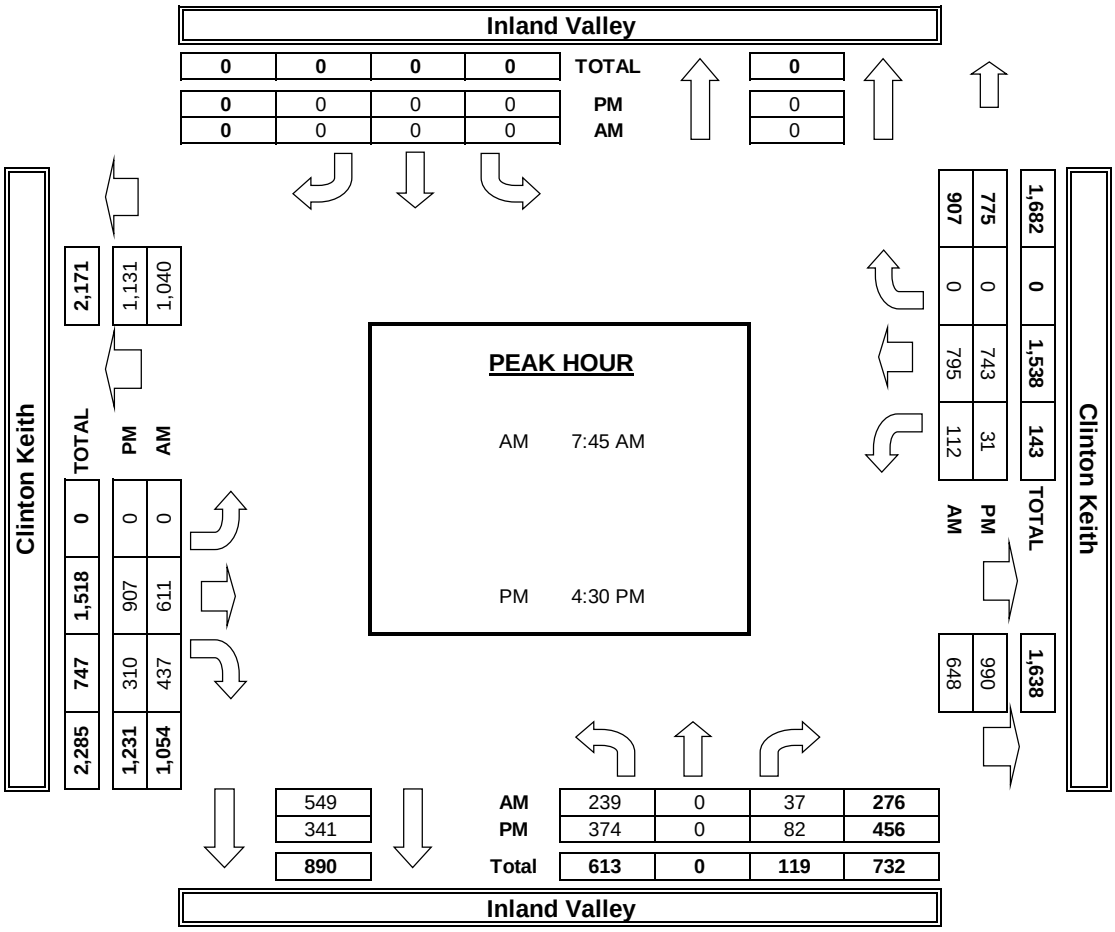
		NORTHBOUND Inland Valley			SOUTHBOUND Inland Valley			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 1	NT X	NR 1	SL X	ST X	SR X	EL X	ET 2	ER 1	WL 1	WT 1	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	38	0	4	0	0	0	0	114	57	8	191	0	412	0	0	3	0	3
	7:15 AM	45	0	4	0	0	0	0	115	54	20	190	0	428	0	0	1	0	1
	7:30 AM	65	0	12	0	0	0	0	145	72	21	191	0	506	0	0	1	0	1
	7:45 AM	59	0	11	0	0	0	0	145	99	27	233	0	574	0	0	1	0	1
	8:00 AM	53	0	8	0	0	0	0	186	118	29	182	0	576	0	0	4	0	4
	8:15 AM	55	0	8	0	0	0	0	133	125	29	184	0	534	0	0	0	0	0
	8:30 AM	72	0	10	0	0	0	0	147	95	27	196	0	547	0	0	1	0	1
	8:45 AM	62	0	13	0	0	0	0	134	90	13	200	0	512	0	0	4	0	4
	VOLUMES	449	0	70	0	0	0	0	1,119	710	174	1,567	0	4,104	0	0	15	0	15
	APPROACH %	87%	0%	13%	0%	0%	0%	0%	61%	39%	10%	90%	0%						
	APP/DEPART	519	/	0	0	/	884	1,844	/	1,189	1,741	/	2,031	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	239	0	37	0	0	0	0	611	437	112	795	0	2,237					
	APPROACH %	87%	0%	13%	0%	0%	0%	0%	58%	41%	12%	88%	0%						
	PEAK HR FACTOR		0.841			0.000			0.856			0.872		0.964					
	APP/DEPART	276	/	0	0	/	549	1,054	/	648	907	/	1,040	0					
PM	4:00 PM	89	0	13	0	0	0	0	194	82	18	171	0	567	0	0	4	0	4
	4:15 PM	100	0	15	0	0	0	0	189	69	7	167	0	547	0	0	3	0	3
	4:30 PM	96	0	24	0	0	0	0	215	68	6	169	0	578	0	0	3	1	4
	4:45 PM	87	0	10	0	0	0	0	224	84	11	185	0	601	0	0	4	0	4
	5:00 PM	110	0	31	0	0	0	0	215	65	6	207	0	634	0	0	3	0	3
	5:15 PM	81	0	17	0	0	0	0	253	93	8	182	0	634	0	0	4	0	4
	5:30 PM	61	0	12	0	0	0	0	224	65	6	155	0	523	0	0	2	1	3
	5:45 PM	59	0	7	0	0	0	0	208	74	12	153	0	513	0	0	0	0	0
	VOLUMES	683	0	129	0	0	0	0	1,722	600	74	1,389	0	4,622	0	0	23	2	25
	APPROACH %	84%	0%	16%	0%	0%	0%	0%	73%	26%	5%	95%	0%						
	APP/DEPART	812	/	0	0	/	674	2,345	/	1,853	1,465	/	2,095	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	374	0	82	0	0	0	0	907	310	31	743	0	2,462					
	APPROACH %	82%	0%	18%	0%	0%	0%	0%	74%	25%	4%	96%	0%						
	PEAK HR FACTOR		0.809			0.000			0.879			0.910		0.965					
	APP/DEPART	456	/	0	0	/	341	1,231	/	990	775	/	1,131	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 24, 22

LOCATION: Wildomar
NORTH & SOUTH: Salida
EAST & WEST: Clinton

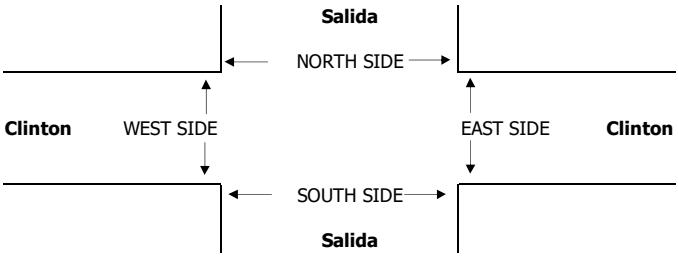
PROJECT #: SC3467
LOCATION #: 5
CONTROL: STOP S

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

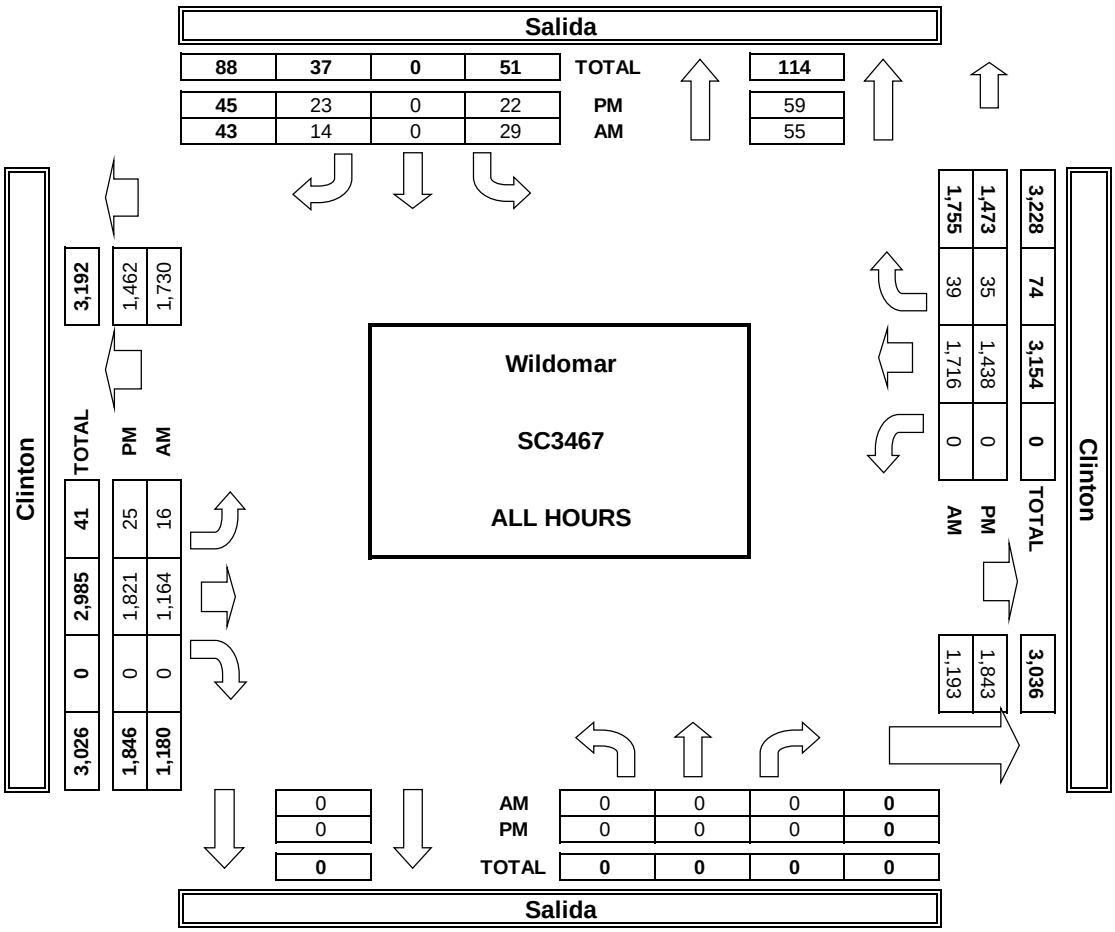
☑ Add U-Turns to Left Turns

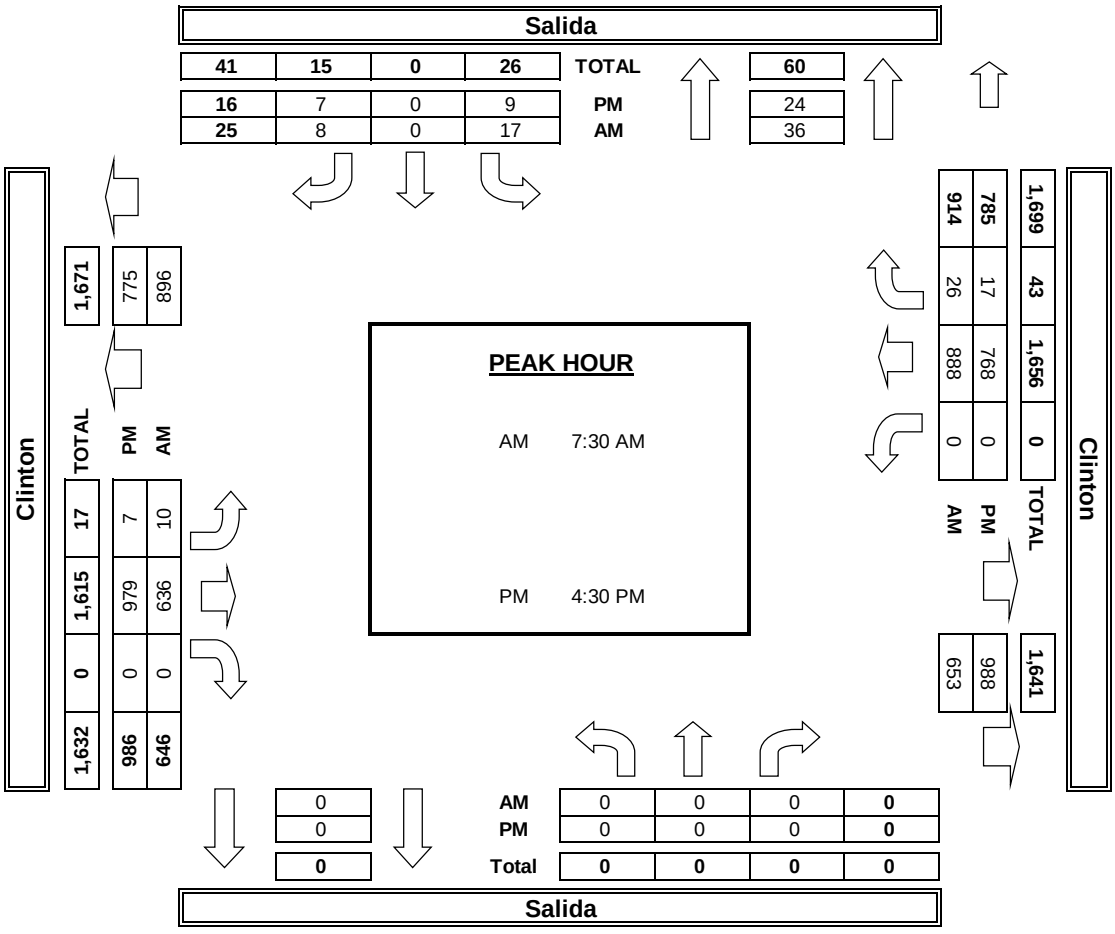
		NORTHBOUND Salida			SOUTHBOUND Salida			EASTBOUND Clinton			WESTBOUND Clinton				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 1	ET 1	ER X	WL X	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	5	0	2	0	117	0	0	192	2	318	0	0	0	0	0
	7:15 AM	0	0	0	3	0	1	1	110	0	0	212	4	331	0	0	0	0	0
	7:30 AM	0	0	0	4	0	1	5	150	0	0	221	10	391	0	0	0	0	0
	7:45 AM	0	0	0	3	0	3	0	174	0	0	238	6	424	0	0	0	0	0
	8:00 AM	0	0	0	5	0	2	4	173	0	0	219	5	408	0	0	0	0	0
	8:15 AM	0	0	0	5	0	2	1	139	0	0	210	5	362	0	0	0	0	0
	8:30 AM	0	0	0	3	0	1	3	157	0	0	216	4	384	0	0	0	0	0
	8:45 AM	0	0	0	1	0	2	2	144	0	0	208	3	360	0	0	0	0	0
	VOLUMES	0	0	0	29	0	14	16	1,164	0	0	1,716	39	2,978	0	0	0	0	0
	APPROACH %	0%	0%	0%	67%	0%	33%	1%	99%	0%	0%	98%	2%						
	APP/DEPART	0	/	55	43	/	0	1,180	/	1,193	1,755	/	1,730	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	17	0	8	10	636	0	0	888	26	1,585					
	APPROACH %	0%	0%	0%	68%	0%	32%	2%	98%	0%	0%	97%	3%						
	PEAK HR FACTOR		0.000			0.893			0.912			0.936		0.935					
	APP/DEPART	0	/	36	25	/	0	646	/	653	914	/	896	0					
PM	4:00 PM	0	0	0	2	0	4	6	201	0	0	174	5	392	0	0	1	0	1
	4:15 PM	0	0	0	3	0	4	5	200	0	0	178	3	393	0	0	0	0	0
	4:30 PM	0	0	0	3	0	5	1	253	0	0	167	4	433	0	0	0	0	0
	4:45 PM	0	0	0	3	0	1	2	220	0	0	195	4	425	0	0	0	0	0
	5:00 PM	0	0	0	2	0	0	2	252	0	0	211	5	472	0	0	0	0	0
	5:15 PM	0	0	0	1	0	1	2	254	0	0	195	4	457	0	0	0	0	0
	5:30 PM	0	0	0	4	0	4	5	243	0	0	161	5	422	0	0	0	0	0
	5:45 PM	0	0	0	4	0	4	2	198	0	0	157	5	370	0	0	0	0	0
	VOLUMES	0	0	0	22	0	23	25	1,821	0	0	1,438	35	3,364	0	0	1	0	1
	APPROACH %	0%	0%	0%	49%	0%	51%	1%	99%	0%	0%	98%	2%						
	APP/DEPART	0	/	59	45	/	0	1,846	/	1,843	1,473	/	1,462	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	0	0	9	0	7	7	979	0	0	768	17	1,787					
	APPROACH %	0%	0%	0%	56%	0%	44%	1%	99%	0%	0%	98%	2%						
	PEAK HR FACTOR		0.000			0.500			0.963			0.909		0.947					
	APP/DEPART	0	/	24	16	/	0	986	/	988	785	/	775	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 24, 22

LOCATION: Wildomar
NORTH & SOUTH: Elizabeth
EAST & WEST: Clinton Keith

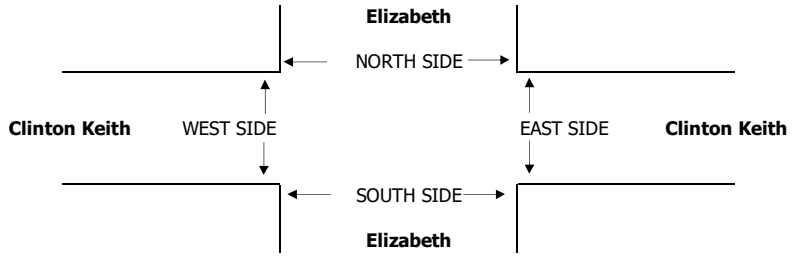
PROJECT #: SC3467
LOCATION #: 4
CONTROL: STOP N/S

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Elizabeth			SOUTHBOUND Elizabeth			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	1	0	0	1	0	21	1	119	2	1	168	1	315	0	0	0	0	0
	7:15 AM	1	0	1	2	0	9	1	110	2	0	206	1	333	0	0	0	0	0
	7:30 AM	1	0	1	0	0	13	9	142	3	0	217	0	386	0	0	0	0	0
	7:45 AM	1	0	2	3	0	11	2	172	1	2	232	1	427	0	0	0	0	0
	8:00 AM	1	0	1	2	0	6	1	175	2	1	217	4	410	0	0	0	0	0
	8:15 AM	1	0	0	1	0	8	6	137	1	2	206	1	363	0	0	0	0	0
	8:30 AM	0	0	0	3	0	12	8	151	1	0	208	1	384	0	0	0	0	0
	8:45 AM	2	0	3	1	0	16	6	137	2	0	193	1	361	0	0	0	0	0
	VOLUMES	8	0	8	13	0	96	34	1,143	14	6	1,647	10	2,979	0	0	0	0	0
	APPROACH %	50%	0%	50%	12%	0%	88%	3%	96%	1%	0%	99%	1%						
	APP/DEPART	16	/	44	109	/	20	1,191	/	1,164	1,663	/	1,751	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	4	0	4	6	0	38	18	626	7	5	872	6	1,586					
	APPROACH %	50%	0%	50%	14%	0%	86%	3%	96%	1%	1%	99%	1%						
	PEAK HR FACTOR		0.667			0.786			0.914			0.939		0.929					
	APP/DEPART	8	/	24	44	/	12	651	/	636	883	/	914	0					
PM	4:00 PM	2	0	0	0	0	11	11	191	1	0	166	2	384	0	0	0	0	0
	4:15 PM	1	0	1	1	0	9	8	193	2	0	171	0	386	0	0	0	0	0
	4:30 PM	2	0	1	0	0	7	17	232	3	0	162	4	428	0	0	0	0	0
	4:45 PM	1	0	0	3	0	13	11	210	2	0	185	3	428	0	0	0	0	0
	5:00 PM	0	0	2	0	0	11	7	247	0	0	205	1	473	0	0	0	0	0
	5:15 PM	0	0	1	0	0	8	11	241	3	0	191	2	457	0	0	0	0	0
	5:30 PM	3	0	3	1	0	8	13	234	0	1	158	4	425	0	0	0	0	0
	5:45 PM	2	0	0	2	0	10	10	191	1	0	150	1	367	0	0	0	0	0
	VOLUMES	11	0	8	7	0	77	88	1,739	12	1	1,388	17	3,348	0	0	0	0	0
	APPROACH %	58%	0%	42%	8%	0%	92%	5%	95%	1%	0%	99%	1%						
	APP/DEPART	19	/	105	84	/	13	1,839	/	1,754	1,406	/	1,476	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	3	0	4	3	0	39	46	930	8	0	743	10	1,786					
	APPROACH %	43%	0%	57%	7%	0%	93%	5%	95%	1%	0%	99%	1%						
	PEAK HR FACTOR		0.583			0.656			0.965			0.914		0.944					
	APP/DEPART	7	/	56	42	/	8	984	/	937	753	/	785	0					



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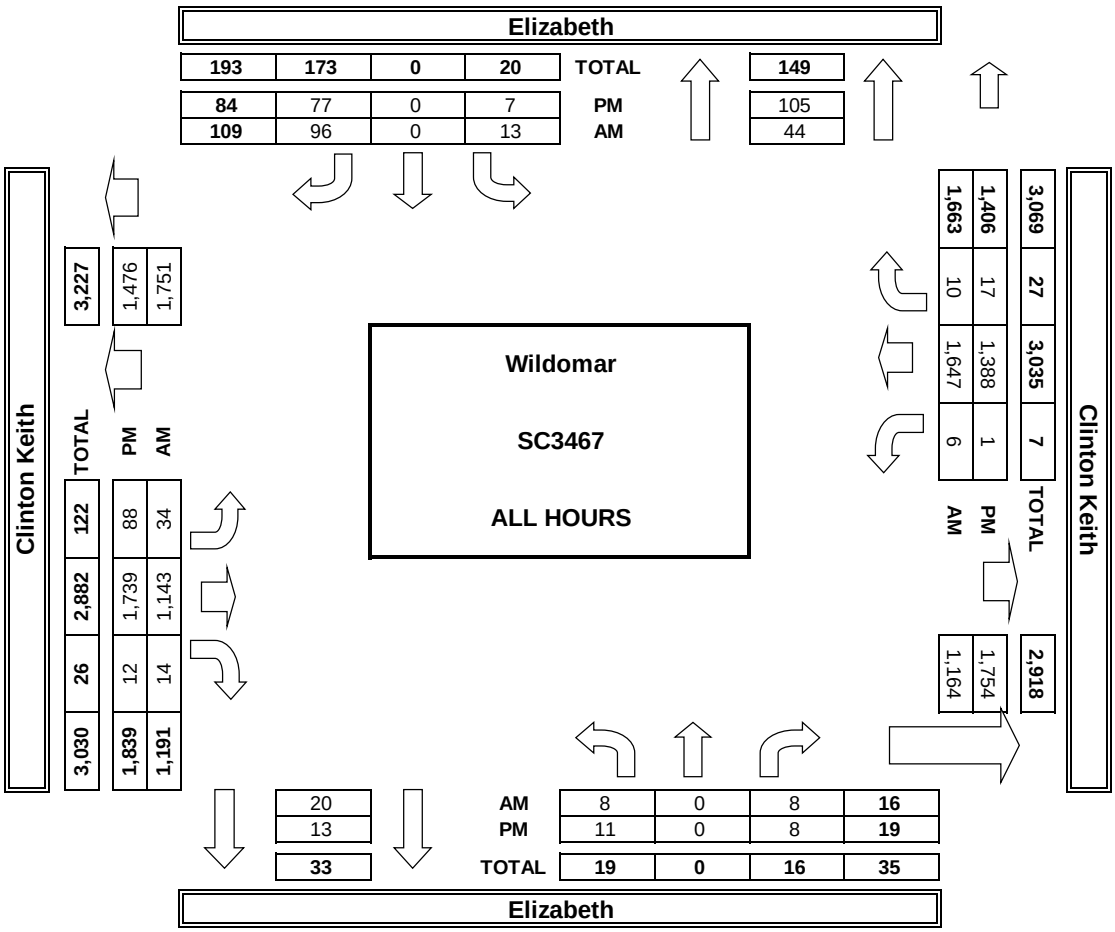
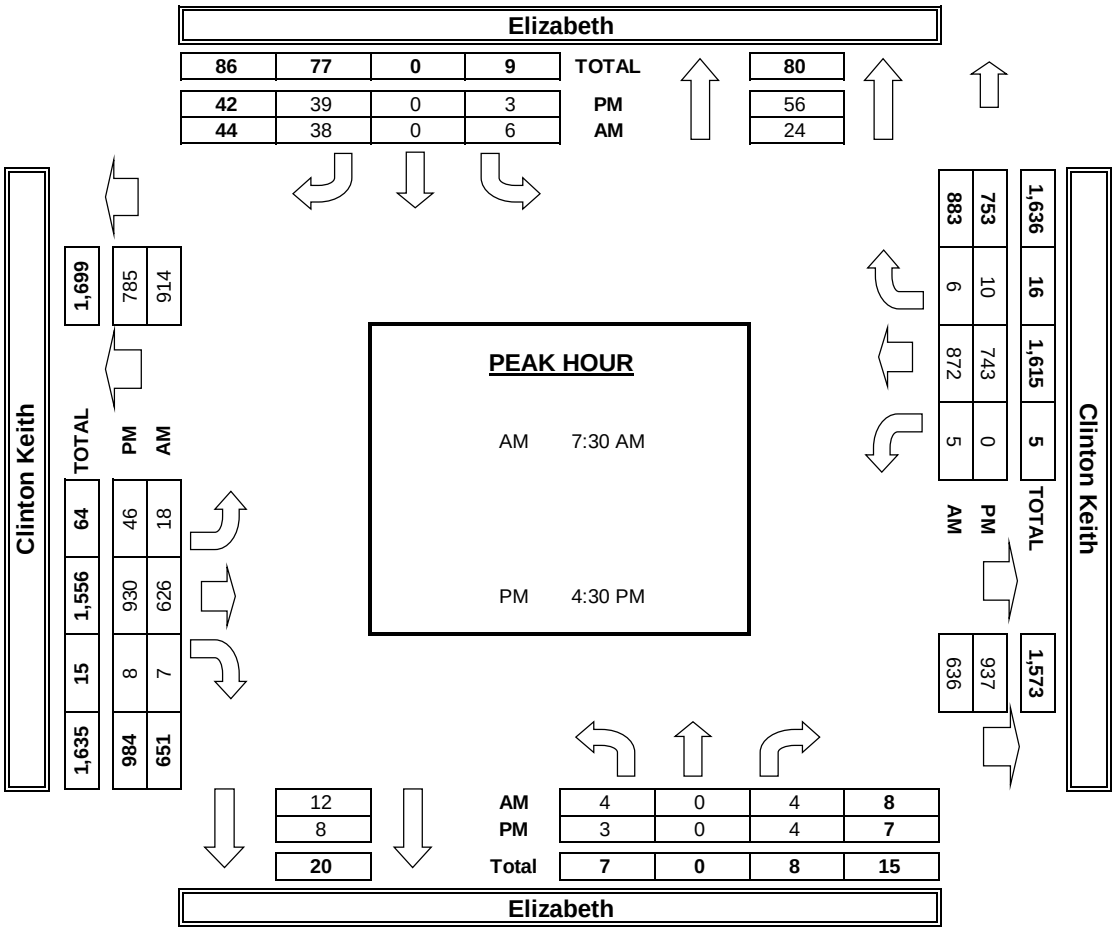
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

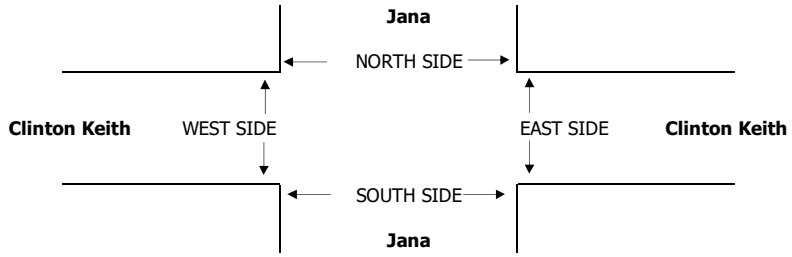
DATE:					
Tue, May 24, 22	LOCATION:	Wildomar	PROJECT #:	SC3467
	NORTH & SOUTH:	Jana	LOCATION #:	1
	EAST & WEST:	Clinton Keith	CONTROL:	STOP N

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Jana			SOUTHBOUND Jana			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 0	NT X	NR 0	SL X	ST X	SR X	EL X	ET 1	ER 1	WL 1	WT 2	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	3	0	1	0	0	0	0	117	3	2	167	0	293	0	0	0	0	0
	7:15 AM	1	0	0	0	0	0	0	111	2	0	206	0	320	0	0	0	0	0
	7:30 AM	1	0	1	0	0	0	0	141	2	1	216	0	362	0	0	0	0	0
	7:45 AM	2	0	1	0	0	0	0	175	2	0	233	0	413	0	0	0	0	0
	8:00 AM	1	0	1	0	0	0	0	172	3	0	221	0	398	0	0	0	0	0
	8:15 AM	0	0	2	0	0	0	0	137	1	1	215	0	356	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	153	1	0	209	0	363	0	0	0	0	0
	8:45 AM	2	0	0	0	0	0	0	141	0	0	192	0	335	0	0	0	0	0
	VOLUMES	10	0	6	0	0	0	0	1,147	14	4	1,659	0	2,840	0	0	0	0	0
	APPROACH %	63%	0%	38%	0%	0%	0%	0%	99%	1%	0%	100%	0%						
	APP/DEPART	16	/	0	0	/	18	1,161	/	1,153	1,663	/	1,669	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	3	0	4	0	0	0	0	637	7	1	878	0	1,530					
	APPROACH %	43%	0%	57%	0%	0%	0%	0%	99%	1%	0%	100%	0%						
	PEAK HR FACTOR		0.583			0.000			0.910			0.943		0.926					
	APP/DEPART	7	/	0	0	/	8	644	/	641	879	/	881	0					
PM	4:00 PM	2	0	1	0	0	0	0	190	1	2	166	0	362	0	0	0	1	1
	4:15 PM	1	0	5	0	0	0	0	191	4	2	170	0	373	0	0	0	0	0
	4:30 PM	3	0	2	0	0	0	0	230	3	0	163	0	401	0	0	0	0	0
	4:45 PM	5	0	2	0	0	0	0	213	0	0	183	0	403	0	0	0	0	0
	5:00 PM	0	0	1	0	0	0	0	241	2	0	206	0	450	0	0	0	0	0
	5:15 PM	1	0	0	0	0	0	0	238	4	2	189	0	434	0	0	0	1	1
	5:30 PM	1	0	1	0	0	0	0	237	1	0	162	0	402	0	0	0	0	0
	5:45 PM	2	0	1	0	0	0	0	193	0	0	159	0	355	0	0	0	0	0
	VOLUMES	15	0	13	0	0	0	0	1,733	15	6	1,398	0	3,180	0	0	0	2	2
	APPROACH %	54%	0%	46%	0%	0%	0%	0%	99%	1%	0%	100%	0%						
	APP/DEPART	28	/	0	0	/	19	1,748	/	1,748	1,404	/	1,413	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	7	0	4	0	0	0	0	929	7	2	740	0	1,689					
	APPROACH %	64%	0%	36%	0%	0%	0%	0%	99%	1%	0%	100%	0%						
	PEAK HR FACTOR		0.393			0.000			0.963			0.900		0.938					
	APP/DEPART	11	/	0	0	/	8	936	/	934	742	/	747	0					



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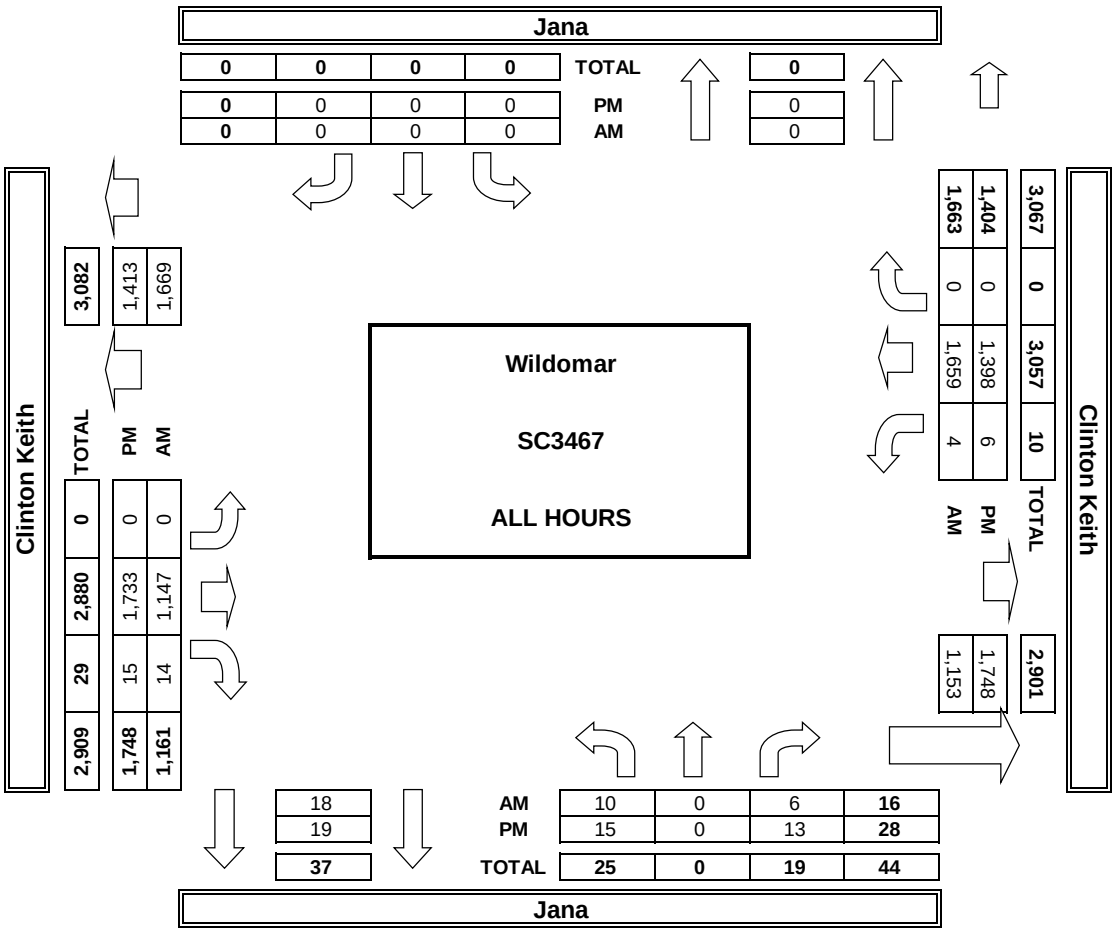
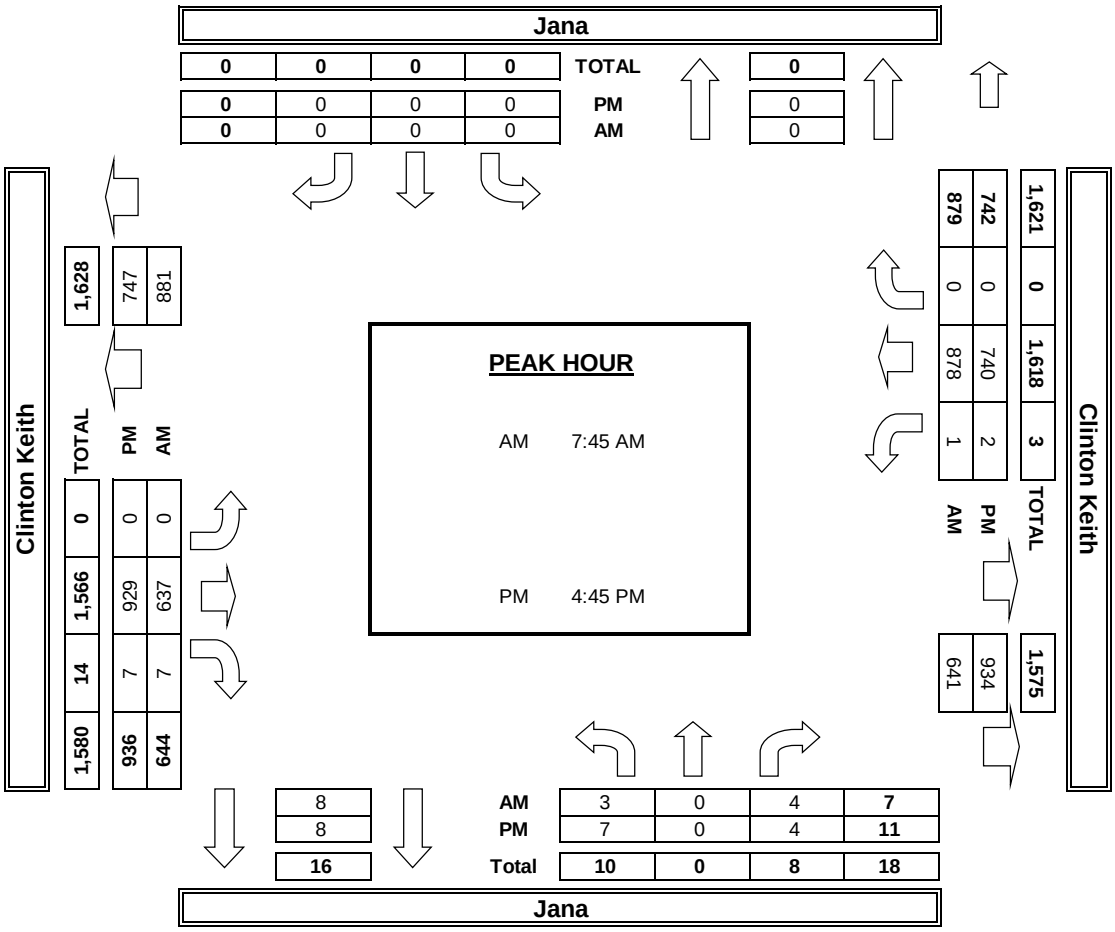
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 24, 22

LOCATION: Wildomar
NORTH & SOUTH: Nutmeg
EAST & WEST: Clinton Keith

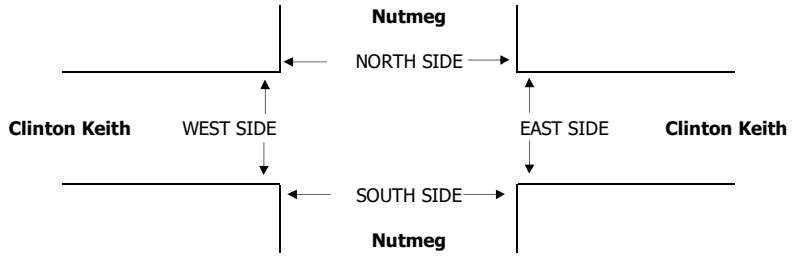
PROJECT #: SC3467
LOCATION #: 6
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

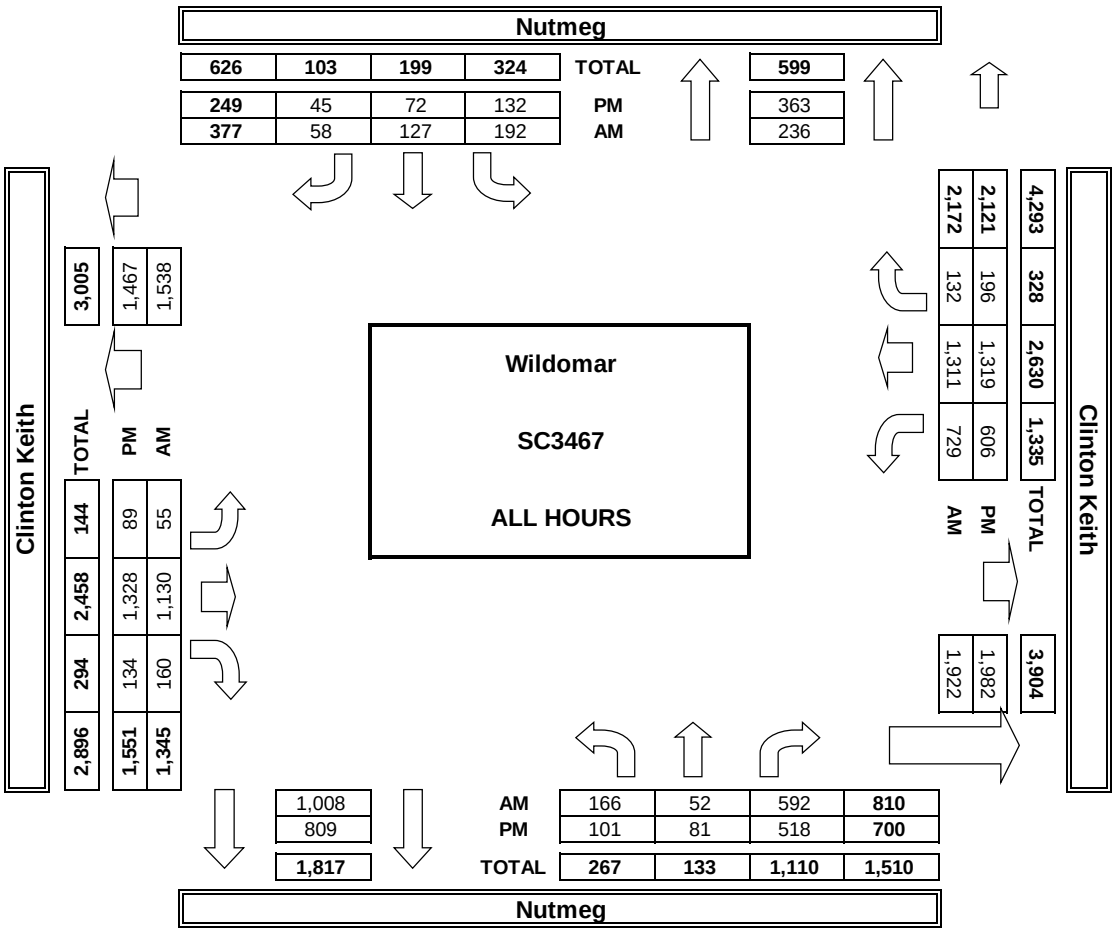
Add U-Turns to Left Turns

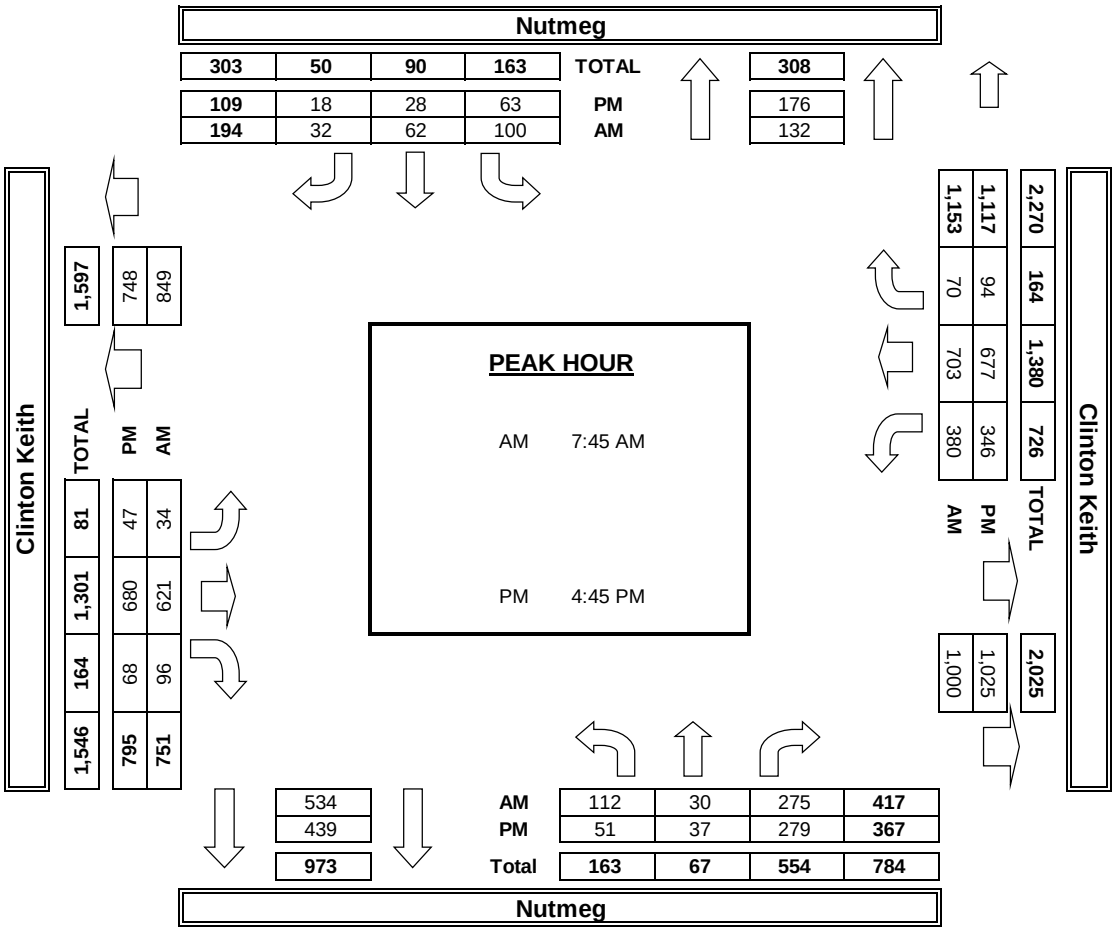
		NORTHBOUND Nutmeg			SOUTHBOUND Nutmeg			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	17	1	94	34	29	9	3	137	20	93	126	15	578	0	0	0	0	0
	7:15 AM	10	8	81	13	14	6	5	123	13	63	158	12	506	0	0	0	0	0
	7:30 AM	13	5	77	27	7	3	6	126	12	87	170	15	548	0	0	1	0	1
	7:45 AM	10	6	64	29	14	9	11	169	18	108	176	13	627	0	0	2	0	2
	8:00 AM	31	11	66	23	17	10	7	159	44	95	162	15	640	0	0	0	3	3
	8:15 AM	55	6	73	28	11	5	7	137	21	105	178	19	645	0	0	0	0	0
	8:30 AM	16	7	72	20	20	8	9	156	13	72	187	23	603	0	0	0	1	1
	8:45 AM	14	8	65	18	15	8	7	123	19	106	154	20	557	0	0	0	4	4
	VOLUMES	166	52	592	192	127	58	55	1,130	160	729	1,311	132	4,704	0	0	3	8	11
	APPROACH %	20%	6%	73%	51%	34%	15%	4%	84%	12%	34%	60%	6%						
	APP/DEPART	810	/	236	377	/	1,008	1,345	/	1,922	2,172	/	1,538	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	112	30	275	100	62	32	34	621	96	380	703	70	2,515					
	APPROACH %	27%	7%	66%	52%	32%	16%	5%	83%	13%	33%	61%	6%						
	PEAK HR FACTOR		0.778			0.933			0.894			0.954		0.975					
	APP/DEPART	417	/	132	194	/	534	751	/	1,000	1,153	/	849	0					
PM	4:00 PM	14	17	46	18	15	9	12	147	12	57	182	29	558	0	0	1	1	2
	4:15 PM	13	8	71	17	11	7	10	154	11	74	166	20	562	0	0	0	0	0
	4:30 PM	12	9	68	18	8	6	14	172	19	75	152	27	580	0	0	0	0	0
	4:45 PM	13	8	74	14	10	2	11	130	20	82	152	28	544	0	0	0	0	0
	5:00 PM	14	12	69	21	4	6	11	184	17	80	193	23	634	0	0	0	1	1
	5:15 PM	8	9	67	9	8	6	10	206	17	84	181	14	619	0	0	0	1	1
	5:30 PM	16	8	69	19	6	4	15	160	14	100	151	29	591	0	0	2	1	3
	5:45 PM	11	10	54	16	10	5	6	175	24	54	142	26	533	1	0	0	0	1
	VOLUMES	101	81	518	132	72	45	89	1,328	134	606	1,319	196	4,621	1	0	3	4	8
	APPROACH %	14%	12%	74%	53%	29%	18%	6%	86%	9%	29%	62%	9%						
	APP/DEPART	700	/	363	249	/	809	1,551	/	1,982	2,121	/	1,467	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	51	37	279	63	28	18	47	680	68	346	677	94	2,388					
	APPROACH %	14%	10%	76%	58%	26%	17%	6%	86%	9%	31%	61%	8%						
	PEAK HR FACTOR		0.966			0.879			0.853			0.943		0.942					
	APP/DEPART	367	/	176	109	/	439	795	/	1,025	1,117	/	748	0					



AimTD LLC

TURNING MOVEMENT COUNTS





APPENDIX D

LEVEL OF SERVICE WORKSHEETS

EXISTING

Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\AME.vistro
Report File: G:\...\AME.pdf

Scenario 1 Existing AM Peak Hour
7/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-15 SB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	SB Right	0.833	18.8	B
2	I-15 NB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.750	15.2	B
3	Wildomar Trail (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.630	18.3	B
4	Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.699	13.1	B
5	Salida Del Sol (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.188	53.0	F
6	Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.047	34.4	D
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	0.014	22.2	C
8	Nutmeg St (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.701	19.7	B

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: I-15 SB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	18.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.833

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	2	0	1	0	0	0	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	680.00	100.00	100.00	100.00	100.00	100.00	160.00	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			35.00			35.00		
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	411	4	410	0	937	725	307	807	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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	411	4	410	0	937	725	307	807	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9710	0.9710	0.9710	1.0000	0.9710	0.9710	0.9710	0.9710	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	106	1	106	0	241	187	79	208	0
Total Analysis Volume [veh/h]	0	0	0	423	4	422	0	965	747	316	831	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	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	120	0	0	120	0	120	120	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	29	0	0	30	0	11	41	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	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
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]		13	13	13	37	37	9	50
g / C, Green / Cycle		0.18	0.18	0.18	0.52	0.52	0.13	0.71
(v / s)_i Volume / Saturation Flow Rate		0.12	0.12	0.15	0.18	0.46	0.09	0.16
s, saturation flow rate [veh/h]		1781	1783	2813	5094	1589	3459	5094
c, Capacity [veh/h]		318	318	502	2667	832	438	3603
d1, Uniform Delay [s]		26.76	26.76	27.68	9.75	14.62	29.32	3.57
k, delay calibration		0.50	0.50	0.50	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
d2, Incremental Delay [s]		10.46	10.44	15.23	0.08	3.12	2.07	0.03
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		0.65	0.65	0.82	0.35	0.87	0.70	0.22
d, Delay for Lane Group [s/veh]		37.22	37.19	42.91	9.83	17.75	31.39	3.60
Lane Group LOS		D	D	D	A	B	C	A
Critical Lane Group		No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		4.00	4.00	4.20	2.38	8.94	2.46	0.84
50th-Percentile Queue Length [ft/ln]		99.92	99.92	105.09	59.46	223.43	61.62	20.98
95th-Percentile Queue Length [veh/ln]		7.19	7.19	7.57	4.28	13.84	4.44	1.51
95th-Percentile Queue Length [ft/ln]		179.85	179.86	189.15	107.03	346.00	110.91	37.76

Movement, Approach, & Intersection Results

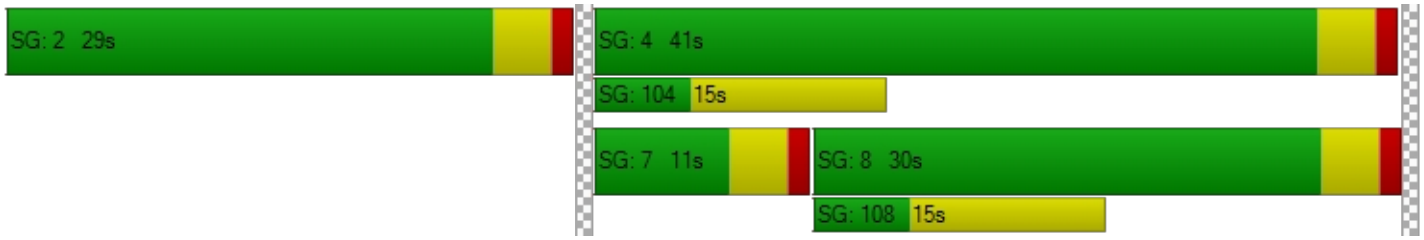
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	37.21	37.19	42.91	0.00	9.83	17.75	31.39	3.60	0.00
Movement LOS				D	D	D		A	B	C	A	
d_A, Approach Delay [s/veh]	0.00			40.04			13.28			11.26		
Approach LOS	A			D			B			B		
d_I, Intersection Delay [s/veh]	18.79											
Intersection LOS	B											
Intersection V/C	0.833											

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]	26.60	26.60	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.209	2.450	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	714	742	1057
d_b, Bicycle Delay [s]	35.02	14.48	13.84	7.79
l_b,int, Bicycle LOS Score for Intersection	4.132	2.921	2.474	2.172
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 2: I-15 NB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.750

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	0
Entry Pocket Length [ft]	650.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
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	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
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]	300	2	236	0	0	0	409	939	0	0	814	598
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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	2	236	0	0	0	409	939	0	0	814	598
Peak Hour Factor	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000	0.9600	0.9600	1.0000	1.0000	0.9600	0.9600
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]	78	1	61	0	0	0	107	245	0	0	212	156
Total Analysis Volume [veh/h]	313	2	246	0	0	0	426	978	0	0	848	623
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	120	0	0	0	0	120	120	0	0	120	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	12	0	0	0	0	19	48	0	0	29	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	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
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		10	39	26	26
g / C, Green / Cycle	0.21	0.21	0.21		0.16	0.65	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.11		0.12	0.18	0.16	0.38
s, saturation flow rate [veh/h]	1781	1705	1589		3459	5094	5094	1589
c, Capacity [veh/h]	378	362	338		551	3334	2184	682
d1, Uniform Delay [s]	20.86	20.86	20.86		24.11	4.40	11.68	15.73
k, delay calibration	0.50	0.50	0.50		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
d2, Incremental Delay [s]	4.70	4.92	5.28		2.03	0.05	0.11	4.01
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	0.50		0.74	0.28	0.37	0.88
d, Delay for Lane Group [s/veh]	25.56	25.78	26.14		26.14	4.45	11.79	19.74
Lane Group LOS	C	C	C		C	A	B	B
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.66	2.57	2.43		2.69	1.03	2.09	6.91
50th-Percentile Queue Length [ft/ln]	66.48	64.21	60.74		67.28	25.85	52.31	172.68
95th-Percentile Queue Length [veh/ln]	4.79	4.62	4.37		4.84	1.86	3.77	11.22
95th-Percentile Queue Length [ft/ln]	119.66	115.58	109.34		121.10	46.53	94.15	280.43

Movement, Approach, & Intersection Results

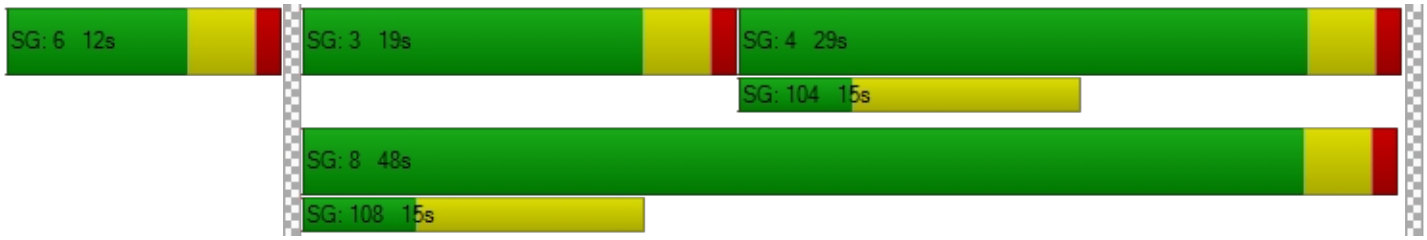
d_M, Delay for Movement [s/veh]	25.65	25.78	26.05	0.00	0.00	0.00	26.14	4.45	0.00	0.00	11.79	19.74
Movement LOS	C	C	C				C	A			B	B
d_A, Approach Delay [s/veh]	25.82			0.00			11.03			15.16		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	15.21											
Intersection LOS	B											
Intersection V/C	0.750											

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]	21.71	21.71	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.243	2.187	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]	266	0	1465	832
d_b, Bicycle Delay [s]	22.57	30.04	2.15	10.24
l_b,int, Bicycle LOS Score for Intersection	2.447	4.132	2.301	2.336
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 3: Wildomar Trail (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	18.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.630

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]	95.00	100.00	100.00	95.00	100.00	100.00	125.00	100.00	100.00	295.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	2
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]	25.00			40.00			35.00			35.00		
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]	60	36	38	110	27	220	106	889	21	70	911	38
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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	36	38	110	27	220	106	889	21	70	911	38
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	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]	16	10	10	29	7	59	28	236	6	19	242	10
Total Analysis Volume [veh/h]	64	38	40	117	29	234	113	946	22	74	969	40
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	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	32	49	0	31	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	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
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]	60	60	60	60	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	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]	22	22	22	22	22	6	22	22	5	21	21
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.36	0.10	0.36	0.36	0.08	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.09	0.02	0.15	0.07	0.19	0.19	0.04	0.28	0.03
s, saturation flow rate [veh/h]	1019	1543	1193	1683	1431	1603	3204	1663	1603	3204	1431
c, Capacity [veh/h]	438	554	465	604	514	158	1152	598	131	1099	491
d1, Uniform Delay [s]	15.12	12.98	16.71	12.56	14.60	26.18	15.18	15.18	26.50	18.13	13.33
k, delay calibration	0.50	0.50	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	1.00	1.00
d2, Incremental Delay [s]	0.65	0.50	1.20	0.14	2.62	5.03	0.37	0.71	3.36	1.70	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	0.14	0.13	0.24	0.04	0.43	0.67	0.52	0.52	0.53	0.83	0.08
d, Delay for Lane Group [s/veh]	15.77	13.48	17.91	12.69	17.22	31.21	15.54	15.89	29.86	19.84	13.40
Lane Group LOS	B	B	B	B	B	C	B	B	C	B	B
Critical Lane Group	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.64	0.70	1.18	0.22	2.28	1.58	2.85	3.02	1.02	5.27	0.32
50th-Percentile Queue Length [ft/ln]	16.01	17.50	29.59	5.62	57.02	39.41	71.36	75.58	25.43	131.64	7.90
95th-Percentile Queue Length [veh/ln]	1.15	1.26	2.13	0.40	4.11	2.84	5.14	5.44	1.83	9.03	0.57
95th-Percentile Queue Length [ft/ln]	28.81	31.50	53.27	10.11	102.63	70.94	128.44	136.05	45.78	225.72	14.22

Movement, Approach, & Intersection Results

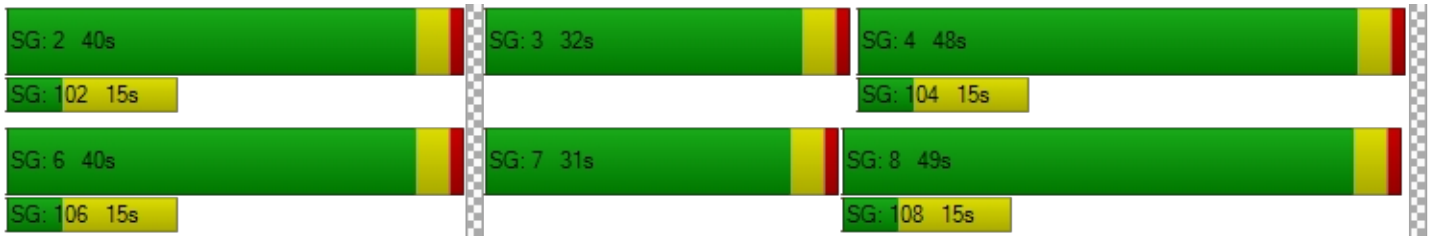
d_M, Delay for Movement [s/veh]	15.77	13.48	13.48	17.91	12.69	17.22	31.21	15.66	15.89	29.86	19.84	13.40
Movement LOS	B	B	B	B	B	B	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	14.50			17.09			17.28			20.28		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	18.32											
Intersection LOS	B											
Intersection V/C	0.630											

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]	21.71	21.71	21.71	21.71
l_p,int, Pedestrian LOS Score for Intersection	1.989	2.286	2.937	3.065
Crosswalk LOS	A	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]	1198	1198	1498	1465
d_b, Bicycle Delay [s]	4.82	4.82	1.89	2.15
l_b,int, Bicycle LOS Score for Intersection	1.781	2.149	2.118	2.400
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intersection Level Of Service Report
Intersection 4: Inland Valley Dr (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.699

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	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	300.00	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	1
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	100.00
Speed [mph]	45.00			30.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	239	0	37	0	0	0	0	611	437	112	795	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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	239	0	37	0	0	0	0	611	437	112	795	0
Peak Hour Factor	0.9640	1.0000	0.9640	1.0000	1.0000	1.0000	0.9640	0.9640	0.9640	0.9640	0.9640	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]	62	0	10	0	0	0	0	158	113	29	206	0
Total Analysis Volume [veh/h]	248	0	38	0	0	0	0	634	453	116	825	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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	0	0	0	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	0	0	0	0	0	7	7	0	7	7	0
Maximum Green [s]	120	0	0	0	0	0	120	120	0	120	120	0
Amber [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	0	0	0	0	0	9	34	0	13	38	0
Vehicle Extension [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	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
Rest In Walk	No							No			No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
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	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	R		L	C	R	L	C
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]	10	10		0	32	32	6	38
g / C, Green / Cycle	0.17	0.17		0.00	0.53	0.53	0.10	0.63
(v / s)_i Volume / Saturation Flow Rate	0.13	0.02		0.00	0.17	0.27	0.06	0.43
s, saturation flow rate [veh/h]	1781	1589		1781	3560	1589	1781	1870
c, Capacity [veh/h]	300	268		2	1894	846	178	1180
d1, Uniform Delay [s]	24.02	21.30		0.00	7.95	9.08	25.99	7.12
k, delay calibration	0.11	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]	5.02	0.23		0.00	0.45	2.27	3.67	3.13
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	0.80	0.14		0.00	0.32	0.52	0.63	0.67
d, Delay for Lane Group [s/veh]	29.04	21.53		0.00	8.40	11.35	29.67	10.25
Lane Group LOS	C	C		A	A	B	C	B
Critical Lane Group	Yes	No		No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.27	0.41		0.00	1.84	3.35	1.55	4.58
50th-Percentile Queue Length [ft/ln]	81.72	10.21		0.00	46.09	83.80	38.80	114.59
95th-Percentile Queue Length [veh/ln]	5.88	0.74		0.00	3.32	6.03	2.79	8.09
95th-Percentile Queue Length [ft/ln]	147.10	18.38		0.00	82.97	150.84	69.84	202.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.04	0.00	21.53	0.00	0.00	0.00	0.00	8.40	11.35	29.67	10.25	0.00
Movement LOS	C		C				A	A	B	C	B	
d_A, Approach Delay [s/veh]	28.03			0.00			9.63			12.65		
Approach LOS	C			A			A			B		
d_I, Intersection Delay [s/veh]	13.14											
Intersection LOS	B											
Intersection V/C	0.699											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	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]	21.71	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.323	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	466	0	999	1132
d_b, Bicycle Delay [s]	17.67	30.04	7.53	5.66
l_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.424	3.056
Bicycle LOS	A	D	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Salida Del Sol (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	53.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.188

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	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	100.00	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]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	17	0	8	10	636	0	0	888	26
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
Total Hourly Volume [veh/h]	0	0	0	17	0	8	10	636	0	0	888	26
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
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	5	0	2	3	170	0	0	237	7
Total Analysis Volume [veh/h]	0	0	0	18	0	9	11	680	0	0	950	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.19	0.00	0.02	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	46.07	38.00	12.53	52.99	45.55	23.85	9.89	0.00	0.00	8.80	0.00	0.00
Movement LOS	E	E	B	F	E	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.79	0.79	0.79	0.04	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	19.82	19.82	19.82	1.02	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	32.20			43.66			0.15			0.00		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	0.75											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Elizabeth Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	34.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.047

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	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	250.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	4	0	4	6	0	38	18	626	7	5	872	6
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
Total Hourly Volume [veh/h]	4	0	4	6	0	38	18	626	7	5	872	6
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
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]	1	0	1	2	0	10	5	168	2	1	235	2
Total Analysis Volume [veh/h]	4	0	4	6	0	41	19	674	8	5	939	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	0.05	0.00	0.07	0.02	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	29.80	38.54	10.80	34.37	39.26	12.57	9.82	0.00	0.00	8.83	0.00	0.00
Movement LOS	D	E	B	D	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.10	0.39	0.39	0.39	0.07	0.00	0.00	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.55	2.55	2.55	9.64	9.64	9.64	1.81	0.00	0.00	0.40	0.00	0.00
d_A, Approach Delay [s/veh]	20.30			15.54			0.27			0.05		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.67											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	22.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.014

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	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	3	4	637	7	1	878
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]	3	4	637	7	1	878
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	172	2	0	237
Total Analysis Volume [veh/h]	3	4	688	8	1	948
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.01	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	22.19	10.56	0.00	0.00	8.85	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.54	1.54	0.00	0.00	0.08	0.00
d_A, Approach Delay [s/veh]	15.54		0.00		0.01	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Nutmeg St (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	19.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.701

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	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	175.00	100.00	100.00	50.00	100.00	100.00	180.00	100.00	100.00	225.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	112	30	275	100	62	32	34	621	96	380	703	70
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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	112	30	275	100	62	32	34	621	96	380	703	70
Peak Hour Factor	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750
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	8	71	26	16	8	9	159	25	97	180	18
Total Analysis Volume [veh/h]	115	31	282	103	64	33	35	637	98	390	721	72
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	21	19	0	22	20	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	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
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	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	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	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	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]	20	20	20	20	20	20	3	13	13	15	25	25
g / C, Green / Cycle	0.34	0.34	0.34	0.34	0.34	0.34	0.05	0.22	0.22	0.24	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.09	0.02	0.17	0.09	0.03	0.02	0.02	0.17	0.06	0.21	0.20	0.04
s, saturation flow rate [veh/h]	1302	1870	1589	1074	1870	1589	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	495	632	537	442	632	537	93	772	344	438	1461	652
d1, Uniform Delay [s]	16.66	13.40	15.94	16.25	13.63	13.45	27.55	22.35	19.64	21.75	13.03	10.94
k, delay calibration	0.50	0.50	0.50	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	1.00	1.00	1.00
d2, Incremental Delay [s]	1.06	0.14	3.50	1.19	0.31	0.21	2.41	2.07	0.44	5.70	0.25	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	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	0.23	0.05	0.51	0.23	0.10	0.06	0.37	0.80	0.28	0.87	0.48	0.11
d, Delay for Lane Group [s/veh]	17.72	13.54	19.44	17.43	13.94	13.67	29.96	24.42	20.07	27.45	13.27	11.01
Lane Group LOS	B	B	B	B	B	B	C	C	C	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.16	0.25	3.01	1.07	0.55	0.28	0.49	3.79	1.01	5.06	2.80	0.47
50th-Percentile Queue Length [ft/ln]	29.10	6.32	75.24	26.64	13.72	7.08	12.19	94.85	25.31	126.44	69.88	11.80
95th-Percentile Queue Length [veh/ln]	2.09	0.46	5.42	1.92	0.99	0.51	0.88	6.83	1.82	8.75	5.03	0.85
95th-Percentile Queue Length [ft/ln]	52.37	11.38	135.44	47.95	24.69	12.75	21.93	170.73	45.55	218.65	125.79	21.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.72	13.54	19.44	17.43	13.94	13.67	29.96	24.42	20.07	27.45	13.27	11.01
Movement LOS	B	B	B	B	B	B	C	C	C	C	B	B
d_A, Approach Delay [s/veh]	18.55			15.70			24.11			17.81		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	19.65											
Intersection LOS	B											
Intersection V/C	0.701											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	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]	21.71	21.71	0.00	21.71
l_p,int, Pedestrian LOS Score for Intersection	2.461	2.218	0.000	3.100
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	499	499	533
d_b, Bicycle Delay [s]	16.91	16.91	16.91	16.17
l_b,int, Bicycle LOS Score for Intersection	2.248	1.880	2.179	2.511
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\PME.vistro
Report File: G:\...\PME.pdf

Scenario 1 Existing PM Peak Hour
7/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-15 SB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.693	15.1	B
2	I-15 NB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.791	17.1	B
3	Wildomar Trail (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.613	19.2	B
4	Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.759	14.8	B
5	Salida Del Sol (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.140	67.4	F
6	Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	0.034	46.3	E
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	0.046	29.9	D
8	Nutmeg St (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.701	19.9	B

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: I-15 SB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.693

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	2	0	1	0	0	0	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	680.00	100.00	100.00	100.00	100.00	100.00	160.00	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			35.00			35.00		
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	523	1	394	0	1004	519	279	1092	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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	523	1	394	0	1004	519	279	1092	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9490	0.9490	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	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	138	0	104	0	264	137	73	288	0
Total Analysis Volume [veh/h]	0	0	0	551	1	415	0	1058	547	294	1151	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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	120	0	0	120	0	120	120	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	11	0	0	19	0	30	49	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	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
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]		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	25	25	7	36
g / C, Green / Cycle		0.26	0.26	0.26	0.41	0.41	0.12	0.60
(v / s)_i Volume / Saturation Flow Rate		0.15	0.15	0.14	0.20	0.33	0.08	0.21
s, saturation flow rate [veh/h]		1781	1781	2813	5094	1589	3459	5094
c, Capacity [veh/h]		467	467	737	2112	659	428	3081
d1, Uniform Delay [s]		19.19	19.19	19.03	12.83	15.29	25.10	5.97
k, delay calibration		0.50	0.50	0.50	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
d2, Incremental Delay [s]		4.91	4.90	2.79	0.17	2.17	1.70	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		0.56	0.56	0.53	0.48	0.79	0.65	0.35
d, Delay for Lane Group [s/veh]		24.09	24.09	21.82	12.99	17.47	26.81	6.04
Lane Group LOS		C	C	C	B	B	C	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		3.53	3.53	2.44	2.81	5.53	1.85	1.64
50th-Percentile Queue Length [ft/ln]		88.17	88.17	61.05	70.25	138.32	46.21	41.01
95th-Percentile Queue Length [veh/ln]		6.35	6.35	4.40	5.06	9.39	3.33	2.95
95th-Percentile Queue Length [ft/ln]		158.71	158.70	109.89	126.45	234.76	83.18	73.81

Movement, Approach, & Intersection Results

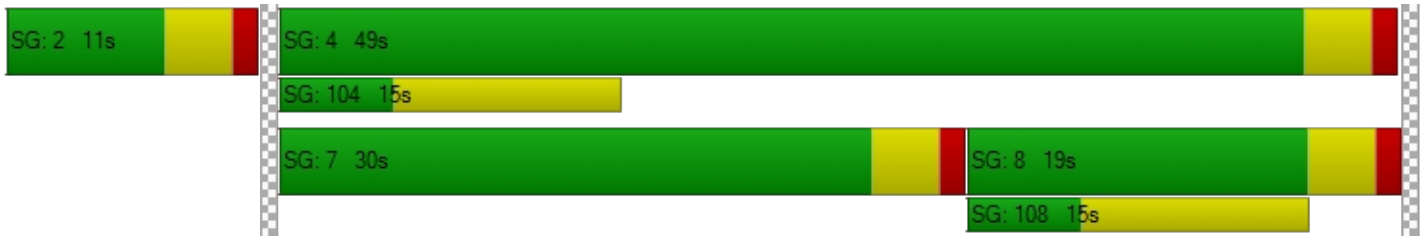
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	24.09	24.09	21.82	0.00	12.99	17.47	26.81	6.04	0.00
Movement LOS				C	C	C		B	B	C	A	
d_A, Approach Delay [s/veh]	0.00			23.12			14.52			10.27		
Approach LOS	A			C			B			B		
d_I, Intersection Delay [s/veh]	15.06											
Intersection LOS	B											
Intersection V/C	0.693											

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]	21.70	21.70	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.085	2.460	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	233	500	1499
d_b, Bicycle Delay [s]	30.03	23.43	16.90	1.89
l_b,int, Bicycle LOS Score for Intersection	4.132	3.074	2.397	2.314
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 2: I-15 NB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.791

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	0
Entry Pocket Length [ft]	650.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
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	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
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]	538	0	364	0	0	0	353	1174	0	0	839	549
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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	538	0	364	0	0	0	353	1174	0	0	839	549
Peak Hour Factor	0.9620	0.9620	0.9620	1.0000	1.0000	1.0000	0.9620	0.9620	1.0000	1.0000	0.9620	0.9620
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]	140	0	95	0	0	0	92	305	0	0	218	143
Total Analysis Volume [veh/h]	559	0	378	0	0	0	367	1220	0	0	872	571
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	120	0	0	0	0	120	120	0	0	120	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	20	0	0	0	0	18	40	0	0	22	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	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
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	0.28	0.28	0.28		0.14	0.58	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.17	0.17	0.19		0.10	0.23	0.16	0.35
s, saturation flow rate [veh/h]	1781	1733	1589		3459	5094	5094	1589
c, Capacity [veh/h]	503	489	449		486	2977	1922	600
d1, Uniform Delay [s]	18.65	18.73	18.98		24.70	6.74	13.94	17.78
k, delay calibration	0.50	0.50	0.50		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
d2, Incremental Delay [s]	5.47	5.90	7.59		2.12	0.09	0.16	6.72
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	0.61	0.62	0.66		0.73	0.39	0.44	0.92
d, Delay for Lane Group [s/veh]	24.12	24.63	26.57		26.81	6.82	14.09	24.50
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]	4.11	4.13	4.24		2.35	1.96	2.46	7.21
50th-Percentile Queue Length [ft/ln]	102.65	103.32	105.91		58.72	49.00	61.45	180.18
95th-Percentile Queue Length [veh/ln]	7.39	7.44	7.61		4.23	3.53	4.42	11.61
95th-Percentile Queue Length [ft/ln]	184.77	185.97	190.29		105.69	88.21	110.61	290.25

Movement, Approach, & Intersection Results

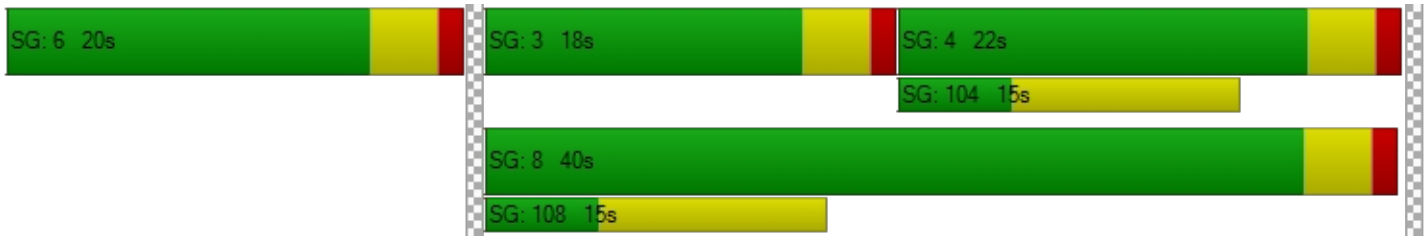
d_M, Delay for Movement [s/veh]	24.34	24.63	26.23	0.00	0.00	0.00	26.81	6.82	0.00	0.00	14.09	24.50
Movement LOS	C	C	C				C	A			B	C
d_A, Approach Delay [s/veh]	25.09			0.00			11.44			18.21		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	17.13											
Intersection LOS	B											
Intersection V/C	0.791											

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]	21.68	21.68	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.332	2.135	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]	533	0	1200	600
d_b, Bicycle Delay [s]	16.14	30.01	4.81	14.71
l_b,int, Bicycle LOS Score for Intersection	3.048	4.132	2.399	2.323
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 3: Wildomar Trail (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	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	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]	95.00	100.00	100.00	95.00	100.00	100.00	125.00	100.00	100.00	295.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	2
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]	25.00			40.00			35.00			35.00		
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]	45	37	79	90	38	111	182	1072	28	109	958	45
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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	37	79	90	38	111	182	1072	28	109	958	45
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
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]	12	10	21	24	10	29	48	284	7	29	254	12
Total Analysis Volume [veh/h]	48	39	84	95	40	118	193	1137	30	116	1016	48
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	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	22	29	0	12	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	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
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]	60	60	60	60	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	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]	19	19	19	19	19	9	23	23	6	21	21
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.32	0.14	0.39	0.39	0.10	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.04	0.08	0.08	0.02	0.08	0.11	0.23	0.23	0.07	0.30	0.03
s, saturation flow rate [veh/h]	1114	1502	1148	1683	1431	1603	3204	1661	1603	3204	1431
c, Capacity [veh/h]	433	476	397	533	453	228	1232	639	159	1093	488
d1, Uniform Delay [s]	16.18	15.21	18.78	14.36	15.21	24.94	14.73	14.73	26.19	18.63	13.49
k, delay calibration	0.50	0.50	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	1.00	1.00
d2, Incremental Delay [s]	0.48	1.22	1.33	0.26	1.29	6.55	0.45	0.87	5.30	2.50	0.08
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	0.10	0.24	0.23	0.07	0.24	0.80	0.59	0.59	0.69	0.88	0.09
d, Delay for Lane Group [s/veh]	16.67	16.42	20.11	14.62	16.50	31.49	15.18	15.60	31.48	21.13	13.57
Lane Group LOS	B	B	C	B	B	C	B	B	C	C	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.50	1.26	1.06	0.35	1.13	2.72	3.42	3.62	1.63	5.75	0.38
50th-Percentile Queue Length [ft/ln]	12.40	31.52	26.45	8.80	28.33	67.95	85.53	90.56	40.74	143.86	9.41
95th-Percentile Queue Length [veh/ln]	0.89	2.27	1.90	0.63	2.04	4.89	6.16	6.52	2.93	9.69	0.68
95th-Percentile Queue Length [ft/ln]	22.32	56.73	47.61	15.84	50.99	122.30	153.96	163.00	73.33	242.21	16.94

Movement, Approach, & Intersection Results

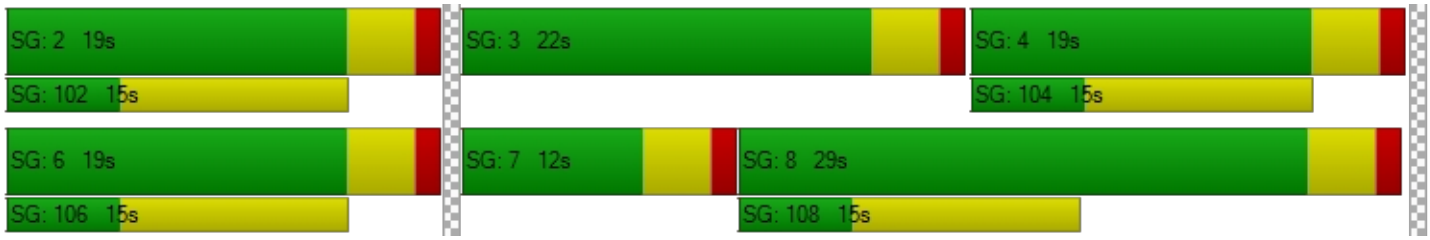
d_M, Delay for Movement [s/veh]	16.67	16.42	16.42	20.11	14.62	16.50	31.49	15.31	15.60	31.48	21.13	13.57
Movement LOS	B	B	B	C	B	B	C	B	B	C	C	B
d_A, Approach Delay [s/veh]	16.49			17.56			17.61			21.84		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	19.23											
Intersection LOS	B											
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]	21.71	21.71	21.71	21.71
l_p,int, Pedestrian LOS Score for Intersection	2.012	2.275	2.952	3.085
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]	499	499	832	499
d_b, Bicycle Delay [s]	16.91	16.91	10.24	16.91
l_b,int, Bicycle LOS Score for Intersection	1.825	1.954	2.265	2.477
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 4: Inland Valley Dr (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.759

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	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	300.00	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	1
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	100.00
Speed [mph]	45.00			30.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	374	0	82	0	0	0	0	907	310	31	743	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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	374	0	82	0	0	0	0	907	310	31	743	0
Peak Hour Factor	0.9650	1.0000	0.9650	1.0000	1.0000	1.0000	0.9650	0.9650	0.9650	0.9650	0.9650	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]	97	0	21	0	0	0	0	235	80	8	192	0
Total Analysis Volume [veh/h]	388	0	85	0	0	0	0	940	321	32	770	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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	0	0	0	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	0	0	0	0	0	7	7	0	7	7	0
Maximum Green [s]	120	0	0	0	0	0	120	120	0	120	120	0
Amber [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	0	0	0	0	0	11	21	0	20	30	0
Vehicle Extension [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	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
Rest In Walk	No							No			No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
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	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	R		L	C	R	L	C
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]	14	14		0	31	31	3	34
g / C, Green / Cycle	0.24	0.24		0.00	0.51	0.51	0.05	0.56
(v / s)_i Volume / Saturation Flow Rate	0.21	0.05		0.00	0.25	0.20	0.02	0.40
s, saturation flow rate [veh/h]	1781	1589		1781	3560	1589	1781	1870
c, Capacity [veh/h]	427	381		2	1824	814	87	1047
d1, Uniform Delay [s]	22.02	18.34		0.00	9.60	8.89	27.70	9.66
k, delay calibration	0.11	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]	6.30	0.28		0.00	0.98	1.36	2.49	4.17
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	0.88	0.22		0.00	0.50	0.38	0.36	0.71
d, Delay for Lane Group [s/veh]	28.32	18.62		0.00	10.58	10.25	30.18	13.83
Lane Group LOS	C	B		A	B	B	C	B
Critical Lane Group	Yes	No		No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.07	0.82		0.00	3.29	2.24	0.45	5.85
50th-Percentile Queue Length [ft/ln]	126.82	20.49		0.00	82.36	55.89	11.22	146.22
95th-Percentile Queue Length [veh/ln]	8.77	1.48		0.00	5.93	4.02	0.81	9.81
95th-Percentile Queue Length [ft/ln]	219.17	36.89		0.00	148.24	100.60	20.19	245.37

Movement, Approach, & Intersection Results

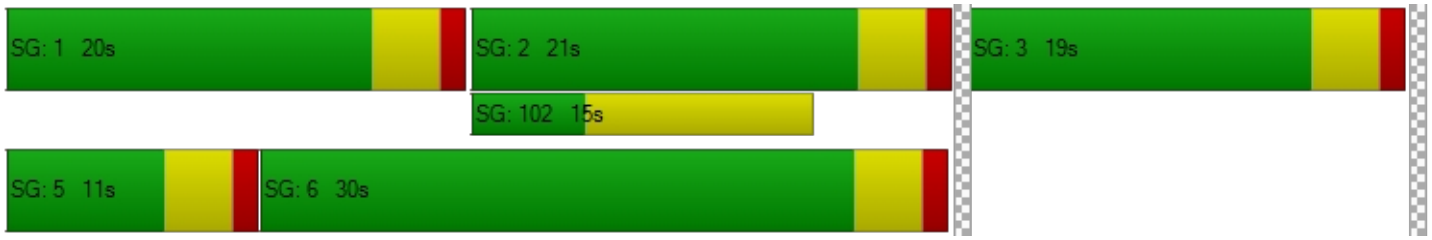
d_M, Delay for Movement [s/veh]	28.32	0.00	18.62	0.00	0.00	0.00	0.00	10.58	10.25	30.18	13.83	0.00
Movement LOS	C		B				A	B	B	C	B	
d_A, Approach Delay [s/veh]	26.58			0.00			10.49			14.48		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	14.75											
Intersection LOS	B											
Intersection V/C	0.759											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	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]	21.71	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.309	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	0	566	866
d_b, Bicycle Delay [s]	16.91	30.04	15.44	9.66
l_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.564	2.837
Bicycle LOS	A	D	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Salida Del Sol (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	67.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.140

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	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	100.00	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]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	9	0	7	7	979	0	0	768	17
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
Total Hourly Volume [veh/h]	0	0	0	9	0	7	7	979	0	0	768	17
Peak Hour Factor	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470
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	2	0	2	2	258	0	0	203	4
Total Analysis Volume [veh/h]	0	0	0	10	0	7	7	1034	0	0	811	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.00	0.02	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	62.20	49.09	16.86	67.45	55.13	20.64	9.36	0.00	0.00	10.11	0.00	0.00
Movement LOS	F	E	C	F	F	C	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.55	0.55	0.55	0.03	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	13.82	13.82	13.82	0.64	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	42.72			46.97			0.07			0.00		
Approach LOS	E			E			A			A		
d_I, Intersection Delay [s/veh]	0.46											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Elizabeth Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	46.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.034

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	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	250.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	3	0	4	3	0	39	46	930	8	0	743	10
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
Total Hourly Volume [veh/h]	3	0	4	3	0	39	46	930	8	0	743	10
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
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]	1	0	1	1	0	10	12	246	2	0	197	3
Total Analysis Volume [veh/h]	3	0	4	3	0	41	49	985	8	0	787	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	0.03	0.00	0.06	0.05	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	46.32	52.65	12.56	38.45	52.44	11.56	9.46	0.00	0.00	9.96	0.00	0.00
Movement LOS	E	F	B	E	F	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.30	0.30	0.30	0.17	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.21	3.21	3.21	7.41	7.41	7.41	4.27	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	27.03			13.48			0.44			0.00		
Approach LOS	D			B			A			A		
d_I, Intersection Delay [s/veh]	0.67											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	29.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.046

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	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	7	4	929	7	2	740
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]	7	4	929	7	2	740
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	248	2	1	197
Total Analysis Volume [veh/h]	7	4	990	7	2	789
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	0.05	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	29.85	12.65	0.00	0.00	9.96	0.00
Movement LOS	D	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.01	0.00
95th-Percentile Queue Length [ft/ln]	4.25	4.25	0.00	0.00	0.21	0.00
d_A, Approach Delay [s/veh]	23.60		0.00		0.03	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Nutmeg St (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.701

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	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	175.00	100.00	100.00	50.00	100.00	100.00	180.00	100.00	100.00	225.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	51	37	279	63	28	18	47	680	68	346	677	94
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
Proportion of CAVs [%]	0.00											
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	37	279	63	28	18	47	680	68	346	677	94
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
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	10	74	17	7	5	12	180	18	92	180	25
Total Analysis Volume [veh/h]	54	39	296	67	30	19	50	722	72	367	719	100
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	22	21	0	20	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	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
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	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	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	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	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]	20	20	20	20	20	20	4	14	14	14	24	24
g / C, Green / Cycle	0.34	0.34	0.34	0.34	0.34	0.34	0.06	0.23	0.23	0.22	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.18	0.06	0.01	0.01	0.03	0.19	0.04	0.19	0.19	0.06
s, saturation flow rate [veh/h]	1360	1870	1589	1063	1870	1589	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	532	637	541	438	637	541	116	834	372	402	1406	628
d1, Uniform Delay [s]	15.18	13.34	15.86	15.68	13.28	13.23	27.00	21.81	18.43	22.38	13.60	11.71
k, delay calibration	0.50	0.50	0.50	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	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	0.17	3.52	0.69	0.13	0.11	2.29	2.05	0.23	5.83	0.26	0.11
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	0.10	0.06	0.52	0.14	0.04	0.03	0.41	0.82	0.18	0.86	0.48	0.15
d, Delay for Lane Group [s/veh]	15.54	13.52	19.38	16.36	13.41	13.34	29.29	23.86	18.66	28.21	13.86	11.82
Lane Group LOS	B	B	B	B	B	B	C	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.48	0.31	3.04	0.64	0.24	0.16	0.66	4.11	0.68	4.67	2.78	0.67
50th-Percentile Queue Length [ft/ln]	12.01	7.79	76.12	16.06	6.02	3.92	16.38	102.72	16.96	116.86	69.49	16.79
95th-Percentile Queue Length [veh/ln]	0.86	0.56	5.48	1.16	0.43	0.28	1.18	7.40	1.22	8.22	5.00	1.21
95th-Percentile Queue Length [ft/ln]	21.61	14.01	137.02	28.91	10.83	7.05	29.49	184.90	30.53	205.51	125.09	30.22

Movement, Approach, & Intersection Results

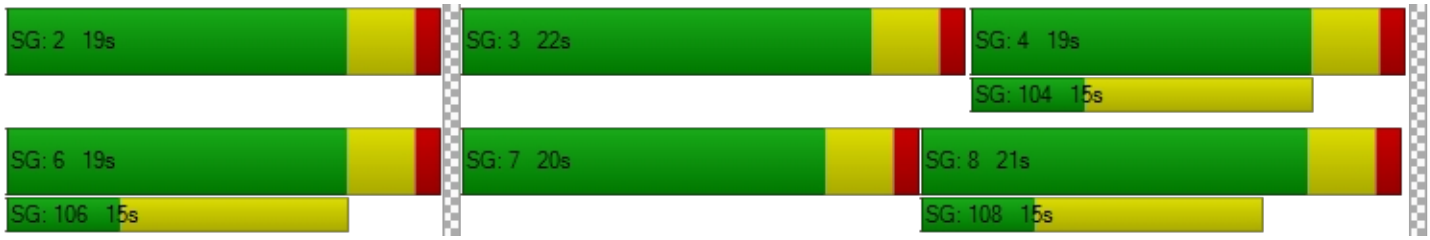
d_M, Delay for Movement [s/veh]	15.54	13.52	19.38	16.36	13.41	13.34	29.29	23.86	18.66	28.21	13.86	11.82
Movement LOS	B	B	B	B	B	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	18.26			15.11			23.74			18.13		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	19.88											
Intersection LOS	B											
Intersection V/C	0.701											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	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]	21.71	21.71	0.00	21.71
l_p,int, Pedestrian LOS Score for Intersection	2.408	2.205	0.000	3.045
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	499	566	499
d_b, Bicycle Delay [s]	16.91	16.91	15.44	16.91
l_b,int, Bicycle LOS Score for Intersection	2.165	1.739	2.215	2.481
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



EXISTING PLUS AMBIENT GROWTH PLUS PROJECT

Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\AME.vistro

Scenario 2 Existing Plus Ambient Growth Plus Project AM Peak Hour

Report File: G:\...\AMEAP.pdf

7/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-15 SB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	SB Right	0.849	20.9	C
2	I-15 NB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.791	16.0	B
3	Wildomar Trail (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.672	18.5	B
4	Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.759	14.1	B
5	Salida Del Sol (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.350	82.5	F
6	Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.100	43.6	E
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	2.277	2,797.1	F
8	Nutmeg St (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.735	19.9	B

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: I-15 SB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.849

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	2	0	1	0	0	0	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	680.00	100.00	100.00	100.00	100.00	100.00	160.00	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			35.00			35.00		
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	411	4	410	0	937	725	307	807	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0000	1.0404	1.0404	1.0404	1.0404	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	15	0	0	0	22	0	12	18	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	443	4	427	0	997	754	331	858	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9710	0.9710	0.9710	1.0000	0.9710	0.9710	0.9710	0.9710	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	114	1	110	0	257	194	85	221	0
Total Analysis Volume [veh/h]	0	0	0	456	4	440	0	1027	777	341	884	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]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	120	0	0	120	0	120	120	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	50	0	0	19	0	11	30	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	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
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]		15	15	15	43	43	10	57
g / C, Green / Cycle		0.18	0.18	0.18	0.54	0.54	0.13	0.72
(v / s)_i Volume / Saturation Flow Rate		0.13	0.13	0.15	0.20	0.47	0.10	0.17
s, saturation flow rate [veh/h]		1781	1782	2813	5094	1589	3459	5094
c, Capacity [veh/h]		327	328	517	2732	852	450	3649
d1, Uniform Delay [s]		30.51	30.51	31.46	10.71	16.39	33.52	3.88
k, delay calibration		0.50	0.50	0.50	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
d2, Incremental Delay [s]		11.59	11.56	15.69	0.08	3.44	2.39	0.03
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		0.68	0.68	0.83	0.36	0.88	0.74	0.24
d, Delay for Lane Group [s/veh]		42.10	42.07	47.15	10.79	19.83	35.92	3.91
Lane Group LOS		D	D	D	B	B	D	A
Critical Lane Group		No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		4.95	4.95	4.97	3.00	11.16	3.12	1.12
50th-Percentile Queue Length [ft/ln]		123.77	123.75	124.15	74.99	278.90	78.07	27.92
95th-Percentile Queue Length [veh/ln]		8.60	8.60	8.62	5.40	16.63	5.62	2.01
95th-Percentile Queue Length [ft/ln]		214.99	214.97	215.51	134.99	415.84	140.52	50.26

Movement, Approach, & Intersection Results

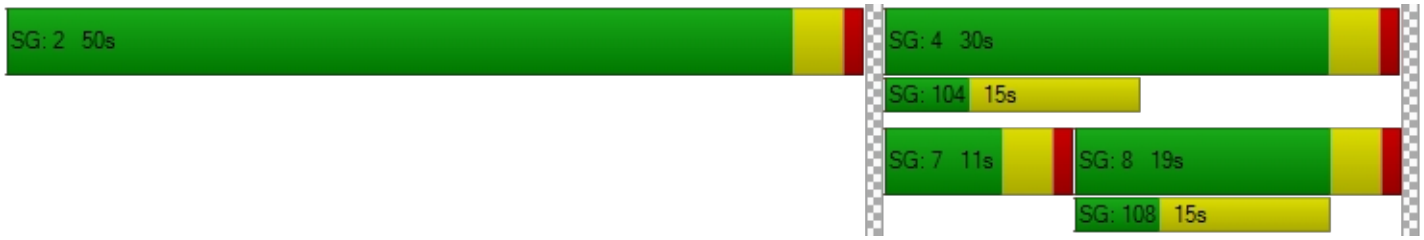
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	42.08	42.07	47.15	0.00	10.79	19.83	35.92	3.91	0.00
Movement LOS				D	D	D		B	B	D	A	
d_A, Approach Delay [s/veh]	0.00			44.56			14.68			12.82		
Approach LOS	A			D			B			B		
d_I, Intersection Delay [s/veh]	20.95											
Intersection LOS	C											
Intersection V/C	0.849											

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]	31.54	31.54	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.241	2.466	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	1149	375	650
d_b, Bicycle Delay [s]	40.03	7.25	26.44	18.25
l_b,int, Bicycle LOS Score for Intersection	4.132	3.002	2.523	2.214
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 2: I-15 NB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.791

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	0
Entry Pocket Length [ft]	650.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
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	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
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]	300	2	236	0	0	0	409	939	0	0	814	598
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0000	1.0000	1.0404	1.0404
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	37	0	0	30	12
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	312	2	246	0	0	0	426	1014	0	0	877	634
Peak Hour Factor	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000	0.9600	0.9600	1.0000	1.0000	0.9600	0.9600
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]	81	1	64	0	0	0	111	264	0	0	228	165
Total Analysis Volume [veh/h]	325	2	256	0	0	0	444	1056	0	0	914	660
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	120	0	0	0	0	120	120	0	0	120	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	16	0	0	0	0	16	44	0	0	28	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	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
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		10	39	26	26
g / C, Green / Cycle	0.21	0.21	0.21		0.16	0.65	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.11		0.12	0.20	0.17	0.40
s, saturation flow rate [veh/h]	1781	1705	1589		3459	5094	5094	1589
c, Capacity [veh/h]	380	363	339		549	3329	2181	681
d1, Uniform Delay [s]	20.89	20.89	20.89		24.23	4.50	11.85	16.33
k, delay calibration	0.50	0.50	0.50		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
d2, Incremental Delay [s]	5.05	5.28	5.68		2.44	0.05	0.12	7.33
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	0.52	0.52	0.52		0.78	0.30	0.40	0.93
d, Delay for Lane Group [s/veh]	25.93	26.17	26.57		26.67	4.55	11.97	23.65
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]	2.79	2.70	2.56		2.84	1.14	2.29	8.15
50th-Percentile Queue Length [ft/ln]	69.80	67.47	63.92		70.96	28.41	57.19	203.63
95th-Percentile Queue Length [veh/ln]	5.03	4.86	4.60		5.11	2.05	4.12	12.83
95th-Percentile Queue Length [ft/ln]	125.65	121.45	115.05		127.73	51.14	102.94	320.65

Movement, Approach, & Intersection Results

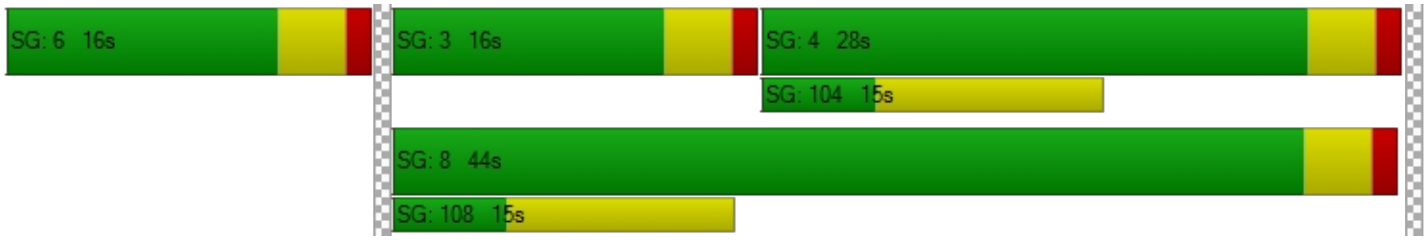
d_M, Delay for Movement [s/veh]	26.03	26.17	26.47	0.00	0.00	0.00	26.67	4.55	0.00	0.00	11.97	23.65
Movement LOS	C	C	C				C	A			B	C
d_A, Approach Delay [s/veh]	26.21			0.00			11.09			16.87		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	15.99											
Intersection LOS	B											
Intersection V/C	0.791											

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]	21.68	21.68	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.248	2.213	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]	400	0	1333	800
d_b, Bicycle Delay [s]	19.21	30.01	3.34	10.81
l_b,int, Bicycle LOS Score for Intersection	2.484	4.132	2.352	2.391
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 3: Wildomar Trail (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	18.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.672

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]	95.00	100.00	100.00	95.00	100.00	100.00	125.00	100.00	100.00	295.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	2
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]	25.00			40.00			35.00			35.00		
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]	60	36	38	110	27	220	106	889	21	70	911	38
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	4	0	0	0	37	0	2	42	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	37	43	118	28	229	110	962	22	75	990	44
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	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]	16	10	11	31	7	61	29	256	6	20	263	12
Total Analysis Volume [veh/h]	66	39	46	126	30	244	117	1023	23	80	1053	47
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	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	22	30	0	11	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	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
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]	60	60	60	60	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	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	6	22	22	5	22	22
g / C, Green / Cycle	0.34	0.34	0.34	0.34	0.34	0.10	0.37	0.37	0.08	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.10	0.02	0.16	0.07	0.20	0.20	0.05	0.31	0.03
s, saturation flow rate [veh/h]	1010	1537	1186	1683	1431	1603	3204	1664	1603	3204	1431
c, Capacity [veh/h]	438	528	467	578	491	162	1190	618	138	1143	510
d1, Uniform Delay [s]	15.04	13.71	16.73	13.22	15.47	26.17	14.93	14.94	26.41	18.06	12.88
k, delay calibration	0.50	0.50	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	1.00	1.00
d2, Incremental Delay [s]	0.68	0.61	1.30	0.16	3.19	5.06	0.39	0.75	3.33	2.19	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	0.14	0.15	0.25	0.05	0.47	0.68	0.54	0.54	0.54	0.87	0.09
d, Delay for Lane Group [s/veh]	15.72	14.32	18.04	13.38	18.66	31.22	15.32	15.69	29.74	20.25	12.95
Lane Group LOS	B	B	B	B	B	C	B	B	C	C	B
Critical Lane Group	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.66	0.79	1.28	0.24	2.52	1.64	3.06	3.24	1.09	5.81	0.36
50th-Percentile Queue Length [ft/ln]	16.55	19.77	31.99	6.07	62.91	40.92	76.45	81.01	27.16	145.21	8.91
95th-Percentile Queue Length [veh/ln]	1.19	1.42	2.30	0.44	4.53	2.95	5.50	5.83	1.96	9.76	0.64
95th-Percentile Queue Length [ft/ln]	29.80	35.59	57.59	10.93	113.23	73.66	137.61	145.82	48.88	244.02	16.03

Movement, Approach, & Intersection Results

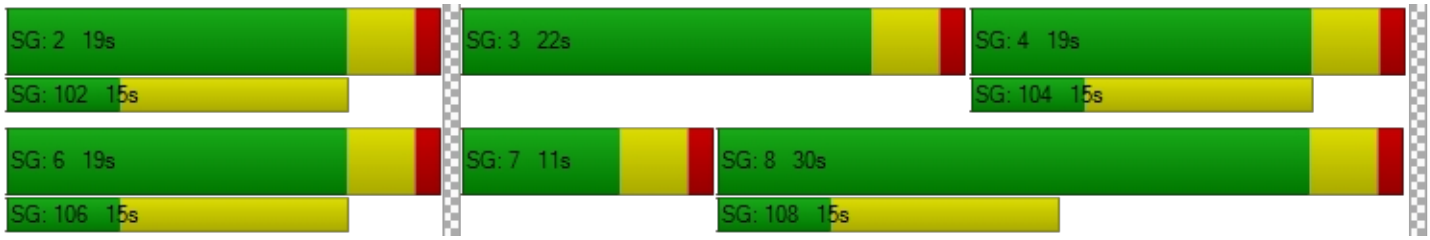
d_M, Delay for Movement [s/veh]	15.72	14.32	14.32	18.04	13.38	18.66	31.22	15.44	15.69	29.74	20.25	12.95
Movement LOS	B	B	B	B	B	B	C	B	B	C	C	B
d_A, Approach Delay [s/veh]	14.93			18.07			17.03			20.60		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	18.52											
Intersection LOS	B											
Intersection V/C	0.672											

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]	21.75	21.75	21.75	21.75
l_p,int, Pedestrian LOS Score for Intersection	1.993	2.296	2.972	3.105
Crosswalk LOS	A	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]	499	499	864	499
d_b, Bicycle Delay [s]	16.95	16.95	9.70	16.95
l_b,int, Bicycle LOS Score for Intersection	1.794	2.178	2.161	2.475
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: Inland Valley Dr (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.759

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	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	300.00	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	1
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	100.00
Speed [mph]	45.00			30.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	239	0	37	0	0	0	0	611	437	112	795	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0000	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0404	1.0404	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	7	0	0	0	0	44	0	6	48	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	249	0	45	0	0	0	0	680	455	123	875	0
Peak Hour Factor	0.9640	1.0000	0.9640	1.0000	1.0000	1.0000	0.9640	0.9640	0.9640	0.9640	0.9640	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]	65	0	12	0	0	0	0	176	118	32	227	0
Total Analysis Volume [veh/h]	258	0	47	0	0	0	0	705	472	128	908	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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	0	0	0	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	0	0	0	0	0	7	7	0	7	7	0
Maximum Green [s]	120	0	0	0	0	0	120	120	0	120	120	0
Amber [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	0	0	0	0	0	11	19	0	26	34	0
Vehicle Extension [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	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
Rest In Walk	No							No			No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
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	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	R		L	C	R	L	C
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]	10	10		0	32	32	6	38
g / C, Green / Cycle	0.17	0.17		0.00	0.53	0.53	0.10	0.63
(v / s)_i Volume / Saturation Flow Rate	0.14	0.03		0.00	0.19	0.29	0.07	0.47
s, saturation flow rate [veh/h]	1781	1589		1781	3560	1589	1781	1870
c, Capacity [veh/h]	303	270		2	1877	838	184	1177
d1, Uniform Delay [s]	24.08	21.32		0.00	8.31	9.42	25.99	7.76
k, delay calibration	0.11	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]	5.83	0.29		0.00	0.54	2.54	4.26	4.39
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	0.82	0.17		0.00	0.36	0.54	0.67	0.74
d, Delay for Lane Group [s/veh]	29.91	21.61		0.00	8.85	11.96	30.25	12.15
Lane Group LOS	C	C		A	A	B	C	B
Critical Lane Group	Yes	No		No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.47	0.50		0.00	2.14	3.62	1.73	5.71
50th-Percentile Queue Length [ft/ln]	86.77	12.46		0.00	53.53	90.62	43.14	142.84
95th-Percentile Queue Length [veh/ln]	6.25	0.90		0.00	3.85	6.52	3.11	9.63
95th-Percentile Queue Length [ft/ln]	156.19	22.43		0.00	96.36	163.11	77.64	240.84

Movement, Approach, & Intersection Results

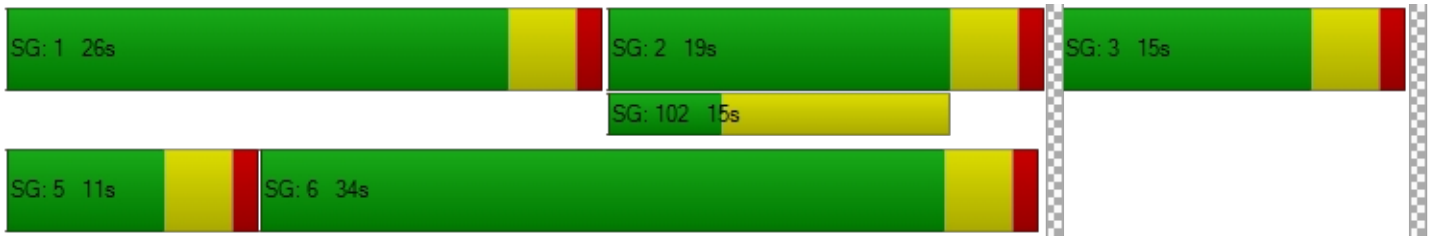
d_M, Delay for Movement [s/veh]	29.91	0.00	21.61	0.00	0.00	0.00	0.00	8.85	11.96	30.25	12.15	0.00
Movement LOS	C		C				A	A	B	C	B	
d_A, Approach Delay [s/veh]	28.64			0.00			10.10			14.38		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	14.10											
Intersection LOS	B											
Intersection V/C	0.759											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	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]	21.71	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.346	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	366	0	499	999
d_b, Bicycle Delay [s]	20.05	30.04	16.91	7.53
l_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.496	3.206
Bicycle LOS	A	D	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Salida Del Sol (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	82.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.350

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	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	100.00	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]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	17	0	8	10	636	0	0	888	26
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
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	6	0	0	0	51	0	0	54	5
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
Total Hourly Volume [veh/h]	0	0	0	24	0	8	10	713	0	0	978	32
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
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	6	0	2	3	191	0	0	261	9
Total Analysis Volume [veh/h]	0	0	0	26	0	9	11	763	0	0	1046	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.35	0.00	0.03	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	59.28	47.20	13.34	82.53	71.31	42.16	10.32	0.00	0.00	9.06	0.00	0.00
Movement LOS	F	E	B	F	F	E	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.70	1.70	1.70	0.04	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	42.59	42.59	42.59	1.11	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	39.94			72.44			0.14			0.00		
Approach LOS	E			F			A			A		
d_I, Intersection Delay [s/veh]	1.37											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Elizabeth Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	43.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.100

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	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	250.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	4	0	4	6	0	38	18	626	7	5	872	6
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
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	4	0	0	0	57	0	0	59	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
Total Hourly Volume [veh/h]	4	0	4	10	0	40	19	708	7	5	966	10
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
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]	1	0	1	3	0	11	5	191	2	1	260	3
Total Analysis Volume [veh/h]	4	0	4	11	0	43	20	762	8	5	1040	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	0.10	0.00	0.08	0.03	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	36.53	48.72	11.40	43.55	50.55	14.54	10.27	0.00	0.00	9.11	0.00	0.00
Movement LOS	E	E	B	E	F	B	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.64	0.64	0.64	0.08	0.00	0.00	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.16	3.16	3.16	15.90	15.90	15.90	2.08	0.00	0.00	0.43	0.00	0.00
d_A, Approach Delay [s/veh]	23.97			20.34			0.27			0.05		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.82											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	2,797.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	2.277

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	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	3	4	637	7	1	878
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	180	136	41	34	188	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]	183	140	704	41	189	913
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	38	190	11	51	246
Total Analysis Volume [veh/h]	198	151	760	44	204	986
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	2.28	0.22	0.01	0.00	0.22	0.01
d_M, Delay for Movement [s/veh]	2797.12	2758.09	0.00	0.00	10.37	0.00
Movement LOS	F	F	A	A	B	A
95th-Percentile Queue Length [veh/ln]	101.69	101.69	0.00	0.00	0.84	0.00
95th-Percentile Queue Length [ft/ln]	2542.21	2542.21	0.00	0.00	21.11	0.00
d_A, Approach Delay [s/veh]	2780.20		0.00		1.78	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	414.73					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Nutmeg St (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	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	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	175.00	100.00	100.00	50.00	100.00	100.00	180.00	100.00	100.00	225.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	112	30	275	100	62	32	34	621	96	380	703	70
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	0	0	7	6	18	6	0	22	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	31	286	104	65	40	41	664	106	395	753	73
Peak Hour Factor	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750
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]	32	8	73	27	17	10	11	170	27	101	193	19
Total Analysis Volume [veh/h]	127	32	293	107	67	41	42	681	109	405	772	75
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	20	19	0	22	21	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	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
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	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	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	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	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]	19	19	19	19	19	19	4	14	14	15	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.32	0.32	0.06	0.23	0.23	0.25	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.10	0.02	0.18	0.10	0.03	0.03	0.02	0.19	0.07	0.22	0.21	0.05
s, saturation flow rate [veh/h]	1289	1870	1589	1062	1870	1589	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	468	598	508	420	598	508	106	809	361	452	1500	670
d1, Uniform Delay [s]	17.72	14.16	16.98	17.14	14.42	14.28	27.23	22.08	19.25	21.52	12.77	10.55
k, delay calibration	0.50	0.50	0.50	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	1.00	1.00	1.00
d2, Incremental Delay [s]	1.38	0.16	4.54	1.41	0.37	0.30	2.32	2.19	0.45	5.83	0.26	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	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	0.26	0.05	0.56	0.25	0.11	0.08	0.39	0.82	0.29	0.87	0.50	0.11
d, Delay for Lane Group [s/veh]	19.10	14.32	21.51	18.55	14.79	14.58	29.55	24.28	19.70	27.35	13.03	10.62
Lane Group LOS	B	B	C	B	B	B	C	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.36	0.27	3.36	1.16	0.60	0.37	0.58	4.05	1.10	5.25	2.96	0.48
50th-Percentile Queue Length [ft/ln]	34.05	6.82	83.94	28.98	15.02	9.29	14.44	101.24	27.58	131.26	73.92	11.96
95th-Percentile Queue Length [veh/ln]	2.45	0.49	6.04	2.09	1.08	0.67	1.04	7.29	1.99	9.01	5.32	0.86
95th-Percentile Queue Length [ft/ln]	61.29	12.28	151.08	52.17	27.04	16.73	26.00	182.23	49.65	225.21	133.05	21.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.10	14.32	21.51	18.55	14.79	14.58	29.55	24.28	19.70	27.35	13.03	10.62
Movement LOS	B	B	C	B	B	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	20.33			16.62			23.94			17.52		
Approach LOS	C			B			C			B		
d_I, Intersection Delay [s/veh]	19.85											
Intersection LOS	B											
Intersection V/C	0.735											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	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]	21.71	21.71	0.00	21.71
l_p,int, Pedestrian LOS Score for Intersection	2.480	2.227	0.000	3.136
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	499	499	566
d_b, Bicycle Delay [s]	16.91	16.91	16.91	15.44
l_b,int, Bicycle LOS Score for Intersection	2.287	1.904	2.229	2.567
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\PME.vistro

Scenario 2 Existing Plus Ambient Growth Plus Project PM Peak Hour

Report File: G:\...\PMEAP.pdf

7/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-15 SB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.730	15.6	B
2	I-15 NB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	NB Right	0.836	17.8	B
3	Wildomar Trail (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.663	19.1	B
4	Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.827	16.5	B
5	Salida Del Sol (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	SB Left	0.293	104.2	F
6	Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	0.044	58.9	F
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	2.960	4,101.2	F
8	Nutmeg St (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.736	20.0	B

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: I-15 SB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	15.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	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	0	0	0	2	0	1	0	0	0	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	680.00	100.00	100.00	100.00	100.00	100.00	160.00	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			35.00			35.00		
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	523	1	394	0	1004	519	279	1092	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0000	1.0404	1.0404	1.0404	1.0404	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	13	0	0	0	19	0	14	21	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	557	1	410	0	1064	540	304	1157	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9490	0.9490	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	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	147	0	108	0	280	142	80	305	0
Total Analysis Volume [veh/h]	0	0	0	587	1	432	0	1121	569	320	1219	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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	120	0	0	120	0	120	120	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	30	0	0	19	0	11	30	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	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
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]		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]		14	14	14	26	26	8	38
g / C, Green / Cycle		0.24	0.24	0.24	0.43	0.43	0.13	0.63
(v / s)_i Volume / Saturation Flow Rate		0.16	0.16	0.15	0.21	0.34	0.09	0.23
s, saturation flow rate [veh/h]		1781	1781	2813	5094	1589	3459	5094
c, Capacity [veh/h]		419	420	663	2204	688	457	3216
d1, Uniform Delay [s]		20.83	20.83	20.56	12.23	14.65	24.82	5.28
k, delay calibration		0.50	0.50	0.50	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
d2, Incremental Delay [s]		8.40	8.40	4.38	0.16	2.06	1.69	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		0.67	0.66	0.62	0.48	0.79	0.67	0.36
d, Delay for Lane Group [s/veh]		29.23	29.23	24.94	12.39	16.71	26.51	5.35
Lane Group LOS		C	C	C	B	B	C	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		4.24	4.24	2.77	2.89	5.60	2.00	1.55
50th-Percentile Queue Length [ft/ln]		105.98	105.96	69.19	72.14	139.89	50.07	38.63
95th-Percentile Queue Length [veh/ln]		7.62	7.61	4.98	5.19	9.48	3.61	2.78
95th-Percentile Queue Length [ft/ln]		190.39	190.37	124.55	129.86	236.88	90.13	69.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	29.23	29.23	24.94	0.00	12.39	16.71	26.51	5.35	0.00
Movement LOS				C	C	C		B	B	C	A	
d_A, Approach Delay [s/veh]	0.00			27.41			13.84			9.75		
Approach LOS	A			C			B			A		
d_I, Intersection Delay [s/veh]	15.62											
Intersection LOS	B											
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	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.70	21.70	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.108	2.469	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	866	500	866
d_b, Bicycle Delay [s]	30.03	9.66	16.90	9.66
l_b,int, Bicycle LOS Score for Intersection	4.132	3.157	2.442	2.363
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 2: I-15 NB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	17.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.836

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	0
Entry Pocket Length [ft]	650.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
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	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
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]	538	0	364	0	0	0	353	1174	0	0	839	549
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0000	1.0000	1.0404	1.0404
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	32	0	0	35	14
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	560	0	379	0	0	0	367	1253	0	0	908	585
Peak Hour Factor	0.9620	0.9620	0.9620	1.0000	1.0000	1.0000	0.9620	0.9620	1.0000	1.0000	0.9620	0.9620
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]	146	0	98	0	0	0	95	326	0	0	236	152
Total Analysis Volume [veh/h]	582	0	394	0	0	0	381	1302	0	0	944	608
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	120	0	0	0	0	120	120	0	0	120	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	20	0	0	0	0	12	40	0	0	28	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	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
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	0.59	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.18	0.18	0.19		0.11	0.25	0.18	0.37
s, saturation flow rate [veh/h]	1781	1735	1589		3459	5094	5094	1589
c, Capacity [veh/h]	487	475	435		462	3022	2002	625
d1, Uniform Delay [s]	19.26	19.35	19.69		25.22	6.59	13.47	17.51
k, delay calibration	0.50	0.50	0.50		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
d2, Incremental Delay [s]	6.69	7.32	10.06		3.22	0.09	0.16	8.54
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	0.65	0.66	0.71		0.79	0.41	0.45	0.94
d, Delay for Lane Group [s/veh]	25.95	26.67	29.75		28.44	6.68	13.63	26.06
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]	4.45	4.51	4.77		2.53	2.05	2.61	7.96
50th-Percentile Queue Length [ft/ln]	111.14	112.72	119.36		63.36	51.31	65.17	198.98
95th-Percentile Queue Length [veh/ln]	7.90	7.99	8.36		4.56	3.69	4.69	12.59
95th-Percentile Queue Length [ft/ln]	197.58	199.78	208.94		114.06	92.36	117.31	314.65

Movement, Approach, & Intersection Results

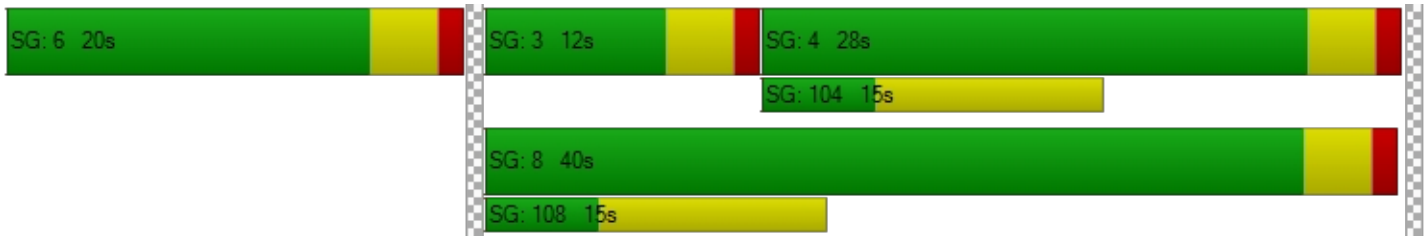
d_M, Delay for Movement [s/veh]	26.26	26.67	29.20	0.00	0.00	0.00	28.44	6.68	0.00	0.00	13.63	26.06
Movement LOS	C	C	C				C	A			B	C
d_A, Approach Delay [s/veh]	27.44			0.00			11.61			18.50		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	17.82											
Intersection LOS	B											
Intersection V/C	0.836											

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]	21.69	21.69	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.341	2.160	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]	533	0	1199	799
d_b, Bicycle Delay [s]	16.15	30.02	4.81	10.82
l_b,int, Bicycle LOS Score for Intersection	3.109	4.132	2.451	2.381
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 3: Wildomar Trail (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	19.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.663

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]	95.00	100.00	100.00	95.00	100.00	100.00	125.00	100.00	100.00	295.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	2
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]	25.00			40.00			35.00			35.00		
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]	45	37	79	90	38	111	182	1072	28	109	958	45
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	4	0	0	0	32	0	3	49	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	38	85	98	40	115	189	1147	29	116	1046	51
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
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]	12	10	23	26	11	30	50	304	8	31	277	14
Total Analysis Volume [veh/h]	50	40	90	104	42	122	200	1216	31	123	1109	54
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	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	16	19	0	22	25	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	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
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]	60	60	60	60	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	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]	17	17	17	17	17	9	25	25	6	22	22
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.14	0.41	0.41	0.10	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.04	0.08	0.09	0.02	0.08	0.12	0.24	0.24	0.07	0.33	0.04
s, saturation flow rate [veh/h]	1108	1500	1141	1683	1431	1603	3204	1662	1603	3204	1431
c, Capacity [veh/h]	399	437	356	490	417	231	1309	679	161	1168	522
d1, Uniform Delay [s]	17.56	16.44	20.67	15.46	16.41	24.93	13.86	13.86	26.19	18.00	12.57
k, delay calibration	0.50	0.50	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	1.00	1.00
d2, Incremental Delay [s]	0.60	1.61	1.92	0.33	1.65	7.31	0.43	0.83	6.10	2.80	0.08
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	0.12	0.28	0.28	0.08	0.28	0.82	0.59	0.59	0.72	0.90	0.10
d, Delay for Lane Group [s/veh]	18.17	18.05	22.59	15.78	18.06	32.24	14.29	14.69	32.30	20.80	12.65
Lane Group LOS	B	B	C	B	B	C	B	B	C	C	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.55	1.42	1.25	0.39	1.25	2.86	3.52	3.73	1.76	6.25	0.41
50th-Percentile Queue Length [ft/ln]	13.73	35.62	31.28	9.81	31.31	71.57	87.99	93.15	44.02	156.35	10.17
95th-Percentile Queue Length [veh/ln]	0.99	2.56	2.25	0.71	2.25	5.15	6.34	6.71	3.17	10.36	0.73
95th-Percentile Queue Length [ft/ln]	24.72	64.12	56.30	17.66	56.37	128.83	158.38	167.67	79.24	258.88	18.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.17	18.05	18.05	22.59	15.78	18.06	32.24	14.42	14.69	32.30	20.80	12.65
Movement LOS	B	B	B	C	B	B	C	B	B	C	C	B
d_A, Approach Delay [s/veh]	18.08			19.45			16.90			21.56		
Approach LOS	B			B			B			C		
d_I, Intersection Delay [s/veh]	19.06											
Intersection LOS	B											
Intersection V/C	0.663											

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]	21.69	21.69	21.69	21.69
l_p,int, Pedestrian LOS Score for Intersection	2.017	2.284	2.988	3.127
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]	500	500	500	700
d_b, Bicycle Delay [s]	16.89	16.89	16.89	12.69
l_b,int, Bicycle LOS Score for Intersection	1.840	1.977	2.310	2.560
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 4: Inland Valley Dr (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	16.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.827

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	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	300.00	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	1
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	100.00
Speed [mph]	45.00			30.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	374	0	82	0	0	0	0	907	310	31	743	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0000	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0404	1.0404	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	6	0	0	0	0	39	0	7	56	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	389	0	91	0	0	0	0	983	323	39	829	0
Peak Hour Factor	0.9650	1.0000	0.9650	1.0000	1.0000	1.0000	0.9650	0.9650	0.9650	0.9650	0.9650	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]	101	0	24	0	0	0	0	255	84	10	215	0
Total Analysis Volume [veh/h]	403	0	94	0	0	0	0	1019	335	40	859	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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	0	0	0	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	0	0	0	0	0	7	7	0	7	7	0
Maximum Green [s]	120	0	0	0	0	0	120	120	0	120	120	0
Amber [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	0	0	0	0	0	11	21	0	20	30	0
Vehicle Extension [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	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
Rest In Walk	No							No			No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
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	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	R		L	C	R	L	C
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]	15	15		0	30	30	3	33
g / C, Green / Cycle	0.25	0.25		0.00	0.50	0.50	0.06	0.55
(v / s)_i Volume / Saturation Flow Rate	0.22	0.06		0.00	0.28	0.20	0.02	0.44
s, saturation flow rate [veh/h]	1781	1589		1781	3560	1589	1781	1870
c, Capacity [veh/h]	439	392		2	1768	789	102	1034
d1, Uniform Delay [s]	21.84	18.11		0.00	10.53	9.57	27.32	10.80
k, delay calibration	0.11	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]	6.65	0.30		0.00	1.27	1.58	2.34	6.91
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	0.89	0.23		0.00	0.56	0.41	0.38	0.80
d, Delay for Lane Group [s/veh]	28.49	18.41		0.00	11.81	11.15	29.65	17.71
Lane Group LOS	C	B		A	B	B	C	B
Critical Lane Group	Yes	No		No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.30	0.90		0.00	3.89	2.48	0.55	7.76
50th-Percentile Queue Length [ft/ln]	132.49	22.58		0.00	97.31	62.08	13.80	194.08
95th-Percentile Queue Length [veh/ln]	9.08	1.63		0.00	7.01	4.47	0.99	12.33
95th-Percentile Queue Length [ft/ln]	226.88	40.64		0.00	175.16	111.75	24.84	308.32

Movement, Approach, & Intersection Results

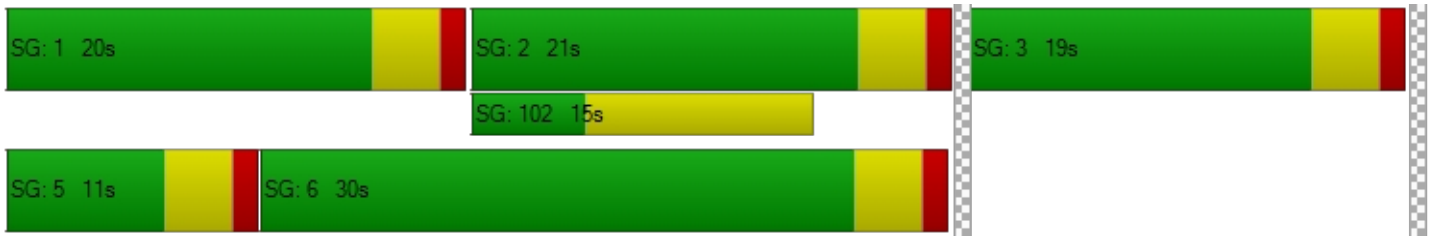
d_M, Delay for Movement [s/veh]	28.49	0.00	18.41	0.00	0.00	0.00	0.00	11.81	11.15	29.65	17.71	0.00
Movement LOS	C		B				A	B	B	C	B	
d_A, Approach Delay [s/veh]	26.58			0.00			11.65			18.24		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	16.50											
Intersection LOS	B											
Intersection V/C	0.827											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	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]	21.71	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.331	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	0	566	866
d_b, Bicycle Delay [s]	16.91	30.04	15.44	9.66
l_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.637	2.992
Bicycle LOS	A	D	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Salida Del Sol (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	104.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.293

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	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	100.00	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]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	9	0	7	7	979	0	0	768	17
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
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	5	0	0	0	45	0	0	63	6
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
Total Hourly Volume [veh/h]	0	0	0	14	0	7	7	1064	0	0	862	24
Peak Hour Factor	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470
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	4	0	2	2	281	0	0	228	6
Total Analysis Volume [veh/h]	0	0	0	15	0	7	7	1124	0	0	910	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.29	0.00	0.02	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	82.26	62.61	18.29	104.23	85.57	39.26	9.76	0.00	0.00	10.50	0.00	0.00
Movement LOS	F	F	C	F	F	E	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.29	1.29	1.29	0.03	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	32.33	32.33	32.33	0.69	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	54.39			82.57			0.06			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	0.91											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Elizabeth Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	58.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.044

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	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	250.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	3	0	4	3	0	39	46	930	8	0	743	10
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
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	4	0	0	0	50	0	0	69	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
Total Hourly Volume [veh/h]	3	0	4	7	0	41	48	1018	8	0	842	14
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
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]	1	0	1	2	0	11	13	270	2	0	223	4
Total Analysis Volume [veh/h]	3	0	4	7	0	43	51	1078	8	0	892	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.01	0.08	0.00	0.07	0.06	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	58.88	68.85	13.55	49.65	69.23	13.36	9.92	0.00	0.00	10.35	0.00	0.00
Movement LOS	F	F	B	E	F	B	A	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.16	0.54	0.54	0.54	0.20	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.07	4.07	4.07	13.60	13.60	13.60	4.92	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	32.98			18.65			0.44			0.00		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	0.81											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	4,101.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	2.960

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	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	7	4	929	7	2	740
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	170	122	40	29	159	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]	177	126	1007	36	161	770
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	34	268	10	43	205
Total Analysis Volume [veh/h]	189	134	1074	38	172	821
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	2.96	0.25	0.01	0.00	0.24	0.01
d_M, Delay for Movement [s/veh]	4101.20	4048.21	0.00	0.00	12.18	0.00
Movement LOS	F	F	A	A	B	A
95th-Percentile Queue Length [veh/ln]	108.52	108.52	0.00	0.00	0.96	0.00
95th-Percentile Queue Length [ft/ln]	2712.98	2712.98	0.00	0.00	23.98	0.00
d_A, Approach Delay [s/veh]	4079.17		0.00		2.11	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	543.67					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Nutmeg St (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	20.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.736

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	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	175.00	100.00	100.00	50.00	100.00	100.00	180.00	100.00	100.00	225.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	51	37	279	63	28	18	47	680	68	346	677	94
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
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	6	7	21	7	0	19	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	38	290	66	29	25	56	728	78	360	723	98
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
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]	16	10	77	18	8	7	15	193	21	96	192	26
Total Analysis Volume [veh/h]	63	40	308	70	31	27	59	773	83	382	768	104
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	22	19	0	22	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	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
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	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	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	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	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]	19	19	19	19	19	19	4	15	15	14	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.32	0.32	0.07	0.25	0.25	0.23	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.18	0.06	0.02	0.02	0.03	0.20	0.05	0.20	0.20	0.06
s, saturation flow rate [veh/h]	1350	1870	1589	1052	1870	1589	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	507	599	509	418	599	509	129	872	389	419	1451	648
d1, Uniform Delay [s]	16.00	14.18	16.99	16.47	14.11	14.11	26.72	21.56	18.04	22.05	13.25	11.25
k, delay calibration	0.50	0.50	0.50	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	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.20	4.64	0.81	0.15	0.18	2.30	2.24	0.25	5.56	0.27	0.11
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	0.12	0.06	0.57	0.16	0.05	0.05	0.43	0.84	0.20	0.86	0.50	0.15
d, Delay for Lane Group [s/veh]	16.47	14.38	21.63	17.28	14.26	14.29	29.02	23.80	18.29	27.61	13.51	11.36
Lane Group LOS	B	B	C	B	B	B	C	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.58	0.34	3.42	0.70	0.26	0.23	0.77	4.40	0.77	4.80	2.91	0.68
50th-Percentile Queue Length [ft/ln]	14.52	8.39	85.45	17.53	6.54	5.73	19.30	109.94	19.17	120.09	72.82	16.94
95th-Percentile Queue Length [veh/ln]	1.05	0.60	6.15	1.26	0.47	0.41	1.39	7.84	1.38	8.40	5.24	1.22
95th-Percentile Queue Length [ft/ln]	26.14	15.11	153.81	31.56	11.76	10.32	34.75	195.92	34.50	209.95	131.08	30.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.47	14.38	21.63	17.28	14.26	14.29	29.02	23.80	18.29	27.61	13.51	11.36
Movement LOS	B	B	C	B	B	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	20.13			15.93			23.64			17.63		
Approach LOS	C			B			C			B		
d_I, Intersection Delay [s/veh]	19.96											
Intersection LOS	B											
Intersection V/C	0.736											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	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]	21.71	21.71	0.00	21.71
l_p,int, Pedestrian LOS Score for Intersection	2.424	2.213	0.000	3.080
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	499	499	499
d_b, Bicycle Delay [s]	16.91	16.91	16.91	16.91
l_b,int, Bicycle LOS Score for Intersection	2.198	1.758	2.271	2.534
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\AME.vistro

Scenario 3 Existing Plus Ambient Growth Plus Project AM Peak Hour - With Improvements

Report File: G:\...\AMEAPI.pdf

7/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.515	11.6	B

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 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	11.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.515

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	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	3	4	637	7	1	878
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	180	136	41	34	188	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	0	0	0	0	0
Total Hourly Volume [veh/h]	183	140	704	41	189	913
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	38	190	11	51	246
Total Analysis Volume [veh/h]	198	151	760	44	204	986
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		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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	0	7	0	7	7
Maximum Green [s]	120	0	120	0	120	120
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]	13	0	19	0	28	47
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]	10	0	10	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	R	C	C	L	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	8	8	32	32	8	44
g / C, Green / Cycle	0.13	0.13	0.53	0.53	0.14	0.73
(v / s)_i Volume / Saturation Flow Rate	0.10	0.09	0.20	0.20	0.11	0.26
s, saturation flow rate [veh/h]	1781	1589	1870	1834	1781	3560
c, Capacity [veh/h]	241	215	987	968	245	2606
d1, Uniform Delay [s]	25.07	24.67	8.37	8.42	25.03	2.91
k, delay calibration	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
d2, Incremental Delay [s]	5.06	3.37	1.10	1.16	5.29	0.37
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.65	0.38	0.38	0.77	0.35
d, Delay for Lane Group [s/veh]	30.13	28.03	9.48	9.58	30.32	3.28
Lane Group LOS	C	C	A	A	C	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.74	2.01	2.30	2.32	2.65	0.69
50th-Percentile Queue Length [ft/ln]	68.56	50.26	57.48	57.96	66.32	17.20
95th-Percentile Queue Length [veh/ln]	4.94	3.62	4.14	4.17	4.78	1.24
95th-Percentile Queue Length [ft/ln]	123.40	90.47	103.46	104.33	119.38	30.96

Movement, Approach, & Intersection Results

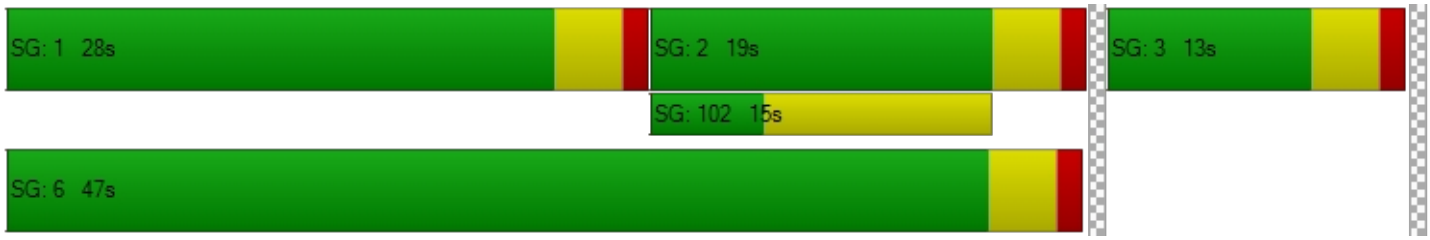
d_M, Delay for Movement [s/veh]	30.13	28.03	9.53	9.58	30.32	3.28
Movement LOS	C	C	A	A	C	A
d_A, Approach Delay [s/veh]	29.22		9.53		7.92	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	11.64					
Intersection LOS	B					
Intersection V/C	0.515					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0
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]	21.71	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.071	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	499	1432
d_b, Bicycle Delay [s]	21.71	16.91	2.43
l_b,int, Bicycle LOS Score for Intersection	1.560	2.174	2.469
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\PME.vistro

Scenario 3 Existing Plus Ambient Growth Plus Project PM Peak Hour - With Improvements

Report File: G:\...\PMEAPI.pdf

7/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.590	11.8	B

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 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.590

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	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	7	4	929	7	2	740
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	170	122	40	29	159	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	0	0	0	0	0
Total Hourly Volume [veh/h]	177	126	1007	36	161	770
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	34	268	10	43	205
Total Analysis Volume [veh/h]	189	134	1074	38	172	821
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		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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	0	7	0	7	7
Maximum Green [s]	120	0	120	0	120	120
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]	12	0	19	0	29	48
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]	10	0	10	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	R	C	C	L	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	8	8	33	33	7	44
g / C, Green / Cycle	0.13	0.13	0.55	0.55	0.12	0.74
(v / s)_i Volume / Saturation Flow Rate	0.10	0.08	0.28	0.28	0.09	0.22
s, saturation flow rate [veh/h]	1781	1589	1870	1847	1781	3560
c, Capacity [veh/h]	232	207	1030	1018	212	2623
d1, Uniform Delay [s]	25.26	24.71	8.41	8.45	25.65	2.66
k, delay calibration	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
d2, Incremental Delay [s]	5.31	2.90	1.79	1.85	5.66	0.29
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.61	0.51	0.51	0.76	0.29
d, Delay for Lane Group [s/veh]	30.57	27.61	10.20	10.31	31.31	2.95
Lane Group LOS	C	C	B	B	C	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.67	1.79	3.34	3.36	2.31	0.51
50th-Percentile Queue Length [ft/ln]	66.86	44.77	83.44	84.09	57.68	12.69
95th-Percentile Queue Length [veh/ln]	4.81	3.22	6.01	6.05	4.15	0.91
95th-Percentile Queue Length [ft/ln]	120.35	80.58	150.20	151.37	103.82	22.84

Movement, Approach, & Intersection Results

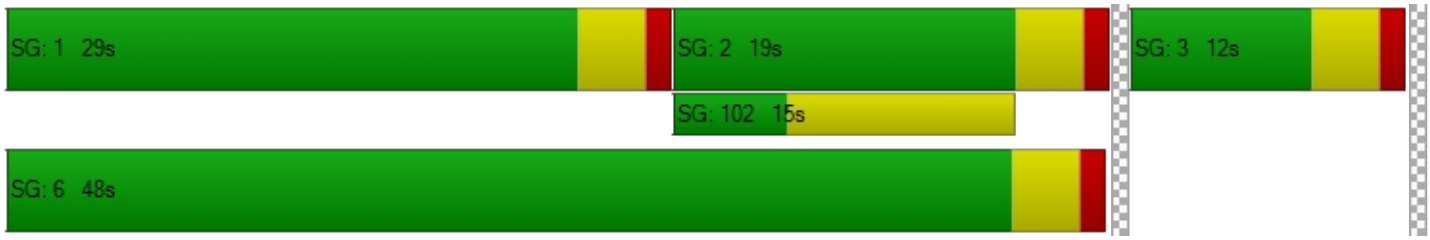
d_M, Delay for Movement [s/veh]	30.57	27.61	10.25	10.31	31.31	2.95
Movement LOS	C	C	B	B	C	A
d_A, Approach Delay [s/veh]	29.34		10.25		7.85	
Approach LOS	C		B		A	
d_I, Intersection Delay [s/veh]	11.81					
Intersection LOS	B					
Intersection V/C	0.590					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0
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]	21.71	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.056	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	266	499	1465
d_b, Bicycle Delay [s]	22.57	16.91	2.15
l_b,int, Bicycle LOS Score for Intersection	1.560	2.420	2.328
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



EXISTING PLUS AMBIENT GROWTH PLUS PROJECT PLUS CUMULATIVE

Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\AME.vistro

Scenario 4 Existing Plus Ambient Growth Plus Project Plus Cumulative AM Peak Hour

Report File: G:\...\AMEAPC.pdf

7/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-15 SB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.913	42.2	D
2	I-15 NB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	NB Right	0.901	18.7	B
3	Wildomar Trail (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.854	21.1	C
4	Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.884	21.2	C
5	Salida Del Sol (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	1.636	1,765.8	F
6	Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	0.974	424.8	F
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	3.678	5,415.8	F
8	Nutmeg St (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.757	20.1	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: I-15 SB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	42.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.913

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	2	0	1	0	0	0	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	680.00	100.00	100.00	100.00	100.00	100.00	160.00	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			35.00			35.00		
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	411	4	410	0	937	725	307	807	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0000	1.0404	1.0404	1.0404	1.0404	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	232	0	46	0	241	31	169	156	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	660	4	473	0	1216	785	488	996	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9710	0.9710	0.9710	1.0000	0.9710	0.9710	0.9710	0.9710	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	170	1	122	0	313	202	126	256	0
Total Analysis Volume [veh/h]	0	0	0	680	4	487	0	1252	808	503	1026	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]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	120	0	0	120	0	120	120	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	89	0	0	20	0	11	31	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	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
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]		120	120	120	120	120	120	120
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	65	65	20	89
g / C, Green / Cycle		0.19	0.19	0.19	0.54	0.54	0.17	0.74
(v / s)_i Volume / Saturation Flow Rate		0.19	0.19	0.17	0.24	0.49	0.14	0.20
s, saturation flow rate [veh/h]		1781	1782	2813	5094	1589	3459	5094
c, Capacity [veh/h]		337	337	533	2773	865	575	3790
d1, Uniform Delay [s]		48.50	48.49	47.43	16.37	24.62	48.58	4.89
k, delay calibration		0.50	0.50	0.50	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
d2, Incremental Delay [s]		84.58	84.09	23.99	0.11	4.28	3.73	0.04
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	0.98	0.89	0.44	0.91	0.85	0.26
d, Delay for Lane Group [s/veh]		133.08	132.58	71.42	16.48	28.90	52.30	4.92
Lane Group LOS		F	F	E	B	C	D	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		17.77	17.73	8.64	6.46	19.77	7.31	2.26
50th-Percentile Queue Length [ft/ln]		444.26	443.19	215.91	161.56	494.30	182.81	56.38
95th-Percentile Queue Length [veh/ln]		24.68	24.63	13.46	10.63	27.06	11.75	4.06
95th-Percentile Queue Length [ft/ln]		617.09	615.81	336.40	265.78	676.61	293.68	101.48

Movement, Approach, & Intersection Results

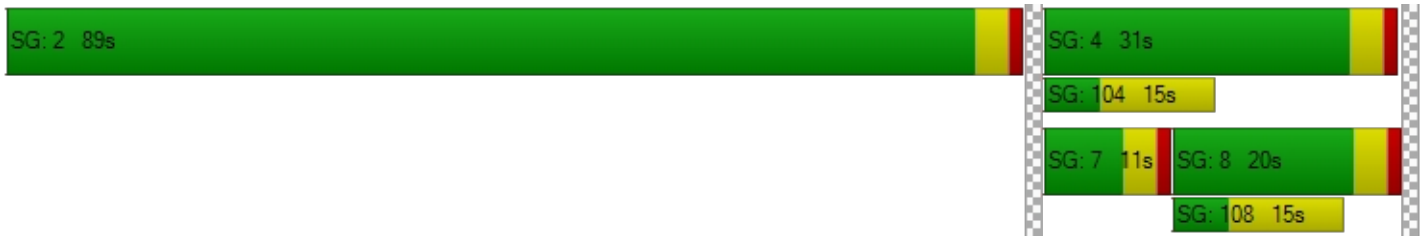
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	132.83	132.58	71.42	0.00	16.48	28.90	52.30	4.92	0.00
Movement LOS				F	F	E		B	C	D	A	
d_A, Approach Delay [s/veh]	0.00			107.28			21.35			20.50		
Approach LOS	A			F			C			C		
d_I, Intersection Delay [s/veh]	42.22											
Intersection LOS	D											
Intersection V/C	0.913											

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]	51.35	51.35	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.353	2.537	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	1416	267	450
d_b, Bicycle Delay [s]	60.02	5.11	45.08	36.05
l_b,int, Bicycle LOS Score for Intersection	4.132	3.436	2.660	2.376
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 2: I-15 NB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	18.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.901

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	0
Entry Pocket Length [ft]	650.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
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	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
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]	300	2	236	0	0	0	409	939	0	0	814	598
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0000	1.0000	1.0404	1.0404
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	47	426	0	0	325	172
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	312	2	246	0	0	0	473	1403	0	0	1172	794
Peak Hour Factor	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000	0.9600	0.9600	1.0000	1.0000	0.9600	0.9600
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]	81	1	64	0	0	0	123	365	0	0	305	207
Total Analysis Volume [veh/h]	325	2	256	0	0	0	493	1461	0	0	1221	827
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	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	120	0	0	0	0	120	120	0	0	120	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	15	0	0	0	0	15	55	0	0	40	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	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
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]	11	11	11		11	51	36	36
g / C, Green / Cycle	0.16	0.16	0.16		0.16	0.73	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.11		0.14	0.28	0.23	0.50
s, saturation flow rate [veh/h]	1781	1705	1589		3459	5094	5094	1589
c, Capacity [veh/h]	284	272	254		544	3699	2607	813
d1, Uniform Delay [s]	27.80	27.80	27.80		28.81	3.62	10.84	16.68
k, delay calibration	0.50	0.50	0.50		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
d2, Incremental Delay [s]	13.79	14.43	15.52		4.68	0.06	0.12	14.56
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	0.69	0.69	0.69		0.87	0.38	0.45	0.98
d, Delay for Lane Group [s/veh]	41.58	42.23	43.32		33.49	3.69	10.96	31.24
Lane Group LOS	D	D	D		C	A	B	C
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.06	3.94	3.76		3.99	1.44	3.26	13.38
50th-Percentile Queue Length [ft/ln]	101.58	98.53	93.88		99.80	35.95	81.44	334.61
95th-Percentile Queue Length [veh/ln]	7.31	7.09	6.76		7.19	2.59	5.86	19.38
95th-Percentile Queue Length [ft/ln]	182.85	177.36	168.99		179.65	64.71	146.60	484.61

Movement, Approach, & Intersection Results

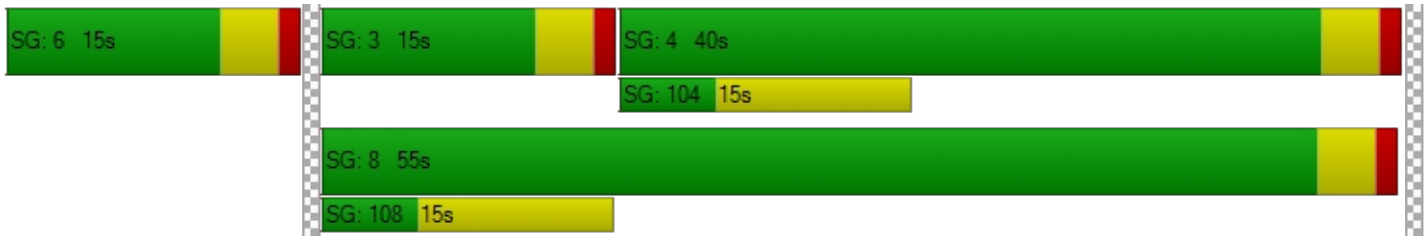
d_M, Delay for Movement [s/veh]	41.84	42.23	43.04	0.00	0.00	0.00	33.49	3.69	0.00	0.00	10.96	31.24
Movement LOS	D	D	D				C	A			B	C
d_A, Approach Delay [s/veh]	42.34			0.00			11.20			19.15		
Approach LOS	D			A			B			B		
d_I, Intersection Delay [s/veh]	18.71											
Intersection LOS	B											
Intersection V/C	0.901											

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]	26.59	26.59	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.256	2.322	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]	314	0	1457	1028
d_b, Bicycle Delay [s]	24.87	35.01	2.58	8.26
l_b,int, Bicycle LOS Score for Intersection	2.484	4.132	2.591	2.641
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 3: Wildomar Trail (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	21.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.854

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]	95.00	100.00	100.00	95.00	100.00	100.00	125.00	100.00	100.00	295.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	2
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]	25.00			40.00			35.00			35.00		
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]	60	36	38	110	27	220	106	889	21	70	911	38
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	85	0	22	72	0	86	41	259	74	31	235	60
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	37	62	186	28	315	151	1184	96	104	1183	100
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	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]	39	10	16	49	7	84	40	315	26	28	315	27
Total Analysis Volume [veh/h]	156	39	66	198	30	335	161	1260	102	111	1259	106
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	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	21	0	0	21	0	20	28	0	11	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	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
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]	60	60	60	60	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	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]	17	17	17	17	17	7	25	25	6	24	24
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.12	0.41	0.41	0.10	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.16	0.07	0.16	0.02	0.22	0.09	0.27	0.27	0.06	0.37	0.07
s, saturation flow rate [veh/h]	934	1515	1166	1683	1431	1603	3204	1619	1603	3204	1431
c, Capacity [veh/h]	358	440	375	489	415	190	1324	669	155	1254	560
d1, Uniform Delay [s]	19.77	16.17	21.82	15.37	19.38	25.76	14.07	14.07	26.21	17.63	11.96
k, delay calibration	0.50	0.50	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	1.00	1.00
d2, Incremental Delay [s]	3.49	1.19	4.71	0.22	13.19	7.83	0.53	1.04	5.13	4.92	0.15
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	0.22	0.50	0.06	0.76	0.80	0.64	0.64	0.67	0.94	0.18
d, Delay for Lane Group [s/veh]	23.27	17.36	26.53	15.60	32.58	33.59	14.59	15.11	31.33	22.55	12.11
Lane Group LOS	C	B	C	B	C	C	B	B	C	C	B
Critical Lane Group	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.05	1.12	2.64	0.27	4.96	2.34	3.94	4.08	1.55	7.43	0.78
50th-Percentile Queue Length [ft/ln]	51.37	27.98	66.02	6.82	124.07	58.62	98.56	101.99	38.75	185.74	19.43
95th-Percentile Queue Length [veh/ln]	3.70	2.01	4.75	0.49	8.62	4.22	7.10	7.34	2.79	11.90	1.40
95th-Percentile Queue Length [ft/ln]	92.46	50.36	118.83	12.28	215.41	105.52	177.40	183.59	69.74	297.49	34.97

Movement, Approach, & Intersection Results

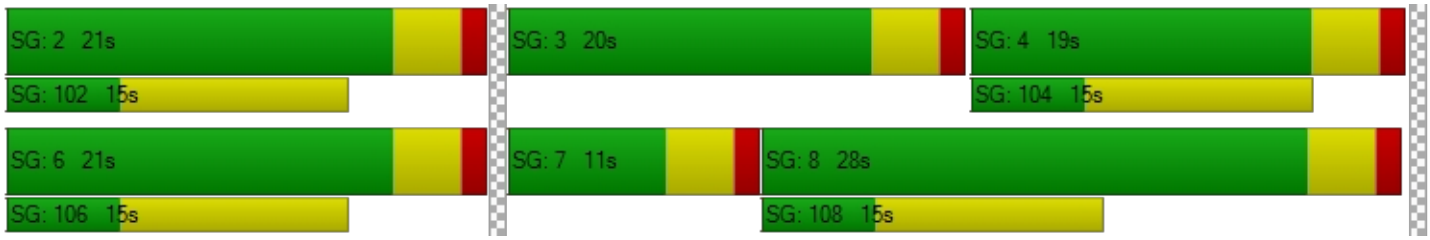
d_M, Delay for Movement [s/veh]	23.27	17.36	17.36	26.53	15.60	32.58	33.59	14.74	15.11	31.33	22.55	12.11
Movement LOS	C	B	B	C	B	C	C	B	B	C	C	B
d_A, Approach Delay [s/veh]	20.89			29.55			16.75			22.46		
Approach LOS	C			C			B			C		
d_I, Intersection Delay [s/veh]	21.12											
Intersection LOS	C											
Intersection V/C	0.854											

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]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.049	2.377	3.226	3.297
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]	566	566	800	500
d_b, Bicycle Delay [s]	15.42	15.42	10.81	16.88
l_b,int, Bicycle LOS Score for Intersection	1.966	2.432	2.347	2.704
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: Inland Valley Dr (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	21.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.884

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	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	300.00	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	1
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	100.00
Speed [mph]	45.00			30.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	239	0	37	0	0	0	0	611	437	112	795	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0000	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0404	1.0404	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	0	24	0	0	0	0	301	58	9	246	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	331	0	62	0	0	0	0	937	513	126	1073	0
Peak Hour Factor	0.9640	1.0000	0.9640	1.0000	1.0000	1.0000	0.9640	0.9640	0.9640	0.9640	0.9640	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]	86	0	16	0	0	0	0	243	133	33	278	0
Total Analysis Volume [veh/h]	343	0	64	0	0	0	0	972	532	131	1113	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]	85
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	0	0	0	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	0	0	0	0	0	7	7	0	7	7	0
Maximum Green [s]	120	0	0	0	0	0	120	120	0	120	120	0
Amber [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	0	0	0	0	0	11	19	0	44	52	0
Vehicle Extension [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	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
Rest In Walk	No							No			No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
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	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	R		L	C	R	L	C
C, Cycle Length [s]	85	85		85	85	85	85	85
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]	18	18		0	48	48	8	55
g / C, Green / Cycle	0.21	0.21		0.00	0.56	0.56	0.09	0.65
(v / s)_i Volume / Saturation Flow Rate	0.19	0.04		0.00	0.26	0.32	0.07	0.57
s, saturation flow rate [veh/h]	1781	1589		1781	3560	1589	1781	1870
c, Capacity [veh/h]	368	329		1	1995	891	164	1219
d1, Uniform Delay [s]	32.90	27.88		0.00	11.17	12.16	37.76	12.12
k, delay calibration	0.11	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]	8.96	0.28		0.00	0.80	2.74	7.73	10.39
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	0.90	0.19		0.00	0.47	0.58	0.77	0.88
d, Delay for Lane Group [s/veh]	41.86	28.15		0.00	11.97	14.89	45.49	22.51
Lane Group LOS	D	C		A	B	B	D	C
Critical Lane Group	Yes	No		No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.09	1.01		0.00	4.84	6.18	2.78	15.22
50th-Percentile Queue Length [ft/ln]	177.32	25.13		0.00	120.92	154.39	69.49	380.61
95th-Percentile Queue Length [veh/ln]	11.46	1.81		0.00	8.44	10.25	5.00	21.62
95th-Percentile Queue Length [ft/ln]	286.51	45.23		0.00	211.09	256.28	125.08	540.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.86	0.00	28.15	0.00	0.00	0.00	0.00	11.97	14.89	45.49	22.51	0.00
Movement LOS	D		C				A	B	B	D	C	
d_A, Approach Delay [s/veh]	39.70			0.00			13.00			24.93		
Approach LOS	D			A			B			C		
d_I, Intersection Delay [s/veh]	21.15											
Intersection LOS	C											
Intersection V/C	0.884											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	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]	34.01	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.442	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	423	0	353	1128
d_b, Bicycle Delay [s]	26.44	42.54	28.86	8.08
l_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.756	3.538
Bicycle LOS	A	D	C	D

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Salida Del Sol (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	1,765.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	1.636

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	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	100.00	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]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	17	0	8	10	636	0	0	888	26
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	44	5	9	6	5	0	0	295	0	16	211	8
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
Total Hourly Volume [veh/h]	44	5	9	24	5	8	10	957	0	16	1135	35
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
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]	12	1	2	6	1	2	3	256	0	4	303	9
Total Analysis Volume [veh/h]	47	5	10	26	5	9	11	1024	0	17	1214	37
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.64	0.12	0.03	0.89	0.11	0.03	0.02	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	1765.82	1716.72	1643.47	611.29	560.15	492.49	11.13	0.00	0.00	10.03	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	17.66	17.66	17.66	7.81	7.81	7.81	0.05	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	441.47	441.47	441.47	195.32	195.32	195.32	1.28	0.00	0.00	0.68	0.68	0.68
d_A, Approach Delay [s/veh]	1742.60			578.69			0.12			0.14		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	54.61											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 6: Elizabeth Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	424.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.974

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	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	250.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	4	0	4	6	0	38	18	626	7	5	872	6
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	39	0	6	4	0	10	9	180	0	119	186	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
Total Hourly Volume [veh/h]	43	0	10	10	0	50	28	831	7	124	1093	10
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
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]	12	0	3	3	0	13	8	224	2	33	294	3
Total Analysis Volume [veh/h]	46	0	11	11	0	54	30	895	8	133	1177	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.97	0.00	0.02	0.26	0.00	0.10	0.04	0.01	0.00	0.16	0.01	0.00
d_M, Delay for Movement [s/veh]	424.82	450.68	349.48	111.91	124.73	25.13	10.99	0.00	0.00	10.39	0.00	0.00
Movement LOS	F	F	F	F	F	D	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	8.79	8.79	8.79	1.68	1.68	1.68	0.14	0.00	0.00	0.56	0.00	0.00
95th-Percentile Queue Length [ft/ln]	219.86	219.86	219.86	42.05	42.05	42.05	3.49	0.00	0.00	13.90	0.00	0.00
d_A, Approach Delay [s/veh]	410.61			39.60			0.36			1.05		
Approach LOS	F			E			A			A		
d_I, Intersection Delay [s/veh]	11.67											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	5,415.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	3.678

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	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	3	4	637	7	1	878
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	190	143	167	37	191	236
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]	193	147	830	44	192	1149
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	40	224	12	52	310
Total Analysis Volume [veh/h]	208	159	896	48	207	1241
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	3.68	0.26	0.01	0.00	0.25	0.01
d_M, Delay for Movement [s/veh]	5415.78	5353.52	0.00	0.00	11.25	0.00
Movement LOS	F	F	A	A	B	A
95th-Percentile Queue Length [veh/ln]	130.72	130.72	0.00	0.00	1.00	0.00
95th-Percentile Queue Length [ft/ln]	3268.07	3268.07	0.00	0.00	24.92	0.00
d_A, Approach Delay [s/veh]	5388.86		0.00		1.61	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	717.95					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Nutmeg St (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.757

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	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	175.00	100.00	100.00	50.00	100.00	100.00	180.00	100.00	100.00	225.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	112	30	275	100	62	32	34	621	96	380	703	70
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	0	0	50	21	82	6	0	133	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	31	286	104	65	83	56	728	106	395	864	73
Peak Hour Factor	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750
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]	32	8	73	27	17	21	14	187	27	101	222	19
Total Analysis Volume [veh/h]	127	32	293	107	67	85	57	747	109	405	886	75
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	22	22	0	19	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	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
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	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	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	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	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]	18	18	18	18	18	18	4	15	15	15	25	25
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.31	0.07	0.25	0.25	0.25	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.10	0.02	0.18	0.10	0.03	0.05	0.03	0.20	0.07	0.22	0.24	0.05
s, saturation flow rate [veh/h]	1239	1870	1589	1062	1870	1589	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	447	574	488	413	574	488	132	870	388	445	1496	668
d1, Uniform Delay [s]	18.14	14.73	17.67	17.50	15.01	15.29	26.70	21.64	18.45	21.80	13.38	10.62
k, delay calibration	0.50	0.50	0.50	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	1.00	1.00	1.00
d2, Incremental Delay [s]	1.54	0.18	5.20	1.46	0.40	0.76	2.18	2.27	0.38	6.69	0.35	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	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	0.28	0.05	0.59	0.25	0.11	0.17	0.43	0.84	0.27	0.89	0.58	0.11
d, Delay for Lane Group [s/veh]	19.68	14.91	22.87	18.97	15.41	16.04	28.88	23.92	18.82	28.49	13.73	10.69
Lane Group LOS	B	B	C	B	B	B	C	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.40	0.28	3.50	1.18	0.62	0.83	0.77	4.41	1.07	5.39	3.55	0.48
50th-Percentile Queue Length [ft/ln]	34.89	7.04	87.57	29.46	15.49	20.63	19.24	110.36	26.70	134.66	88.80	12.00
95th-Percentile Queue Length [veh/ln]	2.51	0.51	6.31	2.12	1.12	1.49	1.39	7.86	1.92	9.19	6.39	0.86
95th-Percentile Queue Length [ft/ln]	62.80	12.67	157.63	53.02	27.88	37.13	34.64	196.50	48.06	229.82	159.84	21.59

Movement, Approach, & Intersection Results

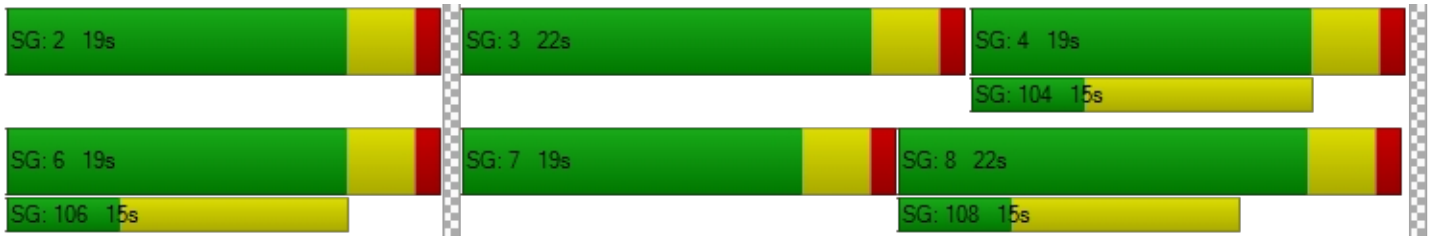
d_M, Delay for Movement [s/veh]	19.68	14.91	22.87	18.97	15.41	16.04	28.88	23.92	18.82	28.49	13.73	10.69
Movement LOS	B	B	C	B	B	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	21.41			17.09			23.62			17.94		
Approach LOS	C			B			C			B		
d_I, Intersection Delay [s/veh]	20.13											
Intersection LOS	C											
Intersection V/C	0.757											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	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]	21.75	21.75	0.00	21.75
l_p,int, Pedestrian LOS Score for Intersection	2.480	2.246	0.000	3.179
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	499	598	499
d_b, Bicycle Delay [s]	16.95	16.95	14.77	16.95
l_b,int, Bicycle LOS Score for Intersection	2.287	1.975	2.294	2.659
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\PME.vistro

Scenario 4 Existing Plus Ambient Growth Plus Project Plus Cumulative PM Peak Hour

Report File: G:\...\PMEAPC.pdf

7/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-15 SB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.852	30.7	C
2	I-15 NB Ramps (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	NB Right	0.980	32.0	C
3	Wildomar Trail (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.933	30.7	C
4	Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Thru	1.036	69.6	E
5	Salida Del Sol (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	6.137	10,000.0	F
6	Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	6.093	9,558.0	F
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Two-way stop	HCM 7th Edition	NB Left	6.300	10,000.0	F
8	Nutmeg St (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.778	20.4	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: I-15 SB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.852

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	2	0	1	0	0	0	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	680.00	100.00	100.00	100.00	100.00	100.00	160.00	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			35.00			35.00		
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	523	1	394	0	1004	519	279	1092	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0000	1.0404	1.0404	1.0404	1.0404	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	276	0	60	0	272	34	290	242	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	820	1	470	0	1317	574	580	1378	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9490	0.9490	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	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	216	0	124	0	347	151	153	363	0
Total Analysis Volume [veh/h]	0	0	0	864	1	495	0	1388	605	611	1452	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]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	120	0	0	120	0	120	120	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	80	0	0	19	0	11	30	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	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
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]		110	110	110	110	110	110	110
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]		29	29	29	47	47	22	73
g / C, Green / Cycle		0.27	0.27	0.27	0.43	0.43	0.20	0.66
(v / s)_i Volume / Saturation Flow Rate		0.23	0.23	0.17	0.26	0.36	0.17	0.27
s, saturation flow rate [veh/h]		1781	1781	2813	5094	1589	3459	5094
c, Capacity [veh/h]		474	474	749	2181	680	681	3368
d1, Uniform Delay [s]		38.52	38.52	35.59	24.28	28.18	42.66	8.66
k, delay calibration		0.50	0.50	0.50	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
d2, Incremental Delay [s]		22.50	22.48	4.03	0.27	3.05	3.25	0.08
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	0.87	0.63	0.60	0.84	0.85	0.41
d, Delay for Lane Group [s/veh]		61.02	61.00	39.62	24.55	31.23	45.91	8.74
Lane Group LOS		E	E	D	C	C	D	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		13.38	13.38	5.93	8.57	13.49	7.78	4.59
50th-Percentile Queue Length [ft/ln]		334.58	334.52	148.27	214.18	337.33	194.50	114.87
95th-Percentile Queue Length [veh/ln]		19.38	19.38	9.92	13.37	19.52	12.35	8.11
95th-Percentile Queue Length [ft/ln]		484.57	484.49	248.12	334.18	487.94	308.86	202.75

Movement, Approach, & Intersection Results

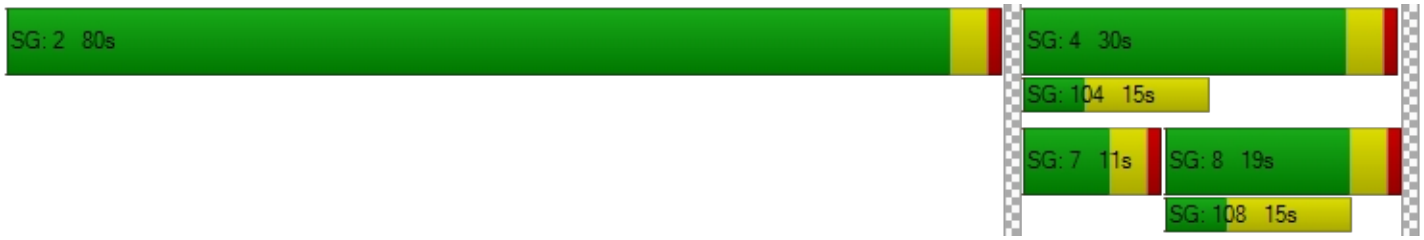
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	61.01	61.00	39.62	0.00	24.55	31.23	45.91	8.74	0.00
Movement LOS				E	E	D		C	C	D	A	
d_A, Approach Delay [s/veh]	0.00			53.22			26.58			19.75		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	30.67											
Intersection LOS	C											
Intersection V/C	0.852											

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]	46.39	46.39	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.289	2.563	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	1381	273	473
d_b, Bicycle Delay [s]	55.02	5.26	41.04	32.09
l_b,int, Bicycle LOS Score for Intersection	4.132	3.690	2.600	2.637
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 2: I-15 NB Ramps (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	32.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.980

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	0
Entry Pocket Length [ft]	650.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
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	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
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]	538	0	364	0	0	0	353	1174	0	0	839	549
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0000	1.0000	1.0404	1.0404
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	51	497	0	0	532	288
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	560	0	379	0	0	0	418	1718	0	0	1405	859
Peak Hour Factor	0.9620	0.9620	0.9620	1.0000	1.0000	1.0000	0.9620	0.9620	1.0000	1.0000	0.9620	0.9620
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]	146	0	98	0	0	0	109	446	0	0	365	223
Total Analysis Volume [veh/h]	582	0	394	0	0	0	435	1786	0	0	1460	893
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]	95
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	120	0	0	0	0	120	120	0	0	120	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	24	0	0	0	0	16	71	0	0	55	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	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
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]	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		12	67	51	51
g / C, Green / Cycle	0.21	0.21	0.21		0.13	0.70	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.18	0.18	0.19		0.12	0.34	0.28	0.54
s, saturation flow rate [veh/h]	1781	1735	1589		3459	5094	5094	1589
c, Capacity [veh/h]	378	368	337		437	3584	2726	851
d1, Uniform Delay [s]	35.83	36.01	36.63		41.25	6.30	14.18	22.09
k, delay calibration	0.50	0.50	0.50		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
d2, Incremental Delay [s]	22.26	25.83	45.96		16.09	0.10	0.15	39.08
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	0.83	0.85	0.92		0.96	0.48	0.52	1.01
d, Delay for Lane Group [s/veh]	58.10	61.83	82.59		57.34	6.40	14.33	61.17
Lane Group LOS	E	E	F		E	A	B	F
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	9.20	9.51	11.21		5.72	4.09	5.95	25.95
50th-Percentile Queue Length [ft/ln]	230.05	237.85	280.19		142.98	102.18	148.70	648.82
95th-Percentile Queue Length [veh/ln]	14.18	14.57	16.70		9.64	7.36	9.95	34.59
95th-Percentile Queue Length [ft/ln]	354.42	364.31	417.44		241.04	183.93	248.69	864.68

Movement, Approach, & Intersection Results

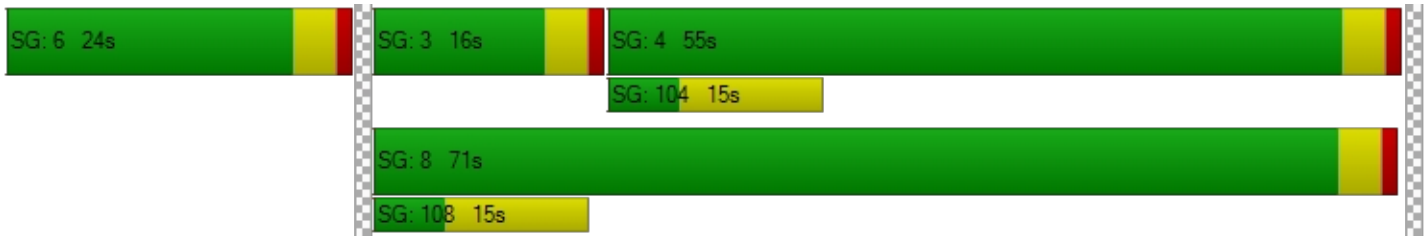
d_M, Delay for Movement [s/veh]	59.74	61.83	78.94	0.00	0.00	0.00	57.34	6.40	0.00	0.00	14.33	61.17
Movement LOS	E	E	E				E	A			B	F
d_A, Approach Delay [s/veh]	67.43			0.00			16.37			32.10		
Approach LOS	E			A			B			C		
d_I, Intersection Delay [s/veh]	32.02											
Intersection LOS	C											
Intersection V/C	0.980											

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]	38.93	38.93	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.364	2.342	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]	421	0	1410	1073
d_b, Bicycle Delay [s]	29.61	47.51	4.13	10.20
l_b,int, Bicycle LOS Score for Intersection	3.109	4.132	2.734	2.805
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 3: Wildomar Trail (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.933

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]	95.00	100.00	100.00	95.00	100.00	100.00	125.00	100.00	100.00	295.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	2
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]	25.00			40.00			35.00			35.00		
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]	45	37	79	90	38	111	182	1072	28	109	958	45
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	118	0	31	97	0	103	70	263	56	23	412	115
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	165	38	113	191	40	218	259	1378	85	136	1409	162
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
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	10	30	51	11	58	69	365	23	36	374	43
Total Analysis Volume [veh/h]	175	40	120	203	42	231	275	1461	90	144	1494	172
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	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	16	38	0	13	35	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	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
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]	70	70	70	70	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	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]	15	15	15	15	15	12	36	36	7	31	31
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.22	0.17	0.51	0.51	0.10	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.16	0.10	0.17	0.02	0.15	0.16	0.30	0.30	0.08	0.44	0.11
s, saturation flow rate [veh/h]	1009	1487	1112	1683	1431	1603	3204	1633	1603	3204	1431
c, Capacity [veh/h]	277	321	219	364	309	275	1629	830	167	1414	631
d1, Uniform Delay [s]	28.62	23.95	32.79	22.04	25.39	28.66	12.13	12.14	30.69	19.52	12.33
k, delay calibration	0.50	0.50	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	1.00	1.00
d2, Incremental Delay [s]	9.39	4.95	46.75	0.61	13.61	19.47	0.35	0.69	9.85	19.50	0.21
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
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	0.47	0.87	0.11	0.71	0.94	0.59	0.60	0.81	1.00	0.26
d, Delay for Lane Group [s/veh]	38.01	28.90	79.54	22.65	38.99	48.13	12.48	12.83	40.54	39.01	12.54
Lane Group LOS	D	C	E	C	D	D	B	B	D	D	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.37	2.56	5.92	0.55	4.23	5.50	4.55	4.72	2.58	13.56	1.45
50th-Percentile Queue Length [ft/ln]	84.37	64.00	147.99	13.76	105.87	137.57	113.65	117.97	64.60	339.04	36.29
95th-Percentile Queue Length [veh/ln]	6.07	4.61	9.91	0.99	7.61	9.35	8.04	8.28	4.65	19.60	2.61
95th-Percentile Queue Length [ft/ln]	151.87	115.19	247.74	24.77	190.24	233.75	201.07	207.03	116.28	490.03	65.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.01	28.90	28.90	79.54	22.65	38.99	48.13	12.58	12.83	40.54	39.01	12.54
Movement LOS	D	C	C	E	C	D	D	B	B	D	D	B
d_A, Approach Delay [s/veh]	33.66			54.78			17.94			36.62		
Approach LOS	C			D			B			D		
d_I, Intersection Delay [s/veh]	30.67											
Intersection LOS	C											
Intersection V/C	0.933											

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]	26.58	26.58	26.58	26.58
l_p,int, Pedestrian LOS Score for Intersection	2.085	2.415	3.343	3.405
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]	429	429	971	886
d_b, Bicycle Delay [s]	21.61	21.61	9.26	10.87
l_b,int, Bicycle LOS Score for Intersection	2.081	2.300	2.507	2.968
Bicycle LOS	B	B	B	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 4: Inland Valley Dr (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	69.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	1 hour	Volume to Capacity (v/c):	1.036

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	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	300.00	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	1
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	100.00
Speed [mph]	45.00			30.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	374	0	82	0	0	0	0	907	310	31	743	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0000	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0404	1.0404	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	116	0	11	0	0	0	0	289	106	20	441	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	505	0	96	0	0	0	0	1233	429	52	1214	0
Peak Hour Factor	0.9650	1.0000	0.9650	1.0000	1.0000	1.0000	0.9650	0.9650	0.9650	0.9650	0.9650	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]	131	0	25	0	0	0	0	319	111	13	315	0
Total Analysis Volume [veh/h]	523	0	99	0	0	0	0	1278	445	54	1258	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]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	0	0	0	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	0	0	0	0	0	7	7	0	7	7	0
Maximum Green [s]	120	0	0	0	0	0	120	120	0	120	120	0
Amber [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	37	0	0	0	0	0	11	45	0	38	72	0
Vehicle Extension [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	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
Rest In Walk	No							No			No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
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	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	R		L	C	R	L	C
C, Cycle Length [s]	120	120		120	120	120	120	120
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		0	69	69	6	75
g / C, Green / Cycle	0.28	0.28		0.00	0.58	0.58	0.05	0.62
(v / s)_i Volume / Saturation Flow Rate	0.28	0.06		0.00	0.35	0.27	0.03	0.65
s, saturation flow rate [veh/h]	1781	1589		1781	3560	1589	1781	1870
c, Capacity [veh/h]	490	437		2	2051	915	88	1167
d1, Uniform Delay [s]	43.58	33.62		0.00	16.54	14.81	55.99	22.60
k, delay calibration	0.11	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]	74.75	0.25		0.00	1.32	1.73	6.45	101.03
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	1.03	0.22		0.00	0.60	0.47	0.59	1.04
d, Delay for Lane Group [s/veh]	118.33	33.87		0.00	17.86	16.54	62.44	123.63
Lane Group LOS	F	C		A	B	B	E	F
Critical Lane Group	Yes	No		No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	24.12	2.14		0.00	10.77	6.92	1.67	60.58
50th-Percentile Queue Length [ft/ln]	602.92	53.44		0.00	269.30	172.93	41.66	1514.45
95th-Percentile Queue Length [veh/ln]	32.80	3.85		0.00	16.15	11.23	3.00	76.05
95th-Percentile Queue Length [ft/ln]	820.05	96.19		0.00	403.87	280.76	74.98	1901.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	118.33	0.00	33.87	0.00	0.00	0.00	0.00	17.86	16.54	62.44	123.63	0.00
Movement LOS	F		C				A	B	B	E	F	
d_A, Approach Delay [s/veh]	104.84			0.00			17.52			121.12		
Approach LOS	F			A			B			F		
d_I, Intersection Delay [s/veh]	69.56											
Intersection LOS	E											
Intersection V/C	1.036											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	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]	51.40	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.483	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	549	0	683	1132
d_b, Bicycle Delay [s]	31.59	60.06	26.06	11.31
l_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.931	3.649
Bicycle LOS	A	D	C	D

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Salida Del Sol (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	6.137

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	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	100.00	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]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	9	0	7	7	979	0	0	768	17
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	65	7	14	5	7	0	0	259	0	23	396	19
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
Total Hourly Volume [veh/h]	65	7	14	14	7	7	7	1278	0	23	1195	37
Peak Hour Factor	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470
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	2	4	4	2	2	2	337	0	6	315	10
Total Analysis Volume [veh/h]	69	7	15	15	7	7	7	1350	0	24	1262	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	6.14	0.32	0.07	1.40	0.31	0.03	0.01	0.01	0.00	0.04	0.01	0.00
d_M, Delay for Movement [s/veh]	10000.0	10000.0	10000.0	2096.19	1894.89	1752.85	11.45	0.00	0.00	11.65	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	39.66	39.66	39.66	10.10	10.10	10.10	0.04	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	991.49	991.49	991.49	252.54	252.54	252.54	0.94	0.00	0.00	0.98	0.98	0.98
d_A, Approach Delay [s/veh]	10000.00			1960.03			0.06			0.21		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	344.85											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 6: Elizabeth Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9,558.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	6.093

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	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	250.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	3	0	4	3	0	39	46	930	8	0	743	10
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	172	0	27	4	0	13	12	295	0	32	253	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
Total Hourly Volume [veh/h]	175	0	31	7	0	54	60	1263	8	32	1026	14
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
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]	46	0	8	2	0	14	16	334	2	8	272	4
Total Analysis Volume [veh/h]	185	0	33	7	0	57	64	1338	8	34	1087	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	6.09	0.00	0.07	0.20	0.00	0.11	0.09	0.01	0.00	0.06	0.01	0.00
d_M, Delay for Movement [s/veh]	9557.98	9578.94	9441.18	114.19	158.50	20.03	10.96	0.00	0.00	12.05	0.00	0.00
Movement LOS	F	F	F	F	F	C	B	A	A	B	A	A
95th-Percentile Queue Length [veh/ln]	89.74	89.74	89.74	1.29	1.29	1.29	0.30	0.00	0.00	0.19	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2243.54	2243.54	2243.54	32.29	32.29	32.29	7.44	0.00	0.00	4.70	0.00	0.00
d_A, Approach Delay [s/veh]	9540.40			30.83			0.49			0.36		
Approach LOS	F			D			A			A		
d_I, Intersection Delay [s/veh]	737.17											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	1 hour	Volume to Capacity (v/c):	6.300

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	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	7	4	929	7	2	740
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	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	176	127	301	40	168	210
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]	183	131	1268	47	170	980
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	35	338	13	45	261
Total Analysis Volume [veh/h]	195	140	1352	50	181	1045
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
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	6.30	0.32	0.01	0.00	0.33	0.01
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	15.23	0.00
Movement LOS	F	F	A	A	C	A
95th-Percentile Queue Length [veh/ln]	136.73	136.73	0.00	0.00	1.44	0.00
95th-Percentile Queue Length [ft/ln]	3418.34	3418.34	0.00	0.00	35.96	0.00
d_A, Approach Delay [s/veh]	10000.00		0.00		2.25	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	1130.83					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: Nutmeg St (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.778

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	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	175.00	100.00	100.00	50.00	100.00	100.00	180.00	100.00	100.00	225.00	100.00	100.00
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	100.00	0.00	0.00	0.00
Speed [mph]	45.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	51	37	279	63	28	18	47	680	68	346	677	94
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
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	28	46	139	7	0	115	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	38	290	66	29	47	95	846	78	360	819	98
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
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]	16	10	77	18	8	12	25	225	21	96	217	26
Total Analysis Volume [veh/h]	63	40	308	70	31	50	101	898	83	382	869	104
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	19	0	0	19	0	22	21	0	20	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	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
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	R	L	C	R	L	C	R
C, Cycle Length [s]	60	60	60	60	60	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	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	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]	18	18	18	18	18	18	6	17	17	14	25	25
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.29	0.09	0.28	0.28	0.23	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.18	0.06	0.02	0.03	0.05	0.24	0.05	0.20	0.23	0.06
s, saturation flow rate [veh/h]	1323	1870	1589	1052	1870	1589	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	466	549	467	392	549	467	168	975	435	415	1469	656
d1, Uniform Delay [s]	17.14	15.32	18.36	17.63	15.24	15.46	26.06	20.81	16.68	22.17	13.48	11.06
k, delay calibration	0.50	0.50	0.50	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	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	0.24	6.27	0.93	0.18	0.43	3.01	2.59	0.20	5.96	0.33	0.10
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	0.13	0.07	0.62	0.17	0.05	0.10	0.57	0.87	0.18	0.87	0.56	0.15
d, Delay for Lane Group [s/veh]	17.70	15.56	24.63	18.56	15.43	15.90	29.07	23.40	16.88	28.13	13.81	11.16
Lane Group LOS	B	B	C	B	B	B	C	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.61	0.36	3.74	0.74	0.28	0.47	1.30	5.08	0.72	4.86	3.37	0.67
50th-Percentile Queue Length [ft/ln]	15.35	8.92	93.43	18.47	6.94	11.66	32.52	127.01	18.07	121.50	84.24	16.68
95th-Percentile Queue Length [veh/ln]	1.11	0.64	6.73	1.33	0.50	0.84	2.34	8.78	1.30	8.48	6.07	1.20
95th-Percentile Queue Length [ft/ln]	27.63	16.06	168.18	33.25	12.48	20.98	58.53	219.42	32.52	211.88	151.63	30.03

Movement, Approach, & Intersection Results

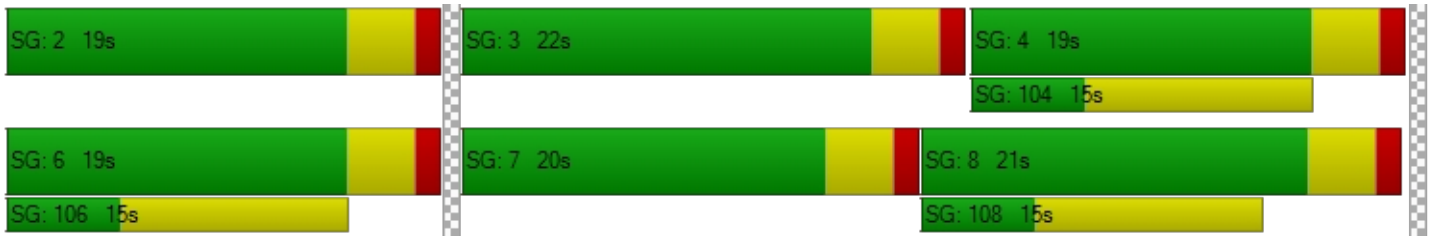
d_M, Delay for Movement [s/veh]	17.70	15.56	24.63	18.56	15.43	15.90	29.07	23.40	16.88	28.13	13.81	11.16
Movement LOS	B	B	C	B	B	B	C	C	B	C	B	B
d_A, Approach Delay [s/veh]	22.68			17.04			23.43			17.64		
Approach LOS	C			B			C			B		
d_I, Intersection Delay [s/veh]	20.39											
Intersection LOS	C											
Intersection V/C	0.778											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	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]	21.71	21.71	0.00	21.71
l_p,int, Pedestrian LOS Score for Intersection	2.424	2.233	0.000	3.132
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	499	566	499
d_b, Bicycle Delay [s]	16.91	16.91	15.44	16.91
l_b,int, Bicycle LOS Score for Intersection	2.198	1.794	2.400	2.613
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\AME.vistro

Scenario 5 Existing Plus Ambient Growth Plus Project Plus Cumulative AM Peak Hour - With Improvements

Report File: G:\...\AMEAPCI.pdf

10/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
4	Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.759	12.9	B
5	Salida Del Sol (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.822	13.3	B
6	Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.476	9.4	A
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.567	11.5	B

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 4: Inland Valley Dr (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.759

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	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	210.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	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]	45.00			30.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	239	0	37	0	0	0	0	611	437	112	795	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0000	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0404	1.0404	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	0	24	0	0	0	0	301	58	9	246	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	331	0	62	0	0	0	0	937	513	126	1073	0
Peak Hour Factor	0.9640	1.0000	0.9640	1.0000	1.0000	1.0000	0.9640	0.9640	0.9640	0.9640	0.9640	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]	86	0	16	0	0	0	0	243	133	33	278	0
Total Analysis Volume [veh/h]	343	0	64	0	0	0	0	972	532	131	1113	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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	0	0	0	0	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	0	0	0	0	0	7	7	0	7	7	0
Maximum Green [s]	120	0	0	0	0	0	120	120	0	120	120	0
Amber [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	0	0	0	0	0	33	19	0	30	16	0
Vehicle Extension [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	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
Rest In Walk	No							No			No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
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	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	R		L	C	R	L	C
C, Cycle Length [s]	51	51		51	51	51	51	51
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]	12	12		0	21	21	6	27
g / C, Green / Cycle	0.23	0.23		0.00	0.42	0.42	0.11	0.53
(v / s)_i Volume / Saturation Flow Rate	0.19	0.04		0.00	0.26	0.32	0.07	0.30
s, saturation flow rate [veh/h]	1781	1589		1781	3560	1589	1781	3560
c, Capacity [veh/h]	416	371		0	1480	661	205	1889
d1, Uniform Delay [s]	18.35	15.54		0.00	11.78	12.82	21.44	8.02
k, delay calibration	0.11	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
d2, Incremental Delay [s]	3.61	0.21		0.00	0.45	2.04	3.03	0.27
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	0.80	0.17		0.00	0.63	0.78	0.62	0.57
d, Delay for Lane Group [s/veh]	21.96	15.75		0.00	12.24	14.86	24.47	8.29
Lane Group LOS	C	B		A	B	B	C	A
Critical Lane Group	Yes	No		No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.36	0.49		0.00	3.35	4.26	1.38	2.42
50th-Percentile Queue Length [ft/ln]	84.03	12.22		0.00	83.87	106.48	34.51	60.44
95th-Percentile Queue Length [veh/ln]	6.05	0.88		0.00	6.04	7.64	2.48	4.35
95th-Percentile Queue Length [ft/ln]	151.25	22.00		0.00	150.96	191.09	62.12	108.79

Movement, Approach, & Intersection Results

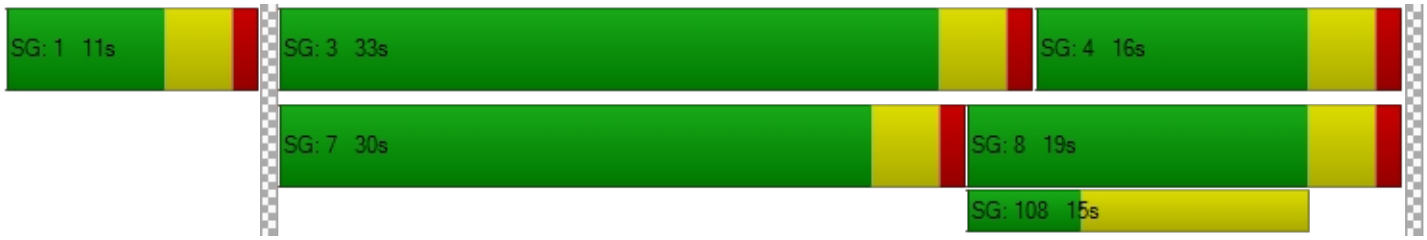
d_M, Delay for Movement [s/veh]	21.96	0.00	15.75	0.00	0.00	0.00	0.00	12.24	14.86	24.47	8.29	0.00
Movement LOS	C		B				A	B	B	C	A	
d_A, Approach Delay [s/veh]	20.98			0.00			13.16			9.99		
Approach LOS	C			A			B			A		
d_I, Intersection Delay [s/veh]	12.92											
Intersection LOS	B											
Intersection V/C	0.759											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	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]	17.17	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.415	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	276	0	591	473
d_b, Bicycle Delay [s]	18.85	25.37	12.59	14.79
l_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.756	2.549
Bicycle LOS	A	D	C	B

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 5: Salida Del Sol (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.822

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]	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	100.00	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]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	17	0	8	10	636	0	0	888	26
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	44	5	9	6	5	0	0	295	0	16	211	8
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	5	9	24	5	8	10	957	0	16	1135	35
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
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]	12	1	2	6	1	2	3	256	0	4	303	9
Total Analysis Volume [veh/h]	47	5	10	26	5	9	11	1024	0	17	1214	37
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	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	11	0	0	11	0	12	98	0	11	97	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	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
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	L	C	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	7	7	2	98	3	99
g / C, Green / Cycle	0.06	0.06	0.06	0.06	0.02	0.82	0.02	0.82
(v / s)_i Volume / Saturation Flow Rate	0.03	0.01	0.02	0.01	0.01	0.57	0.01	0.70
s, saturation flow rate [veh/h]	1261	1512	1259	1518	1603	1683	1603	1674
c, Capacity [veh/h]	103	87	102	88	28	1375	41	1381
d1, Uniform Delay [s]	58.08	53.89	57.22	53.85	58.38	4.66	57.69	6.13
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.79	0.85	1.16	0.77	7.41	2.98	6.19	7.05
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.16	0.23	0.15	0.35	0.70	0.39	0.85
d, Delay for Lane Group [s/veh]	60.87	54.74	58.39	54.62	65.78	7.63	63.89	13.18
Lane Group LOS	E	D	E	D	E	A	E	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.39	0.41	0.73	0.38	0.35	6.75	0.54	11.55
50th-Percentile Queue Length [ft/ln]	34.65	10.36	18.36	9.61	8.81	168.71	13.45	288.63
95th-Percentile Queue Length [veh/ln]	2.49	0.75	1.32	0.69	0.63	11.01	0.97	17.12
95th-Percentile Queue Length [ft/ln]	62.37	18.65	33.05	17.29	15.86	275.22	24.22	427.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.87	54.74	54.74	58.39	54.62	54.62	65.78	7.63	7.63	63.89	13.18	13.18
Movement LOS	E	D	D	E	D	D	E	A	A	E	B	B
d_A, Approach Delay [s/veh]	59.39			57.06			8.24			13.86		
Approach LOS	E			E			A			B		
d_I, Intersection Delay [s/veh]	13.33											
Intersection LOS	B											
Intersection V/C	0.822											

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]	51.40	51.40	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.994	1.998	0.000	0.000
Crosswalk LOS	A	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	117	117	1565	1548
d_b, Bicycle Delay [s]	53.27	53.27	2.84	3.06
l_b,int, Bicycle LOS Score for Intersection	1.655	1.621	3.155	3.517
Bicycle LOS	A	A	C	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Elizabeth Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.476

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]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	250.00	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]	25.00			25.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	4	0	4	6	0	38	18	626	7	5	872	6
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	39	0	6	4	0	10	9	180	0	119	186	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	0	10	10	0	50	28	831	7	124	1093	10
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
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]	12	0	3	3	0	13	8	224	2	33	294	3
Total Analysis Volume [veh/h]	46	0	11	11	0	54	30	895	8	133	1177	11
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	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	11	19	0	11	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	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
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	L	C	C	L	C	C
C, Cycle Length [s]	60	60	60	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	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
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
g_i, Effective Green Time [s]	4	4	4	4	3	37	37	6	41	41
g / C, Green / Cycle	0.07	0.07	0.07	0.07	0.04	0.62	0.62	0.10	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.04	0.01	0.01	0.03	0.02	0.25	0.25	0.08	0.33	0.33
s, saturation flow rate [veh/h]	1219	1431	1264	1431	1603	1683	1678	1603	1683	1678
c, Capacity [veh/h]	138	108	173	108	72	1046	1043	165	1144	1140
d1, Uniform Delay [s]	29.87	25.87	27.83	26.62	27.91	5.74	5.74	26.22	4.60	4.60
k, delay calibration	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
d2, Incremental Delay [s]	1.26	0.36	0.14	3.06	3.38	1.15	1.16	6.93	1.47	1.47
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	0.31	0.09	0.06	0.46	0.39	0.40	0.40	0.75	0.48	0.48
d, Delay for Lane Group [s/veh]	31.14	26.23	27.97	29.67	31.30	6.89	6.90	33.14	6.06	6.07
Lane Group LOS	C	C	C	C	C	A	A	C	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.66	0.14	0.14	0.75	0.42	1.86	1.86	1.85	1.91	1.91
50th-Percentile Queue Length [ft/ln]	16.58	3.49	3.53	18.86	10.52	46.51	46.40	46.30	47.78	47.68
95th-Percentile Queue Length [veh/ln]	1.19	0.25	0.25	1.36	0.76	3.35	3.34	3.33	3.44	3.43
95th-Percentile Queue Length [ft/ln]	29.85	6.29	6.35	33.94	18.94	83.71	83.51	83.34	86.00	85.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.14	26.23	26.23	27.97	29.67	29.67	31.30	6.89	6.90	33.14	6.07	6.07
Movement LOS	C	C	C	C	C	C	C	A	A	C	A	A
d_A, Approach Delay [s/veh]	30.21			29.39			7.68			8.80		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	9.44											
Intersection LOS	A											
Intersection V/C	0.476											

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]	21.71	21.71	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.971	1.947	0.000	0.000
Crosswalk LOS	A	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	866	866	499	499
d_b, Bicycle Delay [s]	9.66	9.66	16.91	16.91
l_b,int, Bicycle LOS Score for Intersection	1.647	1.659	2.274	2.572
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 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.567

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	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	3	4	637	7	1	878
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	190	143	167	37	191	236
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	0	0	0	0	0
Total Hourly Volume [veh/h]	193	147	830	44	192	1149
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	40	224	12	52	310
Total Analysis Volume [veh/h]	208	159	896	48	207	1241
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		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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	0	7	0	7	7
Maximum Green [s]	120	0	120	0	120	120
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]	13	0	19	0	28	47
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]	10	0	10	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	R	C	C	L	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	8	8	31	31	8	44
g / C, Green / Cycle	0.14	0.14	0.52	0.52	0.14	0.73
(v / s)_i Volume / Saturation Flow Rate	0.11	0.09	0.23	0.24	0.11	0.32
s, saturation flow rate [veh/h]	1781	1589	1870	1837	1781	3560
c, Capacity [veh/h]	250	223	974	957	248	2587
d1, Uniform Delay [s]	24.93	24.49	9.01	9.06	24.96	3.32
k, delay calibration	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
d2, Incremental Delay [s]	5.22	3.35	1.50	1.58	5.27	0.56
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.66	0.45	0.46	0.77	0.44
d, Delay for Lane Group [s/veh]	30.15	27.85	10.52	10.64	30.23	3.87
Lane Group LOS	C	C	B	B	C	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.89	2.10	2.92	2.95	2.69	1.04
50th-Percentile Queue Length [ft/ln]	72.36	52.57	73.03	73.70	67.24	25.92
95th-Percentile Queue Length [veh/ln]	5.21	3.79	5.26	5.31	4.84	1.87
95th-Percentile Queue Length [ft/ln]	130.26	94.63	131.45	132.67	121.04	46.65

Movement, Approach, & Intersection Results

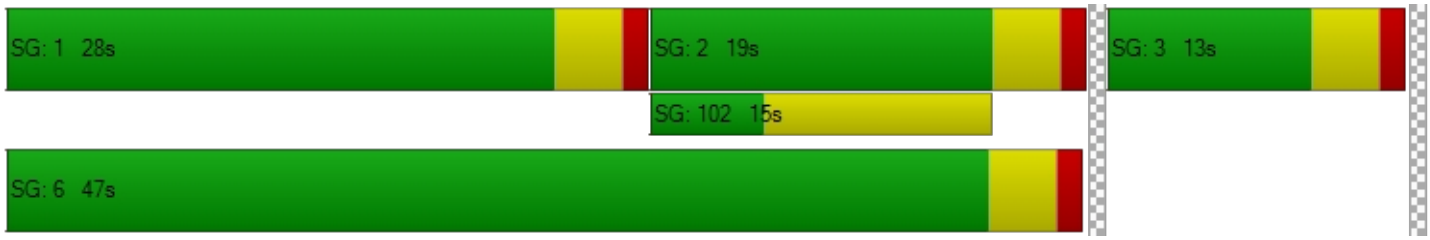
d_M, Delay for Movement [s/veh]	30.15	27.85	10.58	10.64	30.23	3.87
Movement LOS	C	C	B	B	C	A
d_A, Approach Delay [s/veh]	29.15		10.58		7.65	
Approach LOS	C		B		A	
d_I, Intersection Delay [s/veh]	11.51					
Intersection LOS	B					
Intersection V/C	0.567					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0
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]	21.71	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.077	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	499	1432
d_b, Bicycle Delay [s]	21.71	16.91	2.43
l_b,int, Bicycle LOS Score for Intersection	1.560	2.281	2.666
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Beyond Food Mart (Clinton Keith & Jana)

Vistro File: G:\...\PME.vistro

Scenario 5 Existing Plus Ambient Growth Plus Project Plus Cumualtive PM Peak Hour - With Improvements

Report File: G:\...\PMEAPCI.pdf

10/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
4	Inland Valley Dr (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.808	19.2	B
5	Salida Del Sol (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.917	23.9	C
6	Elizabeth Ln (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.645	14.4	B
7	Jana Ln (NS) at Clinton Keith Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.693	12.6	B

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 4: Inland Valley Dr (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.808

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	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	210.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	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]	45.00			30.00			35.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	374	0	82	0	0	0	0	907	310	31	743	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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0000	1.0404	1.0000	1.0000	1.0000	1.0404	1.0404	1.0404	1.0404	1.0404	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	116	0	11	0	0	0	0	289	106	20	441	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	505	0	96	0	0	0	0	1233	429	52	1214	0
Peak Hour Factor	0.9650	1.0000	0.9650	1.0000	1.0000	1.0000	0.9650	0.9650	0.9650	0.9650	0.9650	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]	131	0	25	0	0	0	0	319	111	13	315	0
Total Analysis Volume [veh/h]	523	0	99	0	0	0	0	1278	445	54	1258	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]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	0	0	0	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	0	0	0	0	0	7	7	0	7	7	0
Maximum Green [s]	120	0	0	0	0	0	120	120	0	120	120	0
Amber [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	24	0	0	0	0	0	11	29	0	12	30	0
Vehicle Extension [s]	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	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
Rest In Walk	No							No			No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
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	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	R		L	C	R	L	C
C, Cycle Length [s]	65	65		65	65	65	65	65
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		0	29	29	4	33
g / C, Green / Cycle	0.31	0.31		0.00	0.44	0.44	0.07	0.51
(v / s)_i Volume / Saturation Flow Rate	0.28	0.06		0.00	0.35	0.27	0.03	0.34
s, saturation flow rate [veh/h]	1781	1589		1781	3560	1589	1781	3560
c, Capacity [veh/h]	548	489		3	1568	700	122	1805
d1, Uniform Delay [s]	21.85	16.66		0.00	15.65	14.01	29.19	12.05
k, delay calibration	0.11	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]	7.93	0.19		0.00	4.19	4.05	2.38	2.04
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	0.92	0.20		0.00	0.79	0.61	0.43	0.67
d, Delay for Lane Group [s/veh]	29.78	16.85		0.00	19.84	18.06	31.57	14.09
Lane Group LOS	C	B		A	B	B	C	B
Critical Lane Group	Yes	No		No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	7.53	0.94		0.00	7.51	4.90	0.79	5.43
50th-Percentile Queue Length [ft/ln]	188.33	23.59		0.00	187.66	122.41	19.84	135.78
95th-Percentile Queue Length [veh/ln]	12.03	1.70		0.00	12.00	8.53	1.43	9.25
95th-Percentile Queue Length [ft/ln]	300.86	42.46		0.00	299.99	213.13	35.72	231.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.78	0.00	16.85	0.00	0.00	0.00	0.00	19.84	18.06	31.57	14.09	0.00
Movement LOS	C		B				A	B	B	C	B	
d_A, Approach Delay [s/veh]	27.71			0.00			19.38			14.81		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	19.16											
Intersection LOS	B											
Intersection V/C	0.808											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	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]	24.20	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.453	0.000	0.000	0.000
Crosswalk LOS	B	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	614	0	767	798
d_b, Bicycle Delay [s]	15.64	32.57	12.37	11.76
l_b,int, Bicycle LOS Score for Intersection	1.560	4.132	2.931	2.604
Bicycle LOS	A	D	C	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 5: Salida Del Sol (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.917

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]	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	100.00	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]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	9	0	7	7	979	0	0	768	17
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	65	7	14	5	7	0	0	259	0	23	396	19
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	7	14	14	7	7	7	1278	0	23	1195	37
Peak Hour Factor	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470
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	2	4	4	2	2	2	337	0	6	315	10
Total Analysis Volume [veh/h]	69	7	15	15	7	7	7	1350	0	24	1262	39
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	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	11	0	0	11	0	12	98	0	11	97	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	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
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	L	C	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	7	7	2	97	4	100
g / C, Green / Cycle	0.06	0.06	0.06	0.06	0.01	0.81	0.03	0.83
(v / s)_i Volume / Saturation Flow Rate	0.05	0.01	0.01	0.01	0.00	0.76	0.01	0.74
s, saturation flow rate [veh/h]	1259	1506	1252	1547	1603	1683	1603	1674
c, Capacity [veh/h]	106	89	100	91	21	1361	52	1386
d1, Uniform Delay [s]	58.53	53.98	56.93	53.71	58.79	9.15	57.10	6.75
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.69	1.35	0.63	0.77	8.90	17.58	5.88	9.91
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.24	0.14	0.15	0.33	0.94	0.44	0.89
d, Delay for Lane Group [s/veh]	64.22	55.32	57.56	54.48	67.70	26.73	62.99	16.66
Lane Group LOS	E	E	E	D	E	C	E	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.13	0.63	0.42	0.41	0.26	21.47	0.76	13.86
50th-Percentile Queue Length [ft/ln]	53.18	15.66	10.61	10.32	6.48	536.78	18.89	346.40
95th-Percentile Queue Length [veh/ln]	3.83	1.13	0.76	0.74	0.47	29.07	1.36	19.96
95th-Percentile Queue Length [ft/ln]	95.73	28.18	19.10	18.58	11.66	726.76	34.01	499.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.22	55.32	55.32	57.56	54.48	54.48	67.70	26.73	26.73	62.99	16.66	16.66
Movement LOS	E	E	E	E	D	D	E	C	C	E	B	B
d_A, Approach Delay [s/veh]	62.05			56.02			26.96			17.51		
Approach LOS	E			E			C			B		
d_I, Intersection Delay [s/veh]	23.93											
Intersection LOS	C											
Intersection V/C	0.917											

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]	51.40	51.40	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.012	1.994	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	117	117	1565	1548
d_b, Bicycle Delay [s]	53.27	53.27	2.84	3.06
l_b,int, Bicycle LOS Score for Intersection	1.702	1.606	3.680	3.630
Bicycle LOS	A	A	D	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Elizabeth Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.645

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]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00	250.00	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]	25.00			25.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	3	0	4	3	0	39	46	930	8	0	743	10
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
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	172	0	27	4	0	13	12	295	0	32	253	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	0	31	7	0	54	60	1263	8	32	1026	14
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
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]	46	0	8	2	0	14	16	334	2	8	272	4
Total Analysis Volume [veh/h]	185	0	33	7	0	57	64	1338	8	34	1087	15
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	Yes
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	17	0	0	17	0	11	45	0	13	47	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	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
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	L	C	C	L	C	C
C, Cycle Length [s]	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
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
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
g_i, Effective Green Time [s]	13	13	13	13	5	47	47	4	45	45
g / C, Green / Cycle	0.17	0.17	0.17	0.17	0.07	0.62	0.62	0.05	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.14	0.02	0.01	0.04	0.04	0.38	0.38	0.02	0.31	0.31
s, saturation flow rate [veh/h]	1215	1431	1240	1431	1603	1683	1679	1603	1683	1675
c, Capacity [veh/h]	241	249	262	249	110	1041	1039	77	1006	1001
d1, Uniform Delay [s]	33.90	26.25	28.41	26.69	33.91	8.79	8.79	34.83	8.82	8.82
k, delay calibration	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
d2, Incremental Delay [s]	4.24	0.22	0.04	0.43	4.19	2.70	2.71	3.64	1.92	1.93
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
Rp, platoon ratio	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

Lane Group Results

X, volume / capacity	0.73	0.12	0.03	0.22	0.54	0.61	0.61	0.42	0.52	0.52
d, Delay for Lane Group [s/veh]	38.14	26.47	28.45	27.12	38.10	11.49	11.50	38.47	10.74	10.75
Lane Group LOS	D	C	C	C	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.47	0.48	0.11	0.85	1.12	5.25	5.24	0.61	4.17	4.15
50th-Percentile Queue Length [ft/ln]	86.79	11.94	2.79	21.22	27.98	131.20	131.02	15.27	104.17	103.75
95th-Percentile Queue Length [veh/ln]	6.25	0.86	0.20	1.53	2.01	9.00	8.99	1.10	7.50	7.47
95th-Percentile Queue Length [ft/ln]	156.22	21.49	5.02	38.19	50.36	225.12	224.87	27.48	187.51	186.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.14	26.47	26.47	28.45	27.12	27.12	38.10	11.50	11.50	38.47	10.75	10.75
Movement LOS	D	C	C	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	36.39			27.27			12.70			11.57		
Approach LOS	D			C			B			B		
d_I, Intersection Delay [s/veh]	14.41											
Intersection LOS	B											
Intersection V/C	0.645											

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]	29.11	29.11	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	1.999	1.969	0.000	0.000
Crosswalk LOS	A	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	346	346	1091	1144
d_b, Bicycle Delay [s]	25.70	25.70	7.76	6.88
l_b,int, Bicycle LOS Score for Intersection	1.900	1.660	2.658	2.444
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 7: Jana Ln (NS) at Clinton Keith Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	12.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.693

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	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	100.00
Speed [mph]	25.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	7	4	929	7	2	740
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
Proportion of CAVs [%]	0.00					
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	176	127	301	40	168	210
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	0	0	0	0	0
Total Hourly Volume [veh/h]	183	131	1268	47	170	980
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	35	338	13	45	261
Total Analysis Volume [veh/h]	195	140	1352	50	181	1045
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		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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	0	7	0	7	7
Maximum Green [s]	120	0	120	0	120	120
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]	12	0	19	0	29	48
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]	10	0	10	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	R	C	C	L	C
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	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
g_i, Effective Green Time [s]	8	8	33	33	7	44
g / C, Green / Cycle	0.13	0.13	0.54	0.54	0.12	0.73
(v / s)_i Volume / Saturation Flow Rate	0.10	0.08	0.35	0.36	0.10	0.28
s, saturation flow rate [veh/h]	1781	1589	1870	1847	1781	3560
c, Capacity [veh/h]	237	212	1014	1001	223	2613
d1, Uniform Delay [s]	25.18	24.62	9.73	9.80	25.44	2.94
k, delay calibration	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
d2, Incremental Delay [s]	5.45	2.97	3.26	3.42	5.51	0.41
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.62	0.65	0.66	0.76	0.38
d, Delay for Lane Group [s/veh]	30.64	27.59	12.99	13.22	30.95	3.35
Lane Group LOS	C	C	B	B	C	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.77	1.86	5.03	5.10	2.42	0.74
50th-Percentile Queue Length [ft/ln]	69.23	46.53	125.85	127.39	60.44	18.49
95th-Percentile Queue Length [veh/ln]	4.98	3.35	8.71	8.80	4.35	1.33
95th-Percentile Queue Length [ft/ln]	124.61	83.75	217.83	219.94	108.80	33.28

Movement, Approach, & Intersection Results

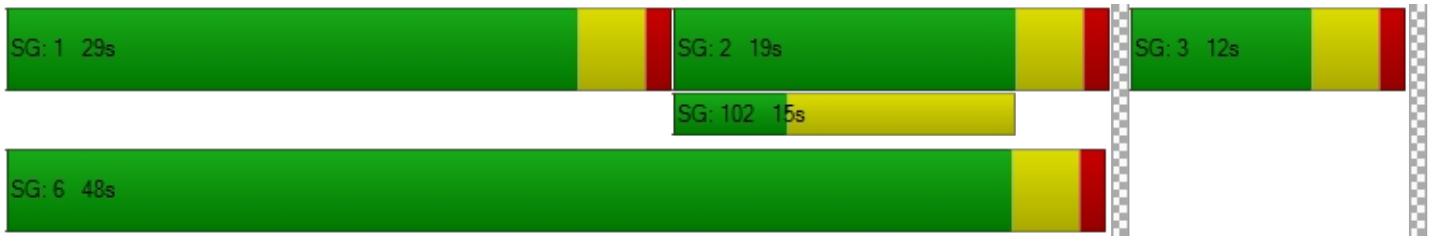
d_M, Delay for Movement [s/veh]	30.64	27.59	13.10	13.22	30.95	3.35
Movement LOS	C	C	B	B	C	A
d_A, Approach Delay [s/veh]	29.36		13.11		7.43	
Approach LOS	C		B		A	
d_I, Intersection Delay [s/veh]	12.60					
Intersection LOS	B					
Intersection V/C	0.693					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0
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]	21.71	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.065	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	266	499	1465
d_b, Bicycle Delay [s]	22.57	16.91	2.15
I_b,int, Bicycle LOS Score for Intersection	1.560	2.644	2.508
Bicycle LOS	A	B	B

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX E

TRAFFIC SIGNAL WARRANT WORKSHEETS

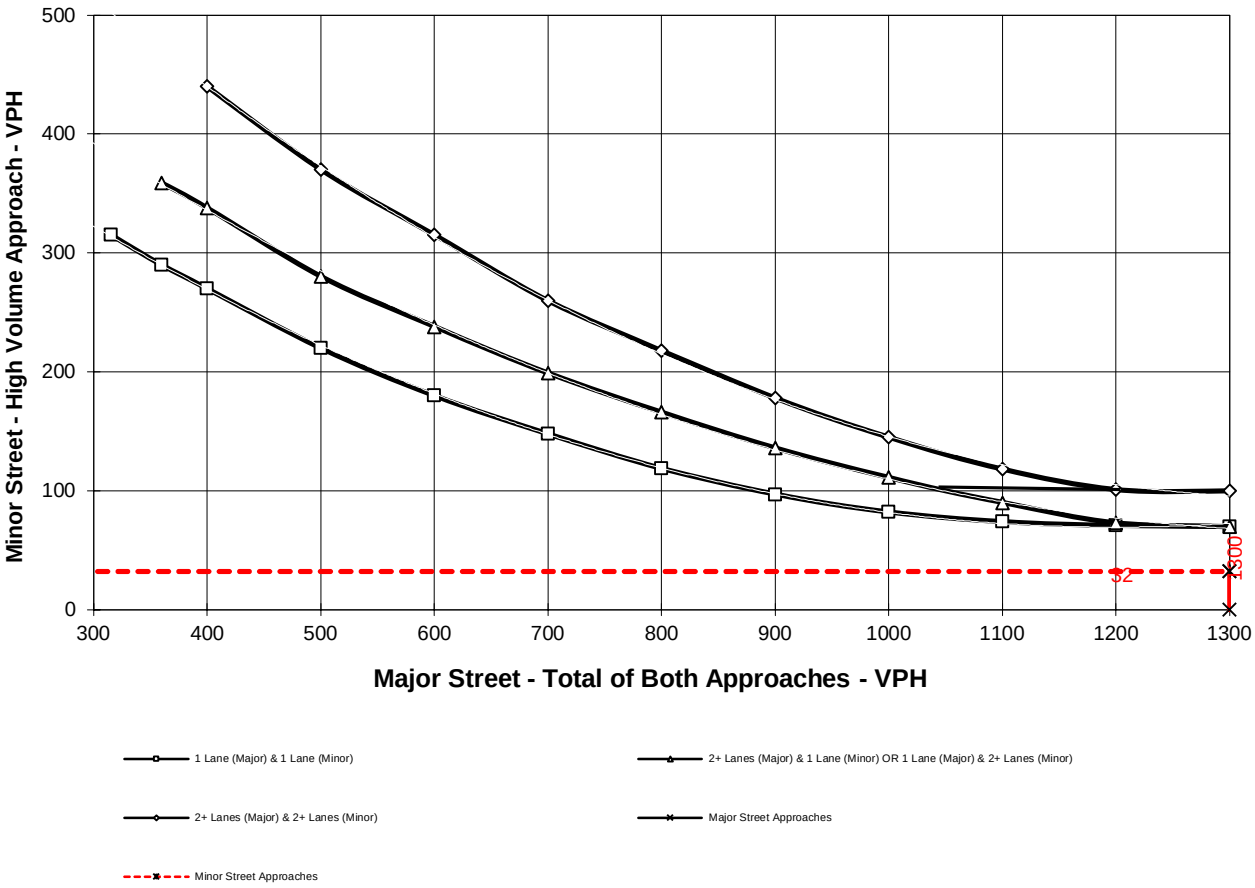
PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Ambient Growth Plus Project - AM Peak Hour

Major Street Name = **Clinton Keith Road**
Total of Both Approaches (VPH) = **1733**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Salida Del Sol**
High Volume Approach (VPH) = **32**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



* NOTE:
Warrant includes adjustments to right turning movements from the minor approach consistent with CAMUTCD procedures.

** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

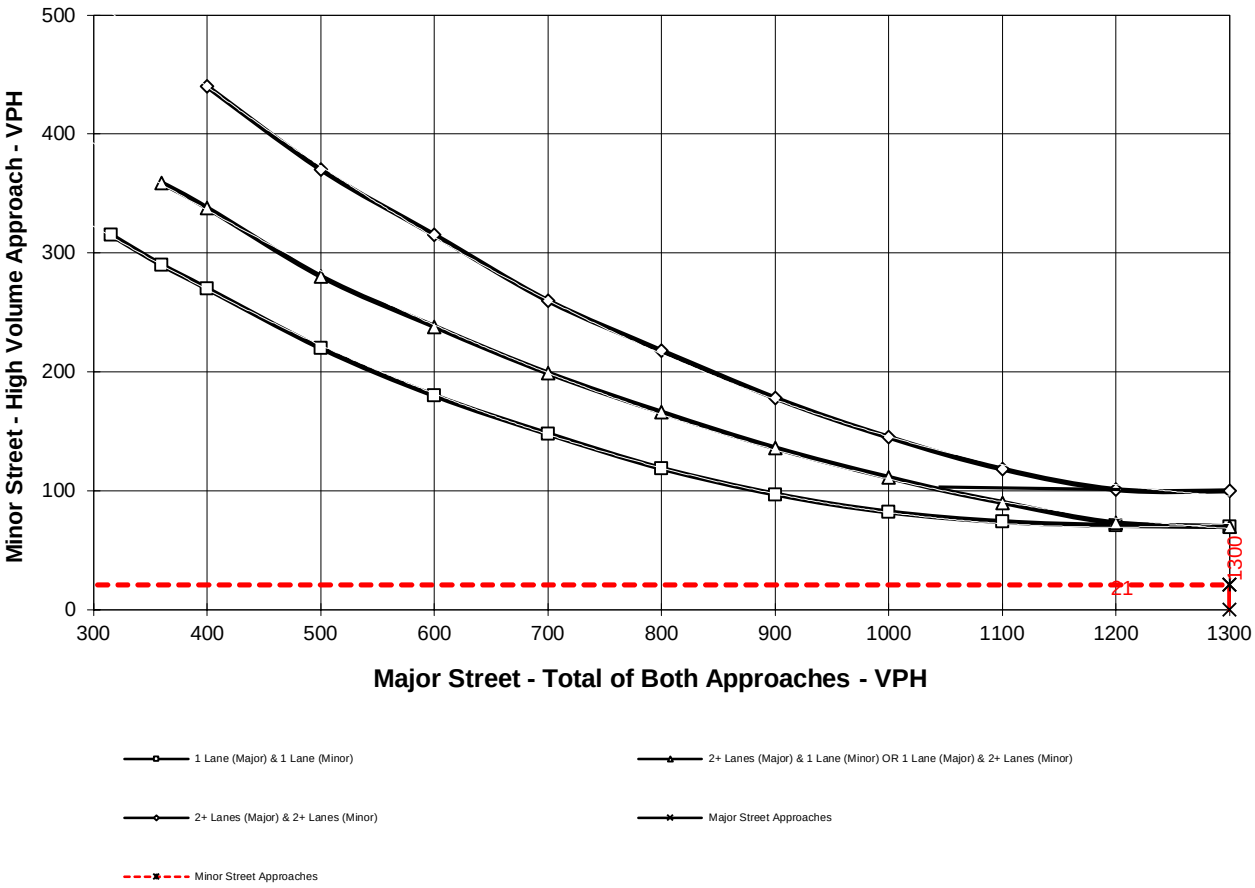
PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Ambient Growth Plus Project - PM Peak Hour

Major Street Name = **Clinton Keith Road**
Total of Both Approaches (VPH) = **1957**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Salida Del Sol**
High Volume Approach (VPH) = **21**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



* NOTE:
Warrant includes adjustments to right turning movements from the minor approach consistent with CAMUTCD procedures.

** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

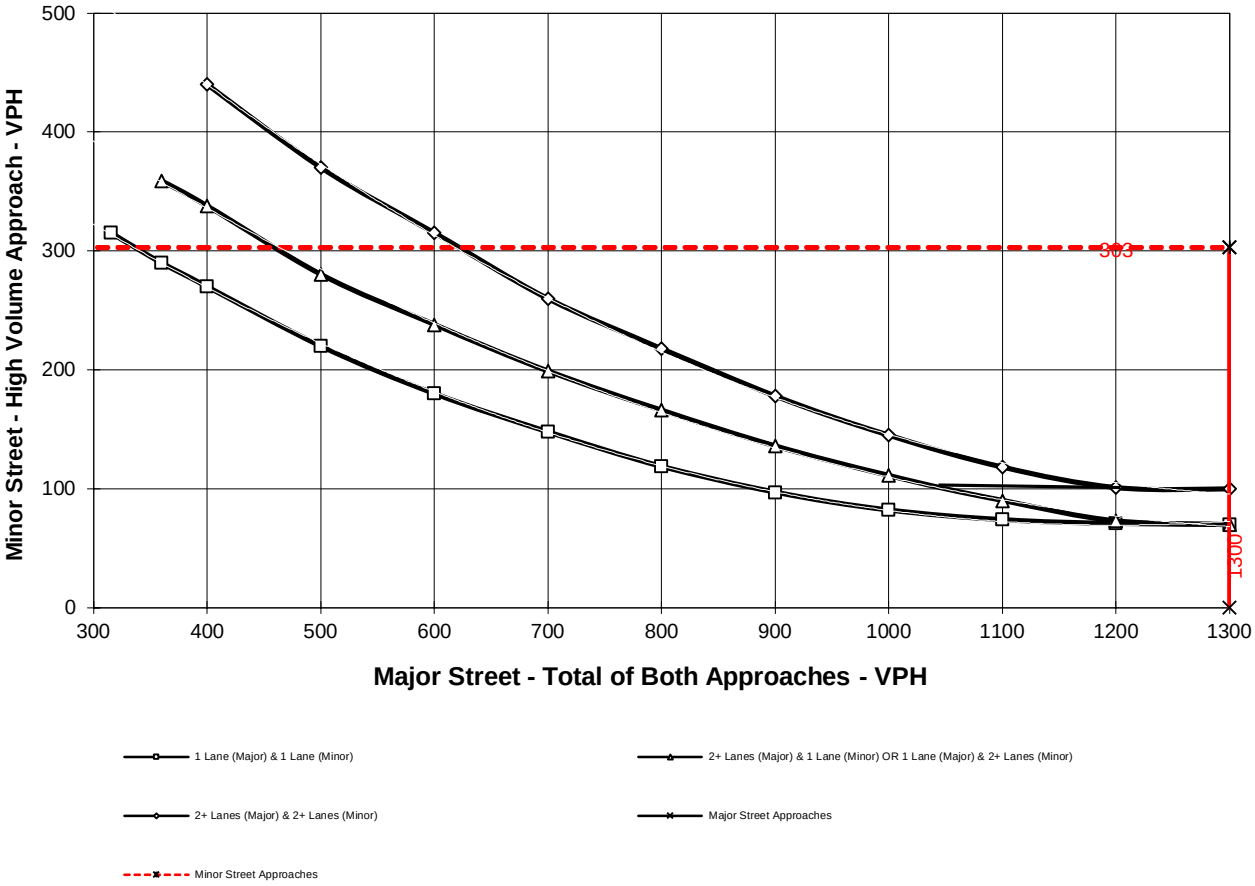
PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Ambient Growth Plus Project - PM Peak Hour

Major Street Name = **Clinton Keith Road**
Total of Both Approaches (VPH) = **1974**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Jana Lane**
High Volume Approach (VPH) = **303**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



* NOTE:
Warrant includes adjustments to right turning movements from the minor approach consistent with CAMUTCD procedures.

** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Ambient Growth Plus Project Plus Cumulative - PM Peak Hour

Major Street Name = **Clinton Keith Road**

Total of Both Approaches (VPH) = **2540**

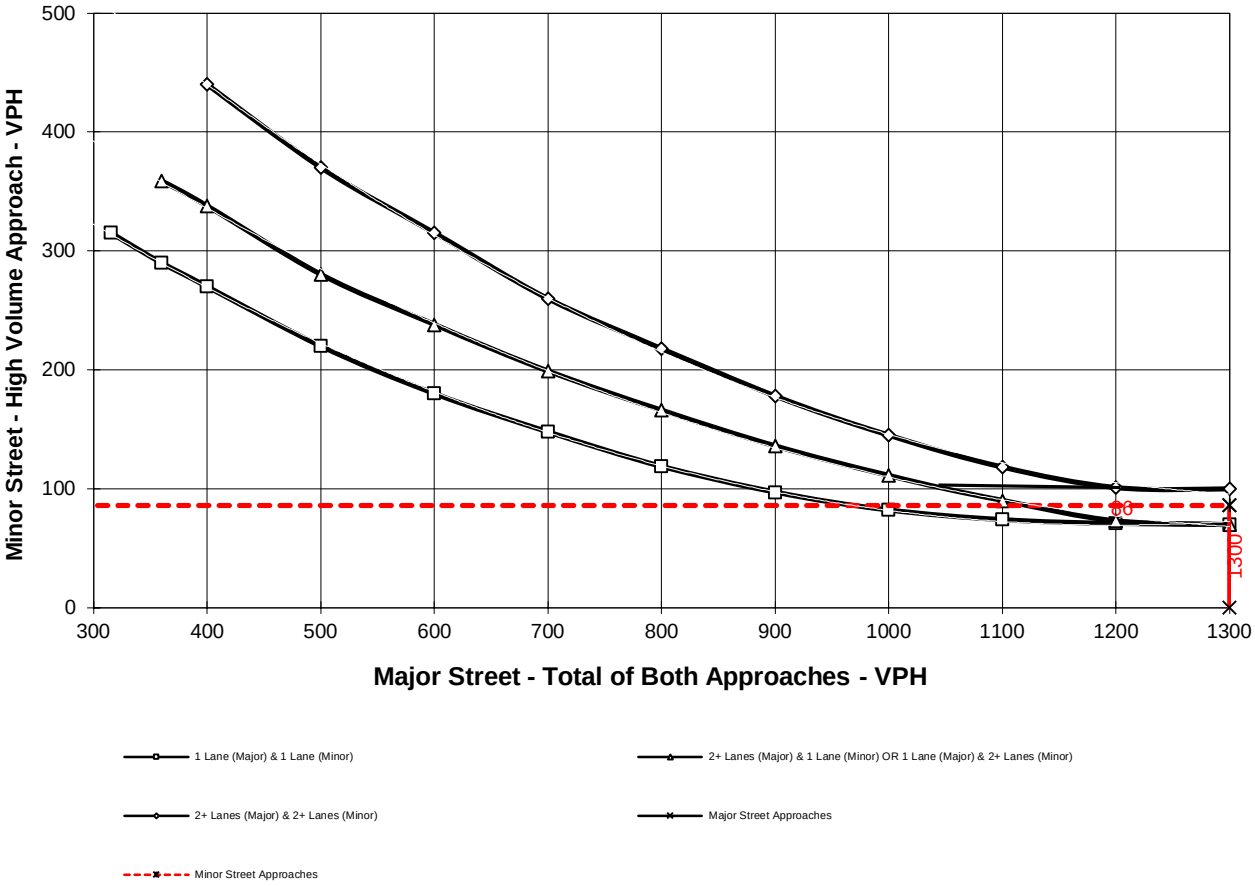
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Salida Del Sol**

High Volume Approach (VPH) = **86**

Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



* NOTE:

Warrant includes adjustments to right turning movements from the minor approach consistent with CAMUTCD procedures.

** NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Ambient Growth Plus Project Plus Cumulative - PM Peak Hour

Major Street Name = **Clinton Keith Road**

Total of Both Approaches (VPH) = **2403**

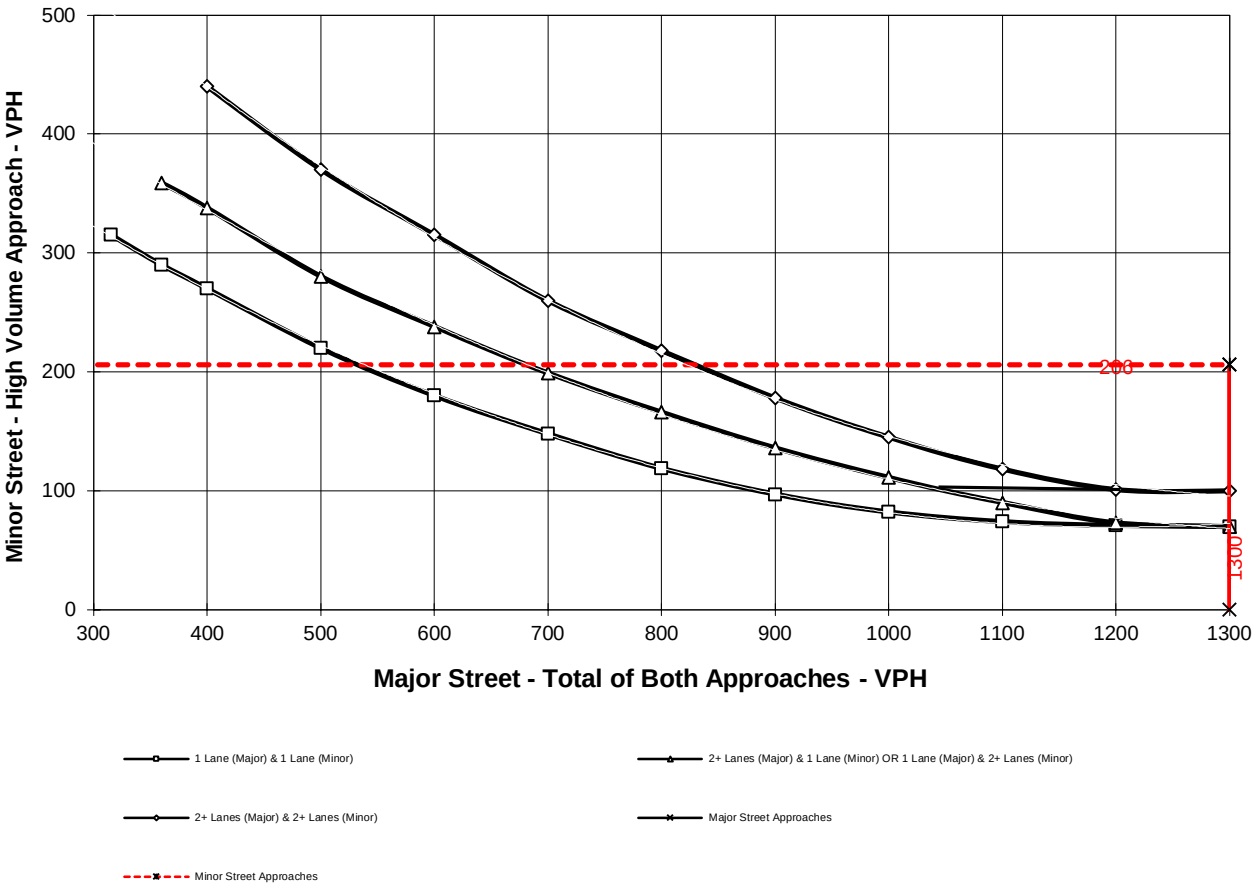
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Elizabeth Lane**

High Volume Approach (VPH) = **206**

Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



* NOTE:

Warrant includes adjustments to right turning movements from the minor approach consistent with CAMUTCD procedures.

** NOTE:

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

GANDDINI GROUP INC.

714.795.3100 | ganddini.com

April 2023 | Mitigation Monitoring and Reporting Program
State Clearinghouse No. 2023020343

BEYOND GAS STATION AND INDUSTRIAL WAREHOUSE PROJECT

City of Wildomar

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1. Introduction

1.1 PURPOSE OF MITIGATION MONITORING AND REPORTING PROGRAM

The City of Wildomar (City) is the lead agency for the proposed Beyond Gas Station and Industrial Warehouse Project and has developed this Mitigation Monitoring and Reporting Program (MMRP) as a vehicle for monitoring mitigation measures outlined in the Beyond Gas Station and Industrial Warehouse Initial Study and Mitigated Negative Declaration (IS/MND), State Clearinghouse No. 2023020343. 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 IS/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 located at 24831 Clinton Keith Road in the City of Wildomar, Riverside County, California. The project site consists of a rectangular-shaped parcel that covers approximately 4.35 acres and is comprised of Assessor's Parcel Number (APN) 380-290-002. Regional access to the project site is provided by Interstate 15 (I-15) located approximately 1.1 miles west.

1.2.2 Proposed Improvements

The proposed project would consist of constructing new commercial development including a convenience store, gas station, car wash and two quick-service restaurants as well as an office/warehouse building. The square footage of the convenience store, gas station and canopy, car wash, and restaurants would total 19,021 square feet, and the square footage of the office and warehouse space would total 17,312 square feet. The project site would include 36,825 square feet of onsite drought-tolerant landscaping with an automatic irrigation system, and 11,130 square feet of offsite landscaping. Access to the project site would be provided via four entrances/exits: one on the northwest portion of the project site via Clinton Keith Road, and three on the eastern side of the project site via Jana Lane. The proposed project would include a total of 131 parking spaces as follows: 38 spaces for the convenience store, 43 spaces for both drive-through restaurants, 44 spaces for the office/warehouse, and six electric vehicle (EV) spaces. A total of eight ADA-accessible parking spaces would be provided onsite. The project site would also include a bicycle rack with 10 bicycle spaces adjacent to northern boundary of the office/warehouse building. The proposed project also includes off-site mobility improvements at four intersections: Inland Valley Drive at Clinton Keith Road, Salida Del Sol at Clinton Keith Road, Elizabeth Lane at Clinton Keith Road, and Jana Lane at Clinton Keith Road.

The project would require the following entitlement approvals by the City of Wildomar:

- **Conditional Use Permit (CUP)**: The proposed gas station requires a CUP to sell beer and wine for off-site consumption in accordance with Section 17.248 of the Wildomar Municipal Code.
- **Plot Plan (PP)**: The project will require approval of a plot plan to develop the proposed project in accordance with Section 17.216 of the Wildomar Municipal Code, site planning, architecture, landscaping, parking, etc. and onsite and off-site improvements consistent with the City's commercial objective design standards and guidelines.

1.3 ENVIRONMENTAL IMPACTS

1.3.1 Impacts Considered Less Than Significant

The IS/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
- Air Quality
- 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

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

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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 (Community Development 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*. 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)
BIOLOGICAL RESOURCES					
BIO-1	Prior to construction activities, the Project applicant/developer shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey and prepare a Project-Specific Nesting Bird Management Plan, if work cannot be conducted outside of the nesting season (March 15th to September 15th), 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).	Project Applicant and Qualified Biologist	No more than three days prior to the initiation of clearance/ construction work	City of Wildomar Community Development Department	
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 Community Development Department	
GEOLOGY AND SOILS					
GEO-1	The project applicant/developer shall incorporate the recommendations of the Geotechnical Report prepared by NTS Geotechnical **(Appendix 5)** 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	Project Applicant and licensed professional engineer	During building plan check, prior to any ground-disturbing construction activities	City of Wildomar Community Development Department	

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	with all applicable requirements of the latest adopted version of the California Building Code.				
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 Certified Paleontologist	During ground-disturbing construction activities	City of Wildomar Community Development Department	
HAZARDS AND HAZARDOUS MATERIALS					
HAZ-1	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 2022 California Building Code (or the most recent edition) (Part 2 of Title 24 of the California Code of Regulations) and the 2022 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 2022 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 building permits	City of Wildomar Community Development Department and Riverside County Fire Department	
HAZ-2	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 Community Development Department 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: 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	Construction Contractor	Prior to construction	City of Wildomar Community Development 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)
	"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.				
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: 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.	Construction Contractor	During final design	City of Wildomar Community Development Department	
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 Community Development 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 Community Development Director, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.	Professional archaeologist	During any ground-disturbing or construction activities	City of Wildomar Community Development Department and Engineering Department	

Table 3-1 Mitigation Monitoring Requirements

Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
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 Community Development Director for decision. The City's Community Development 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 Community Development Director shall be appealable to the City Planning Commission and/or City Council.				

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)
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 Community Development 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	Professional archaeologist	During grading activities	City of Wildomar Engineering Department and Community Development Department	

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	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.				
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.	Qualified archaeologist, tribal cultural monitor(s), and developer/permit holder	Prior to issuance of grading permit	City of Wildomar Engineering Department and Community Development 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)
	The developer/permit holder shall submit a fully executed copy of the contract to the Community Development Department to ensure compliance with this condition of approval. Upon verification, the Community Development 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.				
TRI-4	**Native American Monitoring (Pechanga).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials,	Tribal cultural monitor(s)	During ground-disturbing activities	City of Wildomar Engineering	

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	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 Community Development 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.			Department and Community Development 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 Community Development 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 Community Development 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 Community Development 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 Community Development 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)
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 discovery of Native American human remains	City of Wildomar Engineering Department and Community Development Department	
WILDFIRE					
See Mitigation Measures HAZ-1 and HAZ-2.					

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

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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 Community Development Director by the general public.

5. Community Involvement

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6. Report Preparation

6.1 LIST OF PREPARERS

City of Wildomar

Matthew C. Bassi, Community Development Director

Erica L. Vega, Assistant City Attorney

PlaceWorks

Mark Teague, AICP, Principal

Jasmine A. Osman, Associate II

Julia Lok, Project Planner

Report Preparation

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ATTACHMENT B

PC Resolution No. 2023-09

CUP/Plot Plan No. 22-0006

PC RESOLUTION NO. 2023-09

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING CONDITIONAL USE PERMIT NO. 22-0006 TO ALLOW BEER AND WINE SALES FOR OFF-SITE CONSUMPTION AND PLOT PLAN NO. 22-0006 TO DEVELOP A 7,460-SQUARE-FOOT CONVENIENCE STORE AND GAS STATION WITH EIGHT PUMPS UNDER A 5,971-SQUARE-FOOT CANOPY, A 1,790-SQUARE-FOOT DRIVE-THROUGH CAR WASH FACILITY, TWO (2) DRIVE-THROUGH RESTAURANTS TOTALING 3,800 SQUARE FEET, AND A TWO-STORY 17,312-SQUARE-FOOT INDUSTRIAL WAREHOUSE BUILDING, SUBJECT TO CONDITIONS, LOCATED AT THE SOUTHWEST CORNER OF JANA LANE AND CLINTON KEITH ROAD (APN: 380-290-002)

WHEREAS, the Planning Department has received a development application for the Beyond Gas Station/Warehouse project consisting of an Initial Study/Mitigated Negative Declaration (MND), Conditional Use Permit No. 22-0006, and Plot Plan No. 22-0006 to develop a 7,460-square-foot convenience store and gas station with eight pumps under a 5,971-square-foot canopy, a 1,790-square-foot drive-through car wash facility, two drive through restaurants totaling 3,800 square feet, and a two-story 17,312-square-foot industrial warehouse building on a 4.35-acre site from:

Project Applicant: Beyond Food Mart, Inc.

Project Location: Southwest corner of Jana Lane and Clinton Keith Road

APN: APN: 380-290-002

Project Area: 4.35 +/- 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 Beyond Gas Station/Warehouse 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 March 21, 2023 gave public notice to all property owners within a 600-foot radius of the project boundary notifying said property owners of the April 5, 2023 Planning Commission meeting at which time the Planning Commission would consider CUP/Plot Plan No. 22-0006 for the Wildomar Crossroads Mixed-Use project; and

WHEREAS, In accordance with Ordinance No. 135, the Planning Department on March 24, 2023 posted two (2) public hearing notice "sign boards" on Jana Lane and Clinton Keith Road notifying the general public of the April 5, 2023 Planning Commission meeting at which time the Planning Commission would consider CUP/Plot Plan No. 22-0006 for the Beyond Gas Station/Warehouse project; and

WHEREAS, in accordance with Section 17.192.040 of the Wildomar Municipal Code, the Planning Department on March 24, 2023 published a legal notice in the "Press Enterprise", a local newspaper of general circulation, notifying the general public of the of the April 5, 2023 Planning Commission meeting where the Commission would review CUP/Plot Plan No. 22-0006 for the Beyond Gas Station/Warehouse 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 April 5, 2023, at which time interested persons had an opportunity to testify in support of, or opposition to, the proposed CUP/Plot Plan No. 22-0006; and at which time the Planning Commission received public testimony concerning the proposed CUP/Plot Plan No. 22-0006.

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. 22-0006 is in compliance with requirements of the California Environmental Quality Act ("CEQA"), in that on April 5, 2023, 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. 22-0006 for the Beyond Gas Station/Warehouse 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 project is found to be consistent with the MSHCP. The project is located outside of any MSHCP criteria area and mitigation is provided through payment of the MSHCP Mitigation Fee.

SECTION 3. CONDITIONAL USE PERMIT 22-0006 FINDINGS.

Pursuant to Chapter 17.200 (Conditional Use Permits) and Chapters 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, recommends the City Council hereby find and determine 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 (i.e., beer & wine only) within the gas station/mini-mart building concurrent with gasoline sales is consistent with the General Plan land use designation of M-S-C zoning in that it is a conditionally permitted use in this 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 service commercial uses which includes gas stations. The sale of alcohol is typically associated with gas station uses in the M-S-C zone and other similar 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. The project has been properly conditioned in accordance with Section 17.248.030.E of the WMC which outlines restrictions for selling beer and wine.

B. The proposed use will not be detrimental to the health, safety, or general welfare of the community.

Evidence: The proposal to have beer and wine sales at the gas station/mini-mart 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 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). Further, there are a number of conditions of approval (land use and employee related) for the sale of alcohol (Planning Condition No. 44). As no alcohol will be consumed on-site or within the building, the sale of alcohol for this gas station establishment will not be detrimental to the health, safety, or general welfare of the community.

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, C-R and M-SC zones. As the project has an existing M-S-C 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 Regan Elementary school is the nearest school to the gas station, and is about one (1) mile away.

ABC requirements allow for alcohol sales provided it is more than 600 feet away from schools. The nearest park is the City's 27-acre park (next to Ronald Regan Elementary school) which is approximately 2,700 feet away from the gas station. The nearest church is Faith Bible Church (currently under construction) which is about 1.3 miles away from the gas station. Based on the site design, street improvements and distance, it is staff's opinion that the off-premise sale of alcohol will not create traffic hazards to these sensitive uses.

- Section 17.248.030.D requires that the notice of public hearing be sent to all property owners within a 1,000-foot radius of the project site. On March 24, 2021, the Planning Department mailed out a public hearing notice to all property owners in compliance with code section.
- Section 17.248.040 allows the City to propose other special conditions as part of the CUP for concurrent alcohol sales with gas stations. Staff has proposed special conditions of approval as outlined in Section 17.248 of the WMC (Planning Condition No. 37 - 39) that requires the applicant submit proof that they have obtained a Type 20 license from the Alcoholic Beverage Control (ABC) prior to the issuance of occupancy permits for the building. Further, prior to an employee selling alcohol from this facility, the alcohol licensee, or employer for the facility shall ensure that the employee has received Licensee Education on Alcohol and Drugs (L.E.A.D.) training from the California Department of Alcoholic Beverage Control.

SECTION 4. PLOT PLAN 22-0006 FINDINGS.

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, recommends the City Council find and determine as follows:

A. The proposed use is consistent with the Wildomar General Plan and Zoning Ordinance.

Evidence: The proposed Beyond Gas Station/Warehouse project, which consists of a 7,460-square-foot convenience store/gas station, a 1,790-square-foot drive-through car wash facility, two (2) drive through restaurants totaling 3,800 square feet, and a two-story 17,312-square-foot industrial warehouse building on a 4.35-acre site is consistent with the General Plan land use designation of Business Park (BP) as this land use designation encourages the development of industrial and service commercial uses with a local and regional influence. The proposed project provide a jobs, food and fuel services that will generate sales tax and property tax revenue for the city. Given the layout of the proposed site plan, the project will be walkable for employees of the warehouse use and visitors to the site.

Further, the proposed project is an allowed use in the M-S-C zone subject to the approval of a plot plan provided all development standards of Chapter 17.92 of the WMC are complied with. The proposed site plan has been evaluated by each City

department and Riverside County Fire as part of the City's development review process. Based on this review, each department has determined that the proposed Beyond Gas Station/Warehouse project has been proposed in accordance with city and county development standards, and it has been determined that each standard has been met and/or exceeded as discussed within the staff report. In addition, the proposed Beyond Gas Station/Warehouse 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.

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.

LU 23.8 The proposed project results in commercial retail opportunities in a service commercial designated area that will provide services and jobs for Wildomar residents, including sales tax revenue for the City.

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 Beyond Gas Station/Warehouse 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 BP land use designation since incorporation and the proposed project meets the intent of this land use designation and M-S-C zone. Further, due to its proximity to neighboring residential neighborhoods, the project creates opportunities for fuel and food service to these residents in close proximity to their neighborhood.

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 project was 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. Both Jana Lane and Clinton Keith Road will be improved along the project boundaries 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 IS/MND which was extensively analyzed by the city's traffic engineer. The project must comply with all improvement measures identified in the 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.

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 IS/MND which analyzed and addressed in detail all drainage impacts that could have resulted from this project.

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 not propose and subdivision of the site at this time, but if desired in the future a tentative parcel map can be processed to meet this finding.

SECTION 5. 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. 2021-14 recommending City Council approval of CUP/Plot Plan/FSPOD No. 20-0044, subject to conditions of approval, as provided herein and attached hereto to this Resolution as Exhibit 1.

PASSED, APPROVED AND ADOPTED this 5th day of April, 2023 by the following vote:

AYES.

NOES:

ABSENT:

ABSTAINED:

_____
Kim L. Strong
Planning Commission Vice-Chair

ATTEST:

_____
Matthew C. Bassi
Community Development Director/Minutes Secretary

APPROVED AS TO FORM:

_____
Stephanie Gutierrez
Assistant City Attorney

ATTACHMENT B - EXHIBIT 1 BEYOND GAS STATION / WAREHOUSE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan No. 22-0006			
Applicant: Beyond Gas Station; Mr. Mark Sater - APN: 380-290-002			
CUP/Plot Plan No. 22-0026 Approval Date (PC): April 5, 2023	**CUP/Plot Plan No. 22-0026 Expiration Date: April 5, 2026**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**

PLANNING DIVISION CONDITIONS				
General / Standard Conditions				
1.	In compliance with Section 15070 of the CEQA Guidelines, a Notice of Determination (NOD) shall be filed with the Riverside County Clerk within five (5) working days of project approval by the City Council. The notice shall include the required California Department of Fish and Wildlife (Fish and Game Code Section 711.4.d.3) fee, and the Riverside County Clerk administrative fee (paid by the Applicant) in the amount of **$2,814.00**. 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)). The above fee shall be made payable to the "Riverside County Clerk" and submitted to the Planning Division at least 2 days prior to the City Council meeting. Said fees are broken down as follows: **a. California Department of Fish and Wildlife = $2,764.00** **b. Riverside County Clerk Administrative Fee = $50.00**	April 12, 2023	Planning Division	
2.	The Applicant shall review, and sign below verifying adoption of these Conditions of Approval by the Planning Commission for CUP/Plot Plan No. 22-0006 and submit the signed page to the Wildomar Planning Division within two weeks of the Planning Commission approval. Applicant Signature Date	April 19, 2023	Planning Division	
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	Ongoing	Planning Division	

	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 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			

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	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 No. 22-0006* shall expire on April 5, 2026 (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 17.200 & 17.216 of the Wildomar Municipal Code. Said extension of time application and required fee must be submitted to the Planning Division prior to the expiration date.	April 5, 2026	Planning Division	
5.	In accordance with the WMC, approval of *CUP/Plot Plan No. 22-0006* shall not become effective until the 10-day appeal period has concluded. If no appeal is filed with the city by April 17, 2023, the project becomes effective on April 18, 2023	April 18, 2023	Planning Division	
6.	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.	July 5, 2023	Planning Division	
7.	Within 60 days of approval of *CUP/Plot Plan No. 22-0006* 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.	June 5, 2023	Planning Division	

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8. 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 Division	
9. The project shall be developed in accordance with the approved plot plan approved by the Planning Commission on April 5, 2023. 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 Division	
10. 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 Division	
11. 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 Divisions	
12. 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 Divisions	

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13. The Applicant is prohibited from using any sort of blasting device or activity during all grading and/or construction operations.	On-Going	Planning Division	
14. The proposed development approved by the City Council 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 Division	
15. 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 Division	
16. The Applicant shall provide EV charging stations throughout the parking lot as designated on the approved site plan and the requirements of the Cal Green Building Code.	On-Going	Planning & Building Divisions	
17. 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 Division and & Riverside County Fire Department	
18. The proposed Project shall comply with the requirements of Chapter 9.48 of the WMC relating to noise.	On-Going	Planning Division	
19. 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	

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20. 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	
21. 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	
22. If the construction of any of the structures on this parcel is to be sold to a business owner, the Applicant shall obtain approval of a Parcel Map first in accordance with Title 16 (Subdivisions) in such a manner that each building is located on a separate legally divided parcel.	On-Going	Planning Division	
CEQA / MND Mitigation Measures:			
Biological Resources			
23. **BIO-1** Prior to construction activities, the Project applicant/developer shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey and prepare a Project-Specific Nesting Bird Management Plan, if work cannot be conducted outside of the nesting season (March 15th to September 15th), 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	Within three (3) days prior to the initiation of clearance/construction work.	Planning and Engineering Divisions	

	biologist around active nests until a qualified biologist determines that all young have fledged (i.e., no longer reliant upon the nest).			
Cultural Resources				
24.	**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 and Engineering Divisions	
Geology and Soils				
25.	**GEO-1** The project applicant/developer shall incorporate the recommendations of the Geotechnical Report prepared by NTS Geotechnical (**Appendix 5**) 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 and Building & Safety Divisions	

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26. **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 and Building & Safety Divisions	
Hazards and Hazardous Materials			
27. **HAZ-1** 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 2022 California Building Code (or the most recent edition) (Part 2 of Title 24 of the California Code of Regulations) and the 2022 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 2022 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	Planning and Building & Safety Divisions	

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28. **HAZ-2** 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	Planning and Building & Safety Divisions	
Noise			
29. **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	Building & Safety Division	
Transportation			
30. **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.	During final design	Public Works Department	

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Tribal Cultural Resources			
31. **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.	During any ground-disturbing or construction activities	Engineering and Planning Divisions	

	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.			

32.	**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 Community Development 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	During grading activities	Engineering and Planning Divisions	

	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.			
33.	**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	Prior to issuance of grading permit	Engineering and Planning Divisions	

	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 Community Development Department to ensure compliance with this condition of approval. Upon verification, the Community Development 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.			
34.	**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 Community Development 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	Engineering and Planning Divisions	
35.	**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,	During ground-disturbing activities	Engineering and Planning Divisions	

	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 Community Development 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.			
36.	**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 Community Development 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	Engineering and Planning Divisions	
37.	**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.,	During discovery of Native American human remains	Engineering and Planning Divisions	

	CUP/Plot Plan No. 22-0026 Approval Date (PC): April 5, 2023	CUP/Plot Plan No. 22-0026 Expiration Date: April 5, 2026		
	Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
	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).			
Project Specific CUP Conditions (Applicable to Alcohol Sales at the Gas Station)				
38.	Notwithstanding any other provision of law, establishments engaged in the concurrent sale of motor vehicle fuel with beer and wine for off-premises consumption, in accordance with Chapter 17.248.030.E of the WMC shall comply with the following conditions: 1) Only the sale of beer and wine can be sold consistent with an ABC Type 20 license (Off Sale Beer & Wine). 2) The owner of each location and the management at each location shall educate the public regarding driving under the influence of intoxicating beverages, minimum age for purchase and consumption of alcoholic beverages, driving with open containers and the penalty associated with violation of these laws. In addition, the owner and management shall provide health warnings about the consumption of alcoholic beverages. This educational requirement may be met by posting prominent signs, decals or brochures at points of purchase. In addition, the owner and management shall provide adequate training for all employees at the location as to these matters. 3) No displays of beer or wine shall be located within five (5) feet of any building entrance or checkout counter. 4) Cold beer or wine shall be sold from, or displayed in, the main, permanently affixed electrical coolers only.	On-Going	Planning Division	

ATTACHMENT B - EXHIBIT 1 BEYOND GAS STATION / WAREHOUSE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan No. 22-0006			
Applicant: Beyond Gas Station; Mr. Mark Sater - APN: 380-290-002			
CUP/Plot Plan No. 22-0026 Approval Date (PC): April 5, 2023	**CUP/Plot Plan No. 22-0026 Expiration Date: April 5, 2026**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
	5) No beer, wine or other alcoholic beverages advertising shall be located on gasoline islands; and no lighted advertising for beer, wine, or other alcoholic beverages shall be located on the exterior of buildings or within window areas. 6) Employees selling beer and wine between the hours of 10:00 p.m. and 2:00 a.m. shall be at least 21 years of age. 7. No sale of alcoholic beverages shall be made from a drive-in window.			
39.	Prior to an employee selling alcohol from this facility, the alcohol licensee, or employer for the facility shall ensure that the employee has received Licensee Education on Alcohol and Drugs (L.E.AD.) training from the California Department of Alcoholic Beverage Control.	On-Going	Planning Division	
40.	Prior to the issuance of occupancy permits for the gas station/mini-mart use, the Applicant and/or the gas station service provider 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 Division prior to occupancy of the building.	Prior to the issuance of occupancy permits	Planning Division	
Project Specific Plot Plan Conditions				
Special Transportation Conditions				
41.	• **Intersection #4: Inland Valley Drive at Clinton Keith Road.** This improvement involves adding pavement to the intersection within the existing right of way, and paint to delineate lanes and turning movements. o Construct additional westbound through lane, and o Construct additional eastbound through receiving lane.	On-Going & Prior to Certificate of Occupancy	Public Works Department	

	• **Intersection #5: Salida Del Sol at Clinton Keith Road.** This improvement is a sign restricting turning movements and construction within of turn lanes within the existing right of way. o Restrict the southbound approach to right turns only during weekday peak periods (7 AM to 9 AM, and 4 PM to 6 PM). o Install a traffic signal; o Construct northbound, southbound, and westbound left turn lanes; and o Restripe northbound, southbound, and westbound shared left/through/right turn lane to shared through/right turn lane. • **Intersection #6: Elizabeth Lane at Clinton Keith Road.** Improvements include construction of a new traffic signal in the existing right of way at the intersection. Additional pavement will be added to the existing roadway to accommodate the turning movement. Paint will be added to complete the improvements and delineate lanes and turning movements. o Install a traffic signal; o Construct northbound and southbound left turn lanes; o Restripe northbound and southbound shared left/through/right turn lane to shared through/right turn lane; and o Construct additional eastbound through lane. • **Intersection #7: Jana Lane at Clinton Keith Road.** The project will contribute its fair share for all improvements at this intersection. The future improvements involve construction of a new traffic signal			

	in the existing right of way at the intersection. Additional pavement will be added to the existing roadway to accommodate the turning movement. Paint will be added to complete the improvements and delineate lanes and turning movements. o Install a traffic signal; o Construct a northbound left turn lane; and o Restripe northbound shared left/right turn lane to right turn lane.			
Prior to the Issuance of Grading Permits				
42.	Prior to the issuance of a grading permit, the Applicant shall comply with the construction noticing sign board requirements of Chapter 15.04.030 of the WMC as follows: A. Intent. It is the intent of this section to establish regulations for posting on-site construction information signs during construction activity for new residential, commercial and industrial development projects. B. Applicability. The posting of on-site construction information signs during construction activity for new residential, commercial and industrial development projects shall be limited to projects located in residential, commercial and industrial zoned lands. C. Construction Sign Standards. 1. One non-illuminated sign shall be required per development site, except that if the site has two or more street frontages, one additional sign shall be required per street frontage. 2. The sign(s) shall be placed along the street frontage nearest to the construction entrance(s) to the project site and include information identifying the name of the developer and	Prior to Issuance of Grading Permits	Building and Engineering Divisions	

	contractor, on-site contact information and phone number, allowed days and hours of construction activity (i.e., Monday - Saturday, 6:30 a.m. to 7:00 p.m. with no construction activity on Sundays or legal holidays). The information shall also include a statement that complaints regarding the operation can be lodged with the City of Wildomar Code Enforcement Division (951) 677-7751, and any other information deemed appropriate by the City. 3. The size of the sign board shall be four feet wide by six feet high (24 square feet) made of wood, or similar durable material and mounted with two vertical four-inch by four-inch posts, made of wood or similar durable material. The total height of the sign board shall not exceed eight feet from the ground and include the city logo in the upper left corner of the sign board. The sign(s) shall be reviewed by the Building Official prior to construction of said sign. Sign(s) shall be posted on the property a minimum of two weeks prior to any grading activities and be removed from the property within 30 days after the last certificate of occupancy is issued by the City.			
43.	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 Division	
44.	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	Prior to Issuance of a Grading Permit	Planning & Engineering Depts.	

	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.			
45.	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 Division 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	Prior to Issuance of a Grading Permit	Planning & Engineering Depts.	

	chick rearing is not taking place. This determination must be made by a qualified biologist."			
46.	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 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.	Prior to Issuance of a Grading Permit	Planning & Engineering Depts.	
47.	The applicant shall submit two (2) sets of detailed/complete landscape and irrigation construction drawings prepared by a licensed Landscape Architect to the Planning Division, including on-site and public right-of-way and a fence/wall plan for review and approval. Said landscape and irrigation plans shall comply with all requirements of the city's	Concurrent with the submittal of grading plans	Planning and Landscape Depts.	

	Landscape Design Standards and Guidelines booklet. The landscape plans shall include the following special items: • All plantings within the Very High Fire Severity Zone shall be designed using only fire resistive plants. • 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. • If required by the Fire Department, provide a fuel modification plan in compliance with the Fire Department's requirements. All landscape shall follow any required fuel modification horizontal or vertical spacing and requirements. • 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. • 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. • 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.			
Prior to Issuance of Building Permits				
48.	Prior to the issuance of the building permits, the Applicant shall submit a comprehensive sign program for review and approval by the Planning Division. The sign program shall be consistent with all applicable provisions of Section 17.252 (Sign Regulations) of the Wildomar Municipal Code. ○ The "blade" architectural element shall not be illuminated at any time and shall remain as an architectural feature only.	Prior to Issuance of Building Permits	Planning Division	
49.	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 Division	

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Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
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 divisions, including but not limited to, regional fees such as 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 Divisions	
51. Prior to the issuance of the building permits, the applicant shall submit for review and approval by the Planning Division 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 Divisions	
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 Phase 1, 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	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 Division 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.			
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 Division 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 Division conditions listed herein shall be completed to the satisfaction of the Planning Division.	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.	
56.	Prior to the issuance of the building permits, the applicant shall submit for review and approval by the Planning Division a final exterior lighting/security lighting plan/photometric survey. Said lighting plan	Prior to Issuance of Building Permits	Planning & Building Divisions	

	shall comply with all applicable provisions of Section 8.64 (Light Pollution Ordinance) of the WMC.			
PUBLIC WORKS/ENGINEERING/BUILDING DEPARTMENT CONDITIONS				
General Requirements/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	
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	

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Project No.: CUP/Plot Plan No. 22-0006			
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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	Engineering	
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	Engineering	
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	On-Going	Engineering	

	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 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	On-Going	Engineering	

	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 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	On-Going	Engineering	

	minimum of 300 feet beyond the project boundaries at a grade and alignment as approved by the City Engineer.			
23.	Above-ground utilities shall be undergrounded by the developer in accordance with City of Wildomar Municipal Code 16.04.010. The 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.	On-Going	Engineering	
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 streets to be improved consistent with improvements outlined in these conditions of approval. 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	Prior to Improvement Plan Approval	Engineering	

	pavement reconstruction, grind and overlay, or slurry seal. All striping shall be replaced in kind.			
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.	Prior to approval of improvement plans, the improvement plans submitted by the applicant shall include the following: a) 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) Street lights. g) All other public improvements shall conform to City of Wildomar standards.	Prior to Improvement Plan Approval	Engineering	
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 be submitted to the Planning Director for review and comment and to the City Engineer for approval.	Prior to Issuance of a Grading Permit	Engineering	
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	Prior to Issuance of a Grading Permit	Engineering	

	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.			
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 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.			
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	Prior to Issuance of a Grading Permit	Engineering	

	contamination resulting from previous use of the subject site shall be implemented.			
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	
44.	Prior to issuance of Grading Permit, the applicant shall provide a final Traffic Impact Analysis for approval acceptable to the City Engineer. This Traffic Impact Analysis shall identify improvements necessary for the project along with information regarding fair-share of project trips at offsite locations.	Prior to Issuance of a Grading Permit	Engineering	

ATTACHMENT B - EXHIBIT 1 BEYOND GAS STATION / WAREHOUSE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan No. 22-0006			
Applicant: Beyond Gas Station; Mr. Mark Sater - APN: 380-290-002			
CUP/Plot Plan No. 22-0026 Approval Date (PC): April 5, 2023	**CUP/Plot Plan No. 22-0026 Expiration Date: April 5, 2026**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**

Prior to Issuance of Building Permits				
45.	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	Engineering /Building	
46.	Any public improvements shall be approved by the City Engineer, and all improvements to be constructed shall be secured by the Developer.	Prior to Issuance of a Building Permit	Engineering /Building	
47.	The developer shall provide will serve letters from the appropriate utility agencies.	Prior to Issuance of a Building Permit	Engineering /Building	
48.	The developer shall provide approval letter from Fire Department for fire water service.	Prior to Issuance of a Building Permit	Engineering /Building/ Fire	
49.	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	Engineering /Building	
50.	The developer shall annex into CFD Service District 2022-1, 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	
51.	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	Engineering /Building	
52.	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	Engineering /Building	

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	Engineering	
54.	Prior to issuance of Building Permit, the developer shall post security guaranteeing the construction of all required public improvements. Said improvements shall include the following: a) All street facilities: 1. Any missing or substandard public improvements on Orange Street, to half street plus 12' along the project frontage. 2. Traffic Mitigation measures as outlined in approved Traffic Analysis dated April 5, 2022. 3. All ingress and egress shall meet minimum commercial driveway standards. 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 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	Prior to Issuance of a Building Permit	Engineering	

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	
57.	Prior to issuance of Building Permit, the applicant shall provide public improvement plans for approval.	Prior to Issuance of Building Permits	Engineering	
58.	Prior to issuance of Building Permit, the applicant shall provide a current cost estimate with conceptual improvement exhibit for improvements identified in the approved Traffic Impact Analysis including the locations listed below. This cost estimate will be reviewed by the City and shall be acceptable to the City Engineer. A fair-share shall be paid to the City of Wildomar based on the approved fair-share percentage as listed in table 7 of the approved Traffic Impact Analysis for the project and the approved cost estimate for the listed improvements.	Prior to Issuance of Building Permits	Engineering	
59.	Prior to issuance of Building Permit, the applicant shall pay to the City of Wildomar a fair-share to future improvements at Inland Valley drive at Clinton Keith Road including construction of an additional westbound through lane and eastbound through lane with receiving lanes and associated signal modification.	Prior to Issuance of Building Permits	Engineering	

60.	Prior to issuance of Building Permit, the applicant shall pay to the City of Wildomar a fair-share to future improvements at Salida Del Sol at Clinton Keith Road including construction of a traffic signal and associated turn lane and through lane improvements.	Prior to Issuance of Building Permits	Engineering	
61.	Prior to issuance of Building Permit, the applicant shall pay to the City of Wildomar a fair-share to future improvements at Elizabeth Lane at Clinton Keith Road including construction of a traffic signal and associated turn lane and through lane improvements.	Prior to Issuance of Building Permits	Engineering	
62.	Prior to issuance of Building Permit, the applicant shall construct a traffic signal at Jana Lane at Clinton Keith Road including all associated improvements such as curb, gutter, sidewalk, ramps, turn lanes.	Prior to Issuance of Building Permits	Engineering	
Prior to Issuance of Issuance of Certificate of Occupancy or Release of Public Improvement Security				
63.	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	
64.	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	
65.	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	
66.	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	

ATTACHMENT B - EXHIBIT 1 BEYOND GAS STATION / WAREHOUSE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan No. 22-0006			
Applicant: Beyond Gas Station; Mr. Mark Sater - APN: 380-290-002			
CUP/Plot Plan No. 22-0026 Approval Date (PC): April 5, 2023	**CUP/Plot Plan No. 22-0026 Expiration Date: April 5, 2026**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
67.	Prior to issuance of a Certificate of Occupancy, the applicant shall field verify sight distance requirements at project driveways per the requirements of the City of Wildomar and provide documentation of adequate sight distance to the satisfaction of the City Engineer.	Prior to Issuance of first Certificate of Occupancy	Engineering	
68.	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	
69.	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	
70.	Prior to issuance of certificate of occupancy, the applicant shall construct all frontage improvements including the following: a. Curb, gutter, sidewalk, drainage, ramps, driveways and landscaping on the project frontage with appropriate offsite transition to provide for public safety consistent with City Standards and applicable laws (ADA etc.). Raised median on Clinton Keith Road with appropriate offsite transition consistent with City Standards and to the satisfaction of the City Engineer.	Prior to final Certificate of Occupancy	Engineering	

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BUILDING DEPARTMENT CONDITIONS				
General Conditions				
1.	CODE/ORDINANCE REQUIREMENTS: The applicant shall obtain the required building permit(s) from the building department prior to any construction on the property. All building plans and supporting documentation shall comply with current adopted California Building Codes, Wildomar Ordinances regulations in effect at the time of building plan submittal and fee payment to the Building Department. All Building Department plan submittal and fee requirements shall apply. NOTE: The new updated 2022 California Building Codes will be in effect as of January 1st 2023, as mandated by the state of California. Any building plan and fee payment submitted to the building department on or after January 1st, 2023 will be subject to the new updated California Building Code(s).	On-Going	Building Department	
2.	PERMIT ISSUANCE: Per section 105.1 (2019 California Building Code, CBC): Where any owner or authorized agent intends to construct, enlarge, alter , repair, move, demolish or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert, or replace any electrical, gas, mechanical, or plumbing system, the regulation of which is governed by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit. Further, the applicant shall obtain the required building permit(s) from the building department prior to any construction or placement of any building, structure or equipment on the property. The	On-Going	Building Department	

	applicant shall obtain an approved final building inspection and certificate of occupancy from the building department prior to any use or occupancy of the building, or structure. At no time shall the approval of the planning case exhibit allow for the construction or use of any building, structure, or equipment. In residential applications, each separate structure will require a separate building permit.			
3.	GREEN BUILDING CODE WASTE REDUCTION (Non-Residential): Included within the building plan submittal documents to the Building Department for plan review, the applicant shall provide a copy of the approved construction waste management plan by the Waste Management Department that: a) Identifies the materials to be diverted from disposal by efficient usage, reuse on the project, or salvage for future use or sales. b) Determines if materials will be sorted on site or mixed. c) Identifies diversion facilities where material collected will be taken. d) Specifies that the amount of materials diverted shall be calculated by weight or volume, but not both.	On-Going	Building Department	
4.	ACCESSIBLE PATH OF TRAVEL: Building Permit set must indicate required continuous accessible paved path of travel. The accessible path of travel details shall include: a) Accessible path construction type (Asphalt or concrete). b) Accessible path width. c) Accessible path directional slope % and cross slope %. d) All accessible ramp and curb cut-out locations and details where applicable. The Accessible path of travel shall:	On-Going	Building Department	

	a) Connect to the public R.O.W. b) Connect to all building(s). c) Connect to all accessible parking loading/unloading areas. d) Connect to accessible sanitary facilities. e) Connect to areas of public accommodation. Please be aware that a site plan with accessibility requirements should be included with any building plan submittals. The plan review staff may have additional comments depending on the additional information or revisions provided during the plan review process. Additional accessible requirements within the structure shall be reviewed during the building plan review.			
5.	PLAN INFORMATION: Plans prepared, stamped and signed by a design professional (California licensed Architect, or California Licensed Engineer) may not be altered with hand drawn information. The jurisdictional plan review and/or inspection staff is unable to determine when such information has been placed, and if in fact either the design professional or applicable park authority has in fact approved the added information.	On-Going	Building Department	
6.	LIQUEFACTION: Based on records, this project appears to be located in an area with potential for soil liquefaction. Per Section CBC Section 1803.5, a geotechnical assessment of this condition is required and, according to Section 1803, the assessment must be conducted by a licensed design professional. If the assessment indicates that the condition, if not corrected, would lead to structural defects, the assessment shall recommend corrective action which is likely to prevent structural damage.	On-Going	Building Department	

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RIVERSIDE COUNTY FIRE DEPARTMENT CONDITIONS				
General Conditions				
1.	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. Based on current standards, the required fire flow is estimated to be 1,625 GPM at 20 PSI for a 2 hour duration. Estimated fire flow is based on 14,500 square foot building area with Type V-B construction and buildings having a fire sprinkler system	On-Going	Fire Department	
2.	Hazardous Fire Area: 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.	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	

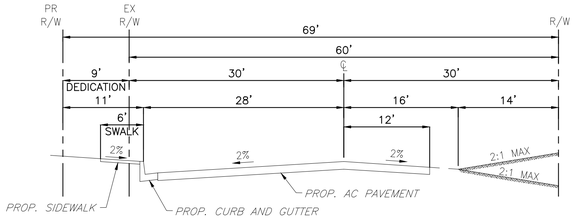
END

IN THE CITY OF WILDOMAR, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

JANA RD COMMERCIAL DEVELOPMENT

COMMERCIAL DEVELOPMENT

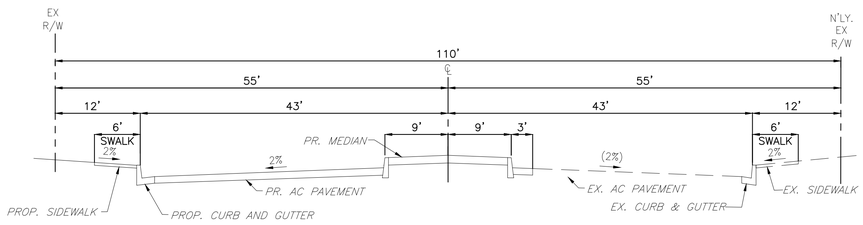
APN: 362-600-050



JANA LANE

TYPICAL STREET SECTION

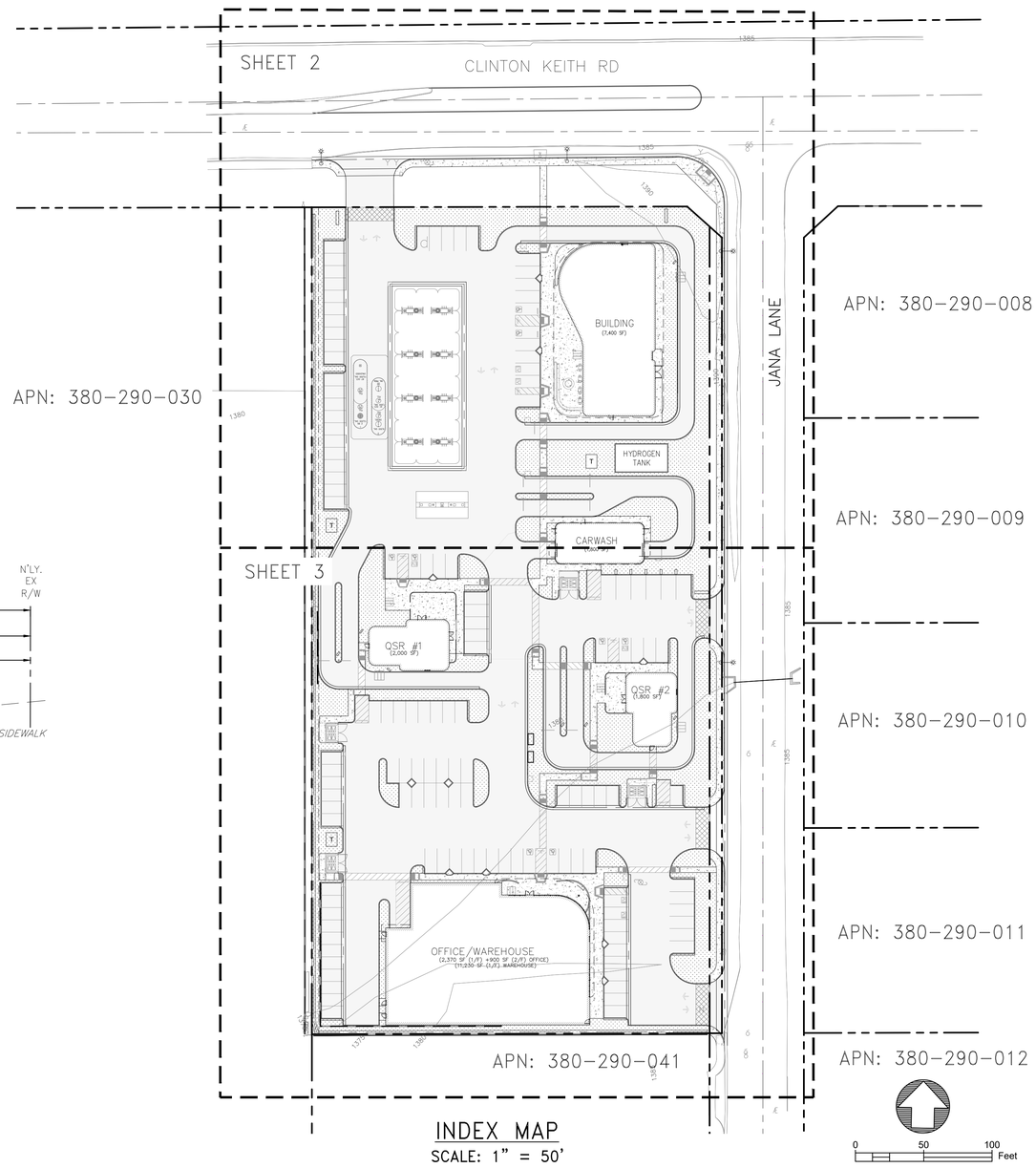
N.T.S.



CLINTON KEITH ROAD

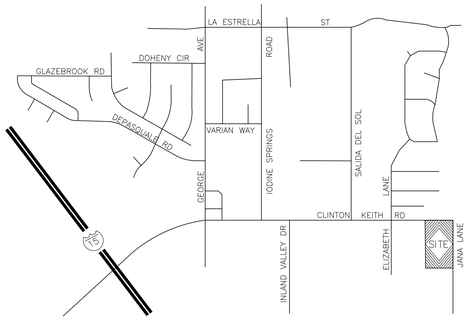
TYPICAL STREET SECTION

N.T.S.



INDEX MAP

SCALE: 1" = 50'



VICINITY MAP

N.T.S.

PROPERTY OWNER:
PARADISE LAKE LLC
4300 EDISON AVE
CHINO, CA 91710

SOILS ENGINEER:
NTS GEOTECHNICAL, INC.
5319 UNIVERSITY DRIVE.
IRVINE, CA 92612
CONTACT: NADIM SUNNA, MS, PE, GE
PHONE: (657) 888-4608

CIVIL ENGINEER:
BLUE ENGINEERING AND CONSULTING, INC.
9320 BASELINE RD., STE. D,
RANCHO CUCAMONGA, CA 91701
CONTACT: ANGEL CESAR, PE
PHONE: (909) 248-6557

ARCHITECT:
PEGASUS
4300 EDISON AVE.
CHINO, CA 91710
PHONE: (909) 465-4101

BENCHMARK:
COUNTY OF RIVERSIDE
USC&GS 1254 RESET 1964 BRASS DISK AT BASE OF WILDOMAR SCHOC BELL TOWER AT SW COR OF CENTRAL ST & PALOMAR ST

ELEVATION: 1258.00
DATUM: NAVD88

SHEET INDEX

SHEET 1	TITLE SHEET
SHEET 2-3	CONCEPTUAL GRADING PLAN
SHEET 4	SECTIONS
SHEET 5	CONCEPTUAL UTILITY PLAN
SHEET 6	PRE-DEVELOPMENT HYDROLOGY EXHIBIT
SHEET 7	POST-DEVELOPMENT HYDROLOGY EXHIBIT

DESIGNED BY: MG
DRAWN BY: CG
CHECKED BY: AC

SEAL-DESIGN ENGINEER

REGISTERED PROFESSIONAL ENGINEER — ANGEL CESAR — No. 87222 — CIVIL — STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
9320 BASELINE RD. STE. D - RANCHO CUCAMONGA, CA 91701
PHONE: 909-248-6557 - INFO@BLUECIVILENG.COM
WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF WILDOMAR
24831 CLINTON KEITH RD, WILDOMAR, CA 92595

TITLE SHEET

JANA RD COMMERCIAL DEVELOPMENT
CONDITIONAL USE PERMIT

CUP:
LDP:
DATE: December 16, 2022
SHEET 1
OF 7 SHEETS
PROJECT NUMBER:

Plans Prepared On: 12/16/2022

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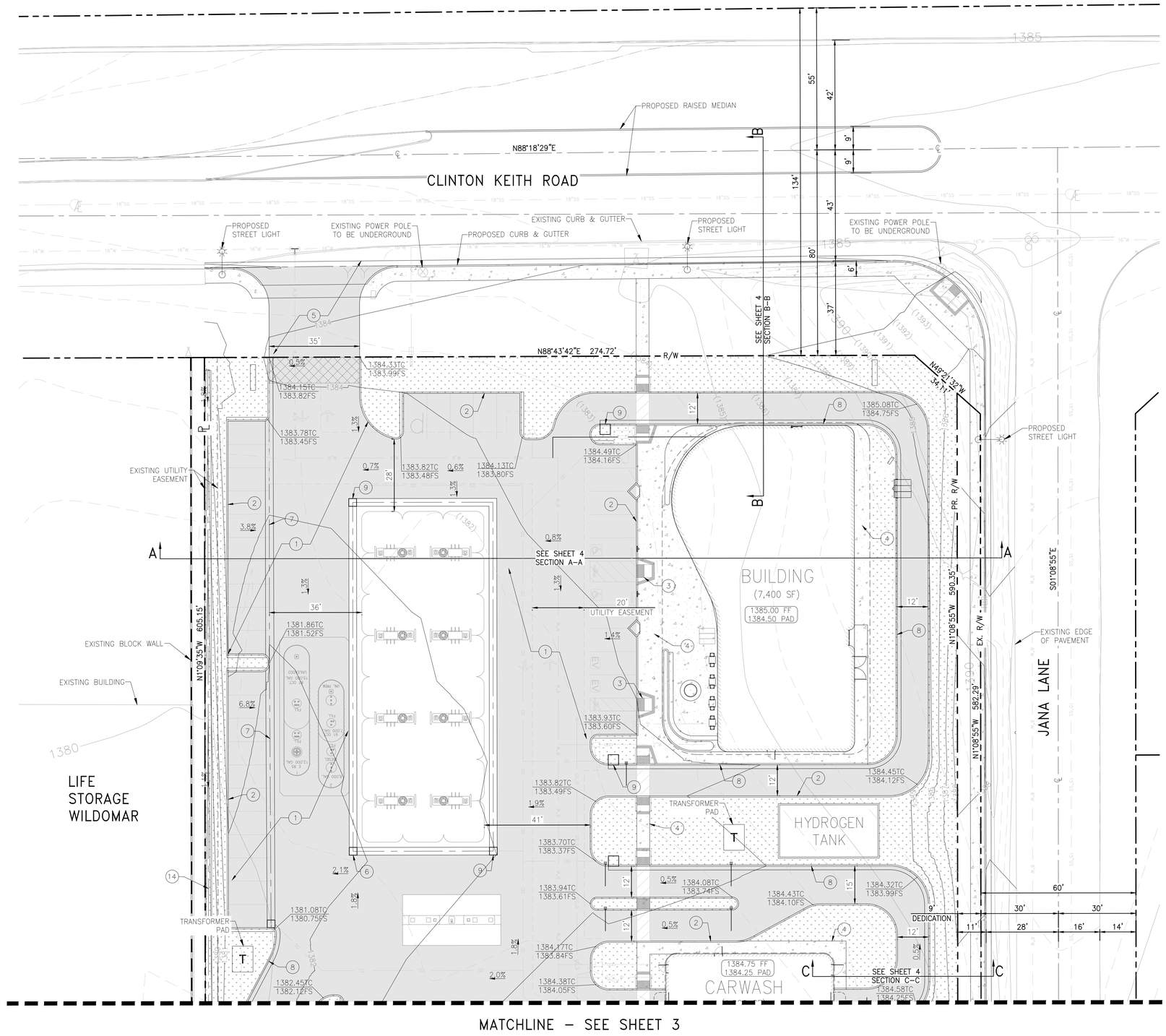
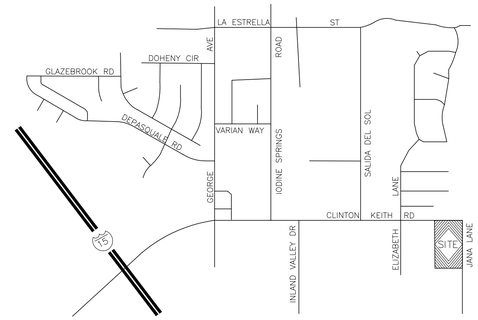




VICINITY MAP
N.T.S.

CONSTRUCTION NOTES

1. PROPOSED X" AC PAVEMENT OVER X" BASE
2. PROPOSED 6" CURB ONLY
3. PROPOSED HANDICAP RAMP PER ADA STANDARDS
4. PROPOSED SIDEWALK
5. PROPOSED COMMERCIAL DRIVE APPROACH
6. PROPOSED DEAD END SUMP
7. PROPOSED 3' WIDE PCC RIBBON GUTTER
8. PROPOSED 6" CURB AND GUTTER
9. PROPOSED CATCH BASIN
10. PROPOSED TRASH ENCLOSURE
14. PROPOSED CONCRETE V-GUTTER

0 10 20 40 Feet
1:20

DESIGNED BY: MG
DRAWN BY: CG
CHECKED BY: AC

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
9320 BASELINE RD, STE. D - RANCHO CUCAMONGA, CA 91701
PHONE: 909-248-6557 - INFO@BLUECIVILENG.COM
WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF WILDOMAR
24831 CLINTON KEITH RD, WILDOMAR, CA 92595

REVIEWED BY: _____ DATE

XXXXXXXXXX
P.E. NO. C-69109
EXP. DATE 6-30-2020

CONCEPTUAL GRADING PLAN

JANA RD COMMERCIAL DEVELOPMENT
CONDITIONAL USE PERMIT

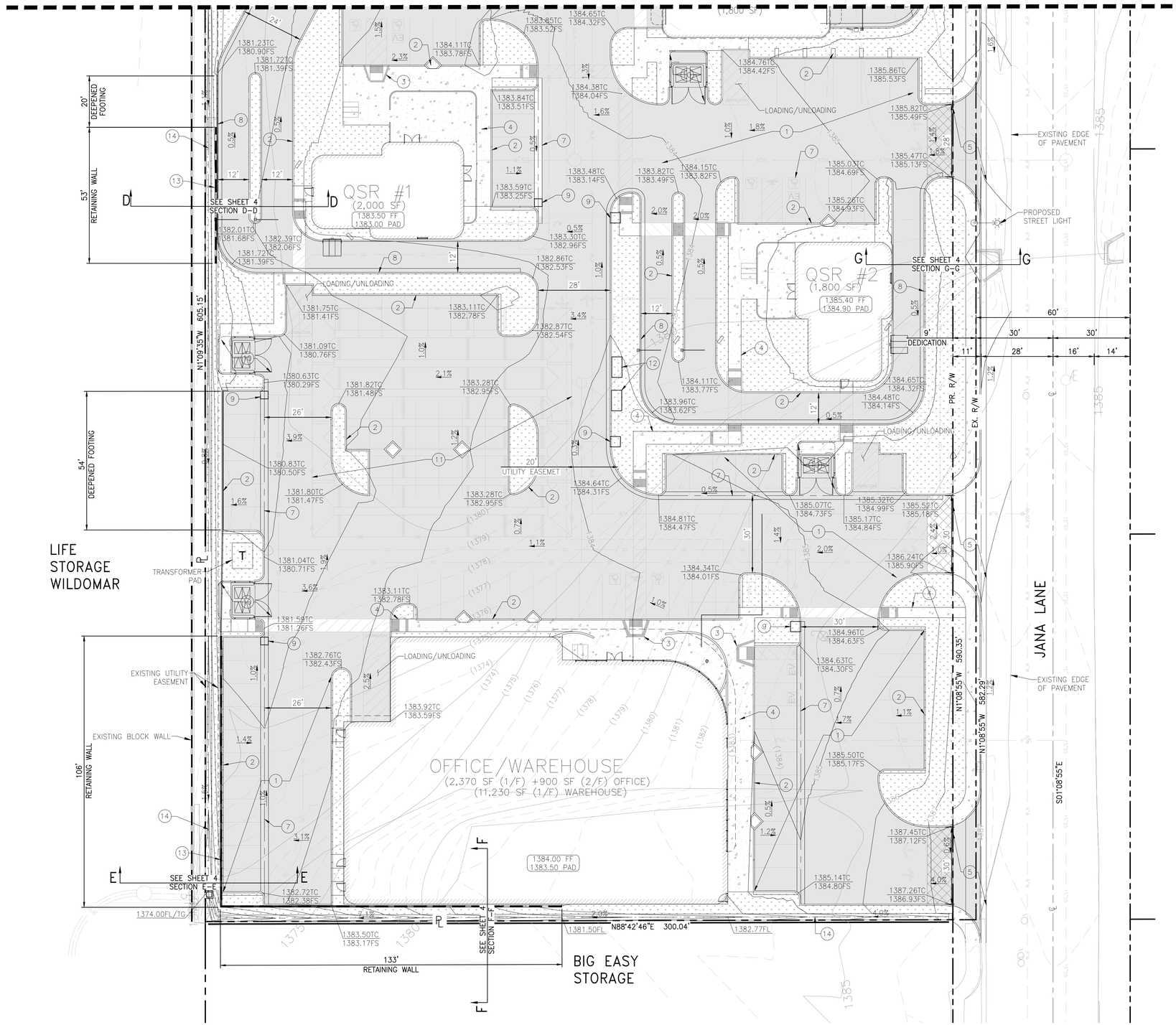
CUP:
LDP:
DATE: December 16, 2022
SHEET 2
OF 7 SHEETS
PROJECT NUMBER:

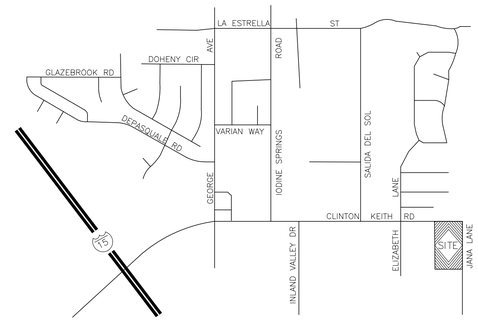
Plans Prepared On: 12/16/2022

Z:\Shared\Blue\2021134 – Jana – Beyond Food_Sheet Set\Entitlement\2021134 – CGP.dwg Dec 16, 2022 – 12:48pm

Z:\Shared\Blue\2021134 – Jana – Beyond Food_Sheet Set\Entitlement\2021134 – CGP.dwg – LAST PLOTTED ON Fri 12/16/22 – 12:48PM BY Martin Gonzalez

MATCHLINE – SEE SHEET 2





VICINITY MAP
N.T.S.

CONSTRUCTION NOTES

1. PROPOSED X" AC PAVEMENT OVER X" BASE
2. PROPOSED 6" CURB ONLY
3. PROPOSED HANDICAP RAMP PER ADA STANDARDS
4. PROPOSED SIDEWALK
5. PROPOSED COMMERCIAL DRIVE APPROACH
6. PROPOSED DEAD END SUMP
7. PROPOSED 3' WIDE PCC RIBBON GUTTER
8. PROPOSED 6" CURB AND GUTTER
9. PROPOSED CATCH BASIN
10. PROPOSED TRASH ENCLOSURE
11. PROPOSED DETENTION TANK SYSTEM
12. PROPOSED MODULAR WETLAND
13. PROPOSED RETAINING WALL
14. PROPOSED CONCRETE V-GUTTER

0 10 20 40 Feet
1:20

DESIGNED BY: MG
DRAWN BY: CG
CHECKED BY: AC

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
9320 BASELINE RD. STE. D - RANCHO CUCAMONGA, CA 91701
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WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF WILDOMAR
24831 CLINTON KEITH RD, WILDOMAR, CA 92595

REVIEWED BY: DATE

XXXXXXXXXX
P.E. NO. C-69109
EXP. DATE 6-30-2020

CONCEPTUAL GRADING PLAN

JANA RD COMMERCIAL DEVELOPMENT
CONDITIONAL USE PERMIT

CUP:
LDP:
DATE: December 16, 2022
SHEET 3
OF 7 SHEETS
PROJECT NUMBER:

Plans Prepared On: 12/16/2022

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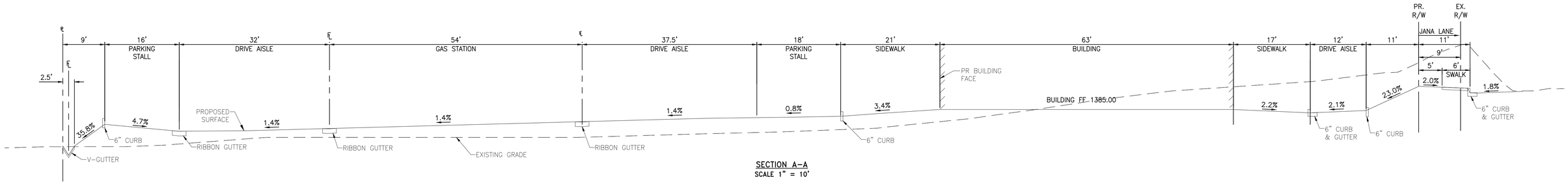
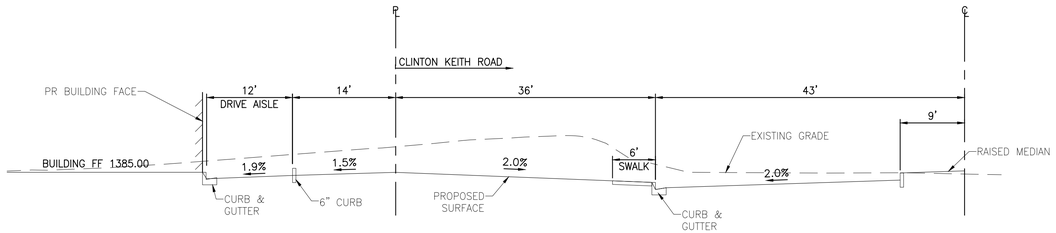
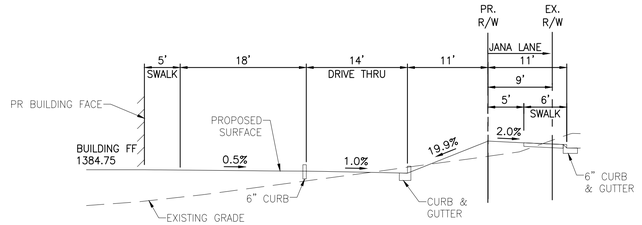


SECTION A–A
SCALE 1" = 10'



SECTION B–B
SCALE 1" = 20'



SECTION C–C
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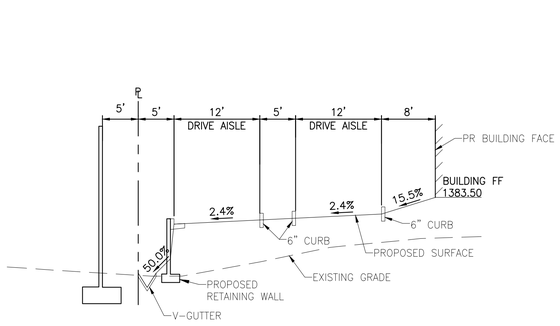
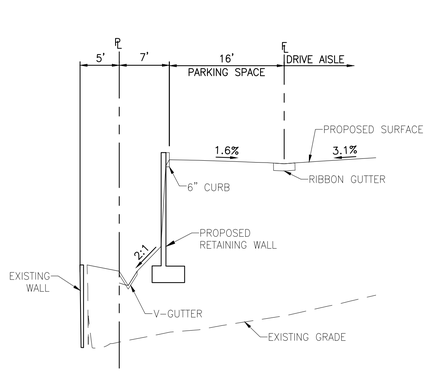


SECTION D–D
SCALE 1" = 10'



SECTION E–E
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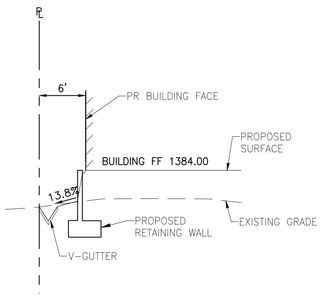
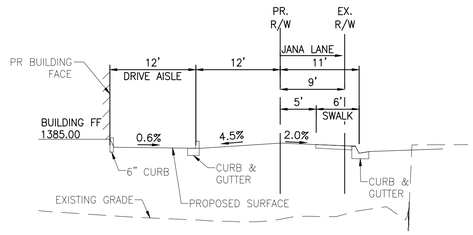


SECTION F–F
SCALE 1" = 10'



SECTION G–G
SCALE 1" = 10'

DESIGNED BY:	MG
DRAWN BY:	CG
CHECKED BY:	AC

SEAL–DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
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WWW.BLUECIVILENG.COM

PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 — DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF WILDOMAR
24831 CLINTON KEITH RD, WILDOMAR, CA 92595

REVIEWED BY: _____ DATE

XXXXXXXXXX
P.E. NO. C-69109
EXP. DATE 6-30-2020

SECTIONS

JANA RD COMMERCIAL DEVELOPMENT
CONDITIONAL USE PERMIT

CUP:	
LDP:	
DATE:	December 16, 2022
SHEET	4
OF	7 SHEETS
PROJECT NUMBER:	

Plans Prepared On: 12/16/2022

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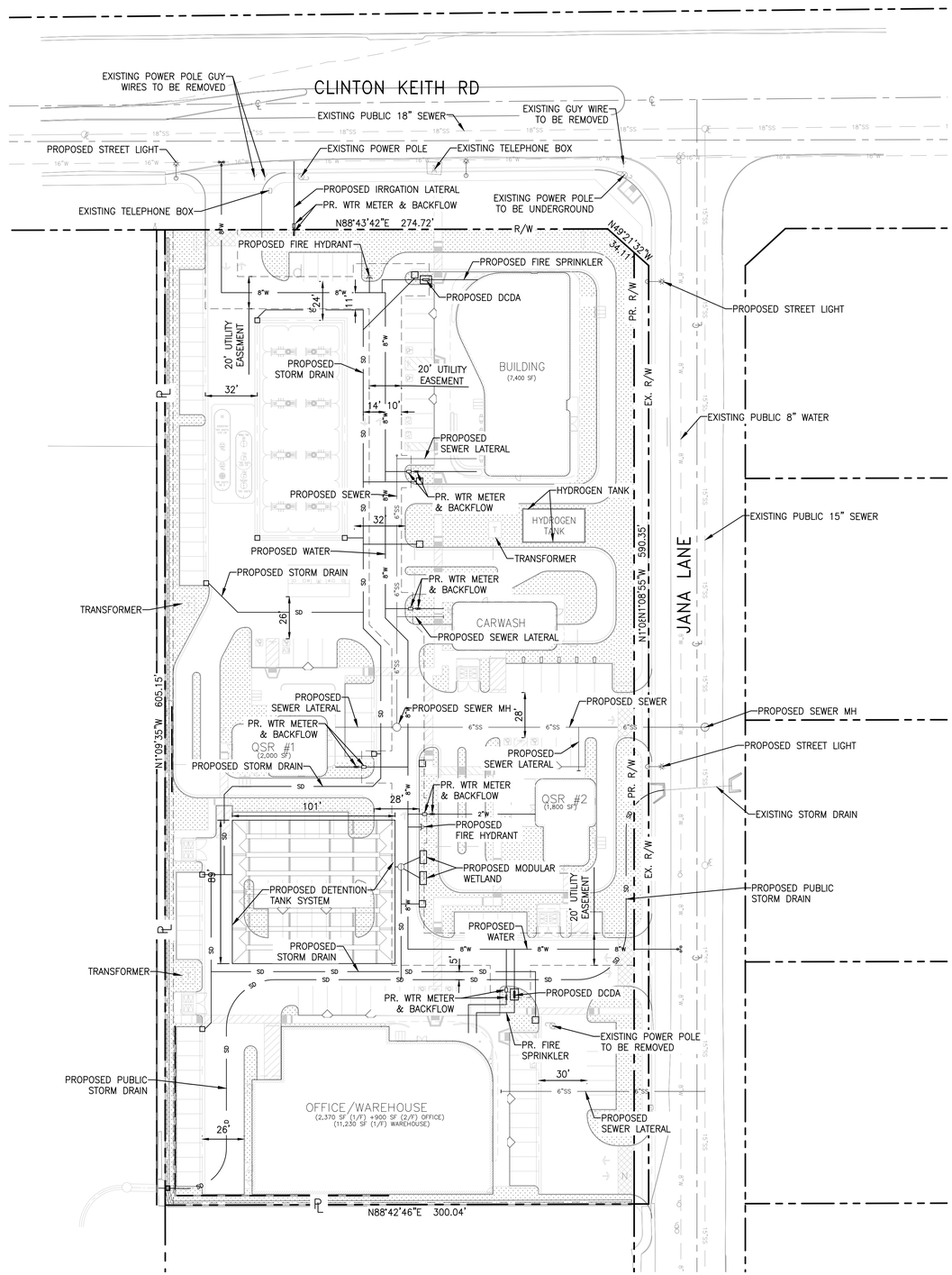
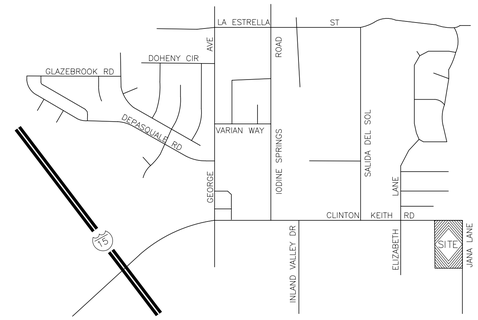
1724





VICINITY MAP
N.T.S.

SCALE: 1" = 40'

0 40 80 Feet

DESIGNED BY:	MG		
DRAWN BY:	CG		
CHECKED BY:	AC		

SEAL-DESIGN ENGINEER

REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
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PLANS PREPARED UNDER THE SUPERVISION OF:
ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

REV.	REVISION DESCRIPTION	BY	DATE

CITY OF WILDOMAR
24831 CLINTON KEITH RD, WILDOMAR, CA 92595

REVIEWED BY: _____ DATE

XXXXXXXXXX
P.E. NO. C-69109
EXP. DATE 6-30-2020

CONCEPTUAL UTILITY PLAN

JANA RD COMMERCIAL DEVELOPMENT
CONDITIONAL USE PERMIT

CUP:	
LDP:	
DATE:	December 16, 2022
SHEET	5
OF	7 SHEETS
PROJECT NUMBER:	

Plans Prepared On: 12/16/2022

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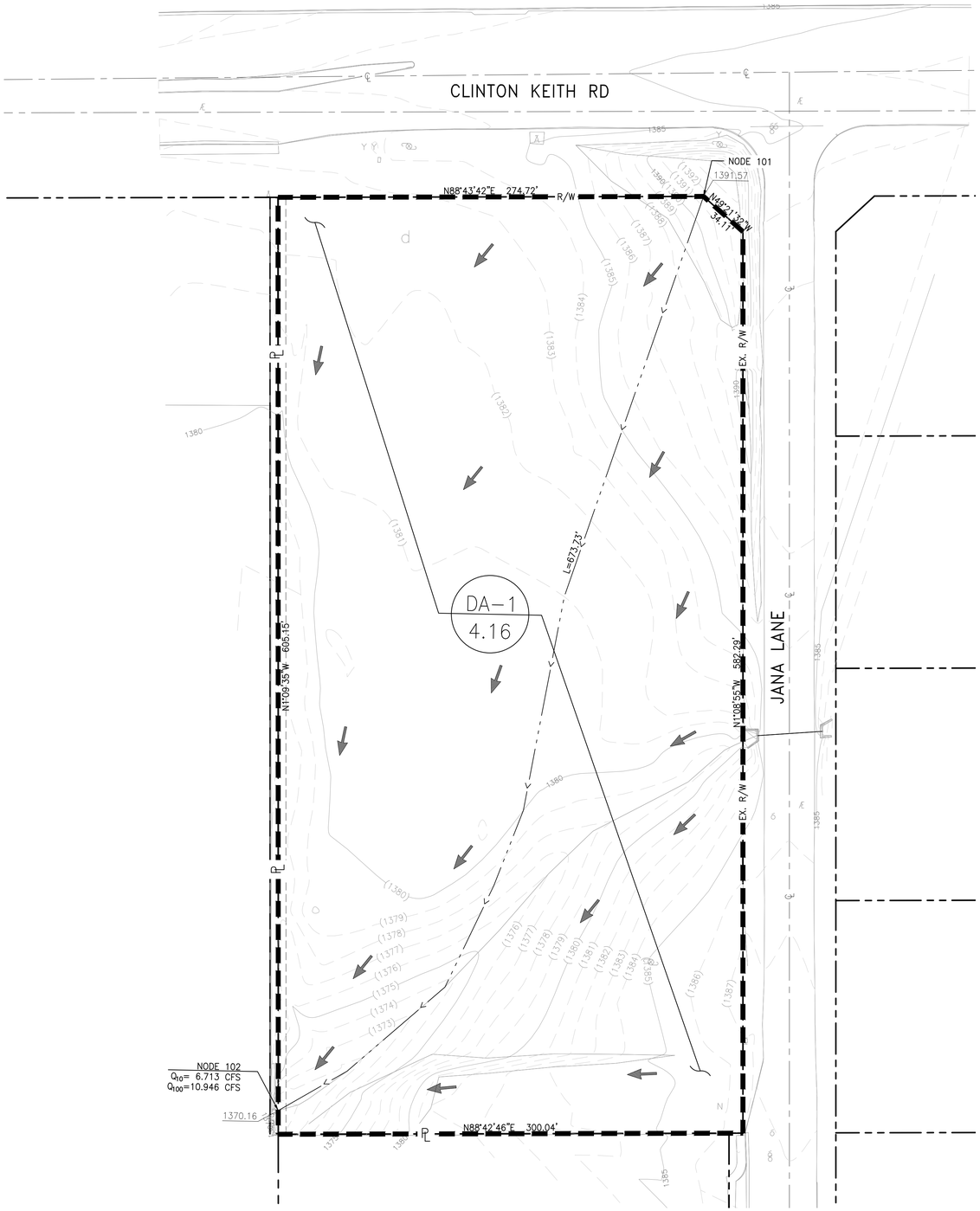

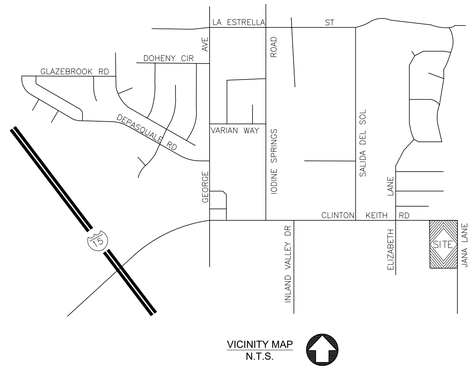

VICINITY MAP
N.T.S.

LEGEND

- FLOW LINE
- FLOW DIRECTION
- DRAINAGE AREA BOUNDARY
- # / X.XX — DRAINAGE AREA DESIGNATION
- DRAINAGE AREA

0 20 40 80 Feet
1:40

DESIGNED BY: MG	SEAL-DESIGN ENGINEER	BLUE Engineering & Consulting, Inc	CITY OF WILDOMAR 24831 CLINTON KEITH RD, WILDOMAR, CA 92595
DRAWN BY: CG	REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA	9320 BASELINE RD. STE. D - RANCHO CUCAMONGA, CA 91701 PHONE: 909-248-6557 - INFO@BLUECIVILENG.COM WWW.BLUECIVILENG.COM	PRE-DEVELOPMENT HYDROLOGY EXHIBIT
CHECKED BY: AC	PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE		**JANA RD COMMERCIAL DEVELOPMENT** **CONDITIONAL USE PERMIT**

REV.	REVISION DESCRIPTION	BY	DATE

CUP:	
LDP:	
DATE:	December 16, 2022
SHEET	6
OF	7 SHEETS
PROJECT NUMBER:	

Plans Prepared On: 12/16/2022

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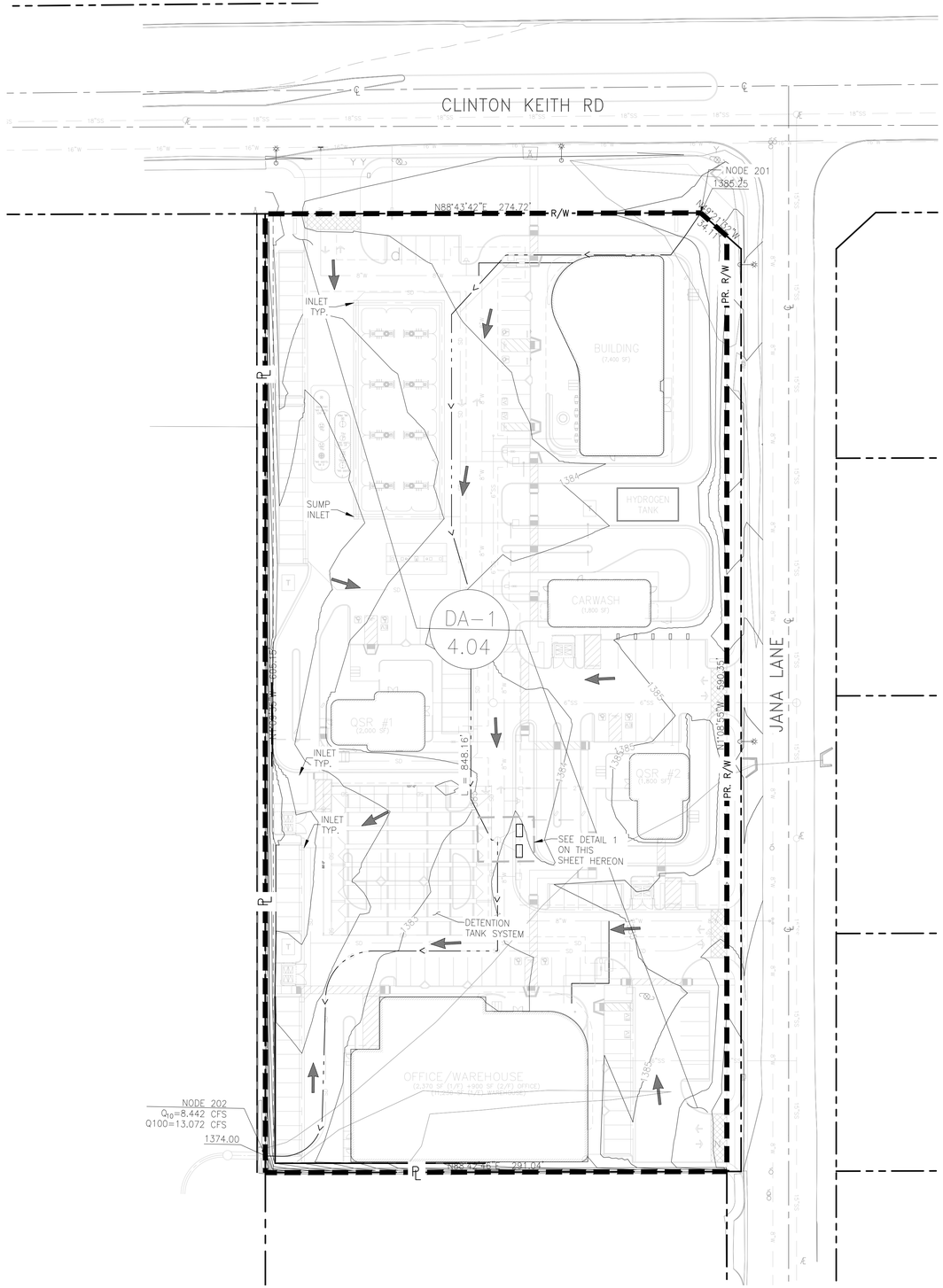
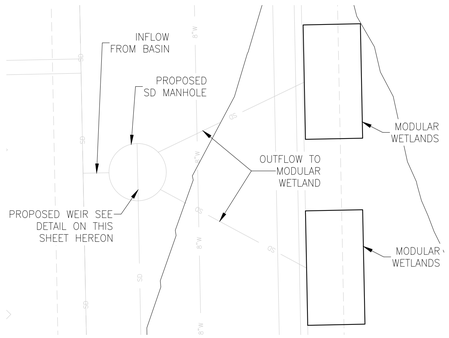
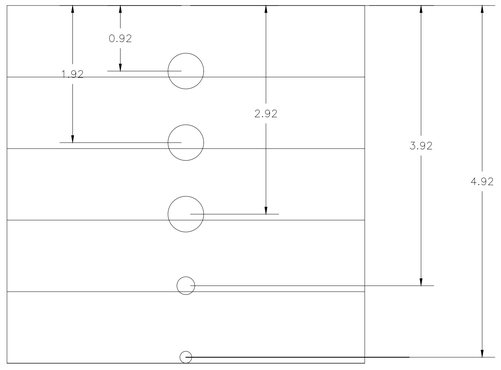
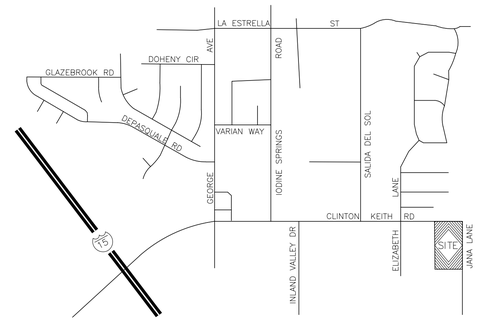






WEIR DETAIL
N.T.S.



VICINITY MAP
N.T.S.

LEGEND

- FLOW LINE
- FLOW DIRECTION
- DRAINAGE AREA BOUNDARY
- # / X.XX — DRAINAGE AREA DESIGNATION / DRAINAGE AREA

NOTE: ALL INLETS HAVE TRASH CAPTURE FILTERS

ENGINEERED SOIL MEDIA REQUIREMENTS

THE ENGINEERED SOIL MEDIA SHALL BE COMPROMISED OF 85 PERCENT MINERAL COMPONENT AND 15 PERCENT ORGANIC COMPONENT, BY VOLUME, DRUM MIXED PRIOR TO PLACEMENT. THE MINERAL COMPONENT SHALL BE CLASS A SANDY LOAM TOPSOIL THAT MEETS THE RANGE SPECIFIED IN THE TABLE BELOW. THE ORGANIC COMPONENT SHALL BE NITROGEN STABILIZED COMPOST, SUCH THAT NITROGEN DOES NOT LEACH MEDIA.

MINERAL COMPONENT RANGE REQUIREMENTS	
Percentage Range	Component
70–80	SAND
15–20	SILT
5–10	CLAY

0 20 40 80 Feet
1:40

DESIGNED BY: MG
DRAWN BY: CG
CHECKED BY: AC

SEAL–DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER ANGEL CESAR No. 87222 CIVIL STATE OF CALIFORNIA

BLUE Engineering & Consulting, Inc
9320 BASELINE RD, STE. D - RANCHO CUCAMONGA, CA 91701
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PLANS PREPARED UNDER THE SUPERVISION OF: ANGEL CESAR, P.E. 87222 EXP. 9/30/23 DATE

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CITY OF WILDOMAR
24831 CLINTON KEITH RD, WILDOMAR, CA 92595

REVIEWED BY: _____ DATE _____
XXXXXXXXX
P.E. NO. C-69109
EXP. DATE 6-30-2020

POST-DEVELOPMENT HYDROLOGY EXHIBIT

JANA RD COMMERCIAL DEVELOPMENT
CONDITIONAL USE PERMIT

CUP:
LDP:
DATE: December 16, 2022
SHEET 7 OF 7 SHEETS
PROJECT NUMBER:

Plans Prepared On: 12/16/2022

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New Commercial Development

24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

Abbreviations

&	AND
L	ANGLE
@	AT
℄	CENTERLINE
ø	DIAMETER OF ROUND
#	POUND OR NUMBER
(E)	EXISTING
(R)	RELOCATED
(N)	NEW
A.F.F.	ABOVE FINISH FLOOR
A.D.	AREA DRAIN
ADJ.	ADJUSTABLE
AGGR.	AGGREGATE
AL.	ALUMINUM
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
ASB.	ASBESTOS
ASPH.	ASPHALT
BD.	BOARD
BITUM.	BITUMINOUS
BLDG.	BUILDING
BLKG.	BLOCKING
BM.	BEAM
B.O.H.	BACK OF HOUSE
BOT.	BOTTOM
CAB.	CABINET
CEM.	CEMENT
CER.	CERAMIC
C.I.	CAST IRON
CLG.	CEILING
CLKG.	CAULKING
CLO.	CLOSET
CLR.	CLEAR
C.O.	CASED OPENING
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CTSK.	COUNTERSUNK
CNTR.	COUNTER
CTR.	CENTER
DBL.	DOUBLE
DEPT.	DEPARTMENT
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DN.	DOWN
D.O.	DOOR OPENING
DR.	DOOR
DWR.	DRAWER
D.S.	DOWNSPOUT
DWG.	DRAWING
E.	EXISTING
EA.	EACH
E.J.	EXPANSION JOINT
EL.	ELEVATION
ELEC.	ELECTRICAL
E.P.	ELECTRICAL PANELBOARD
EQ.	EQUAL
EQPT.	EQUIPMENT
EXST.	EXISTING
EXP.	EXPANSION
EXT.	EXTERIOR
F.F	FLOOR FINISH
FDN.	FOUNDATION
FIN.	FINISH
FL.	FLOOR
FLASH'G	FLASHING
FLUOR.	FLUORESCENT
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.S.	FACE OF STUDS
FPRF.	FIREPROOF
F.S.	FLOOR SINK
FT.	FOOT OR FEET
FTG.	FOOTING
FURR.	FURRING
FUT.	FUTURE
G.A.	GAUGE
GALV.	GALVANIZED
GL.	GLASS
GR.	GRADE
GSM	GALVANIZED SHEET METAL
GYP.	GYPSUM
GYP. BD.	GYPSUM BOARD
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HCP	HANDICAP
HDWD.	HARDWOOD
HDWE.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
HGT.	HEIGHT
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
JT.	JOINT
KIT.	KITCHEN
LAMINATE	LAM.
LAV.	LAVATORY
LT.	LIGHT
MANU.	MANUFACTURER
MAX.	MAXIMUM
M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MEMB.	MEMBRANE
MET.	METAL
MFR.	MANUFACTURER
MIN.	MINIMUM
PL.	PLATE
P.LAM.	PLASTIC LAMINATE
PLAS.	PLASTER
PLYWD.	PLYWOOD
PR.	PAIR
PROV'D	PROVIDED
PT.	POINT
PTN.	PARTITION
Q.T.	QUARRY TILE
QSR	QUICK SERVE RESTAURANT
R/RAD.	RADIUS
R.D.	ROOF DRAIN
REF.	REFERENCE
REFR.	REFRIGERATOR
RGTR.	REGISTER
REINF.	REINFORCED
REQ'D	REQUIRED
RESIL.	RESILIENT
RM.	ROOM
R.O.	ROUGH OPENING
RWD.	REDWOOD
R.W.L.	RAIN WATER LEADER
S.C	SOLID CORE
SCHED.	SCHEDULE
S.D.	SOAP DISPENSER
SECT.	SECTION
SH.	SHELF
SHR.	SHOWER
SHT.	SHEET
SIM.	SIMILAR
SL.	SLOPE
SPEC.	SPECIFICATION
SQ.	SQUARE
S.ST.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STOR.	STORAGE
STRL.	STRUCTURAL
SYM.	SYMMETRICAL
T.B.S.	TO BE SPECIFIED
TRD.	TREAD
T.B.	TOWEL BAR
T.C.	TOP OF CURB
TEL.	TELEPHONE
TER.	TERRAZZO
T.& G.	TONGUE & GROOVE
THK.	THICK
T.P.	TOP OF PAVEMENT
MIR.	MIRROR
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTD.	MOUNTED
MUL.	MULLION
N.	NEW
N.I.C.	NOT IN CONTRACT
NO./#	NUMBER
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O.A.	OVERALL
OBS.	OBSCURE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OFF.	OFFICE
OPNG.	OPENING
OPP.	OPPOSITE
PLBG.	PLUMBING
T.P.D.	TOILET PAPER DISPENSER
T.V.	TELEVISION
T.W.	TOP OF WALL
TYP.	TYPICAL
UNF.	UNFINISHED
U.O.N.	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W.	WEST
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W/O	WITHOUT
WP.	WATERPROOF
WSCT.	WAINSCOT
WT.	WEIGHT

Symbols

- 6 / A8 — TYPICAL REFERENCE DETAIL IDENTIFICATION; SHEET WHERE DETAIL IS DRAWN
- 3 / A3 — SECTION (BUILDING)
- 4 / A3 — SECTION (WALL / DETAIL)
- 5 / A3 — ELEVATION
- 9 — REFERENCE NOTE
- 1 — INTERIOR ELEVATIONS
- 5 / A3 — 2 — 3 — ELEVATION IDENTIFICATION; SHEET WHERE ELEVATION IS DRAWN
- # — WINDOW SYMBOL
- D# — DOOR SYMBOL
- 2 — REVISION, CLOUD
- MATCH LINE, SHADED PORTION IS THE SIDE CONSIDERED
- DATUM POINT

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

NOTES:
1. ALL DIMENSIONS ARE TO THE FACE OF STUD, U.O.N.
2. ALL RACKS HEIGHT TO BE LESS THAN 5'-9".

Project Directory

OWNER:
PARADISE LAKE, LLC.
4300 EDISON AVE.,
CHINO, CA 91710

ARCHITECT:
C.F. LAU, A.I.A.
PEGASUS ARCHITECTS
4300 EDISON AVE.,
CHINO, CA 91710
TEL: (909) 465.4101

CIVIL:
BLUE ENGINEERING & CONSULTANTS
MARTIN GONZALEZ
9320 BASELINE RD., SUITE D
RANCHO CUCAMONGA, CA 91710
TEL: (909) 970-5654

LANDSCAPE ARCHITECT:
PHILMAY LANDSCAPE ARCHITECT
ROSALIO SERNA
2532 WALLACE AVENUE
FULLERTON, CA 92831
TEL: (909) 373-1959

Planning Notes

1) LIQUEFACTION:
BASED ON RECORDS, THIS PROJECT APPEARS TO BE LOCATED IN AN AREA WITH POTENTIAL FOR SOIL LIQUEFACTION. PER CBC SECTION 1803.5, A GEOTECHNICAL ASSESSMENT OF THIS CONDITION IS REQUIRED AND, ACCORDING TO SECTION 1803, THE ASSESSMENT MUST BE CONDUCTED BY A LICENSED DESIGN PROFESSIONAL. IF THE ASSESSMENT INDICATED THAT THE CONDITION, IF NOT CORRECTED, WOULD LEAD TO STRUCTURAL DEFECTS, THE ASSESSMENT SHALL RECOMMEND CORRECTIVE ACTION WHICH IS LIKELY TO PREVENT STRUCTURAL DAMAGE.

Building Notes:

1) CODE/ORDINANCE REQUIREMENTS:
THE APPLICANT SHALL OBTAIN THE REQUIRED BUILDING PERMIT(S) FROM THE BUILDING DEPARTMENT PRIOR TO ANY CONSTRUCTION ON THE PROPERTY. ALL BUILDING PLANS AND SUPPORTING DOCUMENTATION SHALL COMPLY WITH CURRENT ADOPTED CALIFORNIA BUILDING CODES, WILDOMAR ORDINANCES REGULATIONS IN EFFECT AT THE TIME OF BUILDING PLAN SUBMITTAL AND FEE PAYMENT TO THE BUILDING DEPARTMENT. ALL BUILDING DEPARTMENT PLAN SUBMITTAL AND FEE REQUIREMENTS SHALL APPLY.
NOTE: THE NEW UPDATED 2022 CALIFORNIA BUILDING CODES WILL BE IN EFFECT AS OF JANUARY 1ST, 2023, AS MANDATED BY THE STATE OF CALIFORNIA. ANY BUILDING PLAN AND FEE PAYMENT SUBMITTED TO THE BUILDING DEPARTMENT ON OR AFTER JANUARY 1ST, 2023 WILL BE SUBJECT TO THE NEW UPDATED CALIFORNIA BUILDING CODE(S).
2) PERMIT ISSUANCE:
PER SECTION 105.1 (2019 CALIFORNIA BUILDING CODE, CBC): WHERE ANY OWNER OR AUTHORIZED AGENT INTENDS TO CONSTRUCT, ENLARGE, ALTER, REPAIR, MOVE, DEMOLISH, OR CHANGE THE OCCUPANCY OF A BUILDING OR STRUCTURE, OR TO ERECT, INSTALL, ENLARGE, ALTER, REPAIR, REMOVE, CONVERT, OR REPLACE ANY ELECTRICAL, GAS, MECHANICAL, OR PLUMBING SYSTEM, THE REGULATION OF WHICH IS GOVERNED BY THIS CODE, OR TO CAUSE ANY SUCH WORK TO BE DONE, SHALL FIRST MAKE APPLILCATION TO THE BUILDING OFFICIAL AND OBTAIN THE REQUIRED PERMIT.
FURTHER, THE APPLICANT SHALL OBTAIN THE REQUIRED BUILDING PERMIT(S) FROM THE BUILDING DEPARTMENT PRIOR TO ANY CONSTRUCTION OR PLACEMENT OF ANY BUILDING, STRUCTURE OR EQUIPMENT ON THE PROPERTY. THE APPLICANT SHALL OBTAIN AN APPROVAL FINAL BUILDING INSPECTION AND CERTIFICATE OF OCCUPANCY FROM THE BUILDING DEPARTMENT PRIOR TO ANY USE OR OCCUPANCY OF THE BUILDING, OR STRUCTURE. AT NO TIME SHALL THE APPROVAL OF THE PLANNING CASE EXHIBIT ALLOW FOR THE CONSTRUCTION OR USE OF ANY BUILDING, STRUCTURE, OR EQUIPMENT. IN RESIDENTIAL APPLICATIONS, EACH SEPARATE STRUCTURE WILL REQUIRE A SEPARATE BUILDING PERMIT.
3) GREEN BUILDING CODE/ WASTE REDUCTION (NON-RESIDENTIAL):
INCLUDED WITHIN THE BUILDING PLAN SUBMITTAL DOCUMENTS TO THE BUILDING DEPARTMENT FOR PLAN REVIEW, THE APPLICANT SHALL PROVIDE A COPY OF THE APPROVED CONSTRUCTION WASTE MANAGEMENT PLAN BY THE WASTE MANAGEMENT DEPARTMENT THAT:
A) IDENTIFIES THE MATERIALS TO BE DIVERTED FROM DISPOSAL BY EFFICIENT USAGE, REUSE ON THE PROJECT, OR SALVAGE FOR FUTURE USE OR SALES.
B) DETERMINES IF MATERIALS WILL BE SORTED ON SITE OR MIXED.
C) IDENTIFIES DIVERSION FACILITIES WHERE MATERIAL COLLECTED WILL BE TAKEN.
D) SPECIFIES THE AMOUNT OF MATERIALS DIVERTED SHALL BE CALCULATED BY WEIGHT OR VOLUME, BUT NOT BOTH.

Legal Description

4.35 ACRES IN POR PAR 2 RS 025/062 ACRES 004.35 LOT TYPE PARCEL PARCEL 2 RECMAP TYPE RECORD OF SURVEY MAP PLAT B 025 MAP PLAT P 062 PORTION LOT PORTION

Sheet Index:

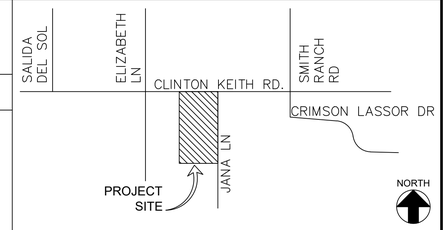
ARCHITECTURAL
SHT T — PROJECT DIRECTORY & DATA LEGAL DESCRIPTION, SHEET INDEX, VICINITY MAP, NOTES & SCOPE OF WORK
A1.01 — SITE PLAN & REFERENCE NOTES
A1.02 — SITE PLAN ACCESSIBLE TRAVEL OF PATH
A1.03 — TRUCK LANE
A1.10 — CANOPY PLAN & ELEVATIONS
A1.11 — TRASH ENCLOSURE FLOOR PLAN & ELEVATIONS
A2.01 — C-STORE FLOOR PLAN
A2.02 — CARWASH FLOOR PLAN & ELEVATIONS
A2.03 — QSR #1 FLOOR PLAN & ELEVATIONS
A2.04 — QSR #2 FLOOR PLAN & ELEVATIONS
A2.05 — OFFICE/WAREHOUSE FLOOR PLAN
A2.06 — OFFICE/WAREHOUSE MEZZANINE FLOOR PLAN
A3.01 — C-STORE ELEVATIONS
A3.02 — OFFICE/WAREHOUSE ELEVATIONS
A3.03 — CARWASH ELEVATIONS

CIVIL
C-1 — TITLE SHEET
C-2 — CONCEPTUAL GRADING PLAN
C-3 — CONCEPTUAL GRADING PLAN
C-4 — SECTIONS
C-5 — CONCEPTUAL UTILITY PLAN
C-6 — PRE-DEVELOPMENT HYDROLOGY EXHIBIT
C-7 — POST-DEVELOPMENT HYDROLOGY EXHIBIT

LANDSCAPE
L-1 — COVER SHEET
L-2 — PRELIMINARY FUEL MODIFICATION PLAN
L-3 — PRELIMINARY LANDSCAPE PLAN -1
L-4 — PRELIMINARY LANDSCAPE PLAN -2

Vicinity Map

N. T. S.



Scope Of Work

NEW CONSTRUCTION OF A SERVICE STATION WITH C-STORE W/ DRIVE-THRU, CARWASH FACILITY, TRASH ENCLOSURE, AND 2 QSR AND AN OFFICE/WAREHOUSE BUILDING.
SIGNAGE, FUEL PUMP CANOPY, UNDERGROUND STORAGE TANKS ARE UNDER SEPARATED PERMIT BY OTHERS.

Project Data

PROJECT ADDRESS:	24831 CLINTON KEITH RD., WILDOMAR, CA 92595
APN#:	380-290-002
GENERAL PLAN LAND USE:	BUSINESS PARK
ZONING:	M-SC
CONSTRUCTION TYPE:	VB
APPLICABLE CODES:	2019 CBC, CEC, CFC, CMC, CPC, CALGREEN, CAL ENERGY CODE
FIRE SPRINKLER:	YES (NFPA 72)
FIRE ALARM:	YES
OCCUPANCY:	M & B, S-1
LOT SIZE (GROSS):	±189,486 S.F. (±4.35 ACRES)
LOT SIZE (NET):	

DEVELOPMENT REQUIREMENTS: SETBACK REQUIREMENTS:	REQUIRED	PROVIDED
FRONT	25'-0"	27'-0"
STREET SIDE	25'-0"	48'-10"
REAR YARD	0'-0"	6'-5"
SIDE	0'-0"	41'-6"
LOT COVERAGE	MAX. 50%	(34,020 S.F.) 34,020/189,486 S.F.=18%
F.A.R.		
BUILDING HEIGHT	MAX. 50'	29'-0" (MARKET) 19'-6" (CANOPY) 20'-0" (QSR#1 & QSR#2) 30'-0" (OFFICE/ WAREHOUSE)

BUILDING AREA:
A) BUILDINGS
BEYOND C-STORE MARKET = 7,460 S.F.
CARWASH BUILDING = 1,790 S.F. (INCL. ELEC/EQUIP RM.)
TOTAL AREA: = 9,250 S.F.
B) CANOPY:
(47'-3"X128'-0"): = 5,971 S.F.
C) QSR #1 = 2,000 S.F.
D) QSR #2 = 1,800 S.F.
E) OFFICE = 4,203 S.F. (1/F) + 3,060 S.F. (MEZZANINE)
WAREHOUSE = 10,049 S.F.

PARKING	REQUIRED:	PARKING PROVIDED:
A) BEYOND MARKET 7460/200 1 SPACE /200 SQFT. G.F.A.	38	38 (INCL. 2 HCP)
B) CANOPY		
C) QSR #1 2,000/2/45 1 SPACE / 45 SQFT. OF SERVING AREA 1 SPACE / 2 EMPLOYEES	23	23 (INCL. 2 HCP)
D) QSR #2 1,800/2/45 1 SPACE / 45 SQFT. OF SERVING AREA 1 SPACE / 2 EMPLOYEES	20	20 (INCL. 2 HCP)
E) OFFICE 1 SPACE / 200 SQFT. G.F.A WAREHOUSE 1 SPACE / 2,000 SQFT. G.F.A	36 5	36 (INC. 1 HCP 8 (INCL. 1 HCP)
TOTAL	122	125 (INCL. 8 HCP)
LOADING/UNLOADING (10' x 20'):	4	4
CAR WASH STACKING	12 STACK	12 STACK
DRIVE-THRU	12 STACK	12 STACK

EV PARKING PROVIDED: 6 (EXCLUDED FROM PARKING COUNT)
STANDARD PARKING 9' X 18'

CV PARKING REQUIREMENTS (OVERALL SITE PLAN)
2019 CAL GREEN TABLE 5.106.5.2
REQUIRED: 10 PARKING SPACES
PROVIDED: 10 PARKING SPACES

BICYCLE PARKING REQUIREMENTS (OVERALL SITE PLAN)
CITY OF WILDOMAR CODE SECTION 11.188.060
REQUIRED: 10 BICYCLE SPACES
PROVIDED: 10 BICYCLE SPACES

PEGASUS ARCHITECTS
4300 EDISON AVE.,
CHINO, CA 91710
TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: 24831 CLINTON KEITH RD., WILDOMAR, CA 92595
CLIENT: PARADISE LAKE LLC., 4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: PROJECT DIRECTORY & DATA, LEGAL DESCRIPTION, SHEET INDEX, VICINITY MAP, NOTES & SCOPE OF WORK

KEY MAP SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022
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SHEET NO: T 1

OF SHEETS

SHEET

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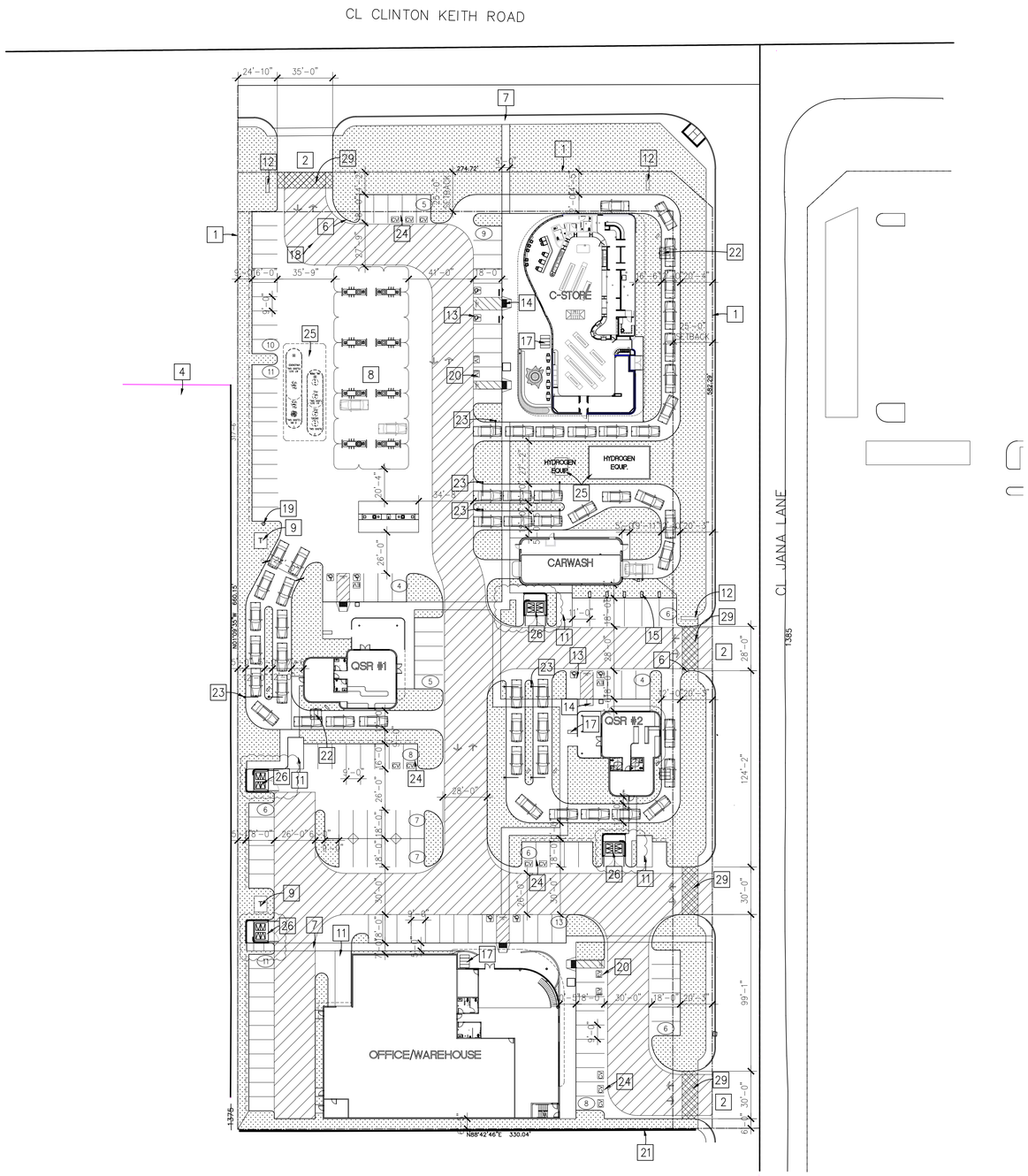

NORTH

Reference Notes

1. (E) PROPERTY LINES
2. (N) CURB AND GUTTER/DRIVEWAY (RIGHT IN & OUT)
3. (N) LANDSCAPE
4. ADJACENT BUILDING
5. (N) HEALY TANK
6. (N) CONCRETE CURB
7. (N) CONCRETE SIDEWALK
8. (N) CANOPY 47'-0"x128'-0" (UNDER SEPARATED PERMIT)
9. (N) TRANSFORMER PAD
10. (N) TRASH/RECYCLE ENCLOSURE
11. (N) LOADING/UNLOADING (10'-0" x 20'-0")
12. (N) CORNER MONUMENT, SIGN BY OTHERS, UNDER SEPARATE PERMIT.
13. (N) HCP PARKING
14. (N) HCP RAMP
15. (N) VACUUM @ 7 LOCS
16. (N) 5'-0" WIDE HCP PATH OF TRAVEL PER CODE STD.
17. BIKE RACK PER CITY'S STANDARD.
18. (N) 26' WIDE FIRE LANE
19. (N) AIR/WATER TOWER
20. EVCS PARKING PER CITY'S STD. PROVIDE MIN. 1" CONDUIT TERMINATING IN LISTED ENCLOSURE FOR FUTURE CHARGER.
21. (N) 6' HT. SPLITFACE CMU FENCE WALL
22. (N) MENU BOARD
23. (N) HEIGHT BAR
24. (N) CLEAN AIR VEHICLE
25. (N) UNDERGROUND TANK STORAGE
26. (N) TRASH ENCLOSURE
27. (N) HYDROGEN EQUIPMENT (UNDER SEPARATE PERMIT)
28. (N) HYDROGEN CANOPY (UNDER SEPARATE PERMIT)
29. (N) ENTRY DECORATIVE PAVED DRIVEWAY

1 Proposed Site Plan — SCALE: 1"=40'-0"

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

PEGASUS ARCHITECTS
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PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: 24831 CLINTON KEITH RD., WILDOMAR, CA 92595
CLIENT: PARADISE LAKE LLC, 4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: PROPOSED SITE PLAN

KEY MAP

SEAL/STAMP
LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
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JOB NO.	-
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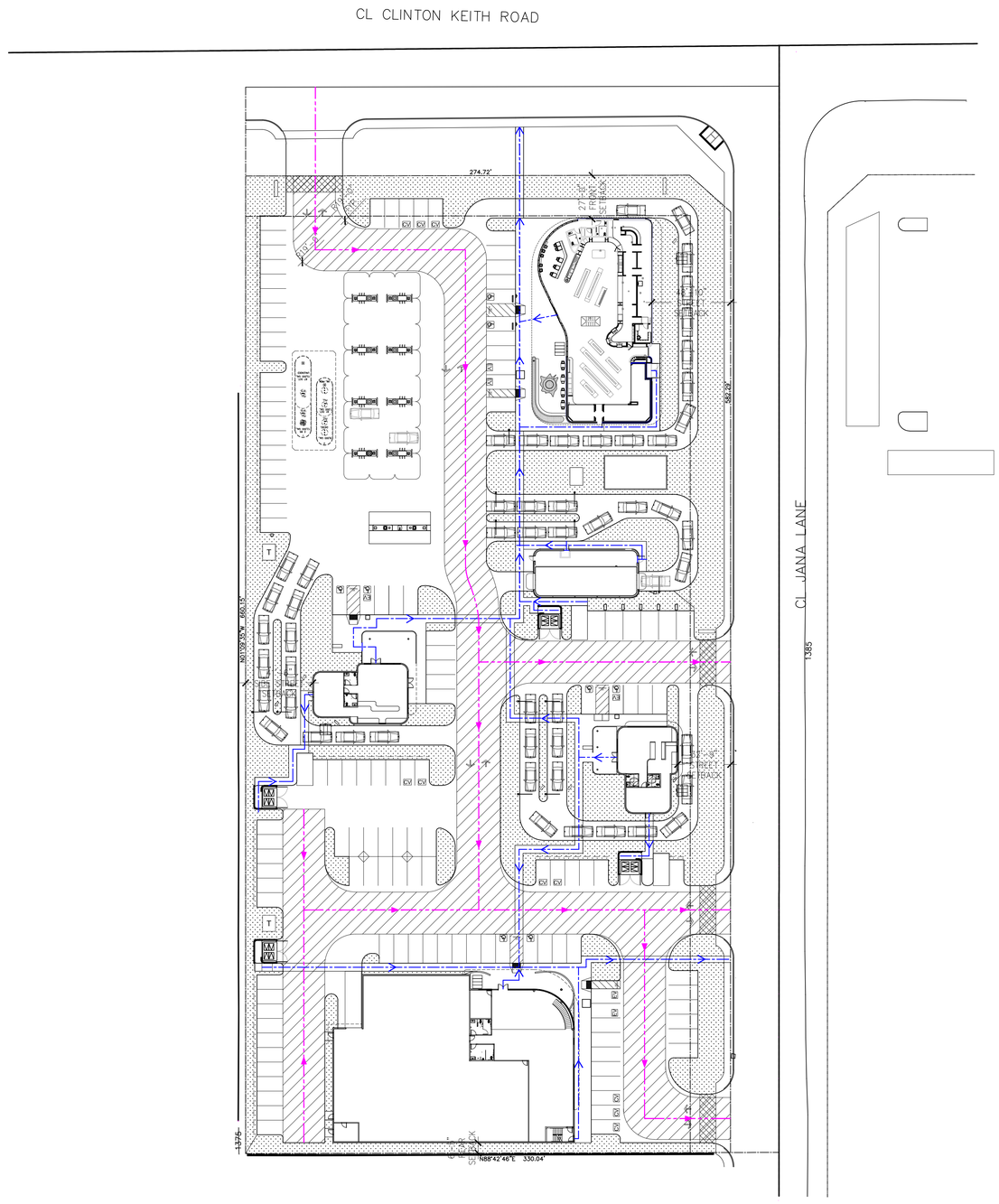

Reference Notes

Symbol

- ACCESSIBLE PATH OF TRAVEL
- EMERGENCY RESPONSES ACCESS PATH

NORTH

1 Site Plan w/ Accessible Path of Travel

SCALE: 1"=40'-0"

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ADDRESS: 24831 CLINTON KEITH RD.,
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SHEET TITLE:
SITE PLAN W/ ACCESSIBLE PATH OF TRAVEL

KEY MAP

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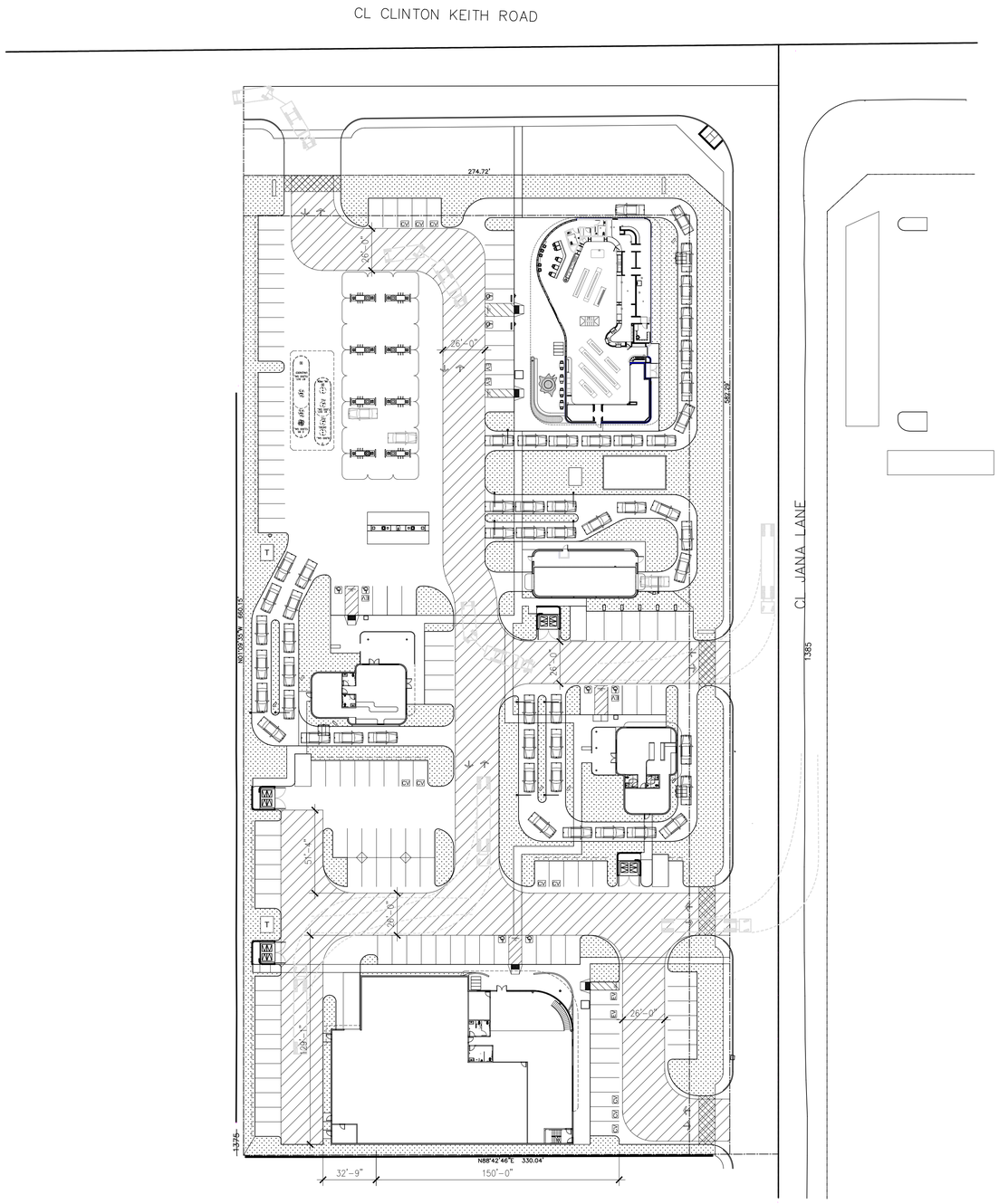

NORTH

Reference Notes

Symbol

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1 TRUCK LANE SCALE: 1"=40'-0"

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PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
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4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: TRUCK LANE

KEY MAP

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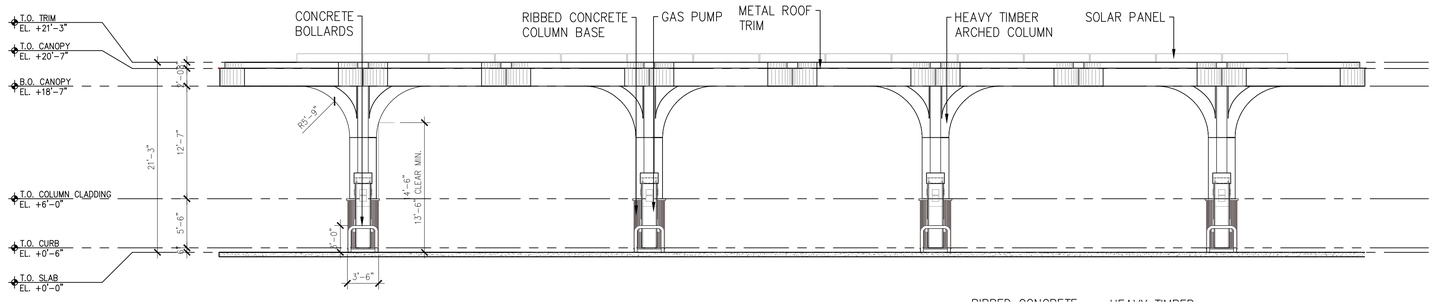
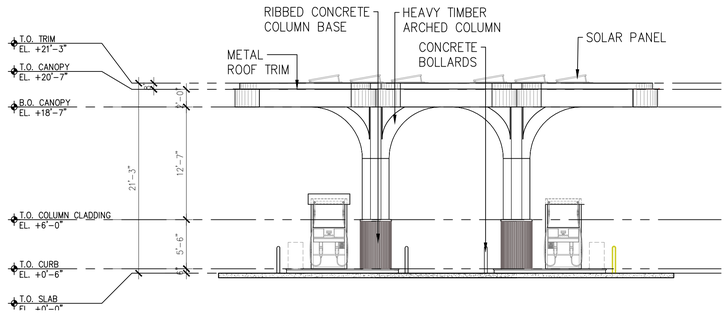


B

East / West Elevations

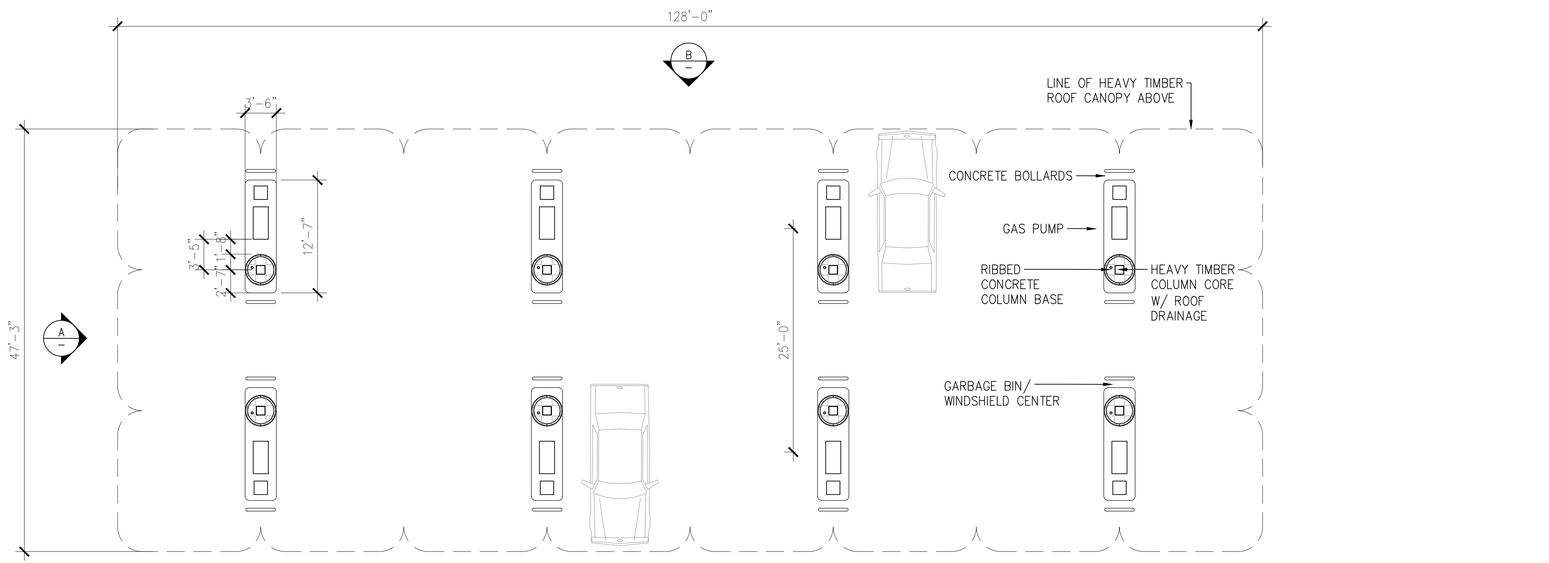
SCALE: 1/8"=1'-0"



A

North / South Elevations

SCALE: 1/8"=1'-0"



1

Canopy Floor Plan

SCALE: 1/8" = 1'-0"

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ADDRESS: 24831 CLINTON KEITH RD.,
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CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE:
PROPOSED CANOPY FLOOR PLAN & ELEVATIONS

KEY MAP

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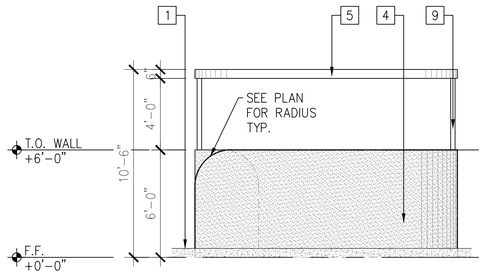
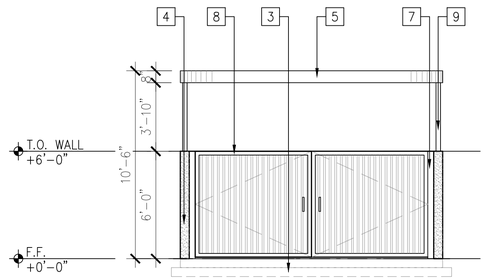
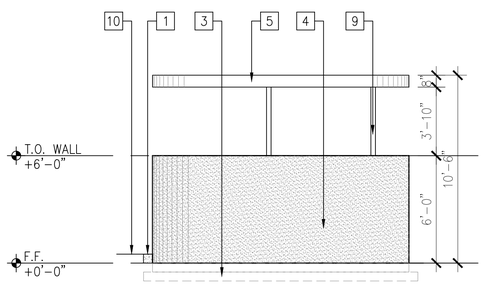


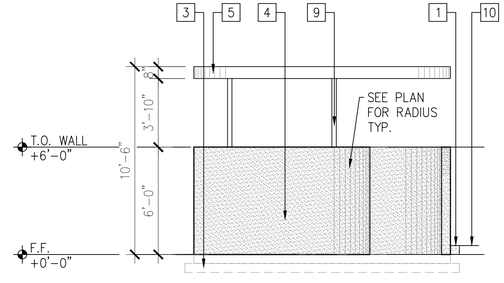
5 Trash Enclosure Elevation SCALE: ¼"=1'-0"



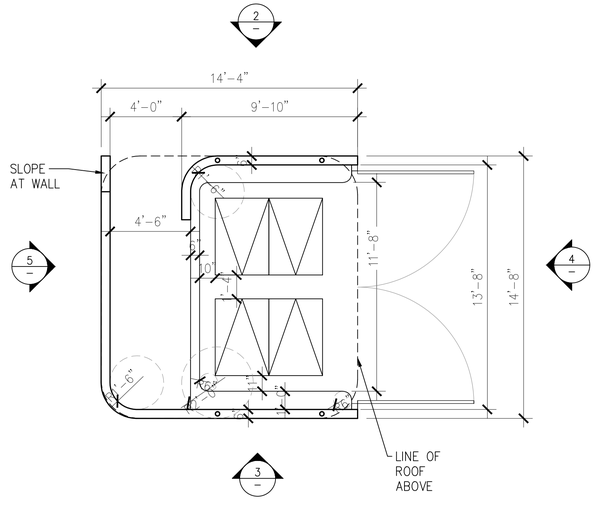
4 Trash Enclosure Elevation SCALE: ¼"=1'-0"



3 Trash Enclosure Elevation SCALE: ¼"=1'-0"



2 Trash Enclosure Elevation SCALE: ¼"=1'-0"



1 Trash Enclosure Floor Plan SCALE: 1/4" = 1'-0"

NORTH

Reference Notes

1. CONCRETE CURB AND/OR SIDEWALK
2. TRASH RECEPTACLE
3. TRASH ENCLOSURE FOUNDATION
4. CMU WALL. FULLY GROUTED WITH REBAR, PAINTED STUCCO FINISH. PROVIDE PAINT AT ALL STUCCO WALLS. PROVIDE 3 COATS PREMIUM EXTERIOR LATEX PAINT WITH A 24 MIL. "WET" DEPTH.
5. PAINTED ALUMINUM TRIM
6. STEEL ROOF DECKING
7. 2.5" X 2.5" X 3/16" HSS DOOR FRAME PAINTED TO MATCH DOOR.
8. MORIN MATRIX 1.0 METAL ALL PANEL SYSTEM. GAUGE TBD. PRIMED AND PAINTED RED FASTENERS TO MATCH. ALL DOOR OPENING SIZES ARE TO BE MEASURED AND VERIFIED BY CONTRACTOR PRIOR TO ORDERING FROM SUPPLIER. DOOR MANUFACTURER PER SCHEDULE OR EQ. ALL SUBSTITUTIONS OR EQ. TO BE APPROVED BY ARCHITECT. DOOR HARDWARE AND FINISH PER SCHEDULE. DOOR SHALL BE FULLY WEATHER STRIPPED AND ACCESSIBLE.
9. 3" DIAMETER X 1/8" HSS STEEL TUBE PER STRUCTURAL.
10. LANDSCAPE, IRRIGATION AND PLANT MATERIAL

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PEGASUS
ARCHITECTS

4300 EDISON AVE.,
CHINO, CA 91710

TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE:
TRASH ENCLOSURE FLOOR PLAN & ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
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SUPERVISED BY:	TL
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PLAN CHECK	__/__/____
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REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

SHEET NO:

A1.11

OF SHEETS

SHEET

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Reference Notes

1 -

2 -

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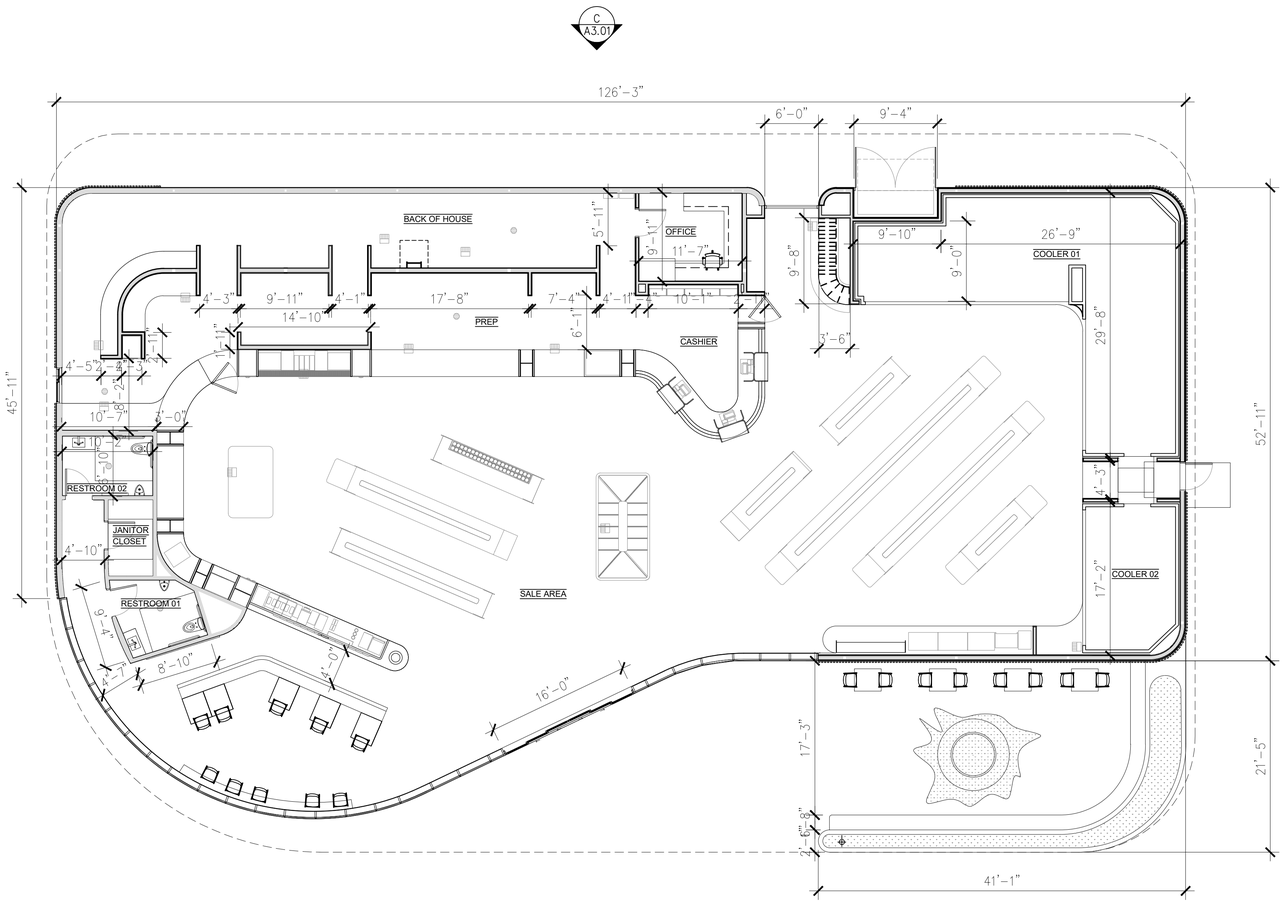

1 C-Store Floor Plan SCALE: 1/8" = 1'-0"

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PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: C-STORE FLOOR PLAN

KEY MAP

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REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

SHEET NO: A2.01

OF SHEETS

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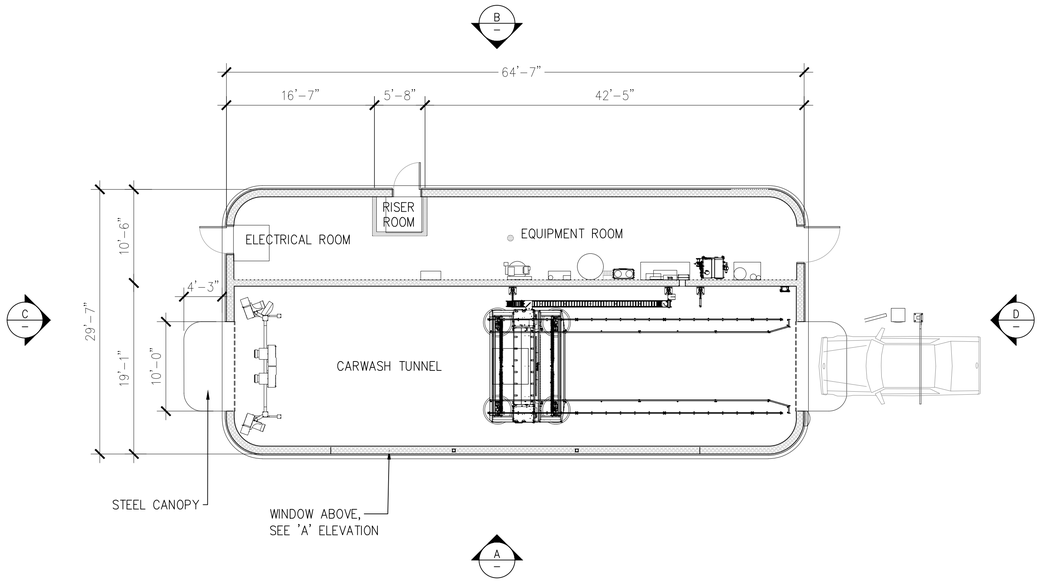
Reference Notes

1 -

2



NORTH

1 Carwash Floor Plan

SCALE: 1/8" = 1'-0"

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CLIENT: PARADISE LAKE LLC.,
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SHEET TITLE: CARWASH FLOOR PLAN

KEY MAP

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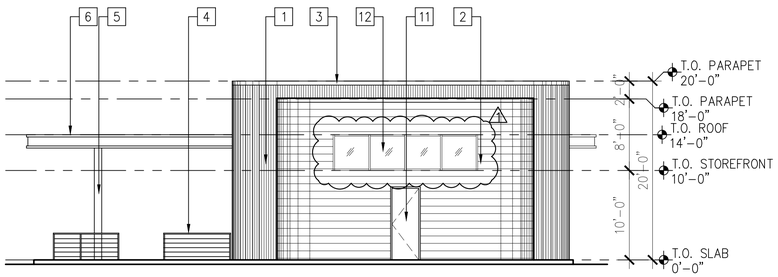
SHEET NO:

A2.02

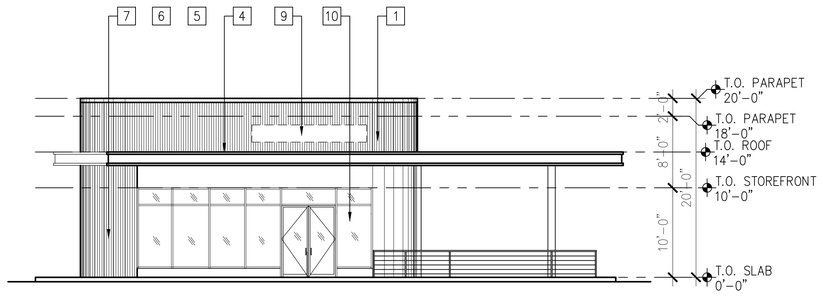
OF SHEETS

SHEET

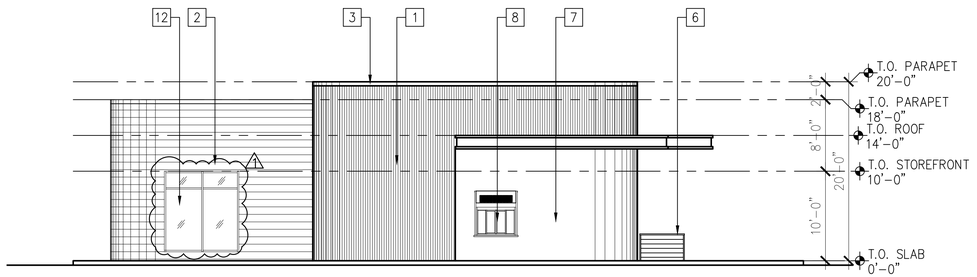
1735



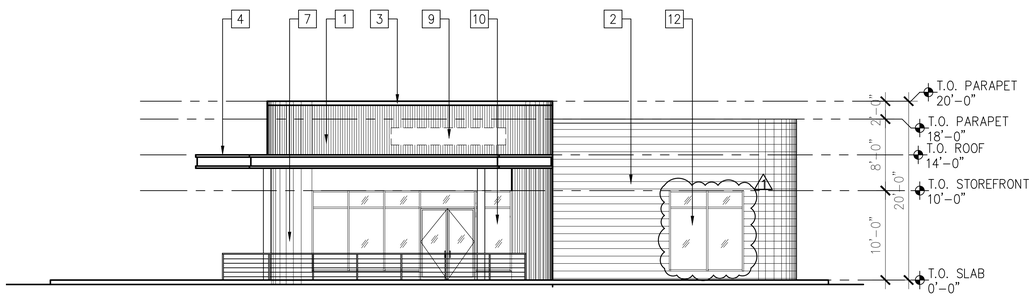
D **West Elevation** SCALE: 1/8"=1'-0"



C **East Elevation** SCALE: 1/8"=1'-0"



B **South Elevation** SCALE: 1/8"=1'-0"



A **North Elevation** SCALE: 1/8"=1'-0"

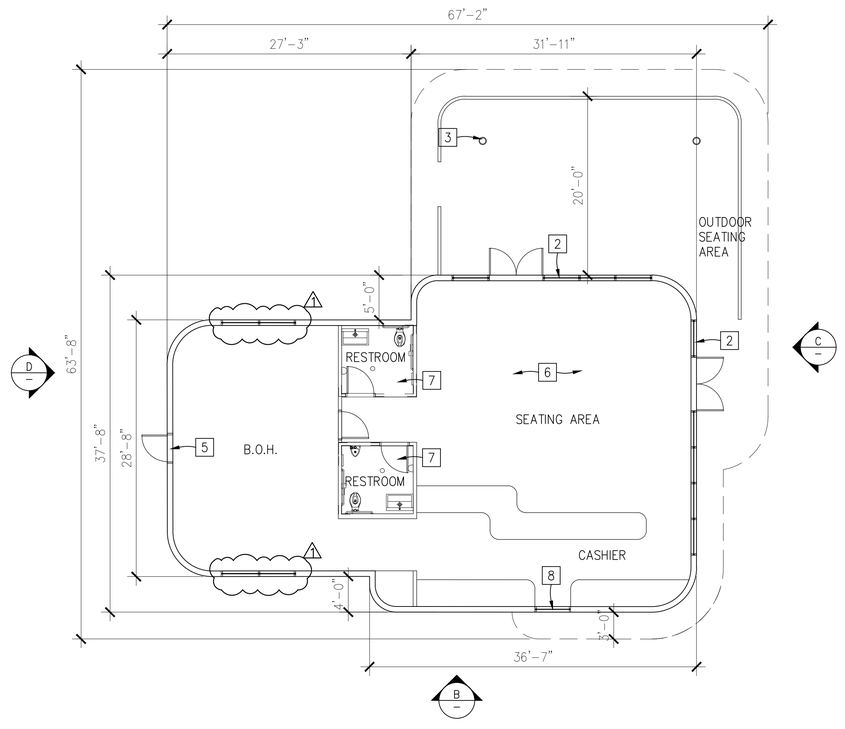
Reference Notes (Elevations)

1. STANDING SEAM METAL
2. CEMENT BOARD SIDING W/ PAINT FINISH
3. METAL COPING
4. C-CHANNEL METAL TO MATCH ADJ. WALL
5. METAL COLUMN
6. METAL RAILING
7. SMOOTH STUCCO W/ PAINT FINISH
8. DRIVE-THRU WINDOW
9. SIGNAGE
10. GLASS / ALUMN. STOREFRONT
11. METAL DOOR AND FRAME W/ PAINT FINISH TO MATCH ADJ. WALL
12. SPANDREL GLASS WINDOW

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

Reference Notes (Floor Plan)

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. METAL HANDRAIL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. SEATING AREA
7. RESTROOMS
8. DRIVE-THRU WINDOW



1 **QSR #1 Floor Plan** SCALE: 1/8" = 1'-0"

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CLIENT: PARADISE LAKE LLC.,
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SHEET TITLE:
QSR #1
FLOOR PLAN & ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
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REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

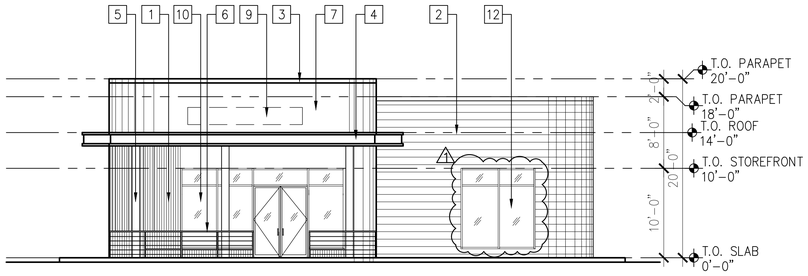
SHEET NO:

A2.03

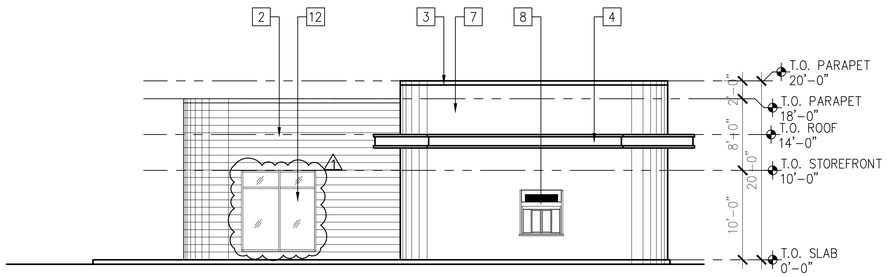
OF SHEETS

SHEET

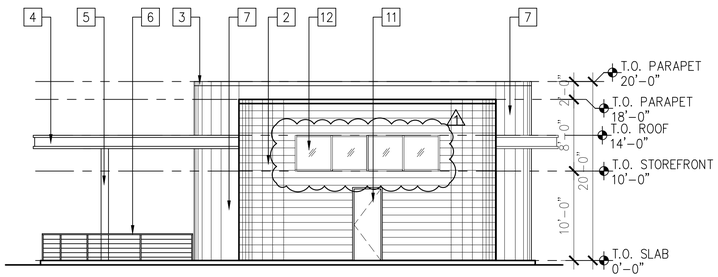
1736



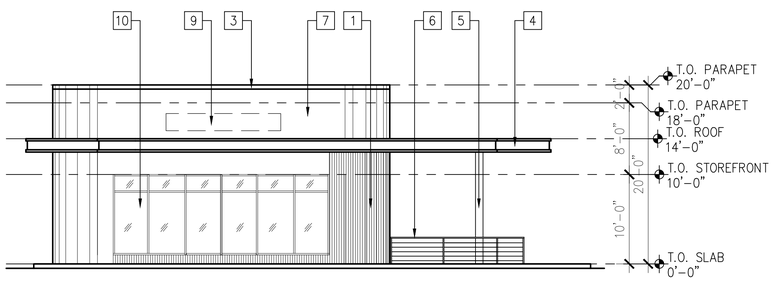
D West Elevation SCALE: 1/8"=1'-0"



C East Elevation SCALE: 1/8"=1'-0"



B South Elevation SCALE: 1/8"=1'-0"



A North Elevation SCALE: 1/8"=1'-0"

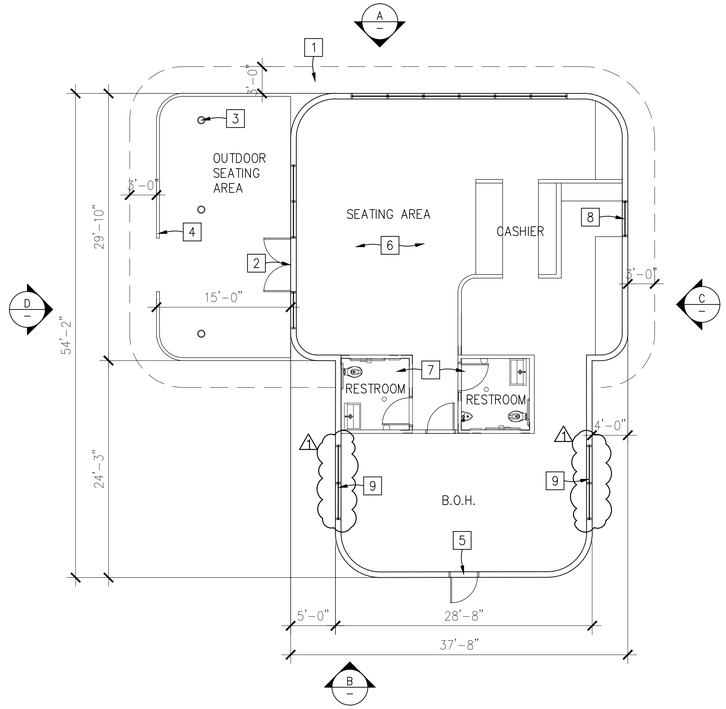
Reference Notes (Elevations)

1. STANDING SEAM METAL
2. CEMENT BOARD SIDING W/ PAINT FINISH
3. METAL COPING
4. C-CHANNEL METAL TO MATCH ADJ. WALL
5. METAL COLUMN
6. METAL RAILING
7. SMOOTH STUCCO W/ PAINT FINISH
8. DRIVE-THRU WINDOW
9. SIGNAGE
10. GLASS / ALUMN. STOREFRONT
11. METAL DOOR AND FRAME W/ PAINT FINISH TO MATCH ADJ. WALL
12. SPANDREL GLASS WINDOW

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

Reference Notes (Floor Plan)

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. METAL HANDRAIL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. SEATING AREA
7. RESTROOMS
8. DRIVE-THRU WINDOW
9. SPANDREL WINDOW



1 QSR #2 Floor Plan SCALE: 1/8" = 1'-0"

NORTH

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WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: QSR #2 FLOOR PLAN & ELEVATIONS

KEY MAP

SEAL/STAMP

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REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

SHEET NO: A2.04 1

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SHEET

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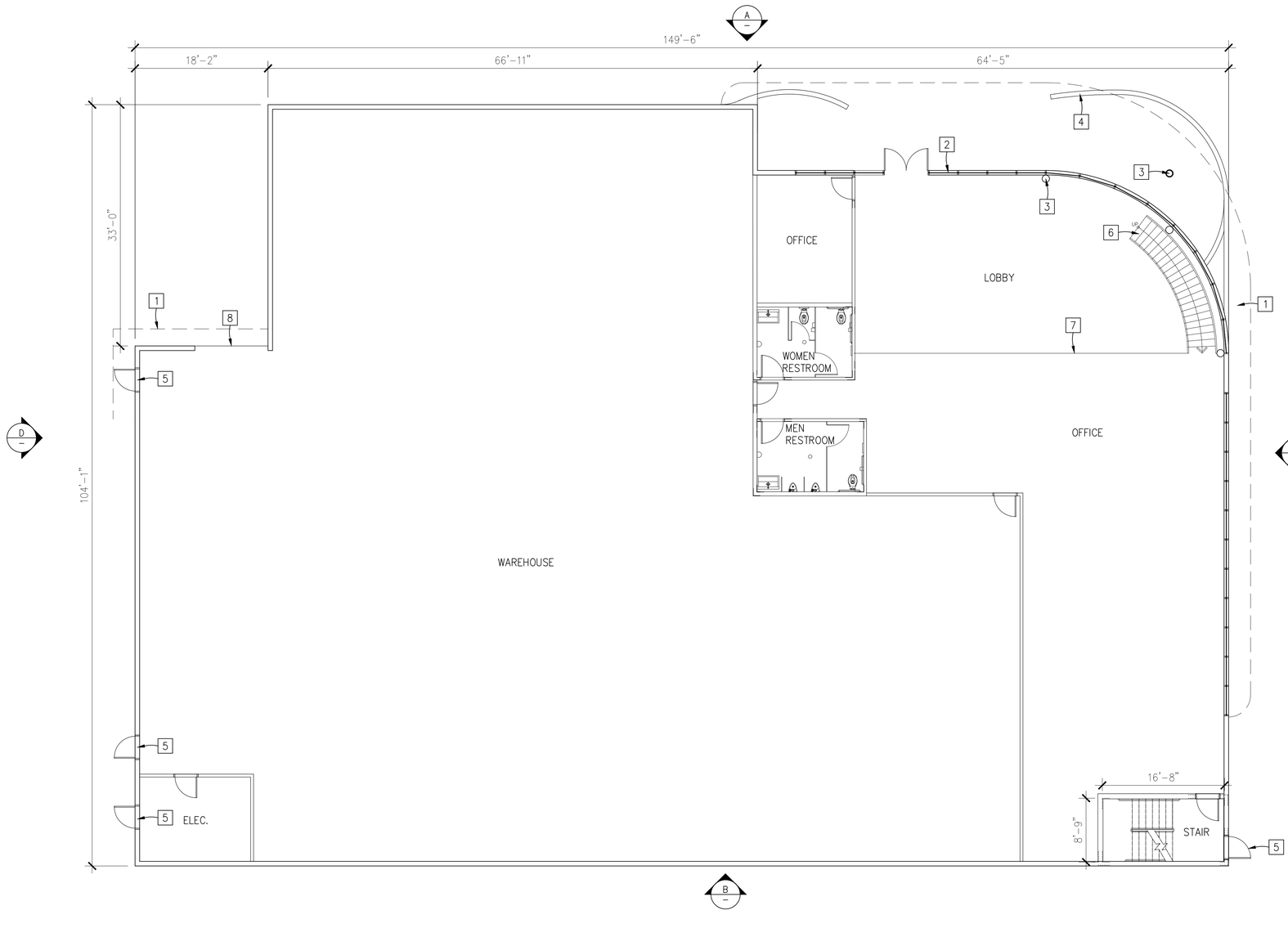

Reference Notes

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. STUCCO LOW WALL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. STAIRS
7. HANDRAIL
8. METAL ROL-UP DOOR

1 Office / Warehouse Floor Plan

SCALE: 1/8" = 1'-0"

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PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: OFFICE/WAREHOUSE FLOOR PLAN

KEY MAP

SEAL/STAMP

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C27750
Exp. 08-31-23
STATE OF CALIFORNIA

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1	2ND CUP RESUBMITTAL	12/19/2022

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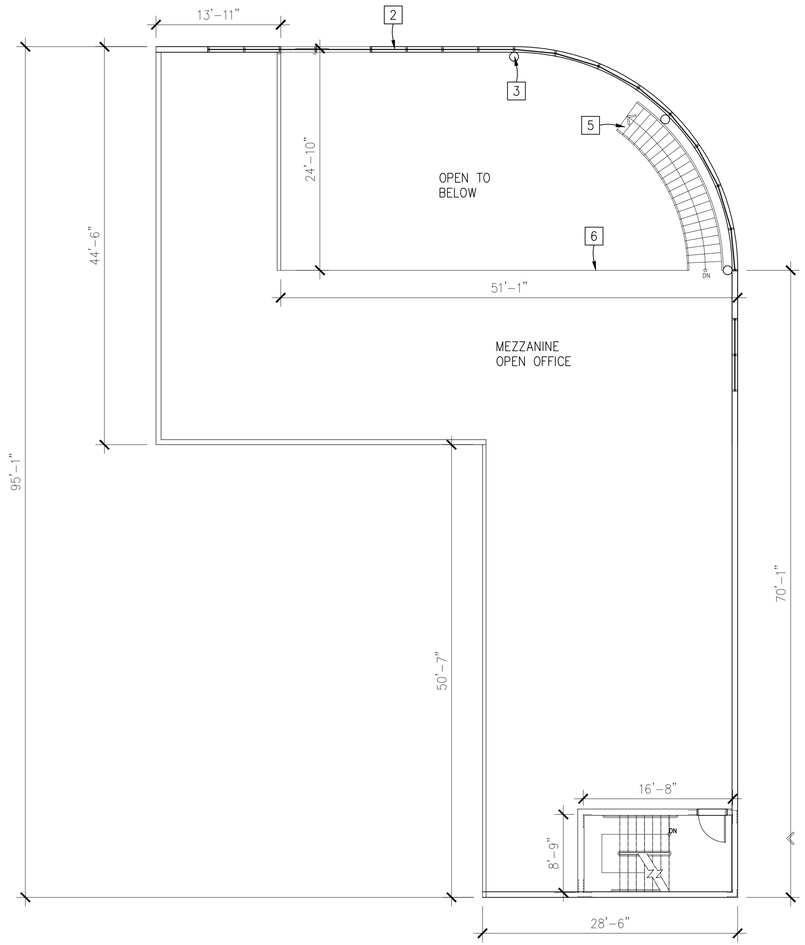

NORTH

Reference Notes

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. STUCCO LOW WALL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. STAIRS
7. HANDRAIL
8. METAL ROL-UP DOOR

1 Office / Warehouse Mezzanine Floor Plan

SCALE: 1/8" = 1'-0"

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SHEET TITLE: OFFICE/WAREHOUSE MEZZANINE FLOOR PLAN

KEY MAP

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STATE OF CALIFORNIA

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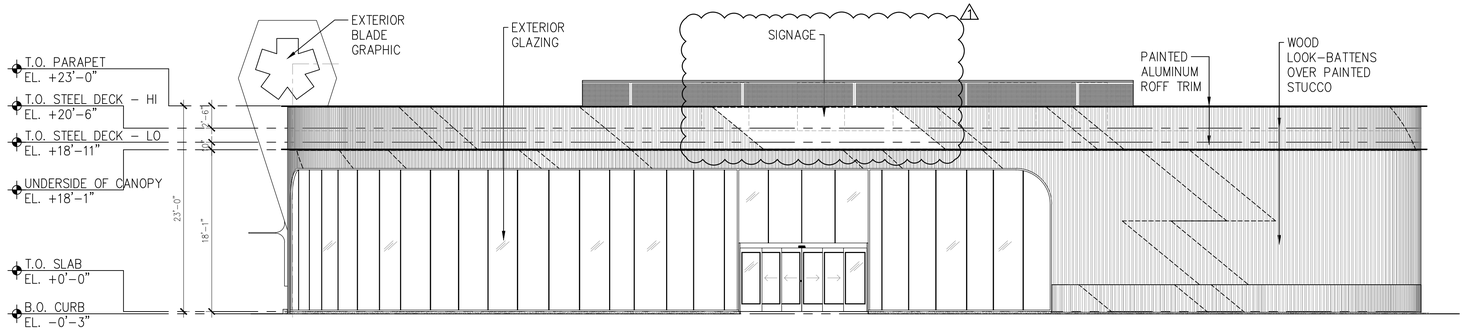
REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

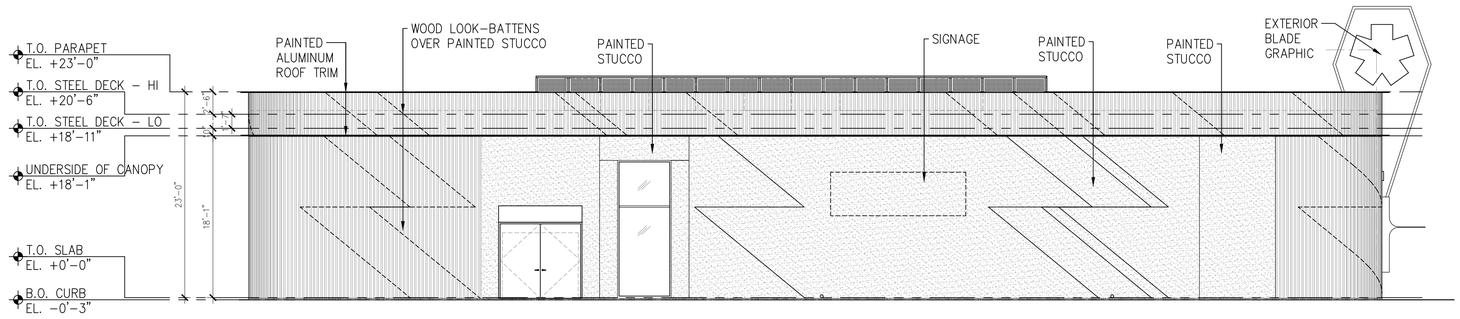
SHEET NO: A2.06

OF SHEETS

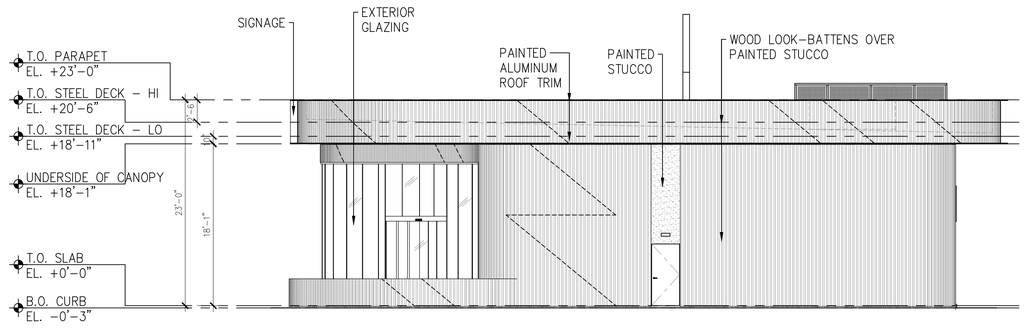
S H E E T



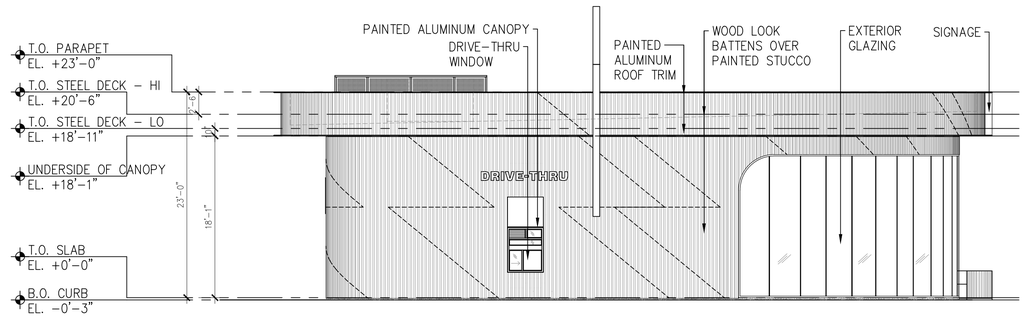
D **West Elevation** SCALE: 1/8"=1'–0"



C **East Elevation** SCALE: 1/8"=1'–0"



B **South Elevation** SCALE: 1/8"=1'–0"



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A **North Elevation** SCALE: 1/8"=1'–0"

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PEGASUS ARCHITECTS

4300 EDISON AVE.,
CHINO, CA 91710

TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: C-STORE ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022
2		
3		
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10		

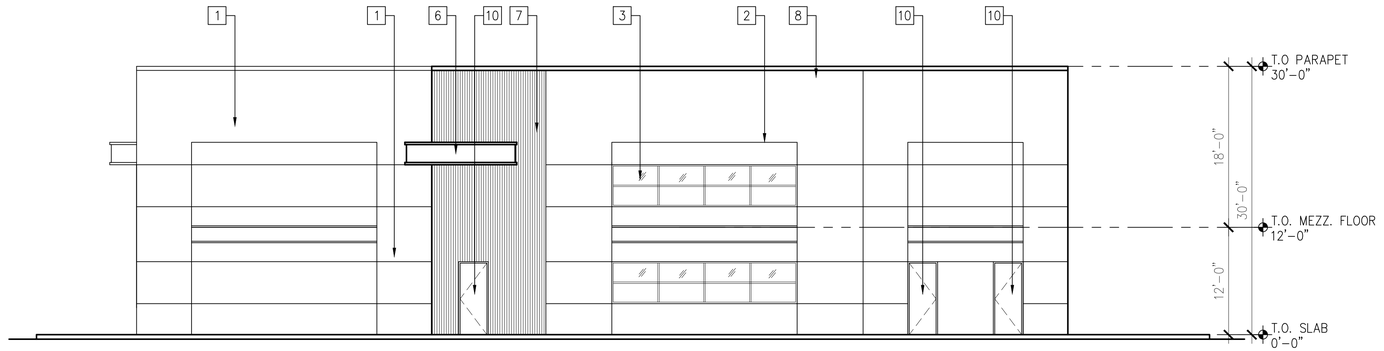
SHEET NO:

A3.01

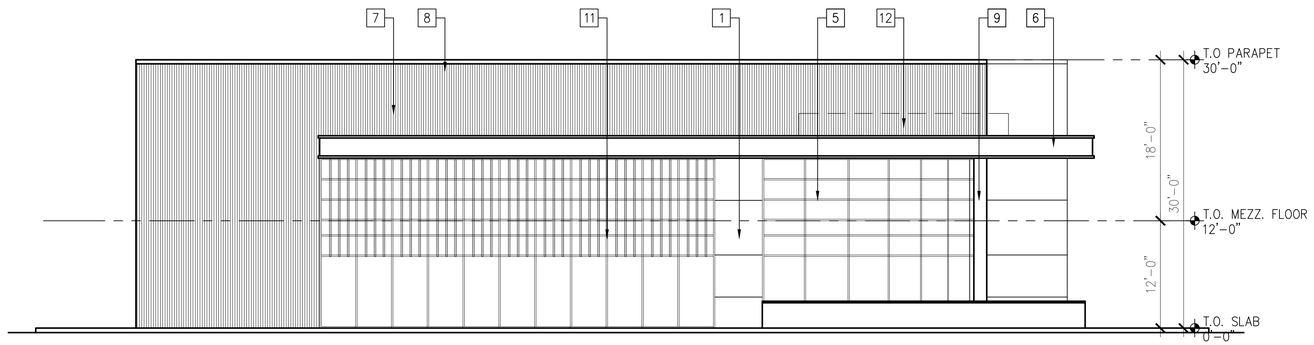
OF SHEETS

SHEET

1740



D — West Elevation — SCALE: 1/8"=1'-0"



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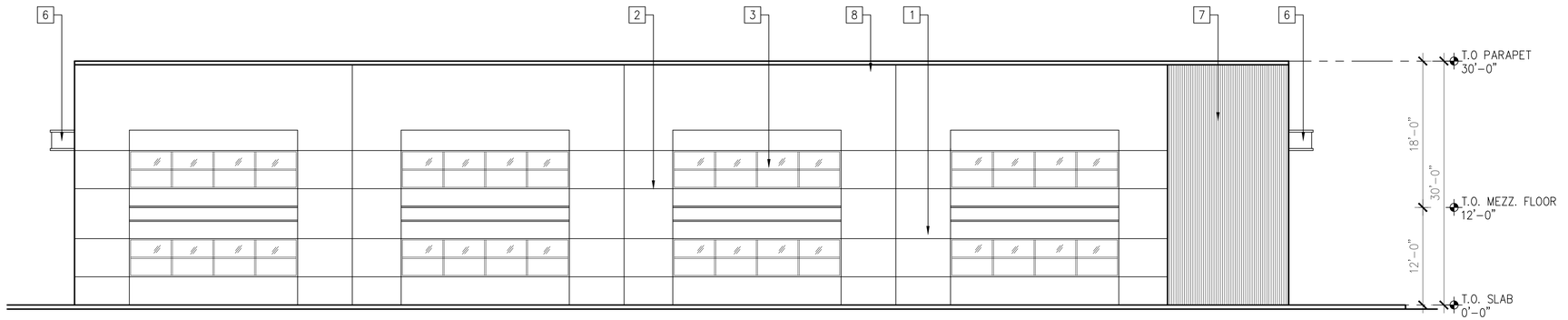
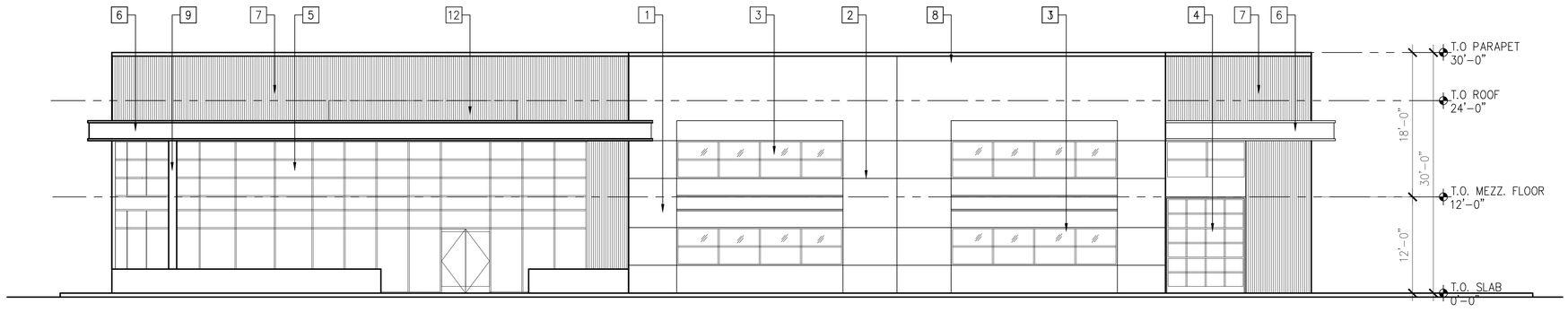


B — South Elevation — SCALE: 1/8"=1'-0"



A — North Elevation — SCALE: 1/8"=1'-0"

Reference Notes

1. TILT-UP CONCRETE W/ PAINTED FINISH
2. 2" REVEAL
3. ALUMN. WINDOW
4. METAL ROLL-UP DOOR
5. ALUMN. STOREFRONT
6. C-CHANNEL METAL
7. STANDING SEAM METAL
8. METAL COPING
9. COLUMN
10. METAL FRAME DOOR
11. ALUMINUM VERTICAL SHADING DEVICE
12. SIGNAGE

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

PEGASUS ARCHITECTS

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TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: OFFICE/WAREHOUSE ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
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REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

SHEET NO: A3.02

OF SHEETS

SHEET

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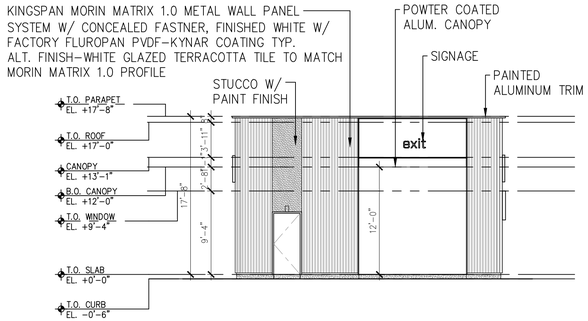
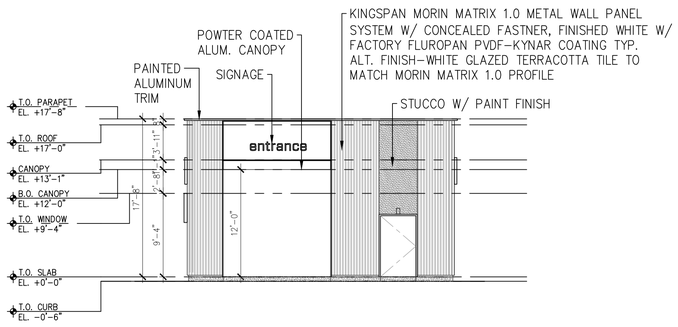
Reference Notes

1 –

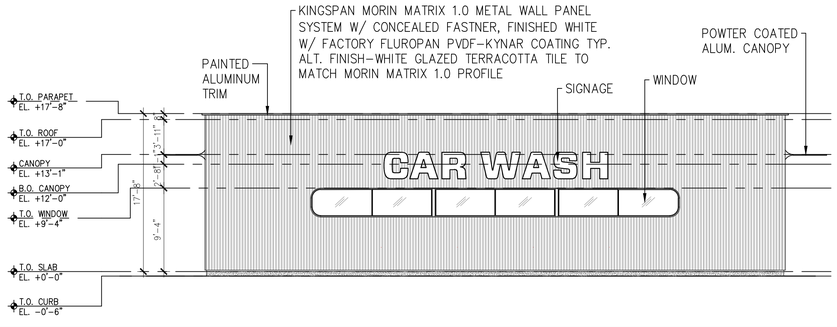
2 –



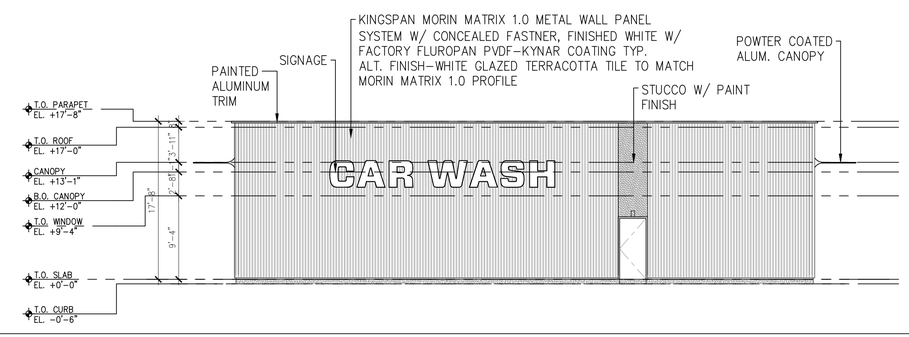
D — West Elevation — SCALE: 1/8"=1'-0"



C — East Elevation — SCALE: 1/8"=1'-0"



B — South Elevation — SCALE: 1/8"=1'-0"



A — North Elevation — SCALE: 1/8"=1'-0"

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

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PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: CARWASH ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

SHEET NO: A3.03

OF SHEETS

SHEET

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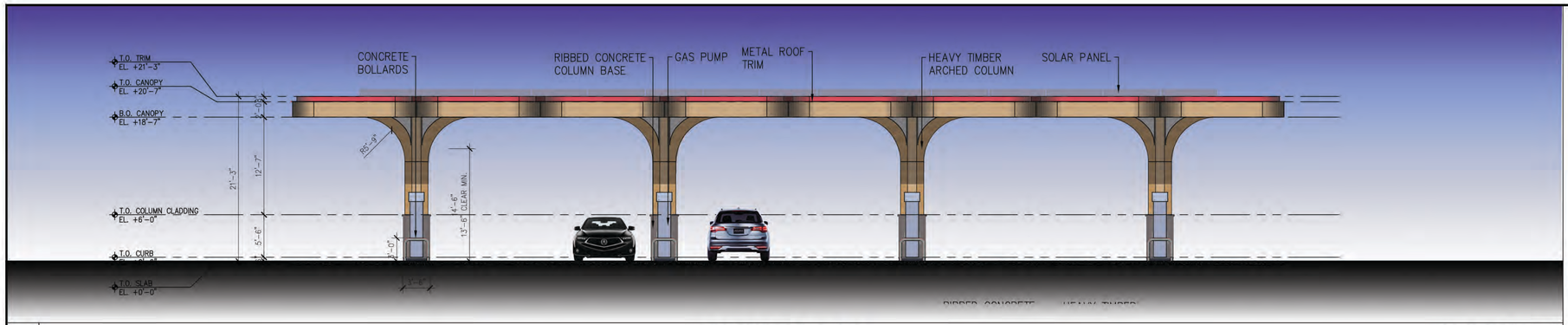
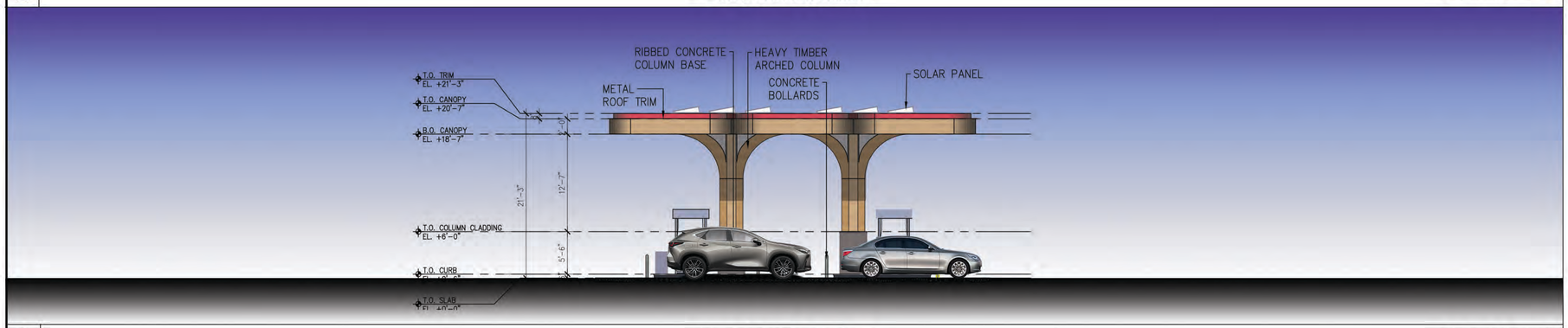
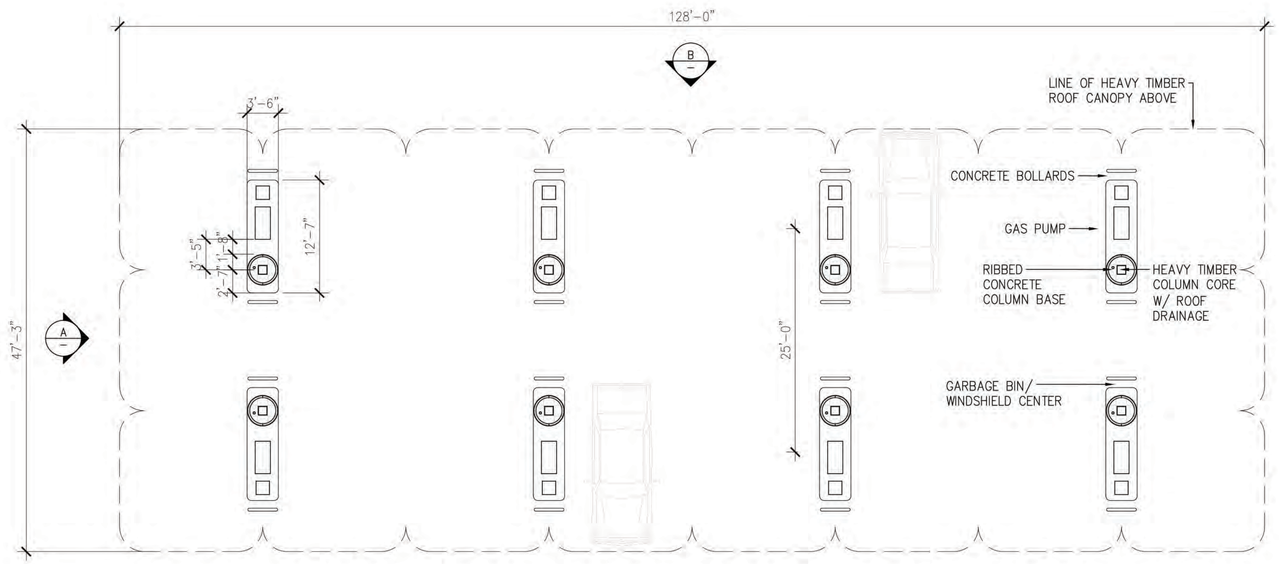


B — East / West Elevations — SCALE: 1/8"=1'-0"



A — North / South Elevations — SCALE: 1/8"=1'-0"



NORTH

1 — Canopy Floor Plan — SCALE: 1/8" = 1'-0"

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PEGASUS ARCHITECTS

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CHINO, CA 91710

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PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: PROPOSED CANOPY FLOOR PLAN & ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
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PLAN CHECK	__/__/____
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REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

SHEET NO: A1.10

OF SHEETS

SHEET

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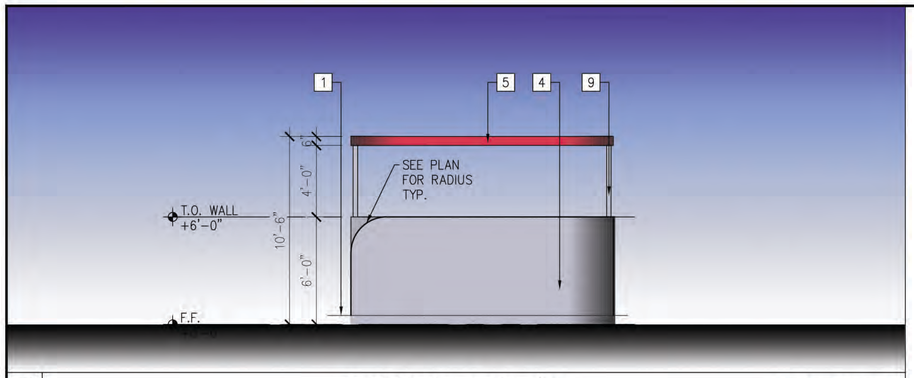
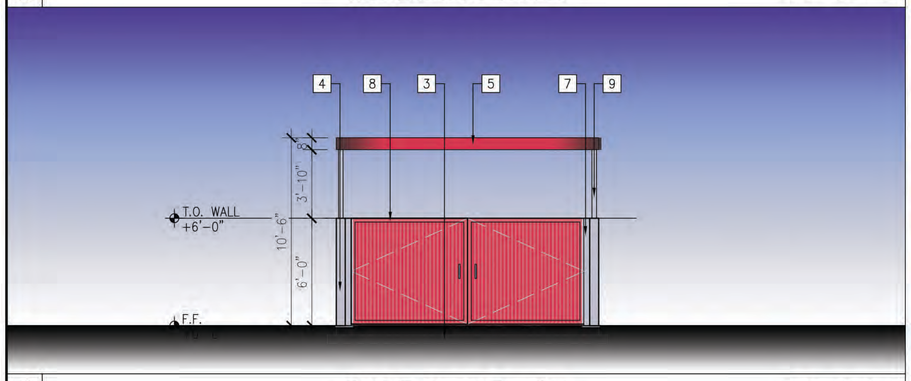
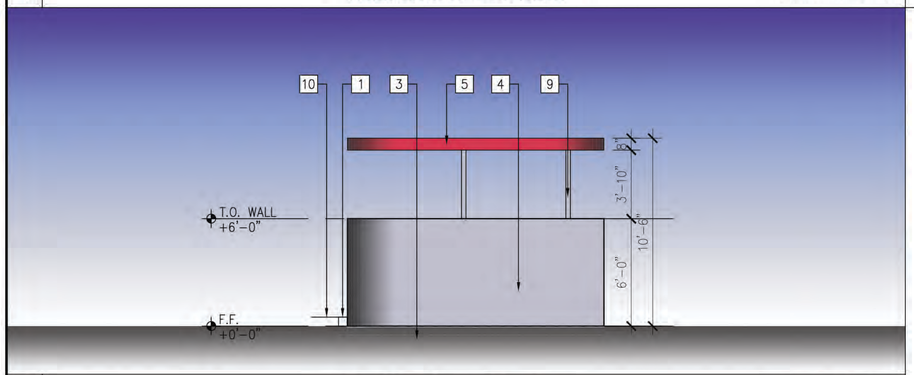
1743



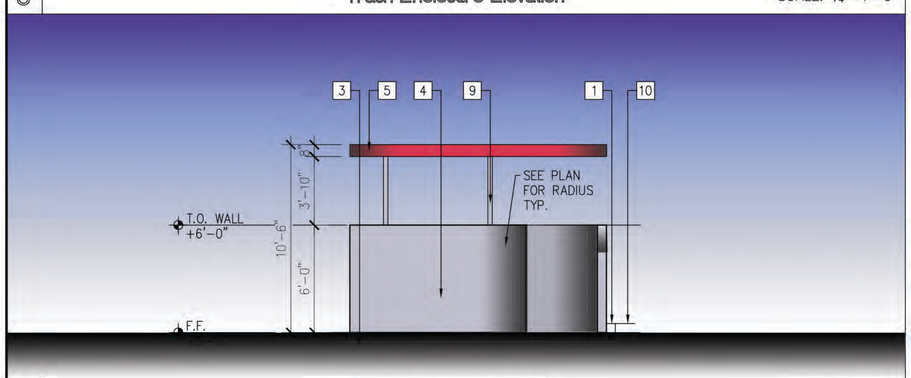
5 Trash Enclosure Elevation SCALE: ¼"=1'-0"



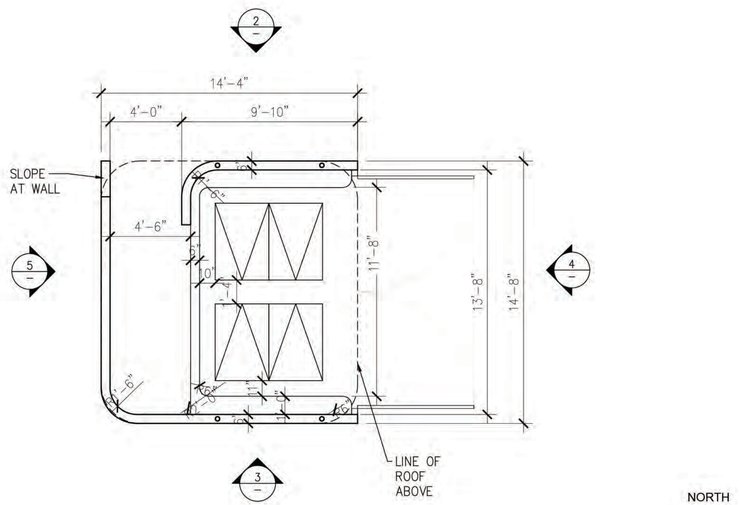
4 Trash Enclosure Elevation SCALE: ¼"=1'-0"



3 Trash Enclosure Elevation SCALE: ¼"=1'-0"



2 Trash Enclosure Elevation SCALE: ¼"=1'-0"



1 Trash Enclosure Floor Plan SCALE: 1/4" = 1'-0"

NORTH

Reference Notes

1. CONCRETE CURB AND/OR SIDEWALK
2. TRASH RECEPTACLE
3. TRASH ENCLOSURE FOUNDATION
4. CMU WALL. FULLY GROUTED WITH REBAR, PAINTED STUCCO FINISH. PROVIDE PAINT AT ALL STUCCO WALLS. PROVIDE 3 COATS PREMIUM EXTERIOR LATEX PAINT WITH A 24 MIL. "WET" DEPTH.
5. PAINTED ALUMINUM TRIM
6. STEEL ROOF DECKING
7. 2.5" X 2.5" X 3/16" HSS DOOR FRAME PAINTED TO MATCH DOOR.
8. MORIN MATRIX 1.0 METAL ALL PANEL SYSTEM. GAUGE TBD. PRIMED AND PAINTED RED FASTENERS TO MATCH. ALL DOOR OPENING SIZES ARE TO BE MEASURED AND VERIFIED BY CONTRACTOR PRIOR TO ORDERING FROM SUPPLIER. DOOR MANUFACTURER PER SCHEDULE OR EQ. ALL SUBSTITUTIONS OR EQ. TO BE APPROVED BY ARCHITECT. DOOR HARDWARE AND FINISH PER SCHEDULE. DOOR SHALL BE FULLY WEATHER STRIPPED AND ACCESSIBLE.
9. 3" DIAMETER X 1/8" HSS STEEL TUBE PER STRUCTURAL.
10. LANDSCAPE, IRRIGATION AND PLANT MATERIAL

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PEGASUS ARCHITECTS
4300 EDISON AVE., CHINO, CA 91710
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PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: 24831 CLINTON KEITH RD., WILDOMAR, CA 92595
CLIENT: PARADISE LAKE LLC, 4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: TRASH ENCLOSURE FLOOR PLAN & ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
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PLAN CHECK	__/__/____
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REVISIONS

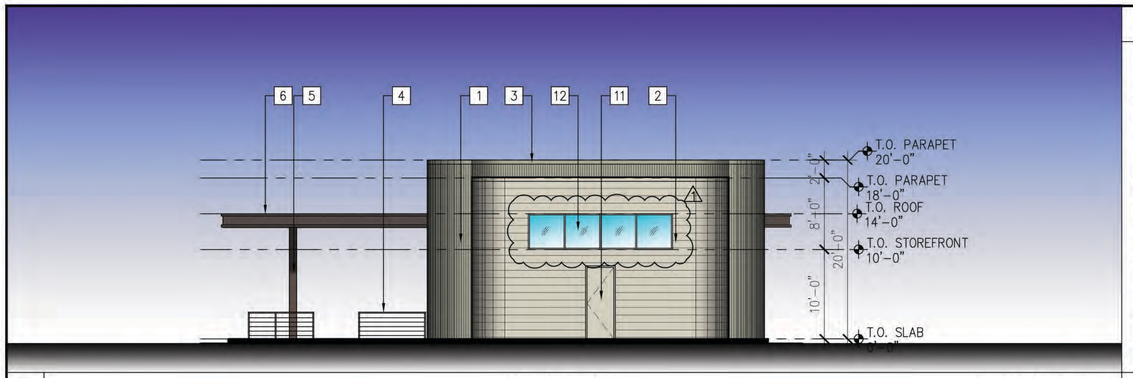
1	2ND CUP RESUBMITTAL	12/19/2022

SHEET NO: A1.11

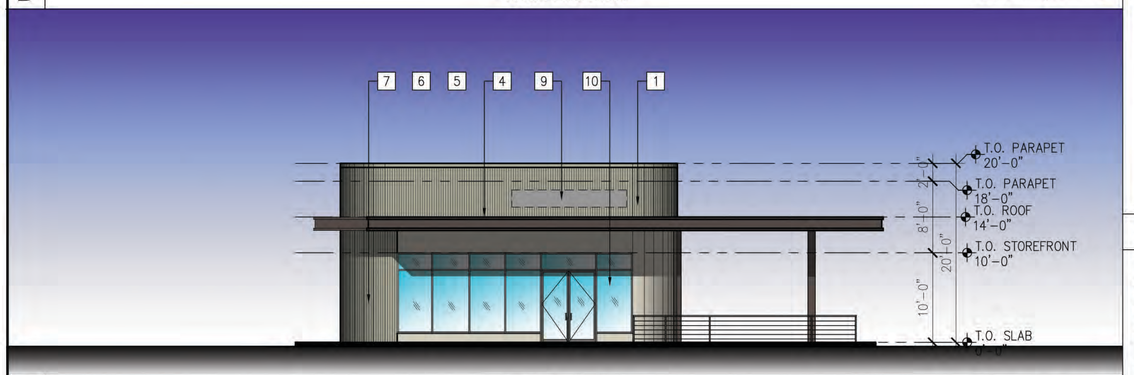
OF SHEETS

SHEET

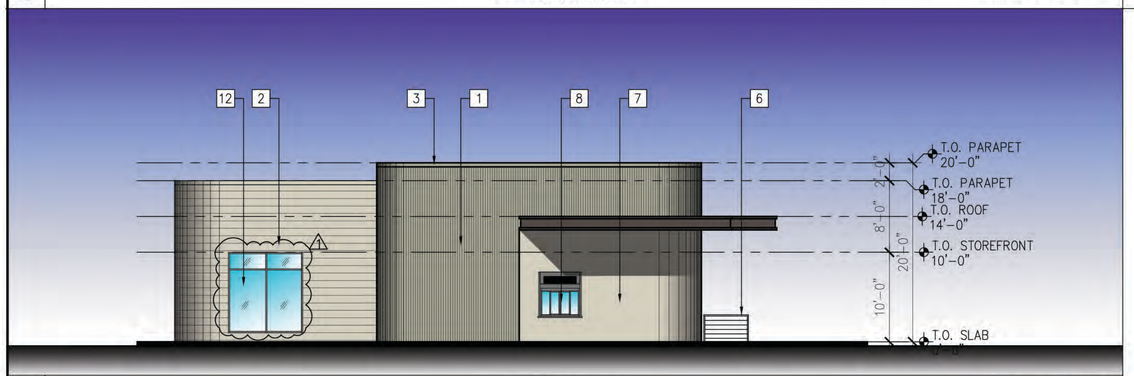
1744



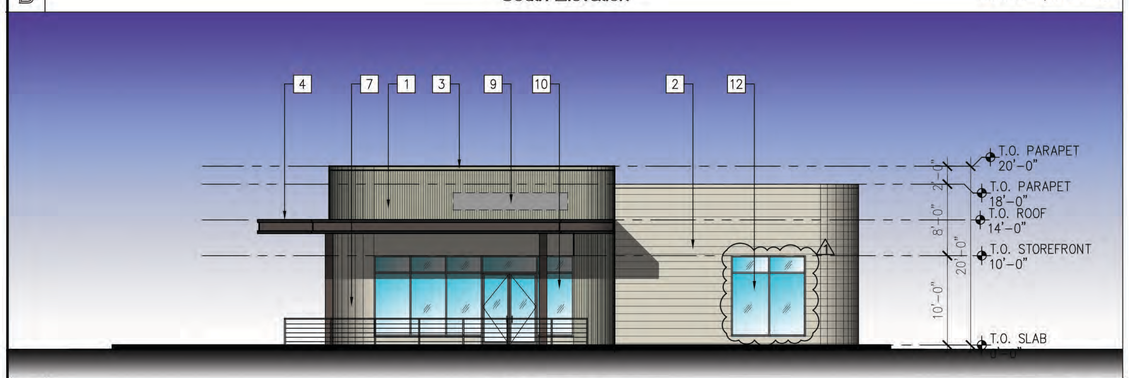
D **West Elevation** SCALE: 1/8"=1'-0"



C **East Elevation** SCALE: 1/8"=1'-0"



B **South Elevation** SCALE: 1/8"=1'-0"



A **North Elevation** SCALE: 1/8"=1'-0"

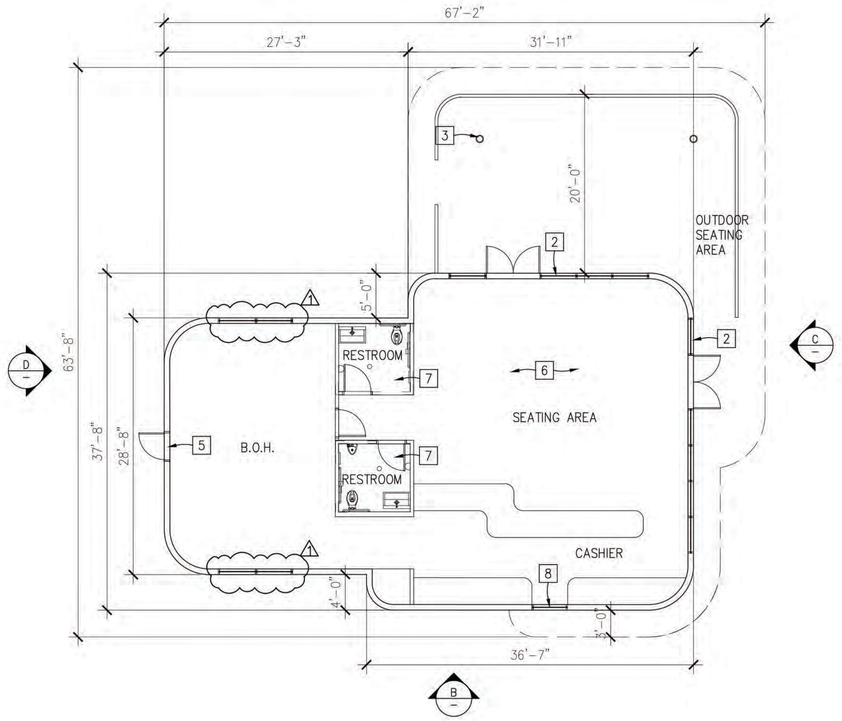
Reference Notes (Elevations)

1. STANDING SEAM METAL
2. CEMENT BOARD SIDING W/ PAINT FINISH
3. METAL COPING
4. C-CHANNEL METAL TO MATCH ADJ. WALL
5. METAL COLUMN
6. METAL RAILING
7. SMOOTH STUCCO W/ PAINT FINISH
8. DRIVE-THRU WINDOW
9. SIGNAGE
10. GLASS / ALUMN. STOREFRONT
11. METAL DOOR AND FRAME W/ PAINT FINISH TO MATCH ADJ. WALL
12. SPANDREL GLASS WINDOW

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

Reference Notes (Floor Plan)

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. METAL HANDRAIL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. SEATING AREA
7. RESTROOMS
8. DRIVE-THRU WINDOW



1 **QSR #1 Floor Plan** SCALE: 1/8" = 1'-0"

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CHINO, CA 91710
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PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595
CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE:
QSR #1
FLOOR PLAN
& ELEVATIONS

KEY MAP SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
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REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

SHEET NO:
A2.03
OF SHEETS
SHEET

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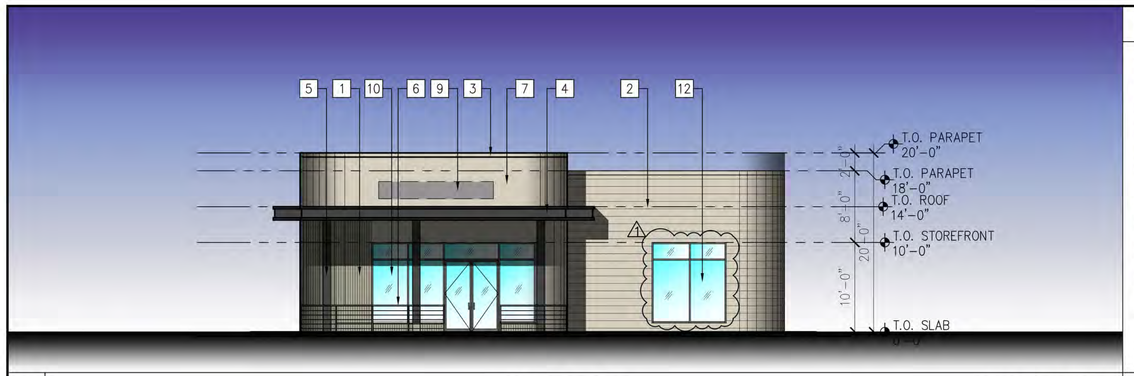
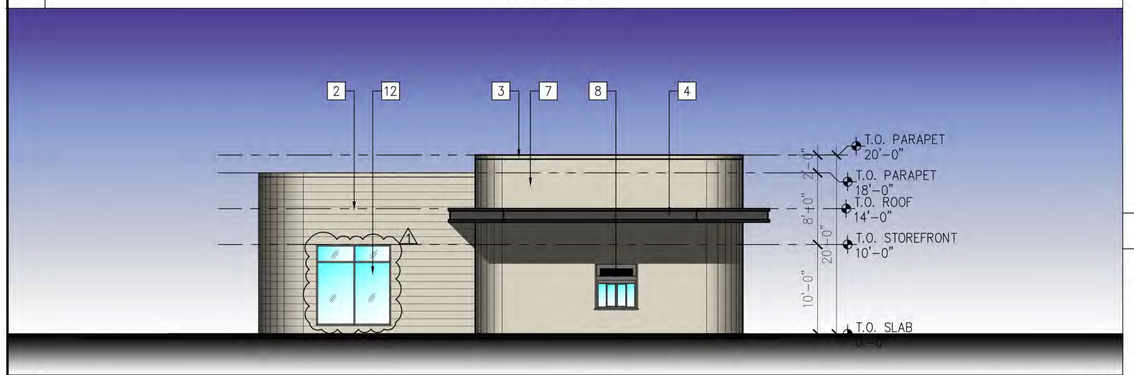
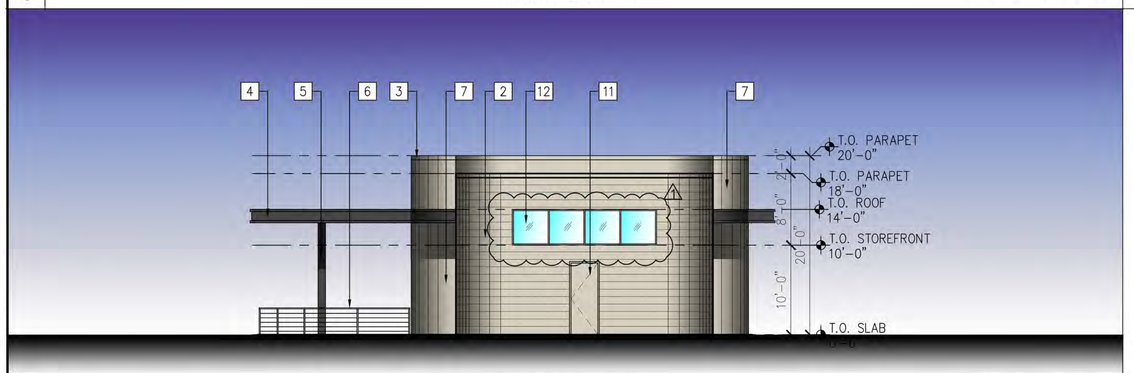
1745



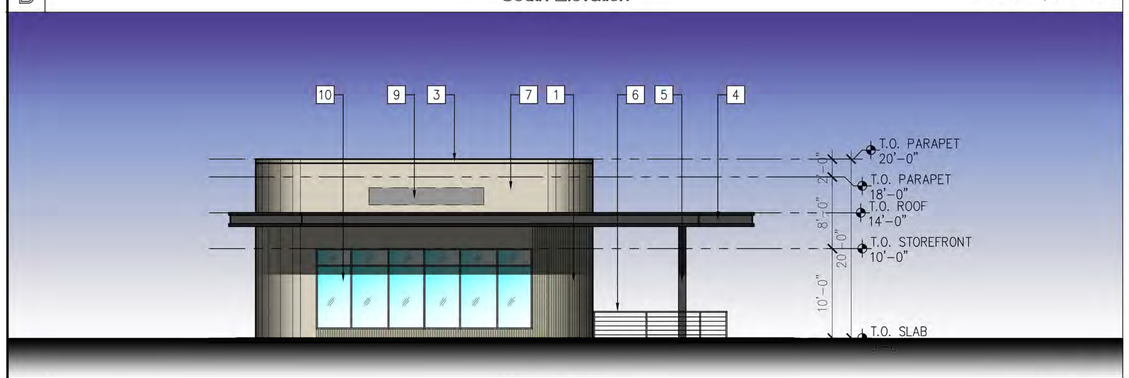
D West Elevation SCALE: 1/8"=1'-0"



C East Elevation SCALE: 1/8"=1'-0"



B South Elevation SCALE: 1/8"=1'-0"



A North Elevation SCALE: 1/8"=1'-0"

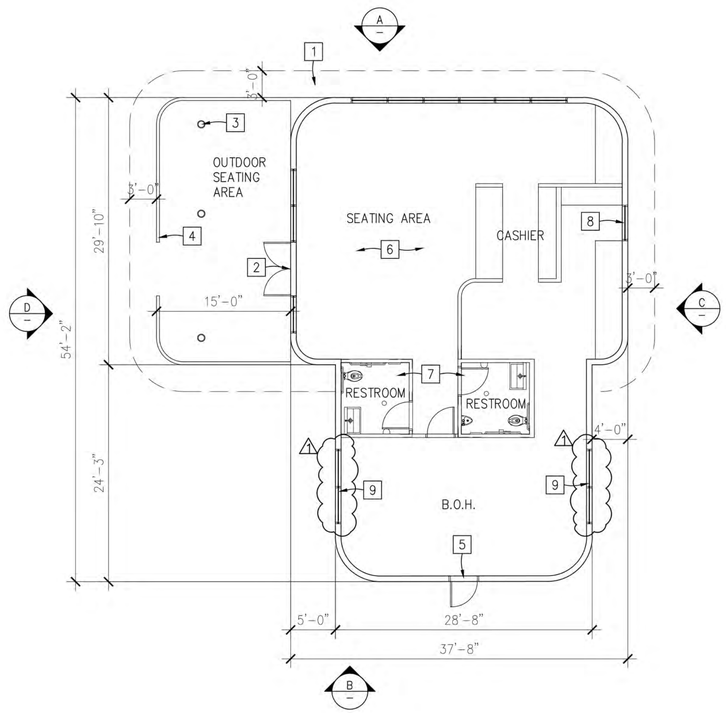
Reference Notes (Elevations)

1. STANDING SEAM METAL
2. CEMENT BOARD SIDING W/ PAINT FINISH
3. METAL COPING
4. C-CHANNEL METAL TO MATCH ADJ. WALL
5. METAL COLUMN
6. METAL RAILING
7. SMOOTH STUCCO W/ PAINT FINISH
8. DRIVE-THRU WINDOW
9. SIGNAGE
10. GLASS / ALUMN. STOREFRONT
11. METAL DOOR AND FRAME W/ PAINT FINISH TO MATCH ADJ. WALL
12. SPANDREL GLASS WINDOW

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

Reference Notes (Floor Plan)

1. OVERHANG
2. GLASS / ALUMN. STOREFRONT
3. METAL COLUMN
4. METAL HANDRAIL
5. METAL DOOR W/ PAINT FINISH TO MATCH ADJ. WALL
6. SEATING AREA
7. RESTROOMS
8. DRIVE-THRU WINDOW
9. SPANDREL WINDOW



1 QSR #2 Floor Plan SCALE: 1/8" = 1'-0"

PEGASUS ARCHITECTS
4300 EDISON AVE.,
CHINO, CA 91710
TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595
CLIENT: PARADISE LAKE LLC.
4300 EDISON AVE., CHINO, CA 91710

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SHEET TITLE: QSR #2 FLOOR PLAN & ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022
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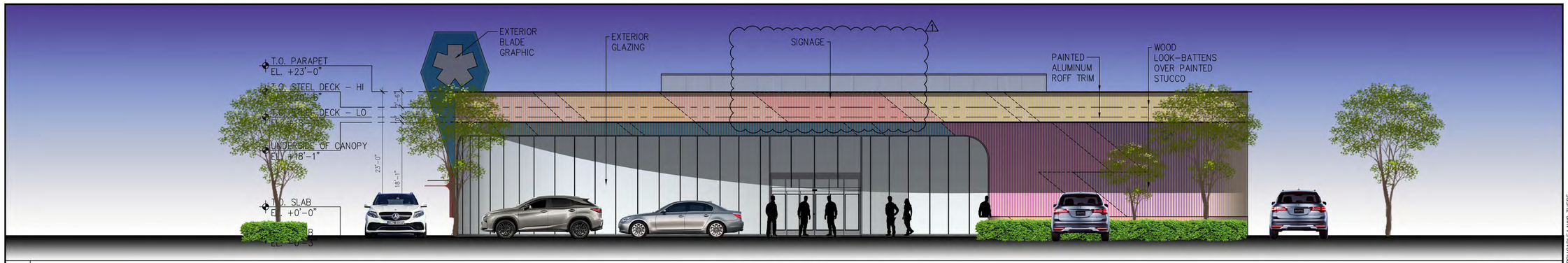
SHEET NO: A2.04 1

OF SHEETS

SHEET

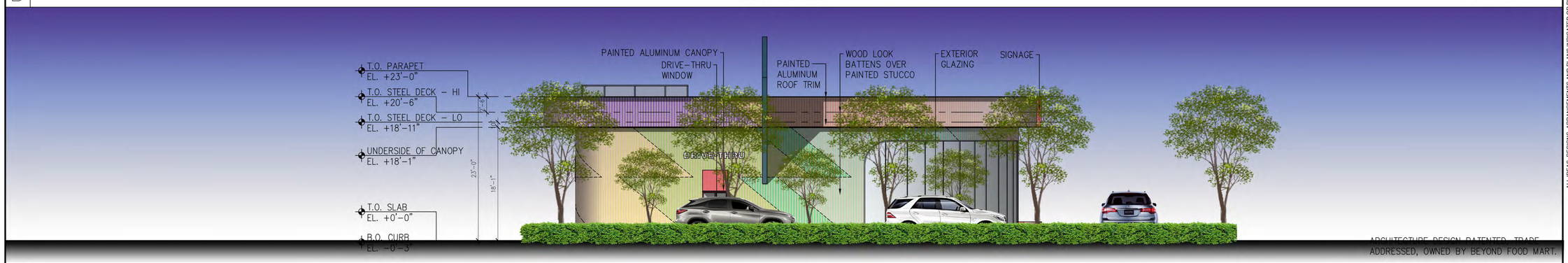
1746



D West Elevation SCALE: 1/8"=1'-0"

C East Elevation SCALE: 1/8"=1'-0"

B South Elevation SCALE: 1/8"=1'-0"



ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

A North Elevation SCALE: 1/8"=1'-0"

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PEGASUS ARCHITECTS
4300 EDISON AVE.,
CHINO, CA 91710
TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT
ADDRESS: 24831 CLINTON KEITH RD., WILDOMAR, CA 92595
CLIENT: PARADISE LAKE LLC, 4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: C-STORE ELEVATIONS

KEY MAP

SEAL/STAMP
LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 09-30-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

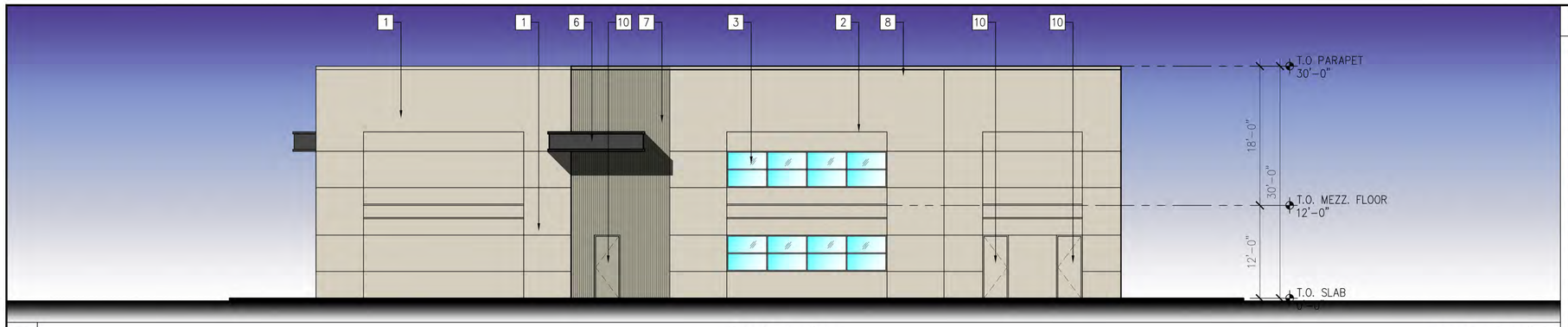
REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022

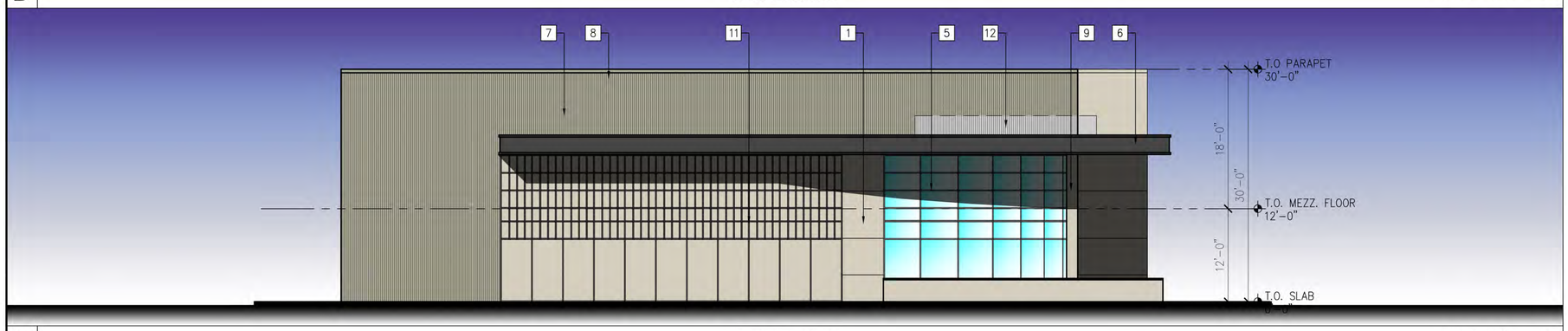
SHEET NO: A3.01 OF SHEETS

SHEET

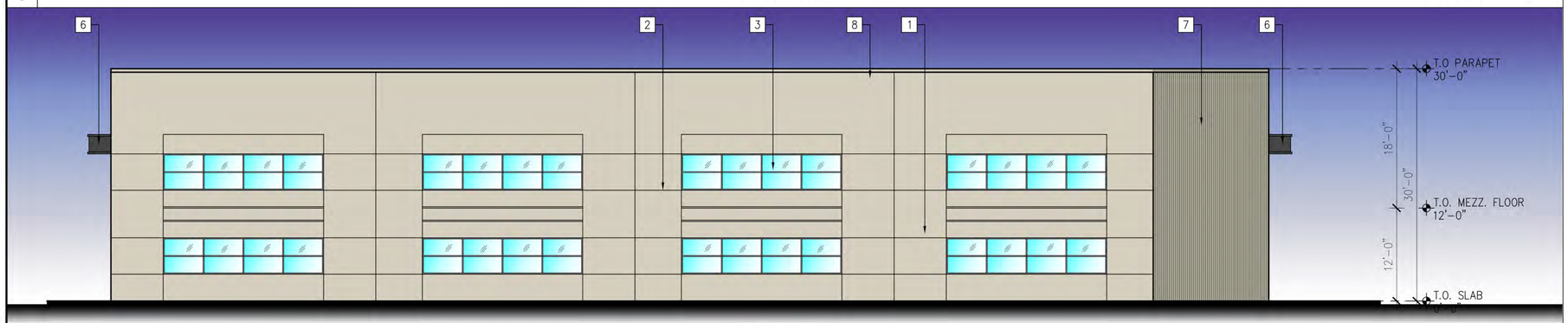
1747



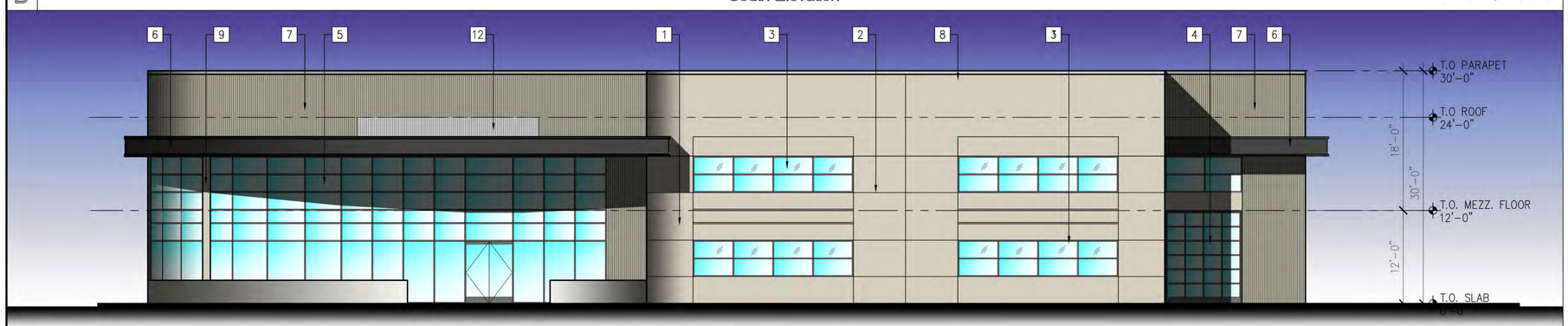
D West Elevation SCALE: 1/8"=1'-0"



C East Elevation SCALE: 1/8"=1'-0"



B South Elevation SCALE: 1/8"=1'-0"



A North Elevation SCALE: 1/8"=1'-0"

Reference Notes

1. TILT-UP CONCRETE W/ PAINTED FINISH
2. 2" REVEAL
3. ALUMN. WINDOW
4. METAL ROLL-UP DOOR
5. ALUMN. STOREFRONT
6. C-CHANNEL METAL
7. STANDING SEAM METAL
8. METAL COPING
9. COLUMN
10. METAL FRAME DOOR
11. ALUMINUM VERTICAL SHADING DEVICE
12. SIGNAGE

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

PEGASUS ARCHITECTS

4300 EDISON AVE.,
CHINO, CA 91710

TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: OFFICE/WAREHOUSE ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
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BID SET	__/__/____

REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022
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SHEET NO:

A3.02

OF SHEETS

SHEET

ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THESE DRAWINGS ARE OWNED BY, AND THE PROPERTY OF PEGASUS ARCHITECTS AND PROTECTED BY THE CURRENT ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT, AND OTHER APPLICABLE LAWS. THESE DRAWINGS WERE CREATED, EVOLVED AND DEVELOPED FOR USE ON AND IN CONNECTION WITH THE SPECIFIED PROJECT. NONE OF SUCH IDEAS, DESIGN ARRANGEMENTS OR PLANS SHALL BE USED OR DISCLOSED TO ANY PERSON, FIRM OR CORPORATION FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF PEGASUS ARCHITECTS. THESE DRAWINGS ARE NOT VALID FOR CONSTRUCTION PURPOSES UNLESS EXPRESSED CERTIFIED BY PEGASUS ARCHITECTURE FOR CONSTRUCTION ONLY.
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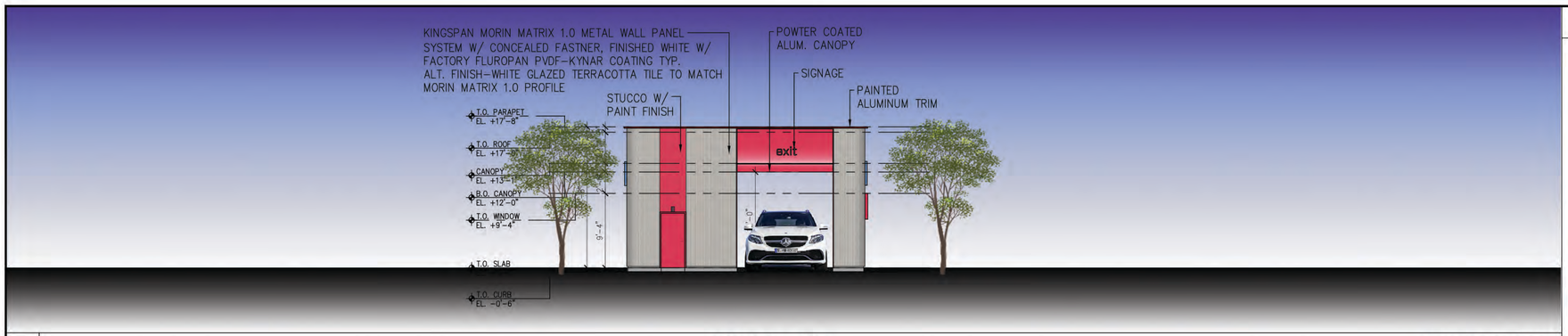
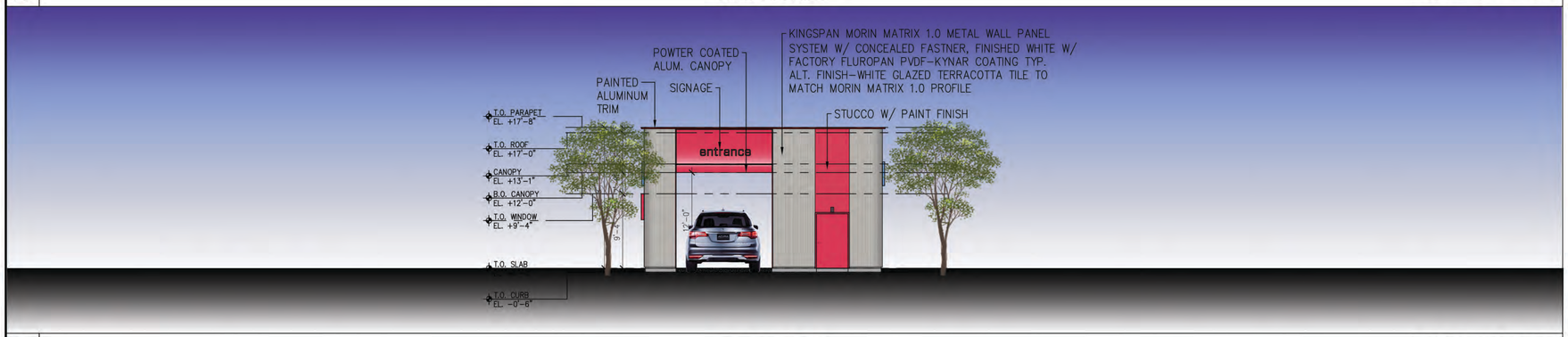
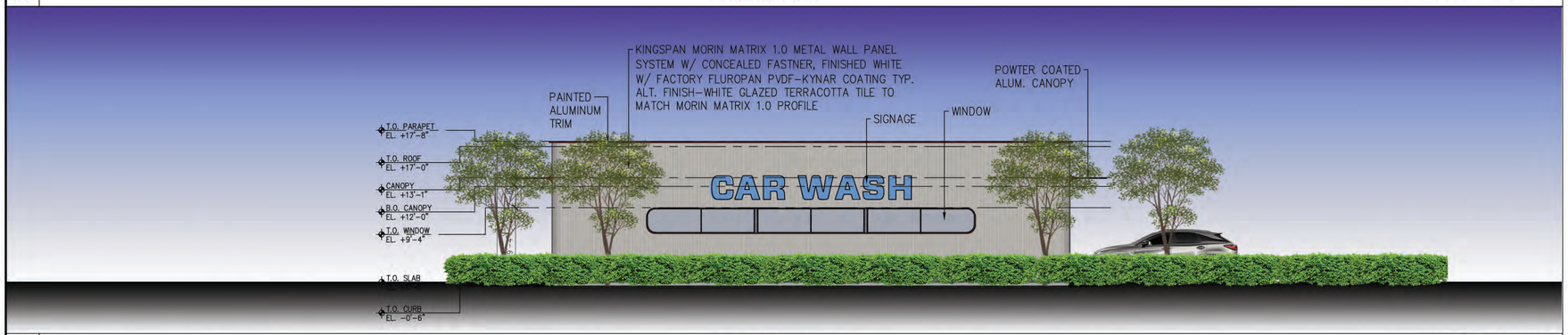
1748



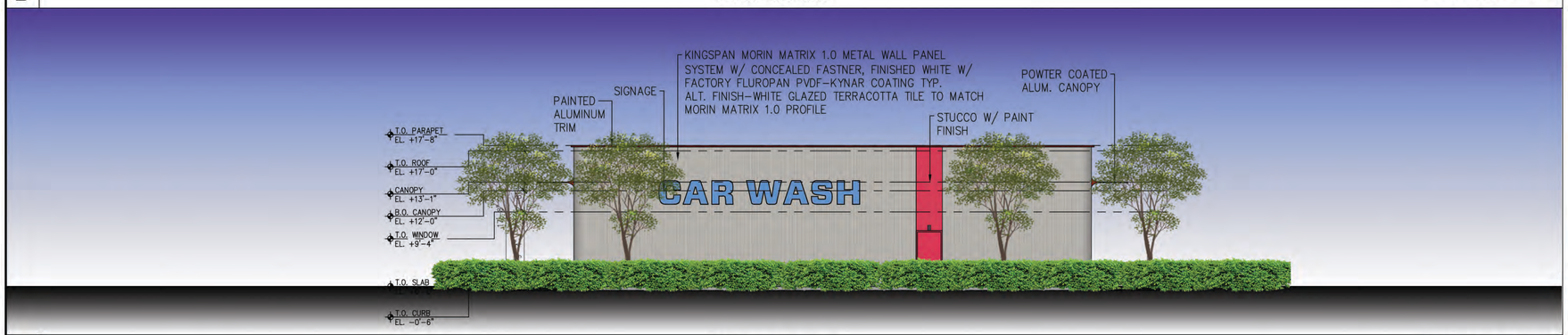
D — West Elevation — SCALE: 1/8"=1'-0"



C — East Elevation — SCALE: 1/8"=1'-0"



B — South Elevation — SCALE: 1/8"=1'-0"



A — North Elevation — SCALE: 1/8"=1'-0"

Reference Notes

1 -

2 -

ARCHITECTURE DESIGN PATENTED, TRADE ADDRESSED, OWNED BY BEYOND FOOD MART.

PEGASUS ARCHITECTS

4300 EDISON AVE.,
CHINO, CA 91710

TEL: 909.465.4101
FAX: 909.606.6839

PROJECT: NEW COMMERCIAL DEVELOPMENT

ADDRESS: 24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

CLIENT: PARADISE LAKE LLC.,
4300 EDISON AVE., CHINO, CA 91710

SHEET TITLE: CARWASH ELEVATIONS

KEY MAP

SEAL/STAMP

LICENSED ARCHITECT
CHAK FAI LAU
C27750
Exp. 08-31-23
STATE OF CALIFORNIA

JOB NO.	-
DRAWN BY:	TL/ZL
SUPERVISED BY:	TL
CHECKED BY:	TL
PLAN CHECK	__/__/____
PERMIT SET	__/__/____
BID SET	__/__/____

REVISIONS

1	2ND CUP RESUBMITTAL	12/19/2022
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SHEET NO:

A3.03

OF SHEETS

SHEET

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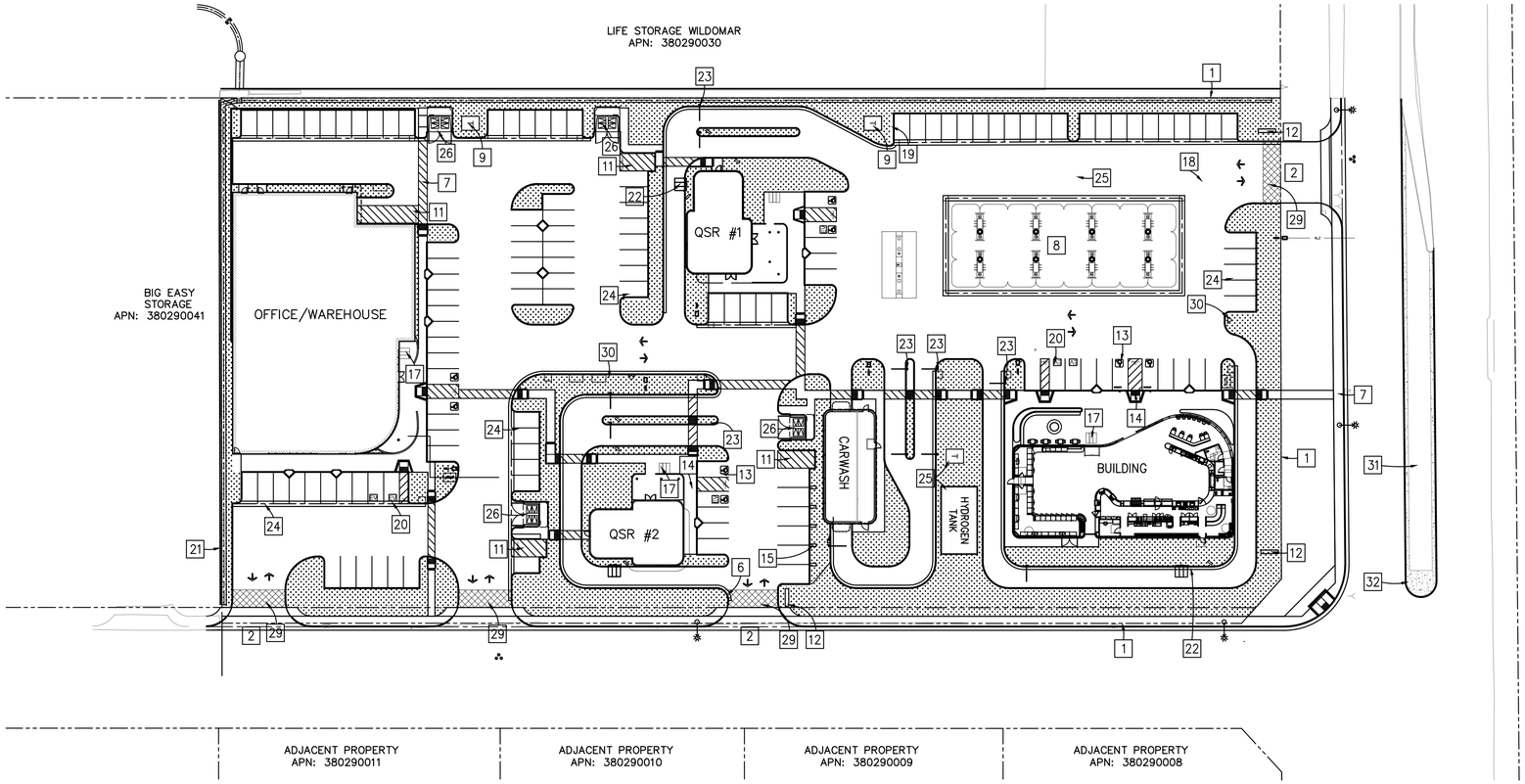
1749

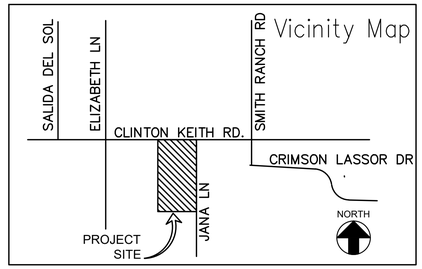
ARCHITECTURAL LANDSCAPE PLANS

NEW COMMERCIAL DEVELOPMENT

24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595



SITE PLAN
Scale: 1"=30'
NORTH



SHEET INDEX	
L-1	COVER SHEET
L-2	PRELIMINARY FUEL MODIFICATION PLAN
L-3	PRELIMINARY LANDSCAPE PLAN - 1
L-4	PRELIMINARY LANDSCAPE PLAN - 2

Project Directory

OWNER:
PARADISE LAKE LLC
4300 EDISON AVE.
CHINO, CA 91710

ARCHITECT:
TOM LAU, A.I.A.
PEGASUS ARCHITECTS
4300 EDISON AVE.,
CHINO, CA 91710
TEL: (909) 465.4101

LANDSCAPE ARCHITECT:
PHILMAY LANDSCAPE ARCHITECT
215 N. 2ND AVE., SUITE C
UPLAND, CA 91786
TEL.: (909) 373-1959
FAX.: (909) 373-1958

TOTAL LANDSCAPE AREA = 36,824 s.f.

TOTAL OFF-SITE LANDSCAPE AREA = 11,131 s.f.

Scope Of Work

NEW CONSTRUCTION OF A SERVICE STATION WITH C-STORE W/ DRIVE-THRU, CARWASH FACILITY, TRASH ENCLOSURE, AND 2 QSR AND AN OFFICE/WAREHOUSE BUILDING.
SIGNAGE, FUEL PUMP CANOPY, UNDERGROUND STORAGE TANKS ARE UNDER SEPARATED PERMIT BY OTHERS.

Project Data

PROJECT ADDRESS:	24831 CLINTON KEITH RD., WILDOMAR, CA 92595
APN#:	380-290-002
LOT SIZE (GROSS):	±189,486 S.F. (±4.35 ACRES)
LOT SIZE (NET):	
ZONING:	GENERAL RESIDENTIAL
CONSTRUCTION TYPE:	VA
OCCUPANCY:	
FIRE SPRINKLER:	YES
FIRE ALARM:	YES

PARKING	REQUIRED:	PARKING PROVIDED:
A) BEYOND MARKET 7460/200 1 SPACE /200 SQFT. G.F.A.	38	38 (INCL. 2 HCP)
B) CANOPY		
C) QSR #1 2,000/2/45 1 SPACE / 45 SQFT. OF SERVING AREA 1 SPACE / 2 EMPLOYEES	23	23 (INCL. 2 HCP)
D) QSR #2 1,800/2/45 1 SPACE / 45 SQFT. OF SERVING AREA 1 SPACE / 2 EMPLOYEES	20	20 (INCL. 2 HCP)
E) OFFICE 1 SPACE / 200 SQFT. G.F.A WAREHOUSE 1 SPACE / 2,000 SQFT. G.F.A	36 5	36 (INC. 1 HCP 8 (INCL. 1 HCP)
TOTAL	122	125 (INCL. 8 HCP)

Shade Analysis

PARKING AREA: 19,764 S.F. = 122 PARKING STALLS
PARKING AREA TO BE SHADED = 10,672 S.F. = 51% AREA TO BE SHADED

MAINTENANCE RESPONSIBILITY
All improvements to be maintained by developer/property owner.

CERTIFICATION OF LANDSCAPE DESIGN

I hereby certify that:

(1) I am a professional appropriately licensed in the State of California to provide professional landscape design services.
(2) The landscape design and water use calculations for the property located at _ NWC OF JANA LN. & CLINTON KEITH RD., (provide street address or parcel number(s)) were prepared by me or under my supervision.
(3) The landscape design and water use calculations for the identified property comply with the requirements of the City of Wildomar Water Efficient Landscape Ordinance (Municipal Code Chapter 13.18) and the City of Wildomar Water Efficient Landscape Guidelines.
(4) The information I have provided in this Certificate of Landscape Design is true and correct and is hereby submitted in compliance with the City of Wildomar Water Efficient Landscape Guidelines.

PHIL MAY — Print Name
03-18-2022 — Date
Signature
3104 — License Number
1937 W/ 9 TH. STREET UPLAND, CA 91786 — Address
(909) 373-1959 — Telephone
pmay@philmaydesign.com — E-mail Address
Landscape Design Professional's Stamp

REGISTERED LANDSCAPE ARCHITECT — PHILIP S. MAY — SIGNATURE — 05-31-23 RENEWAL DATE — 03-18-2022 DATE — STATE OF CALIFORNIA

UNDERGROUND SERVICE ALERT
CALL TOLL FREE 811
AT LEAST TWO DAYS BEFORE YOU DIG

Reference Notes

1. (E) PROPERTY LINES
2. (N) CURB AND GUTTER/DRIVEWAY (RIGHT IN & OUT)
3. (N) LANDSCAPE
4. ADJACENT BUILDING
5. (N) HEALY TANK
6. (N) CONCRETE CURB
7. (N) CONCRETE SIDEWALK
8. (N) CANOPY 47'-0"x128'-0" (UNDER SEPARATED PERMIT)
9. (N) TRANSFORMER PAD
10. (N) TRASH/RECYCLE ENCLOSURE
11. (N) LOADING/UNLOADING (10'-0" x 20'-0")
12. (N) CORNER MONUMENT, SIGN BY OTHERS, UNDER SEPARATE PERMIT.
13. (N) HCP PARKING
14. (N) HCP RAMP
15. (N) VACUUM @ 7 LOCS
16. (N) 5'-0" WIDE HCP PATH OF TRAVEL PER CODE STD.
17. BIKE RACK PER CITY'S STANDARD.
18. (N) 26' WIDE FIRE LANE
19. (N) AIR/WATER TOWER
20. EVCS PARKING PER CITY'S STD. PROVIDE MIN. 1" CONDUIT TERMINATING IN LISTED ENCLOSURE FOR FUTURE CHARGER.
21. (N) 6' HT. SPLITFACE CMU FENCE WALL
22. (N) MENU BOARD
23. (N) HEIGHT BAR
24. (N) CLEAN AIR VEHICLE
25. (N) UNDERGROUND TANK STORAGE
26. (N) TRASH ENCLOSURE
27. (N) HYDROGEN EQUIPMENT (UNDER SEPARATE PERMIT)
28. (N) HYDROGEN CANOPY (UNDER SEPARATE PERMIT)
29. (N) ENTRY DECORATIVE PAVED DRIVEWAY
30. (N) FIRE HYDRANT
31. (N) STREET MEDIAN W/ LANDSCAPE
32. (N) STAMPED CONCRETE TO MATCH

REVISIONS	BY

PHIL MAY LANDSCAPE ARCHITECTURE
2532 Wallace Ave.
Fullerton, CA 92831
Phone:909 373 1959
pmay@philmaydesign.com
www.philmaydesign.com

REGISTERED LANDSCAPE ARCHITECT — PHILIP S. MAY — SIGNATURE — 05-31-23 RENEWAL DATE — 12-15-2022 DATE — STATE OF CALIFORNIA

COVER SHEET

NEW COMMERCIAL DEVELOPMENT
24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

DRAWN R.S.
CHECKED R.S.
DATE 03-18-22

L-1

OF 4 SHEETS

JOB NO. 22036

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1750

FUEL MODIFICATION PLAN NOTES

ZONE A – SETBACK ZONE

• Extends 30 feet beyond the edge of any combustible structure, accessory structure, appendage or projection. Overhangs or parts of structures not accurately reflected on the plans may negate the approval of plant location on the approved plan.
• Irrigation by automatic or manual systems shall be provided to maintain healthy vegetation and fire resistance.
• Vegetation in this zone shall consist primarily of green lawns, ground covers not exceeding 6 inches in height, and adequately spaced shrubs. The overall landscape characteristics shall provide adequate defensible space in a fire environment.
• Plants in Zone A shall be inherently highly fire resistant and appropriately spaced. Species selection should reference the Fuel Modification Plant List. Other species may be used subject to approval. Plans re-submitted 6 months after the initial review will be evaluated based on the current Fuel Modification Plant List, available from the Fuel Modification Unit.
• Trees are generally not recommended, except for dwarf varieties or mature trees small in stature.
• Target species will typically not be allowed within 30 feet of combustible structures and may require removal if existing.
• Vines and climbing plants shall not be allowed on any combustible structure requiring review.

ZONE B – IRRIGATED ZONE

• Extends from the outer edge of Zone A to 100 feet from structures.
• Irrigation by automatic or manual systems shall be provided to maintain healthy vegetation and fire resistance.
• Vegetation in this zone shall primarily consist of green lawns, ground covers, and adequately spaced shrubs and trees.
• Unless otherwise approved, ground covers shall be maintained at a height not to exceed 6 inches. On slopes, 12 inches is acceptable within 50 feet of a structure, and 18 inches beyond 50 feet. The overall landscape characteristics shall provide adequate defensible space in a fire environment. Specimen native plants may be approved to remain if properly maintained for adequate defensible space. Annual grasses or weeds shall be maintained at a height not to exceed 3 inches.
• Plants shall be fire resistant and appropriately spaced. Plant selection should reference the Fuel Modification Plant List. Other plants may be used subject to approval.
• Replacement planting to meet minimum City or County slope coverage requirements or ordinances will be considered. In all cases, the overall landscape characteristics shall provide adequate defensible space in a fire environment.
• Target species may require removal within 50 feet of structures, depending on site conditions.
• All trees, unless otherwise approved, shall be planted far enough from structures and Fire access roads, as to not overhang any structure or access at maturity.

ZONE C – NATIVE BRUSH THINNING ZONE

• Extends from the outer edge of Zone B up to 200 feet from structures or to the property line.
• Required thinning and clearance will be determined upon inspection.
• Irrigation systems are not required.
• Vegetation may consist of modified existing native plants, adequately spaced ornamental shrubs and trees, or both. Replacement planting to meet minimum City or County slope coverage requirements or ordinances will be considered. In all cases, the overall landscape characteristics shall provide adequate defensible space in a fire environment.
• Plants shall be spaced appropriately. Existing native vegetation shall be modified by thinning and removal of plants constituting a fire risk; these include, but are not limited to: chamise, sage, sage brush, and buckwheat.
• Annual grasses and weeds shall be maintained at a height not to exceed 3 inches.
• General spacing for existing native shrubs or groups of shrubs is 15 feet between canopies. Native plants may be thinned by reduced amounts as the distance from development increases.
• General spacing for existing native trees or groups of trees is 30 feet between canopies. This distance may vary depending on the slope, arrangement of trees in relation to slope, and the tree species.

FIRE ACCESS ROAD ZONE

• Extends a minimum of 10 feet from the edge of any public or private road used by fire-fighting resources.
• Clear and remove flammable growth for a minimum of 10 feet on each side of Fire Access Roads. (Fire Code 325.10) Additional clearance beyond 10 feet may be required upon inspection.
• Fire access roads, driveways and turnarounds shall be maintained in accordance with fire code. Fire Access Roads shall have unobstructed vertical clearance clear to the sky for a width of 20 feet. (Fire Code 503.2.1)
• Remaining plants shall be appropriately spaced and maintained to provide safe egress in wildland fire environments.
• All trees, unless otherwise approved, shall be planted far enough from structures and Fire access roads, as to not overhang any structure or access at maturity.

MAINTENANCE

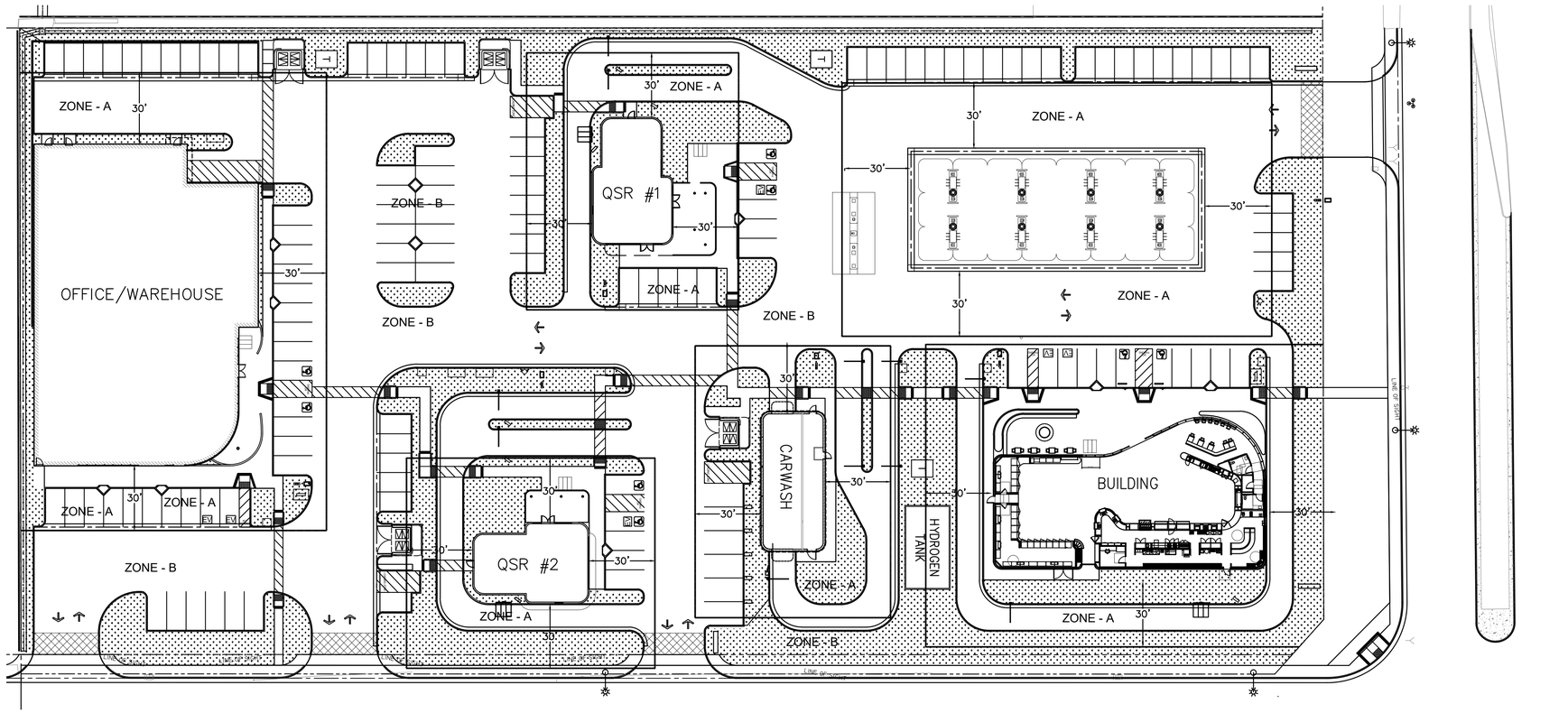
Routine maintenance shall be regularly performed in all zones. Requirements include items in the Fuel Modification Guidelines and those outlined below:
• Removal or thinning of undesirable combustible vegetation and removal of dead or dying plants to meet minimum brush clearance requirements.
• Pruning and thinning to reduce the overall fuel load and continuity of fuels.
• Fuel loads shall be reduced by pruning lower branches of trees and tree-form shrubs to 1/3 of their height, or 6 feet from lowest hanging branches to the ground, to help prevent fire from spreading and make maintenance easier. Trees with understory plants should be limbed up at least three times the height of the underlying vegetation or up to one third the height of the tree, whichever is less, to help prevent fire from spreading upward into the crown.
• Accumulated plant litter and dead wood shall be removed. Debris and trimmings produced by maintenance should be removed from the site or chipped and evenly dispersed in the same area to a maximum depth of 6 inches.
• All invasive species and their parts should be removed from the site.
• Manual and automatic irrigation systems shall be maintained for operational integrity and programming. Effectiveness should be regularly evaluated to avoid over or under-watering.
• Compliance with the Fire Code is a year-round responsibility. Enforcement will occur following inspection by the Fire Department. Annual inspections for brush clearance code requirements are conducted following the natural drying of grasses and fine fuels, between the months of April and June depending on geographic region. Inspection for compliance with an approved Fuel Modification Plan may occur at any time of year.
• Brush Clearance enforcement issues on adjacent properties should be directed to the County of Riverside County Fire Department's Brush Clearance Unit.
• All future plantings shall be in accordance with the County of Riverside Fire Department Fuel Modification Guidelines and approved prior to installation. Changes to the approved plan which require an additional plan review fee.
• Questions regarding landscape planting and maintenance with regard to fire safety should be directed to the Riverside County Fire Department's Fuel Modification Unit.

Approval of this Fuel Modification Plan constitutes approval for only those Codes reviewed as part of the Fuel Modification process and does not replace the needed approval of any other office or agency with jurisdiction and review responsibility for those items which may or may not be illustrated on the plan.

NOTE: INSPECTIONS REQUIRED PRIOR TO FINAL FIRE DEPARTMENT APPROVAL

NOTE: ALL FUTURE PLANTING SHALL BE IN ACCORDANCE WITH THE COUNTY OF RIVERSIDE FIRE DEPARTMENT FUEL MODIFICATION GUIDELINES, AND APPROVED PRIOR TO INSTALLATION.

NOTE: FUEL MODIFICATION PLAN PROVIDED AS A REFERENCE.
FUEL MODIFICATION PLAN NOT APPROVED AS PART OF THE LANDSCAPE APPROVAL.
FINAL APPROVAL PER FIRE DEPARTMENT AND PENDING FINAL FIRE INSPECTION



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REGISTERED LANDSCAPE ARCHITECT
PHILIP S. MAY
SIGNATURE
06-31-23
RENEWAL DATE
12-15-2022
DATE
STATE OF CALIFORNIA

PRELIMINARY
FUEL MODIFICATION PLAN

NEW COMMERCIAL DEVELOPMENT
24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

DRAWN
R.S.
CHECKED
R.S.
DATE
03-18-22

L-2
OF 4 SHEETS

JOB NO.
22036

1751

STREETSCAPE PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	WUCOLS	O.C. SPACING	REMARKS
	TREES						
	Quercus agrifolia	Coast Live Oak	24" box	4	M	30'	Multi-trunk
	Lagestroemia i. 'Tuscarora'	Crape Myrtle	24" box	4	M	30'	Multi-trunk
	SHRUBS						
	Agave a. Nova	Blue Clone Foxtail Agave	5 gal	36	L	4'	
	Agave 'Blue Glow'	Blue Glow Agave	5 gal	24	L	3'	
	Acacia r. 'Desert Carpet'	Prostrate Acacia	5 gal	44	L	4'	
	Rosmarinus o. 'Hunt. Carpet'	Hunt. Carpet Rosemary	1 gal	130	L	4'	
	Baccharis p. 'Pigeon Point'	Pigeon Point Coyote Bush	1 gal	200	L	4'	
	Dietes bicolor	Fortnight Lily	1 gal	100	M	3'	

PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	WUCOLS	O.C. SPACING	REMARKS
	TREES						
	Acer p. Adrian's Compact	Compact J. Maple	24" box	1	M	15'	Multi-trunk
	Cercis c. 'Forest Pansy'	Forest Pansy Redbud	24" box	18	M	20'	Standard trunk
	Magnolia g. "Little Gem"	Little Gem Magnolia	24" box	15	M	20'	Multi-trunk
	Geijera parvifolia	Australian Willow	24" box	31	M	25'	Standard trunk
	Lophostemon confertus	Brisbane box	24" box	22	M	30'	Standard trunk
	Parkinsonia 'Desert Museum'	Palo Verde	24" box	11	L	30'	Multi-trunk
	Lagestroemia i. 'Tuscarora'	Crape Myrtle	24" box	5	M	30'	Multi-trunk
	SHRUBS						
	Agave a. Nova	Blue Clone Foxtail Agave	5 gal	71	L	4'	
	Agave 'Blue Glow'	Blue Glow Agave	5 gal	42	L	3'	
	Teucrium chamaedrys	Wall Germander	5 gal	79	L	4'	
	Callistemon 'Little John'	Dwarf Bottlebrush	5 gal	192	L	4'	
	Yucca 'Color Guard'	Color Guard Yucca	5 gal	24	L	4'	
	Ligustrum j. 'Texanum'	Texas Privet	5 gal	526	L	5'	
	Westringia fruticosa 'Smokey'	Dwarf Coastal Rosemary	5 gal	135	L	4'	
	Westringia fruticosa 'Mundi'	Mundi Coastal Rosemary	5 gal	265	L	4'	

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	WUCOLS	O.C. SPACING
	PERENNIALS					
	Hesperaloe p. Brakelights	Brakelights Yucca	1 gal	111	L	30"
	Carex divulsa	Berkeley sedge	5 gal	671	L	30"
	Dianella revoluta 'Little Rev'	Flax Lily	1 gal	195	L	30"
	Dianella t. 'Variegata'	Variegated Flax Lily	1 gal	282	M	30"
	GROUNDCOVER					
	Rosmarinus o. 'Hunt. Carpet'	Hunt. Carpet Rosemary	1 gal	395	L	4'
	Baccharis p. 'Pigeon Point'	Pigeon Point Coyote Bush	1 gal	36	L	4'
	Carissa m. 'Emerald Blanket'	Dwarf Natal Plum	1 gal	92	M	4'
	Trachelospermum jasminoides	Star Jasmine (3,200 s.f.)	1 gal	356	M	3'
	3/4" crushed rock Palm Springs Gold					
	6-8" Cobblestone rock set on finish grade.					
	2-3' boulders					

Water Efficient Landscape Worksheet

Reference Evapotranspiration (ETo)			55	Wildomar			
	ETWU requirement	ETWU requirement	ETWU requirement	ETWU requirement	MAWA requirement	ETWU requirement	
Hydrozone#/Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (LA) (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)
Regular Landscape Areas							
1) Low water use plants	0.3	Drip	0.81	0.370	35,070	12,988.89	442,921
1) Med water trees	0.5	Drip	0.81	0.617	1,755	1,083.33	36,942
							0
							0
			Totals		36,825	14,072.22	479,863
Special Landscape Areas (SLA): Recycled Water							
1) low water use plants				1	0	0	0
2) medium water use plants				1	0	0	0
3) medium water use plants				1	0	0	0
				Totals	0	0	0
						Estimated Total Water Use (ETWU)	**479,863**
						Maximum Allowed Water Allowance (MAWA)	**565,080**

Plant Water Use Type	Plant Factor	Irrigation method	Irrigation Efficiency
very low	0-0.1	overhead spray	0.75
low	0.1-0.3	drip	0.81
medium	0.4-0.6		
high	0.7-1.0		

MAWA (annual gallons allowed)= (Eto) (0.62) ((ETAF x LA) + (1-ETAF) x SLA))]

where 0.62 is a conversion factor that converts acre-inches per acre/year to gallons per sq. ft./year. LA is the total landsape area in sq. ft, SLA is the total special landscape area in sq. ft., and ETAF is .55 for residential areas and 0.45 for non residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	14,072
Total Area	36,825
Average ETAF	**0.38**

Average ETAF for regular landscape areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	14,072
Total Area	36,825
Sitewide ETAF	**0.38**

TREES

A. Placement of trees to be outside of utility setbacks or easements
   1) 5' from property line, fire hydrant, water or sewer line, water meter, backflow, sewer clean out
   2) 10' from street light or power pole
   3) mature height no taller than 20' if planted under utility wires
B. Root barriers within 6' of hardscape (24" deep, 16' in length), include manufacturer, model number and detail with length and burial depth
C. Staking and bracing
D. Existing trees shown on plans, note to remove or to remain

NOTE: All utility and trees shall be coordinated prior first plan check submittal.

MULCH

3" minimum depth of shredded bark mulch in all planter areas, excluding turf and hydroseeded areas and 5' from building for projects in high fire hazard severity zones

MULCH

1. Preliminary agronomic soil analysis and recommendations report to be obtained early in the design phase and shall be included on construction plans. All related notes, details and specifications shall be reviewed and revised to refer to soil recommendations report.

2. Combustible mulch material not within 5' of structure, replace with non-combustible mulch material

ALL LANDSCAPE INSTALLATION SHALL BE PERMANENTLY MAINTAINED.

ALL LANDSCAPE AREAS SHALL RECEIVE AUTOMATIC IRRIGATION SYSTEM.

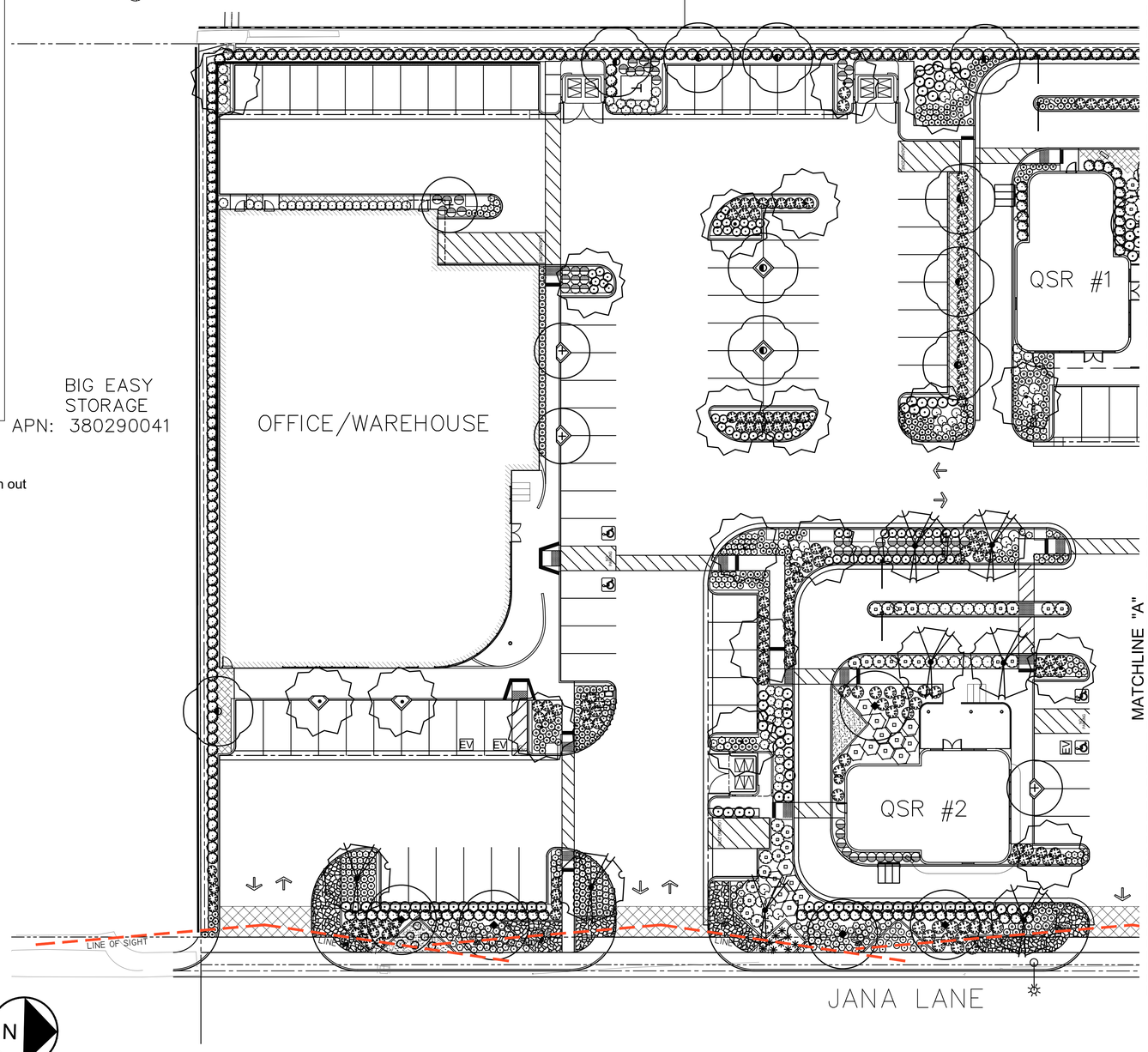
ALL LANDSCAPE PLANS AND INSTALLATIONS SHALL ADHERE TO CITY OF WILDOMAR DESIGN GUIDELINES, CODES AND REGULATIONS.

COMPLIANCE STATEMENT

REGISTERED LANDSCAPE ARCHITECT — Phil May — 2500 — SIGNATURE — 06-30-23 — RENEWAL DATE — 10-19-2023 — DATE — STATE OF CALIFORNIA

I AM FAMILIAR WITH THE REQUIREMENTS FOR LANDSCAPE AND IRRIGATION PLANS CONTAINED IN THE WATER EFFICIENT LANDSCAPE REGULATIONS OF THE CITY OF WILDOMAR. I HAVE PREPARED THIS PLAN IN COMPLIANCE WITH THOSE REGULATIONS, I CERTIFY THAT THE PLAN IMPLEMENTS THOSE REGULATIONS TO PROVIDE EFFICIENT USE OF WATER.

BIG EASY STORAGE
APN: 380290041



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www.philmaydesign.com

REGISTERED LANDSCAPE ARCHITECT — Phil May — 2500 — SIGNATURE — 06-30-23 — RENEWAL DATE — 12-15-2022 — DATE — STATE OF CALIFORNIA

PRELIMINARY LANDSCAPE PLAN-2

NEW COMMERCIAL DEVELOPMENT
24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

DRAWN R.S.
CHECKED R.S.
DATE 03-18-22

L-3

OF 4 SHEETS

JOB NO. 22036

1752

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STREETSCAPE PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	WUCOLS	O.C. SPACING	REMARKS
	TREES						
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	SHRUBS						
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	Agave 'Blue Glow'	Blue Glow Agave	5 gal	24	L	3'	
	Acacia r. 'Desert Carpet'	Prostrate Acacia	5 gal	44	L	4'	
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PLANT LEGEND

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	Lophostemon confertus	Brisbane box	24" box	22	M	30'	Standard trunk
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	Agave 'Blue Glow'	Blue Glow Agave	5 gal	42	L	3'	
	Teucrium chamaedrys	Wall Germander	5 gal	79	L	4'	
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	Westringia fruticosa 'Mundi'	Mundi Coastal Rosemary	5 gal	265	L	4'	

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	WUCOLS	O.C. SPACING
	PERENNIALS					
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	Carex divulsa	Berkeley sedge	5 gal	671	L	30"
	Dianella revoluta 'Little Rev'	Flax Lily	1 gal	195	L	30"
	Dianella t. 'Variegata'	Variegated Flax Lily	1 gal	282	M	30"
	GROUNDCOVER					
	Rosmarinus o. 'Hunt. Carpet'	Hunt. Carpet Rosemary	1 gal	395	L	4'
	Baccharis p. 'Pigeon Point'	Pigeon Point Coyote Bush	1 gal	36	L	4'
	Carisea m. 'Emerald Blanket'	Dwarf Natal Plum	1 gal	92	M	4'
	Trachelospermum jasminoides	Star Jasmine (3,200 s.f.)	1 gal	356	M	3'
	3/4" crushed rock Palm Springs Gold					
	6-8" Cobblestone rock set on finish grade.					
	2-3' boulders					

Water Efficient Landscape Worksheet

Reference Evapotranspiration (ETo)			55 Wildomar				
	ETWU requirement	ETWU requirement	ETWU requirement	ETWU requirement	MAWA requirement	ETWU requirement	
Hydrozone#/Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (LA) (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)
Regular Landscape Areas							
1) Low water use plants	0.3	Drip	0.81	0.370	35,070	12,988.89	442,921
1) Med water trees	0.5	Drip	0.81	0.617	1,755	1,083.33	36,942
							0
							0
			Totals		36,825	14,072.22	479,863
Special Landscape Areas (SLA): Recycled Water							
1) low water use plants	[redacted]			1	0	0	0
2) medium water use plants				1	0	0	0
3) medium water use plants				1	0	0	0
				Totals	0	0	0
						Estimated Total Water Use (ETWU)	**479,863**
						Maximum Allowed Water Allowance (MAWA)	**565,080**

Plant Water Use Type	Plant Factor	Irrigation method	Irrigation Efficiency
very low	0-0.1	overhead spray	0.75
low	0.1-0.3	drip	0.81
medium	0.4-0.6		
high	0.7-1.0		

MAWA (annual gallons allowed)= (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]

where 0.62 is a conversion factor that converts acre-inches per acre/year to gallons per sq. ft./year. LA is the total landsape area in sq. ft, SLA is the total special landscape area in sq. ft., and ETAF is .55 for residential areas and 0.45 for non residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	14,072	
Total Area	36,825	Average ETAF for regular landscape areas must be 0.55 or below for
Average ETAF	**0.38**	residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	14,072
Total Area	36,825
Sitewide ETAF	**0.38**

Water Efficient Landscape Worksheet **STREETSCAPE AREAS**

Reference Evapotranspiration (ETo)			55 Wildomar				
	ETWU requirement	ETWU requirement	ETWU requirement	ETWU requirement	MAWA requirement	ETWU requirement	
Hydrozone#/Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (LA) (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)
Regular Landscape Areas							
1) Low water use plants	0.3	Drip	0.81	0.370	10,379	3,844.07	131,083
1) Med water trees	0.5	Drip	0.81	0.617	752	464.20	15,829
							0
							0
			Totals		11,131	4,308.27	146,912
Special Landscape Areas (SLA): Recycled Water							
1) low water use plants	[redacted]			1	0	0	0
2) medium water use plants				1	0	0	0
3) medium water use plants				1	0	0	0
				Totals	0	0	0
						Estimated Total Water Use (ETWU)	**146,912**
						Maximum Allowed Water Allowance (MAWA)	**170,805**

Plant Water Use Type	Plant Factor	Irrigation method	Irrigation Efficiency
very low	0-0.1	overhead spray	0.75
low	0.1-0.3	drip	0.81
medium	0.4-0.6		
high	0.7-1.0		

MAWA (annual gallons allowed)= (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]

where 0.62 is a conversion factor that converts acre-inches per acre/year to gallons per sq. ft./year. LA is the total landsape area in sq. ft, SLA is the total special landscape area in sq. ft., and ETAF is .55 for residential areas and 0.45 for non residential areas.

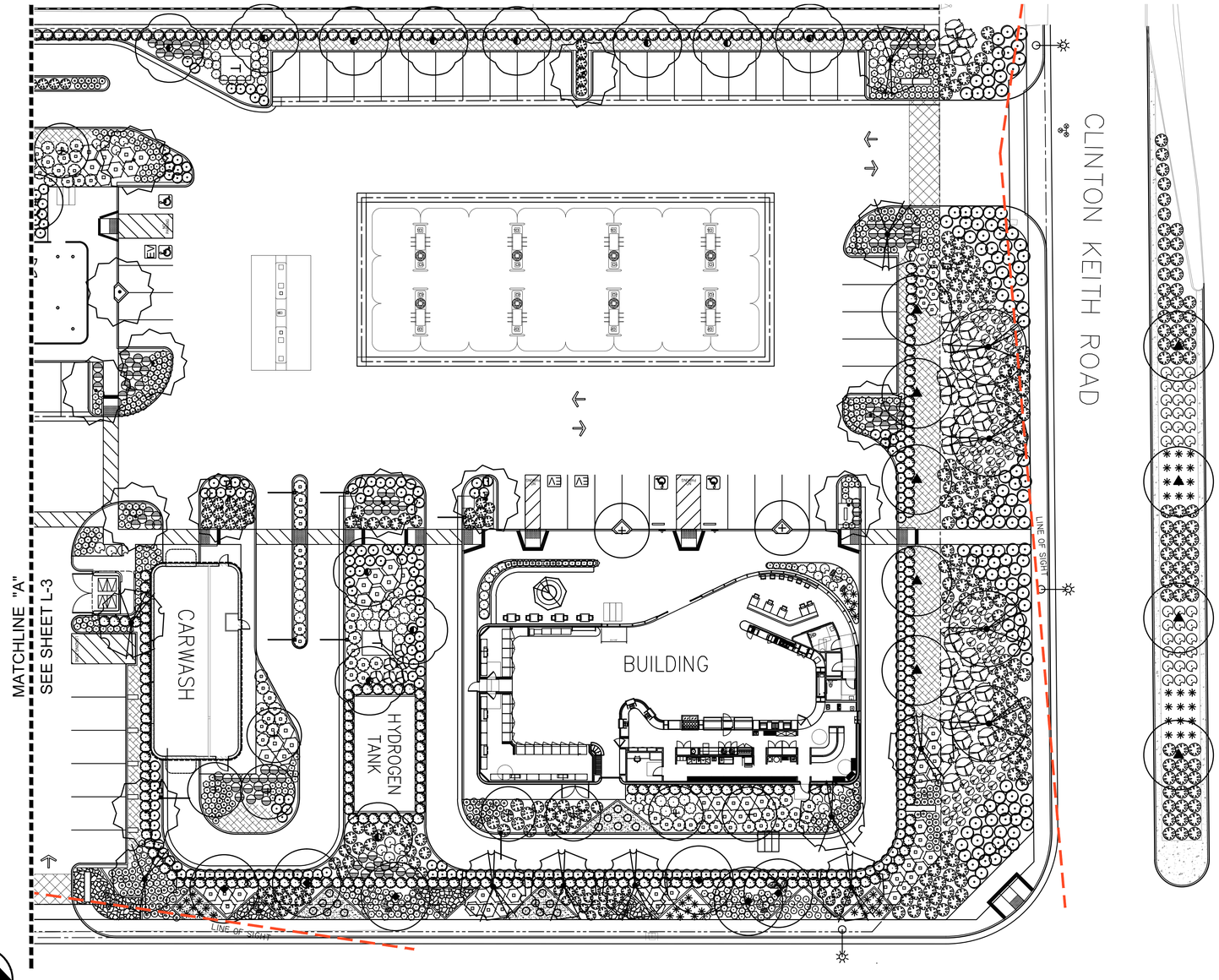
ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	4,308	
Total Area	11,131	Average ETAF for regular landscape areas must be 0.55 or below for
Average ETAF	**0.39**	residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	4,308
Total Area	11,131
Sitewide ETAF	**0.39**



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www.philmaydesign.com

REGISTERED LANDSCAPE ARCHITECT PHILIP S. MAY 3101 SIGNATURE 06-30-23 RENEWAL DATE 12-15-2022 DATE STATE OF CALIFORNIA

PRELIMINARY
LANDSCAPE PLAN-2

NEW COMMERCIAL DEVELOPMENT
24831 CLINTON KEITH RD.,
WILDOMAR, CA 92595

DRAWN R.S.
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DATE 03-18-22

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OF 4 SHEETS

JOB NO. 22036

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1753

M-SC Zone (Chapter 17.92) Development Standards Table

Development Standards	Minimum Development Standard	All Buildings	Meets/Exceeds Requirements
Lot Area	10,000 s.f.	4.35 acres	Yes
Building Height	50 feet max.	30 ft. max	Yes
Required Setbacks			
Street Setbacks (CKR & Jana Lane)	25 ft. min.	25 ft. – 115 ft.	Yes
Rear Setback (south prop. line)	0 ft. min.	6.5 ft.	Yes
Side Setback (west prop. line)	0 ft. min.	50 ft. min	Yes

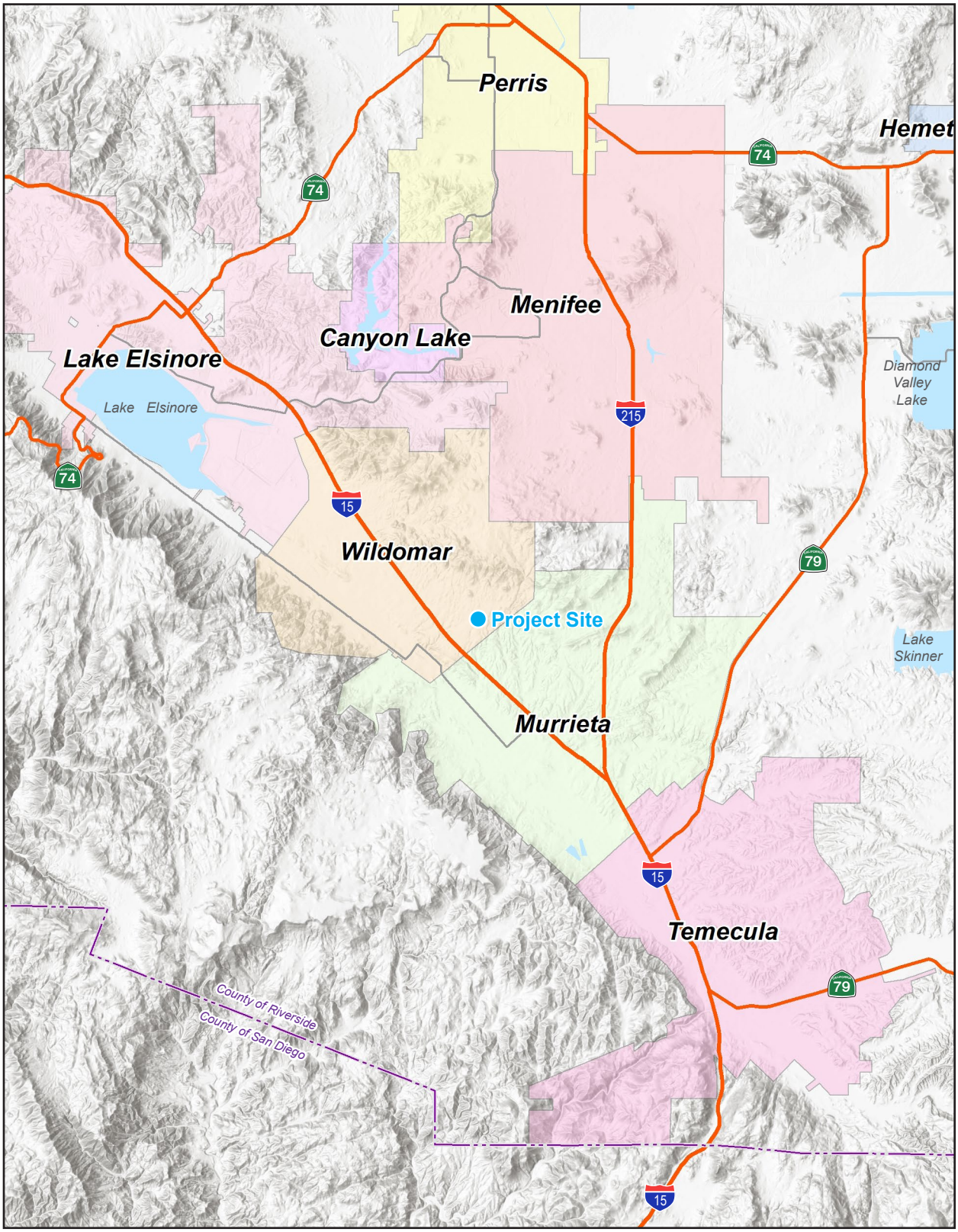
Parking Standards (Sec. 17.188) Table

PARKING	REQUIRED:	PARKING PROVIDED:
A) BEYOND MARKET 7460/200 1 SPACE /200 SQFT. G.F.A.	38	38 (INCL. 2 HCP)
B) CANOPY		
C) QSR #1 2,000/2/45 1 SPACE / 45 SQFT. OF SERVING AREA 1 SPACE / 2 EMPLOYEES	23	23 (INCL. 2 HCP)
D) QSR #2 1,800/2/45 1 SPACE / 45 SQFT. OF SERVING AREA 1 SPACE / 2 EMPLOYEES	20	20 (INCL. 2 HCP)
E) OFFICE 1 SPACE / 200 SQFT. G.F.A	36	36 (INC. 1 HCP
WAREHOUSE 1 SPACE / 2,000 SQFT. G.F.A	5	8 (INCL. 1 HCP)
TOTAL	122	125 (INCL. 8 HCP)
LOADING/UNLOADING (10' x 20'):	4	4
CAR WASH STACKING	12 STACK	12 STACK
DRIVE–THRU	12 STACK	12 STACK

Shade Analysis

PARKING AREA: 19,764 S.F. = 122 PARKING STALLS
PARKING AREA TO BE SHADED = 10,672 S.F. = 51% AREA TO BE SHADED

Figure 1 - Regional Location



Note: Unincorporated county areas are shown in white.
Source: Generated using ArcMap, 2022.

0 3
Scale (Miles)

PlaceWorks

Figure 2 - Local Vicinity

Project Boundary

Note: Unincorporated county areas are shown in white.

Source: Generated using ArcMap, 2022.

0 2,000
Scale (Feet)

PlaceWorks

Figure 3 - Aerial Photograph

Project Boundary

0 155
Scale (Feet)

Source: Nearmap, Inc., 2022.

CITY OF WILDOMAR
PC - REGULAR MEETING
PUBLIC HEARING
Agenda Staff Report # 2.3
Meeting Date: April 5, 2023

SUBJECT: Tentative Tract Map No. 33840 (EOT #2)

SUBMITTED BY: Matthew Bassi

PREPARED BY: Abdu Lachgar

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

1) Find and determine that the Extension of Time #2 for TTM No. 33840 does not require additional environmental review in accordance with Section 15162 of the California Environmental Quality Act (CEQA) guidelines; and

2) Adopt a Resolution entitled:

PC Resolution No. 2023-10

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING A 2-YEAR EXTENSION OF TIME (EOT #2) TO MARCH 23, 2025 FOR TENTATIVE TRACT MAP NO. 33840 TO SUBDIVIDE A 4.16-ACRE SITE INTO 15 SINGLE FAMILY RESIDENTIAL LOTS LOCATED AT THE TERMINUS OF ELM STREET BETWEEN GRUWELL STREET AND WILDOMAR TRAIL (APN: 376-043-027), AND A DETERMINATION THAT ADDITIONAL ENVIRONMENTAL REVIEW IS NOT REQUIRED PER CEQA GUIDELINES SECTION 15162

PROJECT DESCRIPTION:
Upon recommendation of the Planning Commission, TTM No. 33840 was originally approved by the City Council on September 23, 2015 to subdivide 4.16 acres into 15 lots for single family residential development. The City Council also adopted a Mitigated Negative Declaration and a Change of Zone from R-R (Rural Residential) to R-1 (One-Family Dwelling) to accommodate the proposed project.

The Planning Commission on November 7, 2018 voted to approve the applicant's first

extension of time (EOT #1 of 3) request that extended the deadline to September 23, 2021 to get the tract map recorded. With the automatic State AB 1561 extensions, the current expiration date was March 23, 2023. As of the date of this report, the applicant has not yet recorded the tract map. Therefore, the Applicant is now requesting a 2nd extension of time (#2 of 3) for a 2-year period to March 23, 2025. This request is consistent with Section 17.216.070 of the Wildomar Municipal Code.

PROJECT ANALYSIS:

Section 17.216.070.B of the Zoning Ordinance allows plot plans up to six (6) years of time extensions provided the Applicant files an application and filing fee with the Planning Director prior to the expiration date(s). The Applicant's request represents the 2nd extension for Tentative Tract Map No. 33840. The Applicant is requesting a 2-year time extension to March 23, 2025. The Applicant filed the EOT application and paid the required fee on March 6, 2023 well in advance of the March 23, 2023 deadline.

The approval or denial of the extension of time for Tentative Tract Map No. 33840 is in the purview of the Planning Commission subject to specific findings. The Applicant has indicated the need for additional time to record the tract map. In reviewing the extension of time request, the Planning department has determined that the approved tract map has not been modified from Council's original approval, nor has the Applicant requested any changes with the request. Thus, it is staff's opinion that the 2-year extension of time is a reasonable request. Copies of the IS-MND package, EOT #1 report, approved tentative tract map and exhibits are provided for Commission consideration in Attachments B – F.

CEQA DISCUSSION:

In accordance with the requirements of the California Environmental Quality Act (Public Resources Code § 21000, et seq. ("CEQA")), a Mitigated Negative Declaration was prepared, considered and adopted by the City Council on September 23, 2015 as part of its approval of Tentative Tract Map No. 33840. The accompanying Change of Zone from R-R to R-1 was also approved by Council at the same meeting. A Notice of Determination (NOD) was filed with the Riverside County Clerk on September 24, 2015 within the prescribed time frame in accordance with CEQA. As part of the environmental assessment for Tentative Tract Map No. 33840, the Council identified four (4) areas with potentially significant impacts. Of the impact categories identified, the conclusion in the IS/MND is that all potential impacts would be fully mitigated via implementation of the adopted mitigation measures and conditions of approval.

CEQA Guideline 15162 provides that once a mitigated negative declaration is adopted for a project, when a subsequent discretionary approval is required for the project the lead agency may determine, based on substantial evidence, whether additional environmental review of the project is warranted. More specifically, if one or more of the conditions stated in Guideline 15162(a) are present (discussed in more detail below), then the lead agency must prepare a subsequent EIR for the project. If none of the conditions stated in Guideline 15162(a) are present, then the lead agency has the discretion to determine whether to require a lesser form

of environmental review (such as an addendum) or no further documentation at all. (Guideline 15162(b)).

Guideline 15162(a) requires a subsequent EIR to be prepared if one or more of the following conditions exist:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative."

EOT Findings of Fact for CEQA Determination:

The Planning Commission has evaluated the above criteria and determined that there have been no significant changes in the project, no significant changes in the circumstances under which the project will be undertaken, and no new information has come to light regarding new or significant environmental effects. Therefore, no conditions exist that might otherwise require a subsequent EIR, subsequent MND, subsequent Negative Declaration, or an Addendum pursuant to Title 14 Cal. Code Regs. Section 15162. Therefore, it can be concluded with certainty that no additional CEQA documentation is required. Thus, the

Planning Commission hereby makes the following findings:

1) Substantial changes are not proposed in the project:

The Applicant is not proposing any technical or physical changes to TTM No. 33840 as part of the proposed extension of time. Therefore, no major revisions of the previously adopted mitigated negative declaration are necessary because there are no new significant environmental effects, or a substantial increase in the severity of previously identified significant effects, resulting from changes to the project.

2) No Substantial Changes to the Project's Circumstances:

No substantial changes have occurred with respect to the circumstances under which the project is undertaken that will require major revisions of the previously adopted mitigated negative declaration due to the involvement of new significant environmental effects, or a substantial increase in the severity of previously identified significant effects. The proposed 2-year extension of time request being considered for TTM No. 33840 does not include any request for technical or physical changes to the design, specifications, conditions or requirements for construction of the project covered by the approved tentative tract map.

3) No New Information of Substantial Importance:

This final element under CEQA Guideline 15162(a) requires a showing that there is no new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time of the original project approval. The City has not been made aware of any new information that was not known and could not have been known at the time the City Council originally adopted the mitigated negative declaration that evidences new or increased significant environmental effects or that new mitigation measures or mitigation measures previously found infeasible are available that would substantially decrease the project's environmental impacts.

EOT Finding of Facts for Tentative Tract Map No. 33840:

Pursuant to Section 16.12.240.C of the Subdivision Ordinance, and in light of the record before it, including the staff report dated April 5, 2023 and all evidence and testimony heard at the public hearing for said extension of time for Tentative Tract Map No. 33840, staff recommends the Planning Commission hereby find as follows:

Finding 1: The proposed extension of time for TTM No. 33840 is consistent with the City of Wildomar General Plan.

Evidence: The General Plan land use designation for the project site is Medium Density Residential (MDR) which allows single family residential land uses with densities ranging from 2 to 5 dwelling units per acre. The approved tentative tract map would allow for the development of 15 single family lots on 4.16 acres with a density of 3.6 units/acre which falls within the allowable density range permitted under the MDR land use designation. Further,

the Land Use Element of the General Plan encourages the development of a variety of housing types, styles and densities that are accessible to and meet the needs of a range of lifestyles, physical abilities, and income levels. The proposed tract map, and subsequent residential development, remains consistent with this policy as it will provide single family residential homeownership opportunities for Wildomar residents. Considering these facts, the proposed request for a 2-year extension of time for Tentative Tract Map No. 33840 continues to be consistent with the General Plan.

Finding 2: The proposed extension of time for TTM No. 33840 is consistent with the City of Wildomar Zoning Ordinance.

Evidence: The R-1 (One-Family Dwelling) zoning designation approved by the City Council on September 23, 2015 is highly consistent with the General Plan land use designation of Medium Density Residential (MDR). Further, the approved tentative tract map will allow for the development of 15 single family residential dwelling units consistent with the R-1 development standards related to required lot depth (100 feet) and lot width (60 feet). Lastly, single family residential land uses are a permitted use on the R-1 zone, therefore, the project remains consistent with the Zoning Ordinance.

Finding 3: The proposed extension of time for TTM No. 33840 does not adversely affect the general health, safety and welfare of the public.

Evidence: The proposed extension of time does not adversely affect the general health, safety and welfare of the public as the originally approved tract map remains in compliance with all the required design and development standards of the R-1 (One-Family Dwelling) zone, and appropriate mitigation for the project's environmental impacts have been imposed on the project. As there have been no amendments to the R-1 zone since approval of the tract map, the original development standards remain the same. Further, the design of the subdivision remains in conformance with the City's General Plan and Subdivision Ordinance. The design and construction of all improvements related to the proposed project remain as originally conditioned which are intended to protect the general health, safety and welfare of the public.

Finding 4: The Applicant submitted the EOT application and required fees prior to the expiration of Tentative Tract Map No. 33840.

Evidence: The Applicant submitted the EOT application and paid the required fees on March 6, 2023 in advance of the March 23, 2023 expiration date. Considering this fact, the proposed request for a 2-year extension of time meets this finding.

ATTACHMENTS:

Attach A - PC Resolution No. 2023-10-COA.pdf

Attach B - TTM 33840 IS-MND Doc.pdf

Attach C - TTM33840 EOT#1-PC Rept 11-7-18.pdf
Attach D - Approved TTM 33840 Exhibit.pdf
Attach E - Applicant Justification Letter 3-8-23.pdf
Attach F - Vicinity Maps-Exhibits.pdf

PC RESOLUTION NO. 2023-10

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING A 2-YEAR EXTENSION OF TIME (EOT #2) TO MARCH 23, 2025 FOR TENTATIVE TRACT MAP NO. 33840 TO SUBDIVIDE 4.16 ACRES INTO 15 SINGLE FAMILY RESIDENTIAL LOTS LOCATED AT THE TERMINUS OF ELM STREET BETWEEN GRUWELL STREET AND CENTRAL STREET (APN: 376-043-027), AND A DETERMINATION THAT ADDITIONAL ENVIRONMENTAL REVIEW IS NOT REQUIRED PER CEQA GUIDELINES SECTION 15162.

WHEREAS, an application for an Extension of Time to March 23, 2025 for Tentative Tract Map No. 33840 (Planning Application No. 23-0019) has been filed by:

Applicant/Owner:	Zareh Hookasian
Project Location:	End of Elm Street between Central Street to the northeast and Gruwell Street to the southwest
APN:	376-043-027
Lot Area:	4.16 acres

WHEREAS, the Applicant has submitted a formal application request and paid the required planning/processing fees on March 6, 2023, requesting a 2-year extension of time for Tentative Tract Map No. 33840, thereby, meeting the requirements for an Extension of Time as outlined in Section 16.12.240 of the Wildomar Municipal Code; and

WHEREAS, the City Council of the City of Wildomar approved Tentative Tract Map No. 33840 on September 23, 2015 for the subdivision of 4.16 acres into 15 lots for future single family residential homes/development on said property currently owned by the Applicant; and

WHEREAS, the City Council of the City of Wildomar, in connection with the approval of Tentative Tract Map No. 33840, adopted a Mitigated Negative Declaration on September 23, 2015; and

WHEREAS, in accordance with Title 16, Section 16.12.140 of the Wildomar Municipal Code, the Planning Department on March 22, 2023 mailed a public notice to all adjacent property owners within a 600-foot radius of the project site notifying the adjacent residents of the April 5, 2023 Planning Commission meeting where the Commission would review the proposed extension of time; and

WHEREAS, in accordance with Wildomar Municipal Code Section 16.12.240, the City of Wildomar Planning Commission conducted the duly noticed public meeting on April 5, 2023, at which time interested persons had an opportunity to testify in support of, or opposition to, the proposed 2-year extension of time for Tentative Tract Map No. 33840, and at which time the Planning Commission received public testimony concerning the extension of time.

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

SECTION 1. CEQA FINDINGS.
In accordance with the requirements of the California Environmental Quality Act (Public Resources Code § 21000, et seq. ("CEQA")), a Mitigated Negative Declaration was prepared, considered and adopted by the City Council on September 23, 2015 as part of its approval of Tentative Tract Map No. 33840. The accompanying Change of Zone from R-R to R-1 was also approved by Council at the same meeting. A Notice of Determination (NOD) was filed with the Riverside County Clerk on September 24, 2015 within the prescribed time frame in accordance with CEQA.

As part of the environmental assessment for Tentative Tract Map No. 33840, the Council identified four (4) areas with potentially significant impacts. Of the impact categories identified, the conclusion in the IS/MND is that all potential impacts would be fully mitigated via implementation of the adopted mitigation measures and conditions of approval.

CEQA Guideline 15162 provides that once a mitigated negative declaration is adopted for a project, when a subsequent discretionary approval is required for the project the lead agency may determine, based on substantial evidence, whether additional environmental review of the project is warranted. More specifically, if one or more of the conditions stated in Guideline 15162(a) are present (discussed in more detail below), then the lead agency must prepare a subsequent EIR for the project. If none of the conditions stated in Guideline 15162(a) are present, then the lead agency has the discretion to determine whether to require a lesser form of environmental review (such as an addendum) or no further documentation at all. (Guideline 15162(b)).
Guideline 15162(a) requires a subsequent EIR to be prepared if one or more of the following conditions exist:

> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
>
> (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
>
> (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative."

EOT Findings of Fact for CEQA Determination:

The Planning Commission has evaluated the above criteria and determined that there have been no significant changes in the project, no significant changes in the circumstances under which the project will be undertaken, and no new information has come to light regarding new or significant environmental effects. Therefore, no conditions exist that might otherwise require a subsequent EIR, subsequent MND, subsequent Negative Declaration, or an Addendum pursuant to Title 14 Cal. Code Regs. Section 15162. Therefore, it can be concluded with certainty that no additional CEQA documentation is required. Thus, the Planning Commission hereby makes the following findings:

1) *Substantial changes are not proposed in the project:*
   The Applicant is not proposing any technical or physical changes to TTM No. 33840 as part of the proposed extension of time. Therefore, no major revisions of the previously adopted mitigated negative declaration are necessary because there are no new significant environmental effects, or a substantial increase in the severity of previously identified significant effects, resulting from changes to the project.

2) *No Substantial Changes to the Project's Circumstances:*
   No substantial changes have occurred with respect to the circumstances under which the project is undertaken that will require major revisions of the previously adopted mitigated negative declaration due to the involvement of new significant environmental effects, or a substantial increase in the severity of previously identified significant effects. The proposed 2-year extension of time request being considered for TTM No. 33840 does not include any request for technical or physical changes to the design, specifications, conditions or requirements for construction of the project covered by the approved tentative tract map.

3) *No New Information of Substantial Importance:*
This final element under CEQA Guideline 15162(a) requires a showing that there is no new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time of the original project approval. The City has not been made aware of any new information that was not known and could not have been known at the time the City Council originally adopted the mitigated negative declaration that evidences new or increased significant environmental effects or that new mitigation measures or mitigation measures previously found infeasible are available that would substantially decrease the project's environmental impacts.

SECTION 2. EOT FINDINGS

Pursuant to Section 16.12.240.C of the Subdivision Ordinance, and in light of the record before it, including the staff report dated April 5, 2023 and all evidence and testimony heard at the public hearing for said extension of time for Tentative Tract Map No. 33840, staff recommends the Planning Commission hereby find as follows:

Finding 1: The proposed extension of time for TTM No. 33840 is consistent with the City of Wildomar General Plan.

Evidence: The General Plan land use designation for the project site is Medium Density Residential (MDR) which allows single family residential land uses with densities ranging from 2 to 5 dwelling units per acre. The approved tentative tract map would allow for the development of 15 single family lots on 4.16 acres with a density of 3.6 units/acre which falls within the allowable density range permitted under the MDR land use designation. Further, the Land Use Element of the General Plan encourages the development of a variety of housing types, styles and densities that are accessible to and meet the needs of a range of lifestyles, physical abilities, and income levels. The proposed tract map, and subsequent residential development, remains consistent with this policy as it will provide single family residential homeownership opportunities for Wildomar residents. Considering these facts, the proposed request for a 2-year extension of time for Tentative Tract Map No. 33840 continues to be consistent with the General Plan.

Finding 2: The proposed extension of time for TTM No. 33840 is consistent with the City of Wildomar Zoning Ordinance.

Evidence: The R-1 (One-Family Dwelling) zoning designation approved by the City Council on September 23, 2015 is highly consistent with the General Plan land use designation of Medium Density Residential (MDR). Further, the approved tentative tract map will allow for the development of 15 single family residential dwelling units consistent with the R-1 development standards related to required lot depth (100 feet) and lot width (60 feet). Lastly, single family residential land uses are a permitted use on the R-1 zone, therefore, the project remains consistent with the Zoning Ordinance.

Finding 3: The proposed extension of time for TTM No. 33840 does not adversely affect the general health, safety and welfare of the public.

Evidence: The proposed extension of time does not adversely affect the general health, safety and welfare of the public as the originally approved tract map remains in compliance with all the required design and development standards of the R-1 (One-Family Dwelling) zone, and appropriate mitigation for the project's environmental impacts have been imposed on the project. As there have been no amendments to the R-1 zone since approval of the tract map, the original development standards remain the same. Further, the design of the subdivision remains in conformance with the City's General Plan and Subdivision Ordinance. The design and construction of all improvements related to the proposed project remain as originally conditioned which are intended to protect the general health, safety and welfare of the public.

Finding 4: The Applicant submitted the EOT application and required fees prior to the expiration of Tentative Tract Map No. 33840.

Evidence: The Applicant submitted the EOT application and paid the required fees on March 6, 2023 in advance of the March 23, 2023 expiration date. Considering this fact, the proposed request for a 2-year extension of time meets this finding.

SECTION 3. PLANNING COMMISSION ACTION

The Planning Commission of the City of Wildomar, based on the criteria/findings above, hereby adopts PC Resolution No. 2023-10 approving a 2-year extension of time to March 23, 2025 for Tentative Tract Map No. 33840 (PA 23-0019), subject to the updated conditions of approval, attached hereto as Exhibit 1 to this Resolution.

PASSED, APPROVED AND ADOPTED this 5th day of April, 2023 by the following vote:

AYES.

NOES:

ABSENT:

RECUSED:

_____
Kim L. Strong
Planning Commission Chair

ATTEST:

_____
Matthew C. Bassi
Community Development Director/Minutes Secretary

APPROVED AS TO FORM:

_____
Stephanie Gutierrez
Assistant City Attorney

EXHIBIT 1
Conditions of Approval for TM 33840 (Updated)

ATTACHMENT A – EXHIBIT 1 ELM STREET RESIDENTIAL – CONDITIONS OF APPROVAL			
Project No.: Tentative Tract Map No. 33840 – EOT #2 (PA 23-0019)			
APN: 376-043-027			
~~**TTM No. 33840 Original CC Approval Date: Sept. 23, 2015**~~ ~~**EOT #1 PC Approval Date: October 3, 2018**~~ ~~**AB 1561 Auto-Extension Date: January 1, 2021 (18 months)**~~ **EOT #2 PC Approval Date: April 5, 2023**	~~**TTM No. 33840 Original Expiration Date: Sept. 23, 2018**~~ ~~**EOT #1 Expiration Date - September 23, 2021**~~ ~~**AB 1561 Auto Expiration Date: March 23, 2023**~~ **EOT #2 Expiration Date: March 23, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
PLANNING DEPARTMENT CONDITIONS			
Standard / General Conditions			
1. ~~In compliance with Section 15094 of the CEQA Guidelines, a Notice of Determination (NOD) shall be filed with the Riverside County Clerk within five (5) working days of project approval by the City Council. The notice shall include the required California Department of Fish and Wildlife (Fish and Game Code Section 711.4.d.3) fee, and the Riverside County Clerk administrative fee (paid by the applicant) in the amount of **$2,260.00**. 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)). The above fee shall be provided to the Planning Department no later than **September 23, 2015** and is broken down as follows:~~ ~~**a. California Department of Fish and Wildlife = $2,210.00**~~ ~~**b. Riverside County Clerk Administrative Fee = $50.00**~~	~~Sept. 23, 2015~~	~~Planning Department~~	Matthew Bassi
2. *The applicant shall review and sign below verifying the "Acceptance of the Updated Conditions of Approval" and return the signed page to the Wildomar Planning Department within two weeks of Planning Commission approval of EOT #2.* *Applicant Signature* *Date*	*April 19, 2023*	*Planning Department*	

ATTACHMENT A – EXHIBIT 1 ELM STREET RESIDENTIAL – CONDITIONS OF APPROVAL			
Project No.: Tentative Tract Map No. 33840 – EOT #2 (PA 23-0019)			
APN: 376-043-027			
~~**TTM No. 33840 Original CC Approval Date: Sept. 23, 2015**~~ ~~**EOT #1 PC Approval Date: October 3, 2018**~~ ~~**AB 1561 Auto-Extension Date: January 1, 2021 (18 months)**~~ **EOT #2 PC Approval Date: April 5, 2023**	~~**TTM No. 33840 Original Expiration Date: Sept. 23, 2018**~~ ~~**EOT #1 Expiration Date - September 23, 2021**~~ ~~**AB 1561 Auto Expiration Date: March 23, 2023**~~ **EOT #2 Expiration Date: March 23, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
3.	The applicant shall indemnify, protect, defend, and hold harmless, the City, 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 Section 1085 or 1094.5, 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	Ongoing	Planning Department	

ATTACHMENT A – EXHIBIT 1 ELM STREET RESIDENTIAL – CONDITIONS OF APPROVAL			
Project No.: Tentative Tract Map No. 33840 – EOT #2 (PA 23-0019)			
APN: 376-043-027			
~~**TTM No. 33840 Original CC Approval Date: Sept. 23, 2015**~~ ~~**EOT #1 PC Approval Date: October 3, 2018**~~ ~~**AB 1561 Auto-Extension Date: January 1, 2021 (18 months)**~~ **EOT #2 PC Approval Date: April 5, 2023**	~~**TTM No. 33840 Original Expiration Date: Sept. 23, 2018**~~ ~~**EOT #1 Expiration Date - September 23, 2021**~~ ~~**AB 1561 Auto Expiration Date: March 23, 2023**~~ **EOT #2 Expiration Date: March 23, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
	Applicant for attorneys' fees, costs and expenses it has incurred related to its defense of any Action and 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.	*Extension of Time #2 for Tentative Tract Map No. 33840 shall expire on March 23, 2025 if the final tract map has not been approved by City Council and recorded with the Riverside County Clerk. The applicant may submit a request for a 3rd (and final) Extension of Time with the Planning Department as permitted Chapter 16.12.240 of the WMC provided a written request and processing fee is made before March 23, 2025.*	*March 23, 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 to the Applicant that the 90-day appeal hereby begins with approval of this project.~~	~~December 23, 2015~~	~~Planning Department~~	Matthew Bassi
6.	~~Within 90 days of approval of Tentative Tract Map No. 33840 by the City Council, the applicant shall pay any outstanding deposit account balances. Failure to pay the outstanding balance by the due date will~~	~~December 23, 2015~~	~~Planning Department~~	Matthew Bassi

ATTACHMENT A – EXHIBIT 1 ELM STREET RESIDENTIAL – CONDITIONS OF APPROVAL			
Project No.: Tentative Tract Map No. 33840 – EOT #2 (PA 23-0019)			
APN: 376-043-027			
~~**TTM No. 33840 Original CC Approval Date: Sept. 23, 2015**~~ ~~**EOT #1 PC Approval Date: October 3, 2018**~~ ~~**AB 1561 Auto-Extension Date: January 1, 2021 (18 months)**~~ **EOT #2 PC Approval Date: April 5, 2023**	~~**TTM No. 33840 Original Expiration Date: Sept. 23, 2018**~~ ~~**EOT #1 Expiration Date - September 23, 2021**~~ ~~**AB 1561 Auto Expiration Date: March 23, 2023**~~ **EOT #2 Expiration Date: March 23, 2025**		
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	~~result in delays in the processing of the final tract map & improvement plans.~~			
7.	~~Tentative Tract Map No. 33840 shall not become effective until 30 days after the second reading of the proposed Change of Zone No. 08-0154 by the City Council. No recordation of the final map shall occur until after this date.~~	~~November 14, 2015~~		Matthew Bassi
8.	The project shall be subdivided and developed in accordance with the Tentative Tract Map approved by the City Council on September 23, 2015. The applicant may request a modification/revision to the approved project as outlined in Sections 16.12.210 and 16.12.220 of the Wildomar Subdivision Ordinance.	Ongoing	Planning Department	
CEQA IS/MND Mitigation Measures (Remain in Full Force and Effect for EOT #2)				
9.	**BIO-1** All developers of the proposed project site shall conduct construction and clearing activities outside of the avian nesting season (January 15–August 31), where feasible. If clearing and/or construction activities occur during the nesting season, preconstruction surveys for nesting raptors, migratory birds, and special-status resident birds (e.g., coastal California gnatcatcher) shall be conducted by a qualified biologist, up to 14 days before initiation of construction activities. The qualified biologist shall survey the construction zone and a 250-foot radius surrounding the construction zone to determine whether the activities may have the potential to disturb or otherwise harm nesting birds. If an active nest is located within 100 feet (250 feet for raptors) of construction activities, the project applicant shall establish an exclusion	The project applicant shall incorporate requirements into all rough and/or precise grading plan documents. The project applicant's construction inspector shall monitor to ensure	City of Wildomar Planning and Public Works Departments	

	zone (no ingress of personnel or equipment at a minimum radius of 100 feet or 250 feet, as appropriate, around the nest). Alternative exclusion zones may be established through consultation with the CDFW and the USFWS, as necessary. The exclusion zones shall remain in force until all young have fledged. Reference to this requirement and to the Migratory Bird Treaty Act shall be included in the construction specifications. If construction activities or tree removal are proposed to occur during the non-breeding season (September 1–January 14), a survey is not required, no further studies are necessary, and no mitigation is required.	that measures are implemented during construction.		
10.	**BIO-2** Per MSHCP Species-Specific Objective 6, reconstruction presence/absence surveys for burrowing owl within the survey area, where suitable habitat is present, will be conducted for all covered activities through the life of the building permit. Surveys will be conducted 30 days prior to disturbance. Take of active nests will be avoided. Passive relocation (use of one-way doors and collapse of burrows) will occur when owls are present outside the nesting season. If construction is delayed or suspended for more than 30 days after the survey, the area shall be resurveyed. Surveys shall be completed for occupied burrowing owl burrows within all construction areas and within 150 meters (500 feet) of the project work areas (where possible and appropriate based on habitat). All occupied burrows will be mapped on an aerial photo.	Thirty days prior to any vegetation removal or ground-disturbing activities	City of Wildomar Planning and Public Works Departments	

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11.	**BIO-3** If burrowing owls are identified during the survey period, the City shall require the project applicant to take the following actions to offset impacts prior to ground disturbance: Active nests within the areas scheduled for disturbance or degradation shall be avoided from February 1 through August 31, and a minimum 75-meter (250-foot) buffer shall be provided until fledging has occurred. Following fledging, owls may be passively relocated (use of oneway doors and collapse of burrows) by a qualified biologist. If impacts on occupied burrows in the non-nesting period are unavoidable, on-site passive relocation techniques may be used if approved by the CDFW to encourage owls to move to alternative burrows outside of the impact area. However, no occupied burrows shall be disturbed during the nesting season. A qualified biologist must verify through noninvasive methods that the burrow is no longer occupied. If relocation of the owls is approved for the site by the CDFW, the City shall require the developer to hire a qualified biologist to prepare a plan for relocating the owls to a suitable site. The relocation plan must include all of the following: • The location of the nest and owls proposed for relocation. • The location of the proposed relocation site. • The number of owls involved and the time of year when the relocation is proposed to take place. • The name and credentials of the biologist who will be retained to supervise the relocation. • The proposed method of capture and transport for the owls to the new site.	Prior to any vegetation removal or ground-disturbing activities	City of Wildomar Planning and Public Works Departments	

	• A description of site preparation at the relocation site (e.g., enhancement of existing burrows, creation of artificial burrows, one-time or long-term vegetation control). • A description of efforts and funding support proposed to monitor the relocation. If paired owls are present within 50 meters (160 feet) of a temporary project disturbance (e.g., parking areas), active burrows shall be protected with fencing/cones/flagging and monitored by a qualified biologist throughout construction to identify losses from nest abandonment and/or loss of reproductive effort. Any identified loss shall be reported to the CDFW.			
12.	**CUL-1** If during grading or construction activities cultural resources are discovered on the project site, work shall be halted immediately within 50 feet of the discovery and the resources shall be evaluated by a qualified archeologist and the Pechanga Tribe (Tribe). Any unanticipated cultural resources that are discovered shall be evaluated in the final report prepared by the qualified archeologist. The report shall include a list of the resources discovered, documentation of each site/locality, and interpretation of the resources identified, and the method of preservation and/or recovery for identified resources. In the event the significant resources are recovered and if the qualified archaeologist and the Tribe determines the resources to be historic or unique, avoidance and/or mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4 and Public Resources Code Section 21083.2 and the Cultural Resources	As a condition of future development approval, and implemented during ground-disturbing construction activities	City of Wildomar Building & Safety and Planning Departments	

	Treatment and Monitoring Agreement required by mitigation measure CUL-2.			
13.	**CUL-2** At least 30 days prior to seeking a grading permit, the project applicant(s) shall contact the Pechanga Tribe to notify the Tribe of grading, excavation, and the monitoring program and to coordinate with the City of Wildomar and the Tribe to develop a Cultural Resources Treatment and Monitoring Agreement. The agreement shall include, but not be limited to, outlining provisions and requirements for addressing the treatment of cultural resources; project grading and development scheduling; terms of compensation for the monitors; treatment and final disposition of any cultural resources, sacred sites, and human remains discovered on the site; and establishing on-site monitoring provisions and/or requirements for professional Tribal monitors during all ground-disturbing activities. A copy of this signed agreement shall be provided to the Planning Director and Building Official prior to the issuance of the first grading permit.	Prior to the issuance of a grading permit	City of Wildomar Public Works and Planning Departments	
14.	**CUL-3** If human remains are encountered, California Health and Safety Code Section 7050.5 requires that no further disturbance occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources 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 24 hours. Subsequently, the Native American Heritage	As a condition of project approval, and implemented during ground-disturbing construction	City of Wildomar Public Works and Planning Departments	

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	Commission shall identify the "most likely descendant" within 24 hours of receiving notification from the coroner. The most likely descendant shall then have 48 hours to make recommendations and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.			
15.	**CUL-4** All cultural materials, with the exception of sacred items, burial goods, and human remains, which will be addressed in the Cultural Resources Treatment and Monitoring Agreement required by mitigation measure CUL-2, that are collected during the grading monitoring program and from any previous archeological studies or excavations on the project site shall be curated according to the current professional repository standards. The collections and associated records shall be transferred, including title, to the Pechanga Tribe's curation facility, which meets the standards set forth in 36 CRF Part 79 for federal repositories.	As a condition of project approval, and implemented during ground-disturbing construction activities	City of Wildomar Public Works and Planning Departments	
16.	**CUL-5** All sacred sites, should they be encountered within the project site, shall be avoided and preserved as the preferred mitigation, if feasible as determined by a qualified professional in consultation with the Pechanga Tribe. To the extent that a sacred site cannot be feasibly preserved in place or left in an undisturbed state, mitigation measures shall be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4.	As a condition of project approval, and implemented during ground-disturbing construction activities	City of Wildomar Public Works and Planning Departments	

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17.	**CUL-6** If inadvertent discoveries of subsurface archaeological resources are discovered during grading, work shall be halted immediately within 50 feet of the discovery. The developer, the project archeologist, and the Tribe shall assess the significance of such resources and shall meet and confer regarding the mitigation for such resources. If the developer and the Tribe cannot agree on the significance of or the mitigation for such resources, these issues will be presented to the City of Wildomar Planning Director. The Planning Director shall make the determination based on the provisions of CEQA with respect to archaeological resources and shall take into account the religious beliefs, customs, and practices of the Pechanga Tribe. Notwithstanding any other rights available under the law, the decision of the Planning Director shall be appealable to the City of Wildomar. In the event the significant resources are recovered and if the qualified archaeologist determines the resources to be historic or unique as defined by relevant state and local law, avoidance and mitigation would be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4.	As a condition of future development approval, and implemented during ground-disturbing construction activities	City of Wildomar Public Works and Planning Departments	
18.	**CUL-7** To address the possibility that cultural resources may be encountered during grading or construction, a qualified professional archeologist shall monitor all construction activities that could potentially impact archaeological deposits (e.g., grading, excavation, and/or trenching). However, monitoring may be discontinued as soon the qualified professional is satisfied that construction will not disturb cultural and/or paleontological archaeological resources. A final mitigation monitoring report shall be prepared by the archaeologist	As a condition of future development approval, and implemented during ground-disturbing construction activities	City of Wildomar Engineering and Planning Departments	

	documenting any resources found, their treatment, ultimate disposition, new or updated site records and any other pertinent information associated with the project. Final copies of the report will be submitted to the City of Wildomar, the developer, the Eastern Information Center, and the Pechanga Tribe.			
19.	**GEO-1** Prior to the construction of any home on the proposed project site, the soils below the building areas and for a horizontal distance beyond the building areas at least equal to the depth of over-excavation below the final ground surface or 5 feet, whichever distance is greater, should be over-excavated to a depth of at least 5 feet below the final ground surface, whichever is deeper. Should competent natural soil be encountered before a depth of 5 feet is reached, the over-excavation can be terminated at that depth as long as there is at least 24 inches of compacted fill below all footings. Competent natural soil is defined as undisturbed material exhibiting a relative compaction of at least 85 percent (ASTM D 1557).	Prior to the issuance of a grading permit	City of Wildomar Public Works and Planning Departments	
20.	**GEO-2** The project applicant shall incorporate the recommendations of the Soils Investigation conducted by John R. Byerly, Inc., (2013; **Appendix 6**) into project plans. The project's building plans shall demonstrate that they incorporate all applicable recommendations of the soils investigation and comply with all applicable requirements of the latest adopted version of the California Building Code. A licensed professional engineer shall prepare the plans, including those that pertain to soil engineering, structural foundations, and installation. All	Prior to the issuance of a grading permit	City of Wildomar Public Works and Planning Departments	

	on-site soil engineering activities shall be conducted under the supervision of a licensed geotechnical engineer or certified engineering geologist.			
21.	**NOI-1** The applicant shall require by contract specifications that the following construction best management practices (BMPs) be implemented by contractors to reduce construction noise levels: a) Notification shall be mailed to owners and occupants of all developed land uses immediately bordering the project site, immediately across the Murrieta Creek Channel from the project site, and directly across the street from the project site providing a schedule for major construction activities that will occur for the duration of the construction period. In addition, the notification will include the identification of and contact number for a community liaison and a designated construction manager who would be available on-site to monitor construction activities. The construction manager will be located at the on-site construction office during construction hours for the duration of all construction activities. Contact information for the community liaison and the construction manager will be located at the construction office, City Hall, and the police department. b) Site grading and excavation activity shall be limited to weekdays between 9:00 a.m. and 4:00 p.m., and no construction activities shall occur on Saturdays, Sundays, or federally recognized holidays. c) The construction contractor shall utilize grading and excavation equipment that is certified to generate noise levels of no more than 85 dBA at a distance of 50 feet.	Prior to any earth movement permit or activity	City of Wildomar Building and Planning Departments	

	d) All construction equipment shall be properly maintained with operating mufflers and air intake silencers as effective as those installed by the original manufacturer. e) The construction contractor shall erect a temporary noise construction barrier along the southwestern, northwestern, and western perimeters of the project site. If a temporary construction barrier is deemed technically infeasible, the contractor shall construct a masonry wall along the southern and western perimeters of the project prior to any other phase of construction activity, including site grading. The applicant shall demonstrate that the temporary barrier achieves a noise reduction of at least 5 decibels during construction activities. f) The construction contractor shall evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets, for example, and implement such measures if such measures are feasible and would noticeably reduce noise impacts. g) The construction contractor shall monitor the effectiveness of noise attenuation measures by taking noise measurements.			
Prior to Final Map Approval / Recordation of the Final Map				
22.	Prior to approval of the final tract map for TTM No. 33840, a copy of the proposed Covenants, Conditions, and Restrictions (CC&Rs) shall be submitted to the Planning Director and City Attorney for review and approval. The CC&Rs 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	Prior to Final Map Approval	Planning Department	

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	parkways, as well as a provisions indicating that the homeowners association may not be terminated or dissolved without the permission of the City. The CC&Rs 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.			
23.	Prior to recordation of the final tract map, all Riverside County Fire Department conditions shall be complied with. The applicant shall provide written verification that all applicable conditions have been met.	Prior to Recordation of Final Map	Planning Department	
24.	Prior to recordation of the final tract map, the Applicant agrees to, and shall record, a covenant or deed restriction on the Property which restricts development of the site to traditional single family "stick-built" dwelling units or "prefab" homes on a permanent foundation, and which also prohibits "mobile homes" from being built on the project site. The Applicant shall hereby further name the City as a beneficiary with the ability to enforce the covenant or deed restriction during the Final Site Plan of Development (FSPOD) process required in Condition No. 25 below. ***(Added by the City Council on 9/23/15)***	Prior to Recordation of Final Map	Planning and Engineering Depts.	
Prior to Issuance of Building Permits				
25.	Prior to the development of any homes within the boundaries of Tentative Tract Map No. 33840, the applicant shall submit a Final Site Plan of Development (FSPOD) for review and approval by the Planning Department. As proposed by the Applicant, Tentative Tract Map No. 33840 shall only include one-story single family residential dwellings.	Prior to Issuance of a Building Permit	Planning Department.	

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	The FSPOD shall be accompanied by the applicable application and processing review fee and include all the required information including 2 sets of detailed landscape and irrigation plans (which shall be designed to meet all requirements of Section 17.276 - Water Efficient Landscapes, and any future water conservation measures adopted by the City prior to development of the site). Further, the FSPOD landscaping plans shall be prohibited from using front yard turf and shall be required to utilize drought-tolerant landscaping and drip irrigation in accordance with city requirements.			
PUBLIC WORKS/ENGINEERING/BUILDING DEPARTMENT CONDITIONS			
General Requirements/Conditions			
26.	The developer shall obtain City approval for any modifications or revisions to the approval of this project. 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 Dept.	
27.	No grading shall be performed without the prior issuance of a grading permit by the City.	On-Going	Engineering Dept.	
28.	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 Dept.	
29.	The developer/owner or contractor shall apply for an Encroachment Permit for work performed within the public right of way. Compliance	On-Going	Public Works	

	with current environmental regulations applies and additional studies and/or permits may be required.			
30.	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.	On-Going	Public Works	
31.	Storm water and non-storm water discharges from the project site shall be mitigated in conformance with the applicable Regional Water Quality Control Board permit(s) and/or site specific SWPPP prior to entering into the MS4s.	On-Going	Engineering Dept.	
32.	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 Dept.	
33.	The developer/owner/tenant shall comply with all applicable laws and regulations regarding the proper disposal of waste materials generated from the construction of the development.	On-Going	Engineering Dept.	
34.	The Developer shall dedicate, design and construct all improvements in accordance 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.	On-Going	Engineering Dept.	

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35.	The Developer shall be responsible for all costs associated with off-site right-of-way acquisition, including any costs associated with the eminent domain process, if necessary.	On-Going	Engineering Dept.	
36.	All grading shall conform to the California Building Code, including Appendix J, 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 Department.	On-Going	Engineering Dept.	
37.	All necessary measures to control dust shall be implemented by the developer during grading shall comply with SCAQMD fugitive dust rules and regulations and to the satisfaction of the City Engineer.	On-Going	Engineering Dept.	
38.	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 Dept.	
39.	Grading in excess of 199 cubic yards will require performance security to be posted with the City.	On-Going	Engineering Dept.	
40.	All retaining walls shall require a separate permit from the Building Department.	On-Going ALL PHASES	Building Dept.	
41.	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	On-Going	Engineering Dept. Planning Dept.	ALL PHASES

	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 additional shrubs or trees or as approved by the City Engineer and Planning Director.			
42.	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 Dept.	
43.	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 Map Recordation	Engineering Dept.	
44.	The developer shall design and construct all driveways in accordance with the City of Wildomar Improvement Standards.	On-Going	Engineering Dept.	
45.	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 Dept.	
46.	All above-ground utilities, including but not limited to communication and power that are 33KV in size or less, shall be undergrounded by the	On-Going	Engineering Dept.	

	developer in accordance with City requirements. The undergrounding of utilities shall be reflected on the project improvement plans.			
47.	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 Dept.	
Prior to the Issuance of Grading Permits				
48.	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 Dept.	
49.	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 Dept.	
50.	The project specific SWPPP and an Erosion/Sediment Control plan shall be approved by the City Engineer.	Prior to Issuance of a Grading Permit	Engineering Dept.	
51.	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	Prior to Issuance of a Grading Permit	Engineering Dept.	

	Control Board (SWRRCB); and, reference the WDID number on the improvement/grading plans.			
52.	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 be submitted to the Planning Director for review and comment and to the City Engineer for approval.	Prior to Issuance of a Grading Permit	Engineering Dept.	
53.	A licensed engineer shall prepare and submit a Water Quality Management Plan (WQMP) Applicability Checklist; determine if a WQMP is applicable for this project; and, sign and stamp the WQMP checklist with their license seal.	Prior to Issuance of a Grading Permit	Engineering Dept.	
54.	If the WQMP is required, a Final Water Quality Management Plan (WQMP) conforming to the Preliminary WQMP shall be prepared and submitted for review, in conformance with the requirements of the San Diego and/or Santa Ana Regional Water Quality Control Board. Applicant shall confirm the watershed requirements relative to their project location. The Final WQMP shall be approved by the City Engineer prior to issuance of a grading permit. All stormwater quality treatment devices shall be located outside of the ultimate public right of way. The developer shall design the stormwater quality treatment devices to accommodate all project runoff, ensuring post-construction flows and volumes do not exceed pre-construction levels, in accordance with City of Wildomar's Hydrology Manual, Stormwater Quality Best Management Practice Design Handbook, Improvement Standards, and	Prior to Issuance of a Grading Permit	Engineering Dept.	

	to the satisfaction of the City Engineer. These BMPs shall be consistent with the Final WQMP and installed and maintained to the satisfaction of the City Engineer.			
55.	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 Dept.	
56.	A Grading Agreement shall be approved by the City Council and/or City Council.	Prior to Issuance of a Grading Permit	Engineering Dept.	
57.	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. If the development requires Basins, the study shall also: 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	Prior to Issuance of a Grading Permit	Engineering Dept.	

	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.			
58.	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 the 1st Improvement Plan submittal	Engineering Dept.	
Prior to Final Map Approval / Recordation of the Final Map				
59.	Improvement plans shall be prepared, processed, and approved. Construct the improvements; or execute an Improvement Agreement and Improvement Security. This condition shall be in conformance with local regulations and the Subdivision Map Act.	Prior to Final Map Approval ALL PHASES	Engineering Dept.	
60.	The developer shall dedicate, design and construct the northern half - section of Central Avenue, measured, fifty feet (50') from the approved centerline. Right of way will be based on a one-hundred foot (100') secondary highway, Standard No. 94, in accordance with the City of Wildomar Improvement Standards & Specifications and to the	Prior to Recordation of Final Map or First Building Permit	Engineering Dept.	

	satisfaction of the City Engineer. Modify eighteen foot (18') parkway strip to accommodate a curb adjacent eight foot (8') wide sidewalk and a right of way adjacent eight foot (8') wide D.G. multiuse trail. The sidewalk and trail shall be separated by a lodge pine two rail fence. Improvements may be satisfied by an in-lieu cash payment based on City of Wildomar Bond Unit costs.			
61.	The developer shall dedicate, design and construct the southern half - section of Gruwell Street, measured, fifty feet (50') from the approved centerline. Right of way will be based on a one-hundred foot (100') secondary highway, Standard No. 94, in accordance with the City of Wildomar Improvement Standards & Specifications and to the satisfaction of the City Engineer. Modify eighteen foot (18') parkway strip to accommodate a curb adjacent eight foot (8') wide sidewalk and a right of way adjacent eight foot (8') wide D.G. multiuse trail. The sidewalk and trail shall be separated by a lodge pine two rail fence. Improvements may be satisfied by an in-lieu cash payment based on City of Wildomar Bond Unit costs.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept.	
62.	Access from Central Avenue to "A" Street is limited to right in only with appropriate traffic control measures to the satisfaction of the City Engineer.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept.	
63.	Access to Gruwell Street from "A" Street is limited to right out only with appropriate traffic control measures to the satisfaction of the City Engineer.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept.	

64.	Appropriate offsite transitions shall be designed on Central Avenue and Gruwell Street to accommodate the interim improvements at "A" Street in accordance with the City of Wildomar Improvement Standards & Specifications and to the satisfaction of the City Engineer.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept.	
65.	The developer shall dedicate, design and construct "A" Street as a one-way street from Central Avenue to Gruwell Street based on a thirty foot (30') right of way; twenty-six foot (26') wide curb to curb; concrete rolled curbs; and, a four foot (4') wide landscaped parkway, in accordance with the City of Wildomar Road Improvement Standards & Specification to the satisfaction of the City Engineer. Pavement design shall be based on a TI of 5.5.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept.	
66.	The developer shall dedicate, design and construct streetlights at the intersection(s) of "A" Street with Central Avenue and Gruwell Street in accordance with the 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 Recordation of Final Map or First Building Permit	Engineering Dept.	
67.	The developer shall dedicate a public utility easement adjacent to all public and private streets for overhead and/or underground facilities and appurtenances to the satisfaction of the City Engineer.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept.	
68.	The developer shall design the underground utilities in "A" street to accommodate a future forty-eight inch (48") diameter storm drain from Elm Street to Central Avenue . The developer shall dedicate a thirty-six foot (36') wide storm drainage easement along the southerly boundary of Lot 15 for a future forty-eight inch (48") diameter storm drain.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept.	

ATTACHMENT A – EXHIBIT 1 ELM STREET RESIDENTIAL – CONDITIONS OF APPROVAL			
Project No.: Tentative Tract Map No. 33840 – EOT #2 (PA 23-0019)			
APN: 376-043-027			
~~**TTM No. 33840 Original CC Approval Date: Sept. 23, 2015**~~ ~~**EOT #1 PC Approval Date: October 3, 2018**~~ ~~**AB 1561 Auto-Extension Date: January 1, 2021 (18 months)**~~ **EOT #2 PC Approval Date: April 5, 2023**	~~**TTM No. 33840 Original Expiration Date: Sept. 23, 2018**~~ ~~**EOT #1 Expiration Date - September 23, 2021**~~ ~~**AB 1561 Auto Expiration Date: March 23, 2023**~~ **EOT #2 Expiration Date: March 23, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
69.	The developer shall submit landscaping and irrigation plans within the public right-of-way to the Planning Department. These plans shall include water usage calculations, estimate of irrigation and the location of all existing trees that will remain. All plans and calculations shall be designed and calculated per the City of Wildomar Road Improvement Standards & Specification, Improvement Plan Check Policies and Guidelines, City Codes and to the satisfaction of the City Engineer. Improvements on Central and Gruwell may be satisfied by an in-lieu cash payment based on City of Wildomar Bond Unit costs.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept. Planning Dept.	
70.	The developer shall submit to the City Engineer traffic control plans along Central Avenue and Gruwell Street to ensure the continued flow of traffic during construction.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept. Public Works Dept.	
71.	The developer shall execute a maintenance agreement for the stormwater quality control treatment device to the satisfaction of the City Engineer. The condition is satisfied if the Developer includes the maintenance of the related facilities in the CFD Services District.	Prior to Recordation of Final Map or First Building Permit	Engineering Dept.	
Prior to Issuance of Building Permits			
72.	The developer/owner shall obtain a grading permit and/or approval to construct from the City Engineer.	Prior to Issuance of a Building Permit	Building Dept. Engineering Dept.	
73.	Improvement plans shall be approved by the City Engineer and all improvements to be constructed shall be secured by the Developer.	Prior to Issuance of a Building Permit	Building Dept. Engineering Dept.	

74.	The developer shall provide will serve letters from the appropriate water and sewer agencies.	Prior to Issuance of a Building Permit	Building Dept.	
75.	The developer shall provide approval letter from Fire Department for fire water service.	Prior to Issuance of a Building Permit	Building Dept. Fire Dept.	
76.	The developer shall install all street name signs at intersections adjacent to the project, public or private and/or replace street name signs in accordance with the City of Wildomar Standard Details and to the satisfaction of the City Engineer.	Prior to Issuance of a Building Permit	Public Works Dept.	
77.	The developer shall annex into the CFD Services District to offset development related costs for maintenance and services.	Prior to Issuance of a Building Permit	Engineering Dept.	
78.	The developer/applicant shall demonstrate that all development related fees, impact fees, and mitigation fees have been satisfactorily paid.	Prior to Issuance of a Building Permit	Building Dept.	
79.	Prior to issuance of a building permit the developer shall pay all fees in accordance with Zone A of the Southwest Road and Bridge Benefit District.	Prior to Issuance of a Building Permit	Building Dept.	
80.	The developer shall pay the appropriate impact mitigation fee to the Riverside County Flood Control and Water Conservation District.	Prior to Issuance of a Building Permit	Building Dept.	
81.	The developer shall pay all necessary impact and mitigation fees required. These fees include, but are not limited to, fees associated with Transportation Uniform Mitigation Fee (TUMF), Quimby (parkland in-lieu) Fee, and City Development Impact Fees.	Prior to Issuance of a Building Permit or Certificate of Occupancy	Building Dept.	
82.	The developer shall construct the stormwater quality treatment devices to accommodate all project runoff from in accordance with City of	Prior to Issuance of a Building Permit	Building Dept.	

	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.			
RIVERSIDE COUNTY FIRE DEPARTMENT				
General Conditions				
83.	10.FIRE.999PC #01 – West Fire Protection Planning Office Responsibility	On-Going	Fire Department	
84.	10.FIRE.999 CASE – CITY CASE STATEMENT With respect to the conditions of approval for the referenced project, the Fire Department recommends the following fire protection measures be provided In accordance with Riverside County Ordinances and /or recognized fire protection standards	On-Going	Fire Department	
85.	10.FIRE.999 MAP #50 – BLUE DOT REFLECTORS Blue retro-reflective pavement markers shall be mounted on private streets, public streets, and driveways to indicate location of fire hydrants. Prior to installation, placement of markers must be approved by the Riverside County Fire Department.	On-Going	Fire Department	

86.	10. FIRE.999 MAP #16 – HYDRANT/SPACING Schedule A fire protection approved standard fire hydrants (6"x 4"x 2 ½"): locate one at each street intersection and space no more than 500 feet apart in any direction, with no portion of any lot frontage more than 250 feet from hydrant. Minimum fire flow shall be 1000 GPM for 2 hours duration at 20 PSI. Shall include perimeter streets at each intersection and spaced 660 feet apart.	On-Going	Fire Department	
Prior to Final Map Recordation				
87.	50.FIRE.999 MAPS #46 – WATER PLANS The applicant or developer shall furnish one copy of the water system plans to the Fire Department for review. Plans shall be signed by a registered civil engineer, containing a Fire Department approval signature block, and shall conform to hydrant type, location, spacing, and minimum fire flow. Once plans are signed by local water company, the originals shall be presented to the Fire Department for signature.	Prior to Final Map Recordation	Fire Department	
88.	50.FIRE.999 MAP#53 – ECS-WTR PRIOR/COMBUS ECS map must be stamped by Riverside County Surveyor with the following note: The required water system, including fire hydrants, shall be installed and accepted by the appropriate water agency prior to any combustible building material placed on an individual lot.	Prior to Final Map Recordation	Fire Department	
Prior to Issuance of Building Permits				
89.	80.FIRE.999 MAP #50C – TRACT WATER VERIFICATION The required water system, including all fire hydrant(s), shall be installed and accepted by the appropriate water agency and the Riverside County	Prior to Issuance of Building Permits	Fire Department	

ATTACHMENT A – EXHIBIT 1 ELM STREET RESIDENTIAL – CONDITIONS OF APPROVAL			
Project No.: Tentative Tract Map No. 33840 – EOT #2 (PA 23-0019)			
APN: 376-043-027			
~~**TTM No. 33840 Original CC Approval Date: Sept. 23, 2015**~~ ~~**EOT #1 PC Approval Date: October 3, 2018**~~ ~~**AB 1561 Auto-Extension Date: January 1, 2021 (18 months)**~~ **EOT #2 PC Approval Date: April 5, 2023**	~~**TTM No. 33840 Original Expiration Date: Sept. 23, 2018**~~ ~~**EOT #1 Expiration Date - September 23, 2021**~~ ~~**AB 1561 Auto Expiration Date: March 23, 2023**~~ **EOT #2 Expiration Date: March 23, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
	Fire Department prior to any combustible building material placed on an individual lot. Contact the Riverside County Fire Department to inspect the required fire flow, street signs, all-weather surface, and all access and/or secondary. Approved water plans must be at the job site.			
Prior to Final Inspection			
90.	90. FIRE.999 MAP – RESIDENTIAL FIRE SPRINKLER Residential fire sprinklers are required in all one- and two-family dwellings per the California Residential Code, California Building Code, and California Fire Code. Install fire sprinkler systems per NFPA 13D, 2010 Edition. Plans must be submitted to the Fire Department for review and approval prior to installation.	Prior to Final Inspection	Fire Department	

END

CITY OF WILDOMAR
INITIAL STUDY/MND FOR
ELM STREET TENTATIVE TRACT MAP
TENTATIVE TRACT MAP NO. 33840

Planning Application No. 08-0154

Lead Agency:

CITY OF WILDOMAR
23873 CLINTON KEITH ROAD, SUITE 201
WILDOMAR, CA 92595

Prepared by:

PMC®

6020 CORNERSTONE COURT WEST, SUITE 260
SAN DIEGO, CA 92121

MARCH 2015

INITIAL STUDY FOR THE

ELM STREET TENTATIVE TRACT MAP MND

TENTATIVE TRACT MAP No. 33840

(Planning Application No. 08-0154)

Lead Agency:

CITY OF WILDOMAR

23873 Clinton Keith Road, Suite 201

Wildomar, CA 92595

Prepared by:

PMC

6020 Cornerstone Court West, Suite 260

San Diego, CA 92121

March 2015

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2 Site Photos

3 Air Quality Annual Modeling

3a Air Quality Summer Modeling

3b Air Quality Winter Modeling

3c Air Quality Model File

4 Habitat Assessment

4a Special-Status Species Known to Occur Near Project Site

4b Special-Status Species Occurrences within 1 Mile

4c Special-Status Species Occurrences within 5 Miles

5 Archeological/Historical Resources Survey

6 Soils Investigation

7 Preliminary Hydrology Study

8 Preliminary Water Quality Management Plan

9 Elm Street Noise Contour-Existing Conditions

Note to Reader: To save natural resources, the appendices are contained on a CD-ROM included with the printed copy of this Initial Study. The appendices are also available in the Environmental Documents Center of the City's Planning Department website (http://www.cityofwildomar.org/planning.asp). Printed copies of the appendices are also available as part of the project file and can be reviewed at the following location:

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

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I. INTRODUCTION AND PROJECT DESCRIPTION

Purpose and Project Overview

This document is an Initial Study evaluating the environmental impacts resulting from the development of a proposed Tentative Tract Map (TTM No. 33840) that would subdivide 4.16 acres into 15 parcels and a change of zone district from the existing zone district of Rural Residential (R-R) to the proposed zone district of One-Family Dwelling (R-1). The change of zone district will make the zoning consistent with the current Medium Density Residential (MDR) General Plan land use designation of the site.

A previous Initial Study was circulated from July 9, 2014, through August 7, 2014. The State Clearinghouse Number is 2014071028. Comments were received on this previous Initial Study; these comments have been incorporated into the current March 2015 Initial Study.

Project Location

The proposed project site is located in the City of Wildomar, California, at the end of Elm Street between Central Street to the northeast and Gruwell Street to the southwest, with the Murrieta Creek Channel drainage course to the northeast. The location of the project site is shown in **Figure 1**. The Riverside County Assessor's Parcel Number (APN) for the project site is 376-043-027.

Project Description

Tentative Tract Map

The applicant is applying for a Tentative Tract Map (TTM No. 33840) to subdivide an existing 4.16-acre parcel into 15 parcels, each meeting or exceeding the 7,200-square-foot minimum lot size required in the One-Family Dwelling (R-1) zone. All 15 parcels are intended for future single-family residential dwelling units. The proposed parcels would be numbered Lots 1 through 15 and are divided as shown in **Table 1-1** below and **Figure 2**.

Table 1-1
Proposed Lot Acreage

Lot Number	Gross Lot Sizes (square feet)
1	9,021
2	8,142
3	8,142
4	8,142
5	8,142
6	8,142
7	8,142
8	8,142
9	8,142
10	8,142
11	8,142
12	8,142
13	8,142
14	8,142
15	12,007

Source: RDS and Associates 2013d

Roadway Access

Direct access to each of the lots created by the proposed project will be via a proposed one-way street (shown as A Street on the tract map) that will be accessed via Central Street to the northeast and Gruwell Street to the southwest. The traffic will flow from Central Street through A Street and onto Gruwell Street.

Water

The proposed project will receive potable water service from the Elsinore Valley Municipal Water District (EVMWD). Connections to the EVMWD water supply will occur at existing water lines in Central Street.

Wastewater

The proposed project will receive wastewater service from the Elsinore Valley Municipal Water District. Connection to the EVMWD wastewater system will occur at an existing 8-inch sewer line in Central Street.

Stormwater

Stormwater currently flows on the surface from the northeast border of the project site at Gruwell Street to the southwest to Central Street. Central Street drains directly into the Murrieta Creek Channel. Stormwater from the proposed project will be directed to flow southwesterly along the proposed A Street to the vegetated swale in Lot 15 adjacent to Central Street. Flows within A Street will be directed to a low point fronting Lot 15. The low point in Street A will be conveyed through a vegetated swale in Lot 15. The filtered flows from the vegetated swale will then drain to the Murrieta Creek Channel.

Other Utilities and Services

Electric, gas, cable, and telecommunications services would be extended underground onto the site from existing lines along Central Street (**Figure 2**). Electricity would be provided by Southern California Edison, natural gas service by the Southern California Gas Company, telecommunications by Verizon, and solid waste removal by Waste Management. The site is located within the boundaries of the Lake Elsinore Unified School District. Local government services are provided by the City of Wildomar. Fire and law enforcement services are provided by the City of Wildomar through contracts with the Riverside County Fire Department and the Riverside County Sheriff's Department.

T:_CS\Work\Wildomar, City of\08-0154 Elm Street Figures

ELM STREET

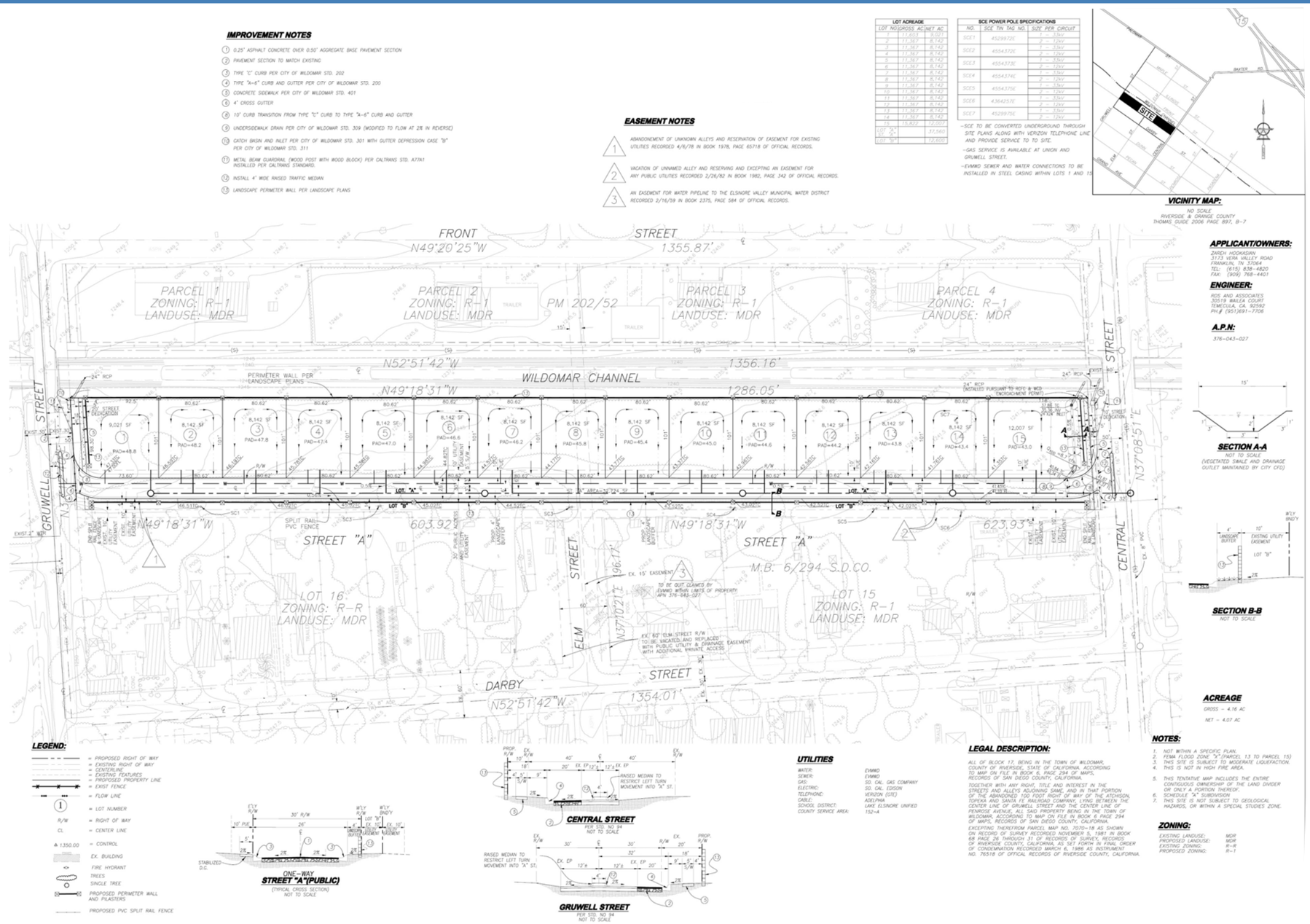
Source: Placeworks 2014 B

300 0 300
FEET
N

Figure 1
Project Location

T:_CS\Work\Wildomar, City of\08-0154 Elm Street Figures\0

ELM STREET



Source: RDS & Associates

40 0 40 80
FEET
N

Figure 2
Tentative Tract Map 33840

II. EXISTING CONDITIONS

Regulatory Setting

The City of Wildomar General Plan land use designation for the project site is Medium Density Residential (MDR), which allows between two and five detached single-family residences per acre on lots ranging from 5,500 to 20,000 square feet in size. The General Plan land use designation for the properties to the northwest of the project site is Low Density Residential (LDR), while the designation for all other properties immediately adjacent to the project site is MDR (**Figure 3**).

The project site is currently zoned Rural Residential (R-R), which allows single-family homes on lot sizes not less than 21,780 square feet. The proposed project includes a change of zone from R-R to One-Family Dwelling (R-1). The R-1 zone district allows single-family dwellings on lot areas not less than 7,200 square feet. The zoning for the properties to the northeast and northwest of the project site is One-Family Dwelling (R-1), with R-R zoning for all other adjacent properties (**Figure 4** and **Figure 5**).

Physical Setting

The project site is relatively flat, with the site's lowest point located at the southeast corner and the highest point at the northwest corner. Elevations on the project site range from approximately 1,242 to 1,249 feet above mean sea level. The project site is currently vacant, unimproved, and a mix of disturbed land and ruderal annual grassland (**Appendix 4**). The southern margin of the site supports exotic woodlands with a scattering of native oak trees. A cement-lined canal carrying Murrieta Creek is located near the northeastern boundary of the site.

III. ENVIRONMENTAL CHECKLIST

BACKGROUND

1. **Project Title:**

   Elm Street Tentative Tract Map (TTM No. 33840) (PA 08-0154)

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

4. **Project Location:**

   Elm Street in the City of Wildomar; Assessor's Parcel Number: 376-043-027; all of block 17, being in the town of Wildomar, County of Riverside According to the Map on file in Book 6, Page 294 of Maps, Records of San Diego County

5. **Project Sponsor's Name and Address:**

   Zareh Hookasian, 3173 Vera Valley Road, Franklin, TN 37064

6. **General Plan Designation:**

   Medium Density Residential (MDR)

7. **Zoning:**

   Rural Residential (R-R)

8. **Description of Project:**

   A Tentative Tract Map (TTM No. 33840) subdividing one existing parcel, totaling 4.16 acres, into 15 parcels and a change of zone from Rural Residential (R-R) to One-Family Dwelling (R-1)

9. **Surrounding Land Uses and Setting:**

   Northeast – Zoning: R-1, One-Family Dwelling; Land Use: MDR, Medium Density Residential

   Southeast – Zoning: R-R, Rural Residential; Land Use: MDR, Medium Density Residential

   Southwest – Zoning: R-R, Rural Residential; Land Use: MDR, Medium Density Residential

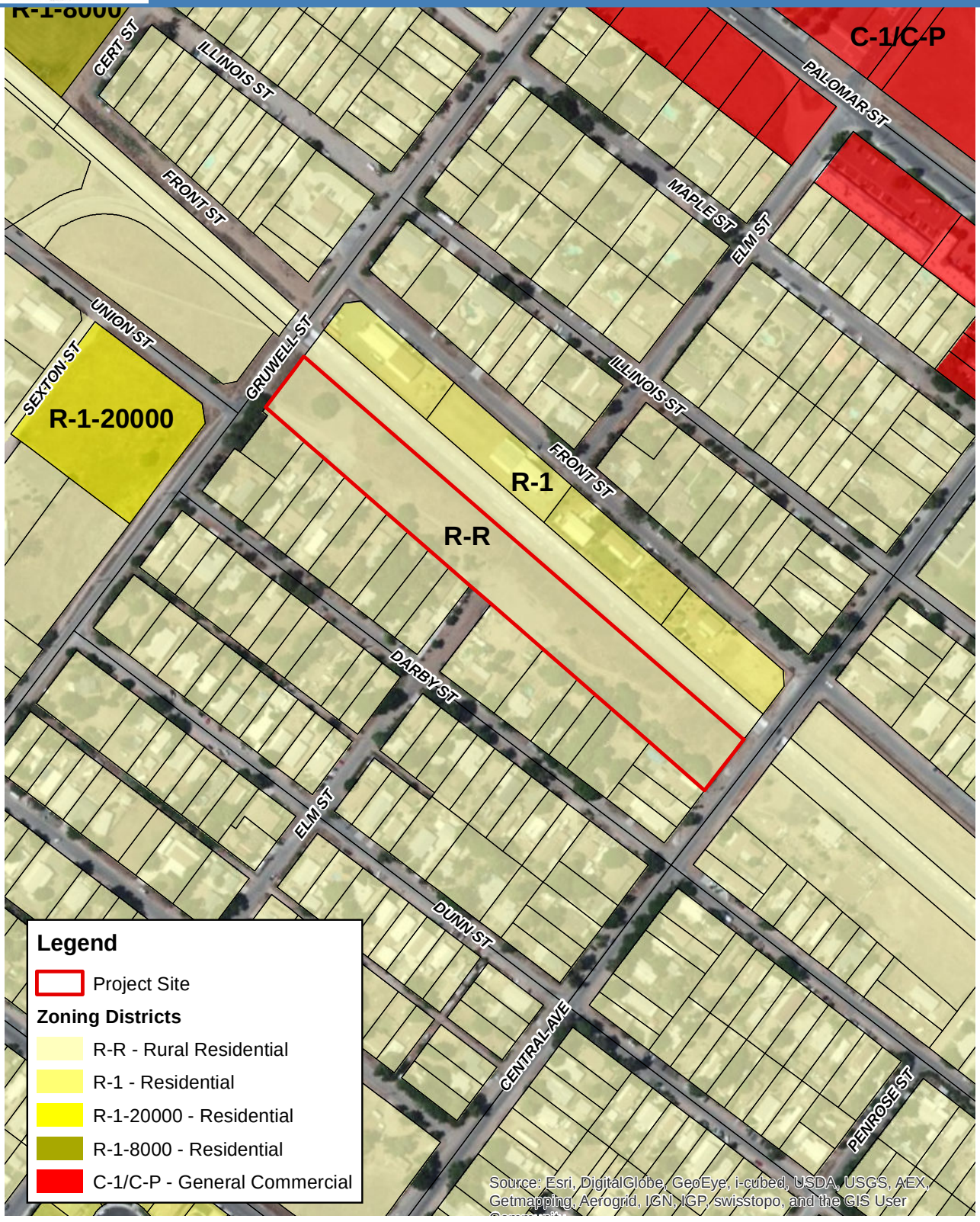
   Northwest – Zoning: R-1, One-Family Dwelling; Land Use: LDR, Low Density Residential

10. **Other Public Agency Required Approvals:**

    None

T:_CS\Work\Wildomar, City of\08-0154 Elm Street Figures

ELM STREET



Source: City of Wildomar, 2013

150 0 150
FEET

N

Figure 4
Zoning

T:_CS\Work\Wildomar, City of\08-0154 Elm Street Figures

ELM STREET

Source: City of Wildomar, 2013

150 0 150
FEET

N

Figure 5
Proposed Zoning

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

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
Signature

March 23, 2015
Date

Matthew C. Bassi, Planning Director

Applicant

Pursuant to Section 15070(b)(1) of the California Environmental Quality Act , as a representative of 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.

Signature

March 23, 2015
Date

Rich Soltysiak
Printed Name

IV. ENVIRONMENTAL ANALYSIS

1. Aesthetics

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 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) Substantially degrade the existing visual character or quality of the site and its surroundings?				✓
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	
e) Interfere with the nighttime use of the Mount Palomar Observatory, as protected through the Mount Palomar Observatory Lighting Ordinance?			✓	

DISCUSSION

a, c) **No Impact**. The proposed project will result in residential development visually similar to that which already exists on surrounding properties. There will be no new impacts to any scenic vista or any degradation of the visual character of the site and its surroundings.

b) **No Impact**. As demonstrated by the site photographs contained in **Figure 6**, the proposed project site does not contain any rock outcroppings, trees, or structures that could be categorized as a scenic resource. The proposed project site is located more than 1 mile from Interstate 15 (I-15), eligible but currently not designated as a state scenic highway (City of Wildomar 2008, Figure C-9; Caltrans 2012), and will not be capable of disrupting views from the freeway.

d, e) **Less Than Significant Impact**. The proposed project would create new sources of light and glare on an undeveloped site potentially affecting day or nighttime views in the area. 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. The City's building permit process will ensure compliance with City zoning and design standards regulating lighting, siding materials, etc. This process will require

submittal of lighting photometric plans for review and approval prior to issuance of building permits. The proposed project would not create new sources of light or glare that would adversely affect day or nighttime views in the area and would not contribute to night sky pollution such that it would interfere with nighttime use of the Mount Palomar Observatory, and therefore this would be considered a less than significant impact. However, all development in the city must comply with all municipal codes, including Chapter 8.64, Light Pollution, of the Wildomar Municipal Code. Compliance with Chapter 8.64 of the Wildomar Municipal Code will reduce lighting impacts to less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. Buildout of the proposed project is required to comply with Chapter 8.64 of the Wildomar Municipal Code pertaining to light pollution.

MITIGATION MEASURES

None required.

T:_CS\Work\Wildomar, City of\08-0154 Elm Street Figures

ELM STREET

NE corner of project site seen from Gruwell Street

Project site seen from Central Street

Project site seen from Elm Street entrance

Darby Street / Elm Street intersection looking to the project site

Project site seen from SE portion looking NW

SE portion of project site looking NW

Source: City of Wildomar, 2013

Figure 6
Site Photos

2. Agricultural Resources

Issues: 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 nonagricultural use?				✓
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forestland (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 forestland or conversion of forestland 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 nonagricultural use or conversion of forestland to non-forest use?				✓

DISCUSSION

a–e) **No Impact.** According to the Riverside County Land Information System (2013), the site is not located within an agricultural preserve (Williamson Act) or classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the Farmland Mapping and Monitoring Program of the California Department of Conservation; therefore, there is no potential to convert farmland to nonagricultural uses. The site is located in an urbanized area of Wildomar that is currently designated for residential use. As seen in the photos included in **Figure 6,** the site is not forested and there is no current agricultural use on the site.

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) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			✓	
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			✓	
d) Expose sensitive receptors to substantial pollutant concentrations?			✓	
e) Create objectionable odors affecting a substantial number of people?				✓

DISCUSSION

a) **Less Than Significant Impact.** The project site is located within the South Coast Air Basin (SoCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which the basin is in nonattainment (i.e., ozone [O_3], coarse particulate matter [PM_{10}], and fine particulate matter [$PM_{2.5}$]). These are considered criteria pollutants because they are three of several prevalent air pollutants known to be hazardous to human health.

In order to reduce emissions for which the SoCAB is in nonattainment, the SCAQMD has adopted the 2012 Air Quality Management Plan (AQMP). The 2012 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2012 AQMP is a regional and multi-agency effort including the SCAQMD, the California Air Resources Board (CARB), the Southern California Association of Governments (SCAG), and the US Environmental Protection Agency (EPA). The 2012 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's 2012 Regional Transportation Plan/Sustainable Communities Strategy, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. (SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans.) The 2012 AQMP has assumed that development associated with residential projects, like the proposed project, will be constructed in accordance with population growth projections identified by SCAG in its 2012 Regional Transportation Plan/Sustainable Communities Strategy. The project is subject to the SCAQMD'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.

The violations to which Consistency Criterion No. 1 refers are the California ambient air quality standards (CAAQS) and the national ambient air quality standards (NAAQS). As evaluated under Issue b) below, the project will not exceed the short-term construction standards or long-term operational standards and in so doing will not violate any air quality standards. Additionally, the analysis for long-term local air quality impacts showed that future carbon monoxide (CO) concentration levels along roadways and at intersections affected by project traffic will not exceed the 1-hour and 8-hour state CO pollutant concentration standards. Thus, a less than significant impact is expected, and the project would be consistent with the first criterion.

Concerning Consistency Criterion No. 2, the AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The proposed project is consistent with the land use designation and development density presented in the City's General Plan and therefore would not exceed the population or job growth projections used by the SCAQMD to develop the AQMP. No impact would occur.

b) **Less Than Significant Impact**. As discussed previously, the project site is located within 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 is provided below.

Construction Emissions

The SCAQMD has established methods to quantify air emissions associated with construction activities such as air pollutant emissions generated by operation of on-site construction equipment, fugitive dust emissions related to grading and site work activities, and mobile (tailpipe) emissions from construction worker vehicles and haul/delivery truck trips. Emissions would vary from day to day, depending on the level of activity, the specific type of construction activity occurring, and, for fugitive dust, prevailing weather conditions.

Construction-generated emissions associated with the proposed project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Modeling was based primarily on the default settings in the computer program for Riverside County. Construction equipment requirements and usage rates used in the model were based on model default assumptions and are clearly shown in **Appendix 3**.

Dust is typically a major concern during rough 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.). The proposed project would be subject to SCAQMD rules and regulations to reduce fugitive dust emissions and to mitigate potential air quality impacts, specifically Rule 403 (Fugitive Dust). Rule 403 requires fugitive dust sources to implement Best Available Control Measures for all sources and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

a. Portions of the construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized in a manner acceptable to the City.

b. All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.

c. All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

d. The area disturbed by clearing, grading, earth moving, or excavation operations will be minimized at all times.

e. Where vehicles leave the construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the work day to remove soil tracked onto the paved surface.

f. Installation and utilization of a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

g. Apply water to active portions of the site, including unpaved roads, in sufficient quantity.

This assessment includes quantification of net increases of ozone precursor pollutants (i.e., reactive organic gases [ROG] and nitrogen oxides [NOx]) and airborne particulate matter (i.e., $PM_{2.5}$ and PM_{10}) attributable to the proposed project. These quantified emission projections are then compared with SCAQMD significance thresholds (SCAQMD 2011). The estimated maximum daily construction emissions, accounting for SCAQMD Rule 403, are summarized in **Table 3-1**.

Table 3-1
Maximum Short-Term Construction Emissions (Pounds per Day)

Construction Phase	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Site Preparation	**5.13**	**54.17**	**42.12**	**0.03**	**9.97**	**6.53**
Grading	3.71	38.50	26.92	0.02	4.81	3.34
Building Construction	3.43	28.69	18.95	0.02	2.00	1.85
Paving	1.86	18.43	13.69	0.01	1.12	1.05
Painting	1.28	2.37	1.88	0.00	0.19	0.19
SCAQMD Threshold	*75.00*	*100.00*	*550.00*	*150.00*	*150.00*	*55*
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

*Source: CalEEMod (SCAQMD 2013); see **Appendix 3**. **Bolded** area equals maximum daily construction emissions. Modeling inputs account for SCAQMD Rule 403, Fugitive Dust, which includes construction activity requirements including application of water on the project site, employment of wheel washing systems, sweeping adjacent streets daily, limiting on-site construction vehicle speeds to a maximum 15 miles per hour, and reestablishing vegetation on inactive portions of the site. Building construction, paving, and painting assumed to occur simultaneously.*
ROG = reactive organic gas
NO_X = oxides of nitrogen
CO = carbon monoxide
SO_X = sulfur oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

As shown, emissions resulting from project construction would not exceed any criteria pollutant thresholds established by the SCAQMD. Therefore, a less than significant impact would occur.

Construction Localized Significance Analysis

The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute to 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), which represent the maximum emissions from a project that will 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 significance of localized emissions impacts depends on whether ambient levels in the vicinity of the project are above or below state standards. In the case of CO and NO_2, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. In the case of PM_{10} and $PM_{2.5}$, project emissions are considered significant if they increase ambient concentrations by a measurable amount.

The SCAQMD established localized significance thresholds in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4. LSTs represent the maximum emissions from a project that will 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 localized significance thresholds 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 localized significance thresholds 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 SCAQMD Final Localized Significance Threshold Methodology (SCAQMD 2008).

For this project, the appropriate source receptor area (SRA) for the localized significance thresholds is the Lake Elsinore area (SRA 25) since this area includes the project site. Localized significance thresholds apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects that disturb less than or equal to 5 acres in size.

The SCAQMD's methodology clearly states that "off-site mobile emissions from the project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered. Existing residential uses surround the project site on most sides. SCAQMD methodology explicitly states, "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." As such, LSTs for receptors at 25 meters are utilized in this analysis.

Table 3-2 presents the results of localized emissions during construction activity. The required implementation of SCAQMD Rule 403 would reduce PM_{10} and $PM_{2.5}$ emissions during construction. **Table 3-2** identifies the Rule 403–controlled localized impacts at the nearest receptor location in the vicinity of the project site.

Table 3-2
Localized Significance Summary – Construction (Pounds per Day)

Activity	NO_x	CO	PM_{10}	$PM_{2.5}$
On-Site Site Preparation Emissions	54.63	41.10	9.84	6.50
On-Site Grading Emissions	38.44	26.07	4.70	3.31
SCAQMD Localized Threshold	371	1,965	13	8
Significant?	**No**	**No**	**Yes**	**Yes**

*Source: CalEEMod 2013 v.2.2. See **Appendix 3** for the CalEEMod output files and additional calculations for the estimated emissions. Emissions projections account for adherence to various components of SCAQMD Rule 403,including application of water on the project site, employment of wheel washing systems, sweeping adjacent streets daily, limiting on-site construction vehicle speeds to a maximum 15 miles per hour and reestablishing vegetation on inactive portions of the site.*

As shown, emissions during the peak day construction activity would not result in concentrations of pollutants at nearby residences or other sensitive receptors, and less than significant impacts would occur.

Operational Impacts

The SCAQMD has also established significance thresholds to evaluate the potential impacts associated with long-term project operations (SCAQMD 1993). Regional air pollutant emissions associated with project operations include area source emissions, energy-use emissions, and mobile source emissions. Area source emissions comprise emissions from fuel combustion from space and water heating, landscape maintenance equipment, evaporative emissions from architectural coatings and consumer products, and unpermitted emissions from stationary sources. Energy-use emissions comprise emissions from on-site natural gas usage, and mobile source emissions comprise emissions from automobiles.

Operational area source emissions, energy-use emissions, and mobile source emissions (e.g., motorized vehicles) for the proposed project were calculated using the CalEEMod air quality model (**Appendix 3**). As shown in **Table 3-3**, the project's net emissions would not exceed SCAQMD thresholds for CO, NO_X, sulfur oxides (SO_X), ROG, PM_{10}, or $PM_{2.5}$. Note that emissions rates differ from summer to winter. This is because weather factors are dependent on the season, and these factors affect pollutant mixing/dispersion, ozone formation, etc. Therefore, regional operations emissions would not result in a significant long-term regional air quality impact.

Table 3-3
Long-Term Unmitigated Operational Emissions (Pounds per Day)

Emissions Source	ROG	NOx	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Area Source Emissions	4.56	0.11	8.79	0.01	1.15	1.15
Energy Use Emissions	0.01	0.12	0.05	0.00	0.01	0.01
Vehicle Emissions	0.58	1.84	6.59	0.01	1.12	0.31
Total	**5.16**	**2.08**	**15.44**	**0.02**	**2.28**	**1.47**
Winter						
Area Source Emissions	4.56	0.11	8.79	0.01	1.15	1.15
Energy Use Emissions	0.01	0.12	0.05	0.00	0.01	0.01
Vehicle Emissions	0.57	1.92	6.13	0.01	1.12	0.31
Total	**5.14**	**2.16**	**14.97**	**0.02**	**2.28**	**1.47**
SCAQMD Threshold	55.00	55.00	550.00	150.00	150.00	55
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod (SCAQMD 2013)
ROG = reactive organic gas
NO_X = nitrogen oxides
CO = carbon monoxide
SO_X = sulfur oxides
PM_{10} = particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

Operations Localized Significance Analysis

The proposed project involves the construction and operation of 15 residential units. According to SCAQMD localized significance threshold 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., warehouse or transfer facilities). The proposed project does not include such uses. Thus, due to the lack of stationary source emissions, no long-term localized significance threshold analysis is needed, as there would be no impact.

Impacts associated with construction and operational air quality would be considered less than significant, as SCAQMD significance thresholds for criteria emissions would not be surpassed (see **Tables 3-1**, **3-2**, and **3-3**).

c) **Less Than Significant Impact**. The proposed project may contribute to the net increase of ozone precursors and other criteria pollutants. The SCAQMD's approach for assessing cumulative impacts is based on the AQMP 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 SCAQMD 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.[1] The discussion under Issue a) describes the SCAQMD criteria for determining consistency with the AQMP and further demonstrates that the proposed project would be consistent with it.

For example, as stated under Issue a), the 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 in 2013 or increments based on the years of project buildout phase.

The violations to which Consistency Criterion No. 1 refers are the CAAQS and the NAAQS. As evaluated under Issue b) above, the project will not exceed the short-term construction standards or long-term operational standards and in so doing will not violate any air quality standards. Thus, a less than significant impact is expected, and the project would be consistent with the first criterion. Concerning Consistency Criterion No. 2, the AQMP contains air pollutant

[1] CEQA Guidelines Section 15064(h)(3) states, "a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency."

reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The proposed project is consistent with the land use designation and development density presented in the City's General Plan and therefore would not exceed the population or job growth projections used by the SCAQMD to develop the AQMP.

As such, cumulative impacts would be less than significant per the SCAQMD significance threshold since the project would be consistent with the AQMP.

d) **Less Than Significant Impact.** Sensitive land uses are generally defined as locations where people reside or where the presence of air emissions could adversely affect the use of the land. Typical sensitive receptors include residents, schoolchildren, hospital patients, and the elderly.

Air Toxics

The project would not be a source of air toxics, as it only proposes future residential development and residential development does not generate air toxics.

In terms of the development of residential land uses near an existing stationary source of air toxics, the issuance of SCAQMD air quality permits and compliance with all SCAQMD, state, and federal regulations regarding stationary toxic air contaminants would reduce potential stationary sources of air toxics emissions such that sensitive receptors would not be exposed to substantial air pollutant concentrations. The SCAQMD limits public exposure to air toxics through a number of programs and reviews the potential for air toxic emissions from new and modified stationary sources through the SCAQMD permitting process for stationary sources. Air toxic emissions from existing stationary sources are limited by:

1. SCAQMD Rule 1401, which requires that construction or reconstruction of a major stationary source emitting hazardous air pollutants listed in Section 112 (b) of the Clean Air Act be constructed with Best Available Control Technology and comply with all other applicable requirements.

2. Implementation of the Air Toxics "Hot Spots" (AB 2588) Program.

3. Implementation of the federal Title III toxics program.

Facilities and equipment that require permits from the SCAQMD are screened from risks from toxic emissions and can be required to install Toxic Best Available Control Technology (T-BACT) to reduce the risks to below significant if deemed necessary by the SCAQMD. T-BACTs are the most up-to-date methods, systems, techniques, and production processes available to achieve the greatest feasible emission reductions for air toxics. In addition, the proposed project is not located near any existing stationary sources of air toxics. Therefore, future residential development allowed under the proposed project would not be adversely affected by stationary sources of air toxics.

Mobile sources of air toxics include freeways and major roadways, which are sources of diesel particulate matter (DPM). DPM has been listed as an air toxic by the California Air Resources Board. In April 2005, CARB released the *Air Quality and Land Use Handbook: A Community Health Perspective*, which offers guidance on siting sensitive land uses in proximity to sources of air

toxics. The handbook recommends that sensitive land uses be sited no closer than 500 feet from a freeway or major roadway, a buffer area that was developed to protect sensitive receptors from exposure to DPM, which was based on traffic-related studies that showed a 70 percent drop in PM concentrations at a distance of 500 feet from the roadway. Presumably, acute and chronic risks as well as lifetime cancer risk due to DPM exposure are lowered proportionately. Per Google Earth (2013), the project site is approximately 6,259 feet (1.1 miles) west of Interstate 15. Therefore, the site lies beyond the CARB-recommended buffer area, and future receptors would not be negatively affected by air toxics generated on Interstate 15.

Carbon Monoxide

Typically, substantial pollutant concentrations of CO are associated with mobile sources (e.g., vehicle idling time). Localized concentrations of CO are associated with congested roadways or signalized intersections operating at poor levels of service (level of service E or lower). High concentrations of CO may negatively affect local sensitive receptors (e.g., residents, schoolchildren, or hospital patients). There are sensitive receptors (existing residential uses) adjacent to the project site in most directions.

As stated in subsection 16, Transportation/Traffic, the proposed project will not result in any level of service at E or lower at the traffic facilities analyzed [see Issue a) in subsection 16, Transportation/Traffic]. Therefore, this impact is considered less than significant since the proposed project would not result in traffic facilities operating at poor levels of service.

e) **No Impact.** The SCAQMD *CEQA Air Quality Handbook* (1993) identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The proposed project is residential in nature and will not include any of the land uses that have been identified by the SCAQMD as odor sources. Therefore, there would be no odor impacts from the proposed project.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

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 US 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 US Fish and Wildlife Service?				✓
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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?		✓		

ENVIRONMENTAL SETTING

A habitat assessment of the project site was performed by Osborne Biological Consulting in August 2007 and re-verified in August 2013 (**Appendix 4**). This habitat assessment was used to conduct an evaluation of the project site and to characterize the environmental setting on and adjacent to the site. In addition to the information provided by the habitat assessment, a thorough query of available data and literature from local, state, federal, and nongovernmental agencies was used to evaluate the potential biological impacts of the proposed project.

Database searches were performed on the following websites:

- US Fish and Wildlife Service's (USFWS) Information Planning and Conservation (IPaC) System (2013a)
- USFWS's Critical Habitat Portal (2013b)
- California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) (2013)
- California Native Plant Society's (CNPS) Inventory of Rare, Threatened, and Endangered Plants of California (2013)

A search of the USFWS's IPaC System and Critical Habitat Portal database was performed for the project area to identify federally protected species and their habitats that may be affected by the proposed project. The query of the Critical Habitat Portal revealed no critical habitat in the project vicinity. In addition, a query of the CNDDB was conducted to identify known occurrences for special-status species within a 1- and 5-mile radius of the proposed project. Lastly, the CNPS database was queried to identify special-status plant species with the potential to occur within the Wildomar, California, US Geological Survey (USGS) 7.5-minute quadrangle.

According to the habitat assessment, the site is a mix of disturbed land and ruderal annual grassland (**Appendix 4**). The southern margin of the site supports exotic woodlands with a scattering of native oak trees. A cement-lined canal carrying Murrieta Creek is located near the northeastern boundary of the site.

The proposed project site is located within the Western Riverside County Multiple Species Conservation Plan (MSHCP) (County of Riverside 2003). The MSHCP formally determines conservation planning for all of western Riverside County. The MSHCP identifies plants, wildlife, and habitat that need to be preserved or protected. It also outlines procedures for mitigation of future land development and determines under what circumstances an "incidental take" can be permitted.

Special-Status Species

Candidate, sensitive, or special-status species are commonly characterized as species that are at potential risk or actual risk to their persistence in a given area or across their native habitat. These species have been identified and assigned a status ranking by governmental agencies such as the CDFW, the USFWS, and private organizations such as the CNPS. The degree to which a species is at risk of extinction is the determining factor in the assignment of a status ranking. Some common threats to a species' or population's persistence include habitat loss, degradation, and fragmentation, as well as human conflict and intrusion. For the purposes of this biological review, special-status species are defined by the following codes:

1. Listed, proposed, or candidates for listing under the federal Endangered Species Act (50 Code of Federal Regulations [CFR] 17.11 – listed; 61 Federal Register [FR] 7591, February 28, 1996, candidates)
2. Listed or proposed for listing under the California Endangered Species Act (Fish and Game Code [FGC] 1992 Section 2050 et seq.; 14 California Code of Regulations [CCR] Section 670.1 et seq.)

3. Designated as Species of Special Concern by the CDFW
4. Designated as Fully Protected by the CDFW (FGC Sections 3511, 4700, 5050, 5515)
5. Species that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA) (14 CCR Section 15380) including CNPS List Rank 1B and 2

The query of the USFWS, CNPS, and CNDDB databases revealed 27 sensitive plant species and 22 special-status wildlife species, a total of 49 species, with the potential to occur in the project vicinity. **Appendix 4a** summarizes each species identified in the database results, includes a description of the habitat requirements for each species, and cites conclusions regarding the potential for each species to be impacted by the proposed project.

DISCUSSION OF IMPACTS

a) **Less Than Significant Impact With Mitigation Incorporated.** Forty-nine special-status species were identified by the database queries; however, due to the nature of the project site, suitable habitat for all but four of the species identified does not occur on or adjacent to the site. Please refer to **Appendix 4a** for a summary of the general habitat characteristics required by each species, as well as the potential for each species to be impacted by the project. All special-status species with the potential to occur on the project site are covered under the MSHCP.

Based on the results of database searches and historic records, as well as known regional occurrences, burrowing owl (*Athene cunicularia*), coast horned lizard (*Phrynosoma blainvillii*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and Parry's spineflower (*Chorizanthe parryi* var. *parryi*) are the only special-status species with the potential to occur on the project site. Given the site's heavily disturbed nature and because it is surrounded by urban land uses, no special-status plants or other special-status animals have the potential to occur on the project site.

The initial site survey was conducted in August 2007 and was re-verified in August 2013 by personnel at Osborne Biological Consulting. The site was surveyed on foot, and all plant and wildlife species observed were recorded. No sign of burrowing owls, rare plants, or other special-status species were encountered.

Though no sign of burrowing owls was found during previous surveys, project implementation may result in the loss of western burrowing owls through destruction of active nesting sites and/or incidental burial of adults, young, and eggs, should they become established on-site. Implementation of mitigation measures **BIO-2** and **BIO-3** would reduce these impacts to a less than significant level.

The other three special-status species with the potential to occur on the project site are all covered under the MSHCP. A standard condition for the proposed project includes the payment of mitigation fees to comply with the overlying habitat conservation plan (the MSHCP). Adherence to this standard will ensure that impacts to coast horned lizard, San Diego black-tailed jackrabbit, and Parry's spineflower will be less than significant.

Habitats on and adjacent to the project site may provide suitable nesting habitat for birds protected under the Migratory Bird Treaty Act and Section 3503.5 of the California Fish and Game Code. The removal of trees/vegetation during construction activities could result in noise,

dust, human disturbance, and other direct/indirect impacts to nesting birds on or in the vicinity of the project site. Incorporation of mitigation measure **BIO-1** would ensure that potential impacts to these species are less than significant with mitigation incorporated.

b) **No Impact.** Sensitive habitats include (a) areas of special concern to resource agencies; (b) areas protected under CEQA; (c) areas designated as sensitive natural communities by the CDFW; (d) areas outlined in Section 1600 of the FGC; (e) areas regulated under Section 404 of the federal Clean Water Act; and (f) areas protected under local regulations and policies (MSHCP). No riparian habitat or other sensitive natural communities occur within the project boundaries; therefore, no impact will occur as a result of the project.

c) **No Impact.** No waters of the State or of the United States occur within the project boundaries; however, the cement-lined channel of Murrieta Creek is located near the northern boundary of the site. There is no anticipated impact to the cement-lined creek channel; therefore, no impact to federally protected wetlands will occur as a result of the project.

d) **No Impact.** 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. No wildlife corridors for resident migratory wildlife species occur on or adjacent to the site. In addition, the project is not located within a "Special Linkage Area" as defined by the MSHCP. As a result, no impact to the movements of any native resident or migratory fish or wildlife species, or established native resident or migratory wildlife corridors, or the use of native wildlife nursery sites would occur as a result of the proposed project.

e) **No Impact.** According to the habitat assessment (Osborne Biological Consulting 2007; **Appendix 4**), there are six native oak (*Quercus agrifolia*) trees growing on-site. No tree preservation policy or ordinance is applicable to the proposed project. Furthermore, as discussed throughout this subsection, the proposed project would protect biological resources, including sensitive, rare, threatened, or endangered species, wildlife, and habitats, consistent with policies in the MSHCP. As such, the project would not conflict with any local policies or ordinances protecting biological resources. No impact will occur.

f) **Less Than Significant Impact With Mitigation Incorporated.** The MSHCP is a habitat conservation plan and natural community conservation plan to which the City of Wildomar is a permittee (i.e., signatory). Although the project site is located within the MSHCP Plan Area, it is not located within a Criteria Cell. Since the site is not located within a Criteria Cell, there are no conservation requirements on the property. The project site is subject to review for consistency with Section 6.1.2–Protection of Species Associated with Riparian/Riverine Areas and Vernal Pool, Section 6.1.3–Protection of Narrow Endemic Plant Species, Section 6.3.2–Additional Survey Needs and Procedures, and Section 6.1.4–Guidelines pertaining to the Urban/Wildlands Interface of the MSHCP. A discussion of the proposed project's consistency with these MSHCP sections follows.

Consistency with MSHCP Section 6.1.2: Section 6.1.2 of the MSHCP addresses preservation of riparian, riverine, vernal pool, and fairy shrimp habitats. According to the habitat assessment prepared by Osborne Biological Consulting (2007; **Appendix 4**), the project site does not support riverine/riparian habitat and vernal pools. Therefore, no impacts to riparian or fairy shrimp habitat will occur.

Consistency with MSHCP Section 6.1.3: Section 6.1.3 sets forth survey requirements for certain narrow endemic plants. The project site is not located within the Narrow Endemic Plant Species Survey Area and therefore would not conflict with Section 6.1.3.

Consistency with MSHCP Section 6.3.2: Section 6.3.2 sets forth the survey requirements for various plant and animal surveys. The project is not located within a Criteria Area Species Survey Area. However, the project is located in an additional survey area for burrowing owl. Focused surveys for burrowing owls were conducted in 2007 and 2013 (Osborne Biological Consulting 2007; **Appendix 4**). During the surveys, the project site was walked to determine the presence of burrowing owls. No sign of burrowing owl was observed; however, there is the potential that this species could become established on-site in the future. As such, project-related activities could result in impacts to this species. However, implementation of mitigation measures **BIO-2** and **BIO-3** would ensure that potential impacts to burrowing owls are avoided or mitigated to a less than significant level.

Consistency with MSHCP Section 6.1.4: Section 6.1.4 of the MSHCP addresses the need for certain projects to incorporate measures to address urban/wildland interfaces in or near the MSHCP conservation area. The project site is not located within or next to any MSHCP conservation areas that would require the need for implementation of the urban/wildland interface guidelines. The project would not conflict with Section 6.1.4 of the MSHCP or with any goals and policies of the MSHCP; therefore, impacts are considered less than significant.

A final component of the MSHCP is mitigation fee areas, which are land areas that occur within the MSHCP and require a fee for development activities to occur. These fees are utilized to fund the minimization of impacts to certain endemic species. The proposed project is located within the MSHCP mitigation fee area (Wildomar Municipal Code Section 3.42.080). A standard condition for the proposed project includes the payment of these fees to comply with the overlying habitat conservation plan (the MSHCP).

With implementation of mitigation measures and adherence to the standard conditions and requirements, any impacts will be less than significant with mitigation incorporated. In addition, implementation of mitigation measures **BIO-2** and **BIO-3** will ensure that the project does not conflict with the MSHCP.

STANDARD CONDITIONS AND REQUIREMENTS

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

MITIGATION MEASURES

BIO-1 All developers of the proposed project site shall conduct construction and clearing activities outside of the avian nesting season (January 15–August 31), where feasible. If clearing and/or construction activities occur during the nesting season, preconstruction surveys for nesting raptors, migratory birds, and special-status resident birds (e.g., coastal California gnatcatcher) shall be conducted by a qualified biologist, up to 14 days before initiation of construction activities. The qualified biologist shall survey the construction zone and a 250-foot radius surrounding the construction zone to determine whether the activities may have the potential to disturb or otherwise harm nesting birds.

If an active nest is located within 100 feet (250 feet for raptors) of construction activities, the project applicant shall establish an exclusion zone (no ingress of personnel or equipment at a minimum radius of 100 feet or 250 feet, as appropriate, around the nest). Alternative exclusion zones may be established through consultation with the CDFW and the USFWS, as necessary. The exclusion zones shall remain in force until all young have fledged.

Reference to this requirement and to the Migratory Bird Treaty Act shall be included in the construction specifications.

If construction activities or tree removal are proposed to occur during the non-breeding season (September 1–January 14), a survey is not required, no further studies are necessary, and no mitigation is required.

Timing/Implementation: *The project applicant shall incorporate requirements into all rough and/or precise grading plan documents. The project applicant's construction inspector shall monitor to ensure that measures are implemented during construction.*

Enforcement/Monitoring: *City of Wildomar Planning and Public Works Departments*

BIO-2 Per MSHCP Species-Specific Objective 6, preconstruction presence/absence surveys for burrowing owl within the survey area, where suitable habitat is present, will be conducted for all covered activities through the life of the building permit. Surveys will be conducted 30 days prior to disturbance. Take of active nests will be avoided. Passive relocation (use of one-way doors and collapse of burrows) will occur when owls are present outside the nesting season. If construction is delayed or suspended for more than 30 days after the survey, the area shall be resurveyed.

Surveys shall be completed for occupied burrowing owl burrows within all construction areas and within 150 meters (500 feet) of the project work areas (where possible and appropriate based on habitat). All occupied burrows will be mapped on an aerial photo.

Timing/Implementation: *Thirty days prior to any vegetation removal or ground-disturbing activities*

Enforcement/Monitoring: *City of Wildomar Planning and Public Works Departments*

BIO-3 If burrowing owls are identified during the survey period, the City shall require the project applicant to take the following actions to offset impacts prior to ground disturbance:

Active nests within the areas scheduled for disturbance or degradation shall be avoided from February 1 through August 31, and a minimum 75-meter (250-foot) buffer shall be provided until fledging has occurred. Following fledging, owls may be passively relocated (use of one-way doors and collapse of burrows) by a qualified biologist.

If impacts on occupied burrows in the non-nesting period are unavoidable, on-site passive relocation techniques may be used if approved by the CDFW to encourage owls to move to alternative burrows outside of the impact area. However, no occupied burrows shall be disturbed during the nesting season. A qualified biologist must verify through noninvasive methods that the burrow is no longer occupied.

If relocation of the owls is approved for the site by the CDFW, the City shall require the developer to hire a qualified biologist to prepare a plan for relocating the owls to a suitable site. The relocation plan must include all of the following:

- The location of the nest and owls proposed for relocation.
- The location of the proposed relocation site.
- The number of owls involved and the time of year when the relocation is proposed to take place.
- The name and credentials of the biologist who will be retained to supervise the relocation.
- The proposed method of capture and transport for the owls to the new site.
- A description of site preparation at the relocation site (e.g., enhancement of existing burrows, creation of artificial burrows, one-time or long-term vegetation control).
- A description of efforts and funding support proposed to monitor the relocation.

If paired owls are present within 50 meters (160 feet) of a temporary project disturbance (e.g., parking areas), active burrows shall be protected with fencing/cones/flagging and monitored by a qualified biologist throughout construction to identify losses from nest abandonment and/or loss of reproductive effort. Any identified loss shall be reported to the CDFW.

Timing/Implementation: Prior to any vegetation removal or ground-disturbing activities

Enforcement/Monitoring: City of Wildomar Planning and Public Works Departments

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 as defined in Section 15064.5?				✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		✓		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		
d) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

DISCUSSION

a) **No Impact**. A historical records check and field survey conducted of the site by a qualified archeologist in August 2013 (CRM Tech 2013; **Appendix 5**) determined that none of the existing structures on the site are of historical significance. In addition, the Wildomar General Plan does not identify any historical resources on the project site.

b) **Less Than Significant Impact With Mitigation Incorporated**. A historical/archeological resources survey performed in August 2013 revealed that the project is not anticipated to cause a substantial adverse impact to an archaeological resource (CRM Tech 2013; **Appendix 5**). However, because archaeological resource sites have been identified in Wildomar, there is the potential for the unanticipated discovery of these resources. Because these resources are known to exist in the general area, the mitigation measures listed in this section (**CUL-1** through **CUL-7**) will ensure that any unanticipated discovery would not have a significant impact on archeological resources.

According to the Riverside County Land Information System (2013), the project site is not located within Native American tribal lands. However, historically tribal activities have occurred in and around the Wildomar area, and there is a potential for the inadvertent discovery of previously unknown resources. Implementation of mitigation measures **CUL-1** through **CUL-7** will reduce any potential impact to a less than significant level.

c) **Less Than Significant Impact With Mitigation Incorporated**. The site has been identified as having a low potential/sensitivity for paleontological resources according to the Wildomar General Plan Paleontological Sensitivity Resources Map. Mitigation measures **CUL-1** through **CUL-7** will be implemented to reduce impacts in the event that paleontological resources are found during ground-disturbing activity. Following the implementation of these mitigation measures, any impact would be less than significant.

d) **Less Than Significant Impact With Mitigation Incorporated**. There are no records of the project site containing any previously identified formal or informal cemetery. Although there are no known human remains on the project site, in the event human remains are encountered during ground-disturbing activities, mitigation measures (**CUL-1** through **CUL-7**) would reduce any impact to a less than significant level.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

CUL-1 If during grading or construction activities cultural resources are discovered on the project site, work shall be halted immediately within 50 feet of the discovery and the resources shall be evaluated by a qualified archeologist and the Pechanga Tribe (Tribe). Any unanticipated cultural resources that are discovered shall be evaluated in the final report prepared by the qualified archeologist. The report shall include a list of the resources discovered, documentation of each site/locality, and interpretation of the resources identified, and the method of preservation and/or recovery for identified resources. In the event the significant resources are recovered and if the qualified archaeologist and the Tribe determines the resources to be historic or unique, avoidance and/or mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4 and Public Resources Code Section 21083.2 and the Cultural Resources Treatment and Monitoring Agreement required by mitigation measure CUL-2.

This mitigation measure shall be incorporated in all construction contract documentation.

Timing/Implementation: *As a condition of project approval, and implemented during ground-disturbing construction activities*

Enforcement/Monitoring: *City of Wildomar Building and Planning Departments*

CUL-2 At least 30 days prior to seeking a grading permit, the project applicant(s) shall contact the Pechanga Tribe to notify the Tribe of grading, excavation, and the monitoring program and to coordinate with the City of Wildomar and the Tribe to develop a Cultural Resources Treatment and Monitoring Agreement. The agreement shall include, but not be limited to, outlining provisions and requirements for addressing the treatment of cultural resources; project grading and development scheduling; terms of compensation for the monitors; treatment and final disposition of any cultural resources, sacred sites, and human remains discovered on the site; and establishing on-site monitoring provisions and/or requirements for professional Tribal monitors during all ground-disturbing activities. A copy of this signed agreement shall be provided to the Planning Director and Building Official prior to the issuance of the first grading permit.

Timing/Implementation: *Prior to the issuance of a grading permit*

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

CUL-3 If human remains are encountered, California Health and Safety Code Section 7050.5 requires that no further disturbance occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources 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 24 hours. Subsequently, the Native American Heritage Commission shall identify the "most likely descendant" within 24 hours of receiving notification from the coroner. The most likely descendant shall then have 48 hours to make recommendations and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Timing/Implementation: *As a condition of project approval, and implemented during ground-disturbing construction activities*

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

CUL-4 All cultural materials, with the exception of sacred items, burial goods, and human remains, which will be addressed in the Cultural Resources Treatment and Monitoring Agreement required by mitigation measure CUL-2, that are collected during the grading monitoring program and from any previous archeological studies or excavations on the project site shall be curated according to the current professional repository standards. The collections and associated records shall be transferred, including title, to the Pechanga Tribe's curation facility, which meets the standards set forth in 36 CRF Part 79 for federal repositories.

Timing/Implementation: *As a condition of project approval, and implemented during ground-disturbing construction activities*

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

CUL-5 All sacred sites, should they be encountered within the project site, shall be avoided and preserved as the preferred mitigation, if feasible as determined by a qualified professional in consultation with the Pechanga Tribe. To the extent that a sacred site cannot be feasibly preserved in place or left in an undisturbed state, mitigation measures shall be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4.

Timing/Implementation: *As a condition of project approval, and implemented during ground-disturbing construction activities*

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

CUL-6 If inadvertent discoveries of subsurface archaeological resources are discovered during grading, work shall be halted immediately within 50 feet of the discovery. The developer, the project archeologist, and the Tribe shall assess the significance of such resources and shall meet and confer regarding the mitigation for such resources. If the developer and the Tribe cannot agree on the significance of or the mitigation for such resources, these issues will be presented to the City of Wildomar Planning Director. The Planning Director shall make the determination based on the provisions of CEQA with respect to archaeological resources and shall take into account

the religious beliefs, customs, and practices of the Pechanga Tribe. Notwithstanding any other rights available under the law, the decision of the Planning Director shall be appealable to the City of Wildomar. In the event the significant resources are recovered and if the qualified archaeologist determines the resources to be historic or unique as defined by relevant state and local law, avoidance and mitigation would be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4.

Timing/Implementation: *As a condition of project approval, and implemented during ground-disturbing construction activities*

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

CUL-7 To address the possibility that cultural resources may be encountered during grading or construction, a qualified professional archeologist shall monitor all construction activities that could potentially impact archaeological deposits (e.g., grading, excavation, and/or trenching). However, monitoring may be discontinued as soon the qualified professional is satisfied that construction will not disturb cultural and/or paleontological archaeological resources. A final mitigation monitoring report shall be prepared by the archaeologist documenting any resources found, their treatment, ultimate disposition, new or updated site records and any other pertinent information associated with the project. Final copies of the report will be submitted to the City of Wildomar, the developer, the Eastern Information Center, and the Pechanga Tribe.

Timing/Implementation: *As a condition of project approval, and implemented during ground-disturbing construction activities*

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

6. Geology and Soils

Issues: Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to 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?			✓	
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 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?				✓

DISCUSSION

a)

i) **Less Than Significant Impact**. A soils investigation performed by John R. Byerly, Inc., in 2003 was updated for the proposed project in July 2013 (**Appendix 6**). While the project site is located approximately 1,500 feet northwest of the seismically active Wildomar branch of the Elsinore Fault Zone, Riverside County geographic information system (GIS) mapping does not identify the site as being within a California Earthquake Fault Hazard Zone (formerly known as an Alquist-Priolo Special Studies Zone) or the Riverside Fault Hazard Zone. Considering this, the project site may be expected to experience occasional strong ground motions from earthquakes caused by both local and regional faults. However, the July 2013 soils investigation performed by John R.

Byerly, Inc. (**Appendix 6**) supported a determination of a previous geologic report on the project site performed in June 2013 that concluded there is no visual evidence of active faulting on the site. In addition, a review of published maps and the Riverside County Land Information System reveals that no known active faults are located on the project site (**Appendix 6**).

Because there is no evidence of a known fault on the project site, the project would not expose people or structures to potential substantial adverse effects associated with ground rupture. This would be considered a less than significant impact.

ii) **Less Than Significant Impact.** The proposed project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. The project site is located in an area of high regional seismicity and may experience horizontal ground acceleration during an earthquake along the Wildomar fault of the Elsinore Fault Zone, which is located approximately 1,500 feet from the project site, or other fault zones throughout the region. The project site is not within a California Earthquake Fault Hazard Zone (formerly called an Alquist-Priolo Special Studies Zone) and does not lie within a Riverside County Fault Zone. The project site has been, and will continue to be, exposed to strong seismic ground shaking. However, compliance with the standard conditions and requirements of the City of Wildomar will minimize the potential for damage associated with strong seismic ground shaking allowing any impact to be less than significant.

iii) **Less Than Significant Impact**. A soils investigation completed for the proposed project by John R. Byerly, Inc. (2013; **Appendix 6**) determined that neither liquefaction nor seismically induced settlement need to be a consideration in the design of homes at the project site. However, the project site is within a moderate risk liquefaction zone as established by the State of California. The City of Wildomar's standard conditions and requirements will address any potential impacts from other seismic-related ground failure and will minimize the potential for damage associated with strong seismic ground shaking. Any impact will be less than significant.

iv) **No Impact.** The proposed project is not expected to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, from landslides. Due to the relatively level terrain in the proposed project area, this site is not subject to landslide, collapse, or rockfall hazards. The project site is located in an area of general seismic activity, but does not contain areas subject to unstable geologic units or soil. According to the Wildomar General Plan (2008), the project site has no potential for landslides. Additionally, due to the proposed project site's distance from boulders or other rock formations, there is no potential for mudslide or rock fall hazards. No impact is anticipated.

b) **Less Than Significant Impact**. During site preparation and grading and as future development is proposed, soil erosion may result during construction, as grading and construction can loosen surface soils and make soils susceptible to the effects of wind and water movement across the surface. The City of Wildomar's standard conditions and requirements applied to the proposed project will require compliance with the National Pollutant Discharge Elimination System (NPDES) and the State Water Quality Control Board's construction permit, as well as the submittal of detailed erosion control plans with any grading plans. A draft water quality management plan for the project site is included as **Appendix 8** to this Initial Study. Implementation of standard conditions and requirements of the City of Wildomar will also address any erosion issues associated with the future grading of the site. As a result, any impact would be less than significant.

c) **Less Than Significant Impact**. According to the Riverside County Land Information System (2013), the project site is located in an area that is designated as having a moderate potential for liquefaction and is susceptible to subsidence. However, the City of Wildomar's standard conditions and requirements would address any potential impacts related to ground failure. Any impact associated with ground failure hazards would be less than significant.

d) **Less Than Significant Impact With Mitigation Incorporated**. The soils investigation by John R. Byerly, Inc. (2013; **Appendix 6**) determined that in their present state, the existing artificial fill and portions of the upper natural soils are not considered suitable for structural support due to compressibility considerations. However, the implementation of mitigation measure **GEO-1** and **GEO-2** will reduce any impact from these observed conditions. Supporting soils on the site were noted in the soils investigation by John R. Byerly, Inc. (2013; **Appendix 6**) to be medium dense to dense silty sands and medium stiff silty clays. In addition, future development proposed on the site is required to comply with the California Building Code and commonly accepted engineering practices, which require special design and construction methods for dealing with expansive and unstable soil behavior. Compliance with recommendations included in the soils report required by the standard conditions for project will ensure that soils at future development sites would be capable of supporting the structures resulting from the proposed project. Compliance would reduce any impact resulting from expansive and unstable soils to a less than significant level.

e) **No Impact**. The proposed project will not include the installation of septic tanks or alternative wastewater disposal systems. No impact is expected.

STANDARD CONDITIONS AND REQUIREMENTS

1. Any grading performed on the project site shall conform to the California Building Code, Chapter 16.12 of the Wildomar Municipal Code, and all other relevant laws, rules, and regulations governing grading in Wildomar. Prior to commencing any grading which includes 50 or more cubic yards, the developer shall obtain a grading permit from the Building Department.

2. Prior to issuance of a grading permit, the developer shall provide the Engineering Department evidence of compliance with the National Pollutant Discharge Elimination System (NPDES) and obtain a construction permit from the State Water Resources Control Board (SWRCB).

3. For the buildout of the proposed project 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 prior to the issuance if a grading permit and per the requirements of California Building Code as adopted by the City of Wildomar in Section 15.12.010 of the City's Municipal Code. 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.

MITIGATION MEASURES

GEO-1 Prior to the construction of any home on the proposed project site, the soils below the building areas and for a horizontal distance beyond the building areas at least equal to the depth of over-excavation below the final ground surface or 5 feet, whichever distance is greater, should be over-excavated to a depth of at least 5 feet below the final ground surface, whichever is deeper. Should competent natural soil be encountered before a depth of 5 feet is reached, the over-excavation can be terminated at that depth as long as there is at least 24 inches of compacted fill below all footings. Competent natural soil is defined as undisturbed material exhibiting a relative compaction of at least 85 percent (ASTM D 1557).

Timing/Implementation: *Prior to the issuance of a building permit*

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

GEO-2 The project applicant shall incorporate the recommendations of the Soils Investigation conducted by John R. Byerly, Inc., (2013; **Appendix 6**) into project plans. The project's building plans shall demonstrate that they incorporate all applicable recommendations of the soils investigation and comply with all applicable requirements of the latest adopted version of the California Building Code. A licensed professional engineer shall prepare the plans, including those that pertain to soil engineering, structural foundations, and installation. All on-site soil engineering activities shall be conducted under the supervision of a licensed geotechnical engineer or certified engineering geologist.

Timing/Implementation: *Prior to the issuance of a building permit*

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

7. 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?			✓	

DISCUSSION

a) **Less Than Significant Impact.** The future construction and operation of the proposed project will generate greenhouse gas (GHG) emissions. Overall, the following activities associated with future residential development could directly or indirectly contribute to the generation of GHG emissions:

- **Construction Activities:** During construction, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Furthermore, CH_4 is emitted during the fueling of heavy equipment.

- **Gas, Electric, and Water Use:** Natural gas use results in the emissions of two GHGs: CH_4 (the major component of natural gas) and CO_2 from the combustion of natural gas. Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy-intensive. Preliminary estimates indicate that the total energy used to pump and treat water exceeds 6.5 percent of the total electricity used in the state per year.

- **Solid Waste Disposal:** Solid waste generated by future residential development on the project site could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. Methane is 21 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.

- **Motor Vehicle Use:** Transportation associated with future development of the proposed project site would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips.

GHG emissions associated with residential land uses would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with project-related new vehicular trips and stationary source emissions, such as natural gas used for heating and electricity usage for lighting. Preliminary guidance from the Office of Planning and Research (OPR) and recent letters from the Attorney General critical of CEQA documents which have taken different approaches indicate that lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, and construction activities. The calculation presented below includes construction as well as long-term operational emissions in terms of annual carbon dioxide equivalent (CO_2e) associated with the anticipated operations of the proposed project. The resultant emissions of these activities were calculated using the CalEEMod air quality model (**Appendix 3**). CalEEMod (SCAQMD 2013) is a statewide land use emissions computer model designed to provide a uniform platform for the use of government agencies, land use planners, and environmental professionals.

Thresholds of significance illustrate the extent of an impact and are a basis from which to apply mitigation measures. On September 28, 2010, the SCAQMD conducted Stakeholder Working Group Meeting #15, which resulted in a recommended threshold of 3,000 metric tons of CO_2e as a threshold for all land uses. Therefore, for the purposes of this evaluation and in the absence of any other adopted significance thresholds, a threshold of 3,000 metric tons of CO_2e per year is used to assess the significance of greenhouse gases. Emissions resulting from implementation of the proposed project have been quantified and the quantified emissions are compared with the SCAQMD greenhouse gas threshold. The anticipated GHG emissions during project construction and operation are shown in **Table 7-1**. Per this table, GHG emissions projected to result from both construction (amortized over 30 years) and operation of the proposed project would not exceed the SCAQMD greenhouse gas threshold of 3,000 metric tons of CO_2e per year. The impact is therefore considered less than significant.

Table 7-1
Construction-Related and Operational Greenhouse Gas Emissions (Metric Tons per Year)

Emission Type	CO_2e
Construction (amortized over 30 years)	19
Indirect Emissions from Energy Consumption	60
Water Demand	7
Waste Generation	8
Area Source (landscaping)	5
Mobile Source (vehicles)	208
Operations Total	**307**
SCAQMD Greenhouse Gas Threshold	*3,000*
Threshold Exceeded?	No

Source: CalEEMod (SCAQMD 2013)

b) **Less Than Significant Impact.** Wildomar is a member agency of the Western Riverside Council of Governments (WRCOG), which coordinated a Subregional Climate Action Plan (CAP) process on behalf of its member agencies. The WRCOG Subregional CAP (2014) establishes a community-wide emissions reduction target of 15 percent below 2010, following guidance from CARB and the Governor's Office of Planning and Research. CARB and the California Attorney General have determined this approach to be consistent with the statewide Assembly Bill 32 (AB 32) goal of reducing emissions to 1990 levels by the year 2020. Progress toward achieving the 2020 emissions reduction target will be monitored over time through preparation of an annual memorandum documenting program implementation and performance. Following each annual report, WRCOG and the participating jurisdictions may adjust or otherwise modify the strategies to achieve the reductions needed to reach the target. Such adjustments could include more prescriptive measures, reallocation of funding to more successful programs, and modifications to the 2020 business-as-usual (BAU) emissions projection and reduction target based on revised population, housing, and employment growth estimates. Additionally, there will be a comprehensive inventory update prior to 2020 to track overall progress toward meeting the GHG reduction target.

To meet emissions reduction targets, the CAP considers existing programs and policies in the subregion that achieve GHG emissions reductions in addition to new GHG reduction measures. Several measures apply to participating jurisdictions in western Riverside County uniformly, because they respond to adoption of a state law (e.g., the Low Carbon Fuel Standard) or result from programs administered at the discretion of a utility serving multiple jurisdictions (e.g., utility rebates). For other more discretionary measures, participating jurisdictions, including Wildomar, have voluntarily committed to a participation level that could be implemented in their community. For example, the City has agreed to increase the amount of bike lanes in the city by 10 percent compared with existing conditions (CAP Measure T-1), increase bicycle parking (CAP Measure T-2), increase fixed-route bus service by 5 percent compared with existing conditions (CAP Measure T-5), synchronize traffic signals (CAP Measure T-7), increase the jobs/housing ratio in the city by 5 percent (CAP Measure T-9), and provide residential green bins for the collection and transport of organic waste for compost (CAP Measure SW-1). There are no aspects of the project that would inhibit these goals and therefore would not be considered to conflict with it.

The City is also subject to compliance with the Global Warming Solutions Act (AB 32), codified at Health and Safety Code Sections 38500, 38501, 28510 (repealed), 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, and 38592–38599. AB 32 is a legal mandate requiring that statewide GHG emissions be reduced to 1990 levels by 2020. In adopting AB 32, the legislature determined the necessary GHG reductions for the state to make in order to sufficiently offset its contribution to the cumulative climate change problem to reach 1990 levels. As identified in Issue a) above, the proposed project would not surpass the SCAQMD's recommended GHG significance threshold, which was prepared with the purpose of complying with the requirements of AB 32. This threshold was developed based on evidence that such thresholds represent quantitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA. Compliance with such thresholds will be part of the solution to the cumulative GHG emissions problem, rather than hinder the State's ability to meet its goals of reduced statewide GHG emissions under AB 32. Therefore, the proposed project would not conflict with AB 32.

For these reasons, this impact is considered to be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

8. 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 reasonable 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 Section 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 2 miles or a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				✓
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				✓
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				✓

DISCUSSION

a) **Less Than Significant Impact**. When completed, the proposed project will be a residential development, which will not store or use any significant quantities of hazardous material. During the construction phase of the proposed project, the stormwater pollution prevention program will manage the presence and use of hazardous materials on the site. Any impacts would be less than significant.

b) **Less Than Significant Impact**. Residential development associated with the proposed project would not include uses that utilize large quantities of hazardous materials. Due to the limited nature of materials associated with residential land uses and the existing regulatory requirements, the potential for release of hazardous materials into the environment associated with development would be considered less than significant.

c) **No Impact**. The closest school to the proposed project site, Wildomar Elementary School, is located approximately 1,200 feet to the northeast, while David A. Brown Middle School is 0.70 miles from the site. As a future residential development, the project will not emit hazardous emissions or handle hazardous or acutely hazardous material within one-quarter mile of a school. No impacts are expected.

d) **No Impact**. The proposed project site is not located on any hazardous materials site as designated by Government Code Section 65962.5. A review of the information on the California Department of Toxic Substances Control Envirostor website (2013) did not identify any other hazardous materials sites on or adjacent to the project site. Consequently, there is no impact.

e) **No 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 8.5 miles southeast of the project site. Given the distance and because the project is not in the airport land use plan for French Valley Airport, there is no impact.

f) **No Impact**. The project site is located in proximity to Skylark Field, which is a private airstrip located at the south end of Lake Elsinore, approximately 2 miles northwest of the project site. Skylark Field is used primarily by skydiving aircraft, which commonly drop parachutists into the nearby back-bay area south of the lake. The airstrip is also used for gliding and other recreational uses. As shown in Figure 5, Skylark Airfield Area of Influence, of the Elsinore Area Plan (County of Riverside 2011), the proposed project site is outside of the influence policy area. No impact is anticipated.

g) **No Impact**. Access to the project site will be via Central Street along the eastern boundary of the project; A Street is a new street part of the proposed project that will direct traffic flows from Central Street, through the project and out toward Gruwell Street. Development of the proposed project will not require the closure or relocation of any roadways, and operation of the proposed project is not expected to interfere with access to any surrounding roadway. Elm Street currently terminates at the southwestern side of the project. No access from Elm Street to the project site will be created. In addition, no current program within the City of Wildomar identifies any surrounding roadway as an emergency access route. The proposed project will have no impact on any plans for emergency evacuation.

h) **No Impact**. According to the Riverside County Land Information System (2013), the project site is not within a Very High Fire Hazard Severity Zone as designated by the California Department of Forestry and Fire Protection (Cal Fire). In addition, future development on the proposed project site will occur in an urbanized setting, minimizing any exposure to wildfire threats. No impact is anticipated.

STANDARD CONDITIONS AND REQUIREMENTS

1. As required by Section 15.04.020 of the Wildomar Municipal Code, any trash, debris, and waste materials remaining from uses prior to development shall be disposed of off-site, in accordance with current local, state, and federal disposal regulations. Any materials containing petroleum residues encountered during property improvements shall be evaluated prior to removal and disposal, following proper procedures. Any buried trash/debris encountered shall be evaluated by an experienced environmental consultant prior to removal.

MITIGATION MEASURES

None required.

9. 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?				
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			✓	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?			✓	
e) 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?			✓	
f) Otherwise substantially degrade water quality?			✓	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			✓	
h) Place within 100-year flood hazard area structures which would impede or redirect flood flows?			✓	

Issues: Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?				✓
j) Inundation by seiche, tsunami, or mudflow?				✓

DISCUSSION

a) **Less Than Significant Impact.** The project site falls under the jurisdiction of the San Diego Regional Water Quality Control Board (RWQCB) and is located in the Lake Elsinore watershed. Any future development associated with the proposed project will be subject to the requirements of National Pollutant Discharge Elimination System (NPDES) Stormwater Permit No. R8-2010-0033, which requires that the City impose water quality and watershed protection measures for all development projects and prohibits discharges from causing violations of applicable water quality standards or from resulting in conditions that create a nuisance or water quality impairment in receiving waters. A key component of the NPDES permit is the implementation of the Area-Wide Urban Runoff Management Program for the City, which includes the requirement of stormwater quality treatment and/or best management practices (BMPs) in project design for both construction and operation for new development. The BMPs will include site design components as well as source and treatment control measures, which are included in the project's water quality management plan (WQMP) (**Appendix 8**).

Following the implementation of the best management practices included in the project's WQMP, the proposed project and associated future development on the project site are not expected to violate any water quality standards or waste discharge requirements, or have a significant impact on the environment.

b) **Less Than Significant Impact**. The proposed project is located in the area subject to the Elsinore Basin Groundwater Management Plan (EVMWD 2005). Adopted on March 24, 2005, under the authority of the Groundwater Management Planning Act (California Water Code Part 2.75, Section 10753), as amended, the plan addresses the hydrogeologic understanding of the Elsinore Basin, the evaluation of baseline conditions, the identification of management issues and strategies, and the definition and evaluation of alternatives. The EVMWD will provide water service to the proposed project, and no wells will be constructed as part of the project.

As vacant land, the proposed project site is currently largely permeable. The proposed project will increase the imperviousness of the site through construction of homes, driveways, roads, and sidewalks. Section 17.24.020(G) of the Wildomar Municipal Code restricts the maximum size of the dwelling to 50 percent of the lot, while the adopted Design Guidelines require that residential lot coverage remain below 50 percent (City of Wildomar 2003). The small area of the property is such that even if the entire site were covered with impervious surface, there would be minimal impact on overall groundwater recharge. Stormwater from the site will flow into the Murrieta

Creek Channel and ultimately flow into Lake Elsinore. As the water from the site will not be removed from the Elsinore Basin, the impact on basin recharge is considered less than significant.

The proposed project would not substantially interfere with groundwater recharge or deplete groundwater supplies. Furthermore, the EVMWD imports water to ensure that significant overdraft of local groundwater supplies does not occur. Based on the EVMWD's Urban Water Management Plan (2011), no adverse impacts to groundwater resources are forecast to occur from implementing the proposed project, which is anticipated as part of buildout of the Wildomar General Plan. This impact will be less than significant.

c) **Less Than Significant Impact**. A preliminary hydrology/drainage study prepared for the proposed project by RDS and Associates in May 2013 (**Appendix 7**) determined that the current stormwater flows from the site are 3.5 cubic feet per second (cfs) for 10-year storm events and 6.1 cfs for 100-year storm events. The same study determined that the development of the project site will result in predicted stormwater flows of 5.3 cfs and 8.7 cfs for the 10-year and 100-year storms, respectively (RDS and Associates 2013a; **Appendix 7**). No watercourse exists on the project site, and an increase of 1.8 cfs to stormwater flows during 10-year storm events and 2.7 cfs to stormwater flows during 100-year storm events would not result in erosion on the project site. In addition, future development on the project site will be required to implement the water quality management plan (WQMP) prepared for the proposed project (**Appendix 8**). Considering the incremental increase to stormwater flows from the site and the implementation of the WQMP, any impact would be less than significant.

d) **Less Than Significant Impact**. Grading and paving of portions of the proposed project site would result in changes to the existing hydrologic features of the project site. As noted in Issue c) above, these changes would not result in significant changes to the volume of stormwater flows from the project site or the hydrologic features receiving flows from the site (RDS and Associates 2013a; **Appendix 7**). Any impact would be less than significant.

e) **Less Than Significant Impact**. The proposed project will include the construction of a street, A Street, which will direct flows from Gruwell Street via rolled curb and gutter southwesterly to the vegetated swale within Lot 15, adjacent to Central Street. Flows within A Street will be directed to a low point on Lot 15. The low point within A Street will be conveyed through a vegetated swale within Lot 15. The filtered flows from the vegetated swale will then outlet to the Murrieta Creek Channel via a grated inlet and 24-inch reinforced concrete pipe. The existing drainage flows discharged into the Murrieta Creek Channel for the developed condition of the proposed project site were calculated to be 5.3 cfs and 8.7 cfs for the 10-year and 100-year storms, respectively (RDS and Associates 2013a; **Appendix 7**).

The stormwater system as described will be discharged directly into a publicly owned, operated, and maintained Municipal Separate Stormwater Sewer System (MS4), and the discharge will be in full compliance with Riverside County Flood Control requirements for connections and discharges to the MS4. In addition, the vegetated swale, and the outlet to the Murrieta Creek Channel will be owned and maintained by the homeowners association of the proposed project.

Finally, any future development will be required to prepare a stormwater pollution prevention plan (SWPPP) that will include best management practices designed to reduce and manage increases in runoff water at the site. The BMPs may include design components such as

channeling site runoff into landscape areas, the incorporation of landscape buffer areas between sidewalks and streets, the construction of containment basins, or the infiltration of roof runoff to landscaping. The proposed best management practices included in the water quality management plan (**Appendix 8**) and required SWPPP will ensure that post-development discharge of stormwater flow is directed to the existing publicly owned, operated, and maintained MS4 facility. Any impact would be less than significant.

f) **Less Than Significant Impact**. The proposed project and/or future development associated with the proposed project would not otherwise substantially degrade water quality. Future development on the project site would be subject to the requirements of NPDES Stormwater Permit No. R8-2010-0033, which requires that the City impose water quality and watershed protection measures for all development projects and prohibits discharges from causing violations of applicable water quality standards or from resulting in conditions that create a nuisance or water quality impairment in receiving waters. A key component of the NPDES permit is the implementation of the Area-Wide Urban Runoff Management Program for the City, which includes the requirement of stormwater quality treatment and/or BMPs in project design for both construction and operation for new development.

As a standard condition, any future development will be required to prepare and comply with the requirements of the SWPPP and finalized water quality management plan, which would ensure that significant water quality impacts and violations of standards and requirements do not occur. Any impact to water quality would be less than significant.

g, h) **Less Than Significant**. A portion of the residential project may be located inside of the 100-year floodplain as mapped on a Flood Insurance Rate Map (FIRM) Panel Number 06065C2682G (FEMA 2008) and may be subject to flooding. The 100-year flood line appears to be within the channel and adjacent right-of-way for the Murrieta Creek Channel, but the actual location of the line will need to be determined by final engineering (see **Figure 7**). If the area is within the 100-year flood elevation, the FIRM map indicates that flooding would be 1 foot or less in elevation. The City's Municipal Code Chapter 15.96 relates to flood hazard area regulations. One of the provisions of the Flood Hazard Area Regulations is that "for all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices; provided that they permit the automatic entry and exit of floodwaters." If the project engineer can demonstrate to the City Engineer that the property is outside of the floodplain, the provisions of Municipal Code Chapter 15.96 will not apply. Either compliance with Chapter 15.96 or evidence that the property is outside of the 100-year floodplain will result in a less than significant impact.

i) **No Impact**. According to Figure 10 of the Wildomar General Plan (2008), the project site is located outside of the inundation area of Lake Elsinore. No impact is anticipated.

j) **No Impact**. The project site is not located in an area that is subject to seiches, mudflows, or tsunamis. No impact is anticipated.

STANDARD CONDITIONS AND REQUIREMENTS

1. Prior to the approval of the grading permit for future development on the project site, the project applicant(s) for future development shall be required to prepare and implement a stormwater pollution prevention plan (SWPPP) consistent with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2010-0014-DWQ), which is to be administered through all phases of grading and project construction. The SWPPP shall incorporate best management practices (BMPs) to ensure that potential off-site water quality impacts during construction phases are minimized. The SWPPP shall be submitted to the San Diego Regional Water Quality Control Board and to the City of Wildomar for review. A copy of the SWPPP must be kept accessible on the project site at all times. In addition, the project applicant(s) will be required to submit, and obtain City approval of, the attached preliminary water quality management plan (**Appendix 8**) prior to the issuance of any building or grading permit for future development on the project site in order to comply with the Area-Wide Urban Runoff Management Program. The project shall implement site design BMPs, source control BMPs, and treatment control BMPs as identified in the water quality management plan. Site design BMPs shall include, but are not limited to, landscape buffer areas, roof and paved area runoff directed to vegetated areas, and vegetated swales. Source control BMPs shall include, but are not limited to, education, landscape maintenance, litter control, irrigation design to prevent overspray, and covered trash storage. Treatment control BMPs shall include vegetated swales and a detention basin, or an infiltration device.

2. The project shall comply with the provisions of Wildomar Municipal Code Chapter 15.96, Flood Hazard Area Regulations.

MITIGATION MEASURES

None required.

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T:_CS\Work\Wildomar, City of\08-0154 Elm Street Figures

ELM STREET

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Source: FEMA Flood Map Store

Not to scale

Figure 7
FIRM M

10. 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) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			✓	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?			✓	

DISCUSSION

a) **No Impact**. The proposed project is located between existing homes on Darby Street and vacant land parallel to the Murrieta Creek Channel. The new roadway, shown as A Street on **Figure 2**, will connect Central Street with Gruwell Street and serve only the proposed project. No existing circulation pattern will be disrupted and proposed project will not block access to other properties. As shown in **Figure 1**, the proposed project is surrounded by existing development, and the existing creek forces all pedestrian or vehicle traffic to use the bridges on Central and Gruwell streets. Access to the rear of existing homes along Darby Street will be maintained by the existing 10-foot utility easement along the south side of the proposed A Street. The proposed project will not eliminate any streets in the area or create any new structures that would divide the community. No impact is anticipated.

b) **Less Than Significant Impact.** The proposed project site is currently zoned Rural Residential (R-R) and designated for Medium Density Residential (MDR) use in the Wildomar General Plan. Land to the northeast of the site is zoned One-Family Dwelling (R-1) and designated MDR, while land to the northwest is zoned R-1 and designated for Low Density Residential (LDR) use. All other surrounding land is zoned R-R and designated MDR. The proposed project includes a change of zone of the project site from the existing R-R to R-1. The change in zone will allow consistency with the land use designation of the site and would not result in any zoning conflicts, since the existing and proposed zones are both for detached single-family home residential uses. The following are a few General Plan policies that are furthered by the project and help to avoid and/or mitigate environmental effects:

> LU 6.4 Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.

LU 22.6 Require setbacks and other design elements to buffer residential units to the extent possible from the impacts of abutting agricultural, roadway, commercial, and industrial uses.

LU 22.1 Accommodate the development of single- and multi-family residential units in areas appropriately designated by the General Plan and area plan land use maps.

LU 22.4 Accommodate the development of a variety of housing types, styles and densities that are accessible to and meet the needs of a range of lifestyles, physical abilities, and income levels.

LU 22.10 Require that residential units/projects be designed to consider their surroundings and to visually enhance, not degrade, the character of the immediate area.

OS 17.1 Enforce the provisions of applicable MSHCPs, if adopted, when conducting review of development applications.

Impacts to land use are considered less than significant.

c) **Less Than Significant Impact.** The City of Wildomar participates in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The plan establishes areas of sensitivity considered Criteria Areas or Cells. Projects outside of these areas can proceed consistent with the provisions of CEQA and are subject to payment of an MSHCP Mitigation Fee. The MSHCP establishes procedures for the determination of sensitivity. The proposed project is subject to the MSHCP but is outside of any Criteria Area or Cell; therefore, the proposed project will be required to pay the standard impact mitigation fee. The proposed project will not conflict with any habitat conservation plan or natural community conservation plan, and any impacts would be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. Prior to the issuance of a grading permit, the developer shall pay the regional impact mitigation fee established by the Western Riverside County Multiple Species Habitat Conservation Plan.

MITIGATION MEASURES

None required.

11. 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 a 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 proposed project is located within an area designated as MRZ-3 by the Wildomar General Plan (2008). 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. A review of project soil types (**Appendix 6**) did not reveal any significant potential for mineral resources at the site. No impact is anticipated.

b) **No Impact.** There are no known locally important mineral resource recovery sites identified on the project site in the Wildomar General Plan (2008) or in a specific plan or other land use plan of value to the region or to the residents of the state. No impact is expected.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

12. Noise

Issues: Would the project result in:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) The exposure of persons to, or the generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b) The exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			✓	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		✓		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?				✓
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?			✓	

DISCUSSION

a) **Less Than Significant Impact With Mitigation Incorporated.** The City of Wildomar sets standards for allowable noise levels according to General Plan land use designations. These standards, contained in the Wildomar General Plan, are measured by equivalent continuous sound level (L_{eq}). L_{eq} is a method of describing sound levels that vary over time, resulting in a single decibel value which takes into account the total sound energy over a period of time of interest. The proposed project is currently designated for residential use, with a maximum exterior noise level of 65 L_{eq} (10 minutes) from 7 a.m. to 10 p.m. and 45 L_{eq} (10 minutes) from 10 p.m. to 7 a.m., and a maximum interior noise level of 55 L_{eq} (10 minutes) from 7 a.m. to 10 p.m. and 40 L_{eq} (10 minutes) from 10 p.m. to 7 a.m.

Construction Noise Levels

As the proposed project is developed, it is possible that construction noise will result in a short-term, unsustained elevation in the amount of noise at the project site. Noise levels associated with the anticipated construction equipment are summarized in **Table 12-1.** Based on these typical noise levels, construction activities associated with future development may result in noise levels that range from 71 to 94 dBA at 50 feet. The loudest noise sources are likely to be earth-moving equipment such as graders, bulldozers, and backhoes that typically are used at the beginning of construction in previously undeveloped areas. However, noise levels would attenuate (drop) as noise source distance increases away from sensitive receptors or by being blocked with intervening features such as walls, fences, and buildings. Construction noise attenuates at a rate of 6 dBA per doubling of distance, such that estimated noise of 90 dBA at 50 feet would be reduced to 84 dBA at 100 feet, and an intervening solid wall or building can reduce noise levels by 5 to 10 decibels as long as it serves to block the line of sight from the noise source to the receptor (FTA 2006).

The site is essentially flat, with approximately 7 feet of elevation change over the 1,286-foot length of the property. While there will be excavation associated with the installation of sewer and water lines, grading activities are anticipated to last approximately 8 days.

Table 12-1
Typical Construction Equipment Noise Levels

Type of Equipment	Typical Noise Level (dBA) 50 Feet from Source
Dozers	85
Cranes	83
Rollers	74
Tractors	80
Front-End Loaders	85
Graders	85
Air Compressors	81
Trucks	88

Source: FTA 2006, Table 12-1, Transit Noise and Vibration Impact Assessment

The City of Wildomar General Plan does not set decibel standards for temporary construction noise impacts. The General Plan contains four policies pertaining to temporary construction noise (Policies N 12.1 through 12.4), but those policies do not set decibel standards and generally require that the City make reasonable efforts to minimize temporary construction noise impacts on adjacent uses. Chapter 9.48 of the Wildomar Municipal Code contains noise standards in addition to the standards included in the General Plan, but Section 9.48.010 specifically states that the noise standards contained in that chapter are not thresholds of significance for the purposes of CEQA review. In addition, Section 9.48.020(I) of the Wildomar Municipal Code states that sound emanating from private construction projects located within one-quarter of a mile of an inhabited dwelling is exempt from the noise ordinance, 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.

To determine a threshold for construction noise, worker noise safety standards of other agencies were reviewed. The rationale is that if a maximum construction noise level is generally safe for construction workers who are exposed to the noise all day, then the noise level should be also be safe for adjacent residents who are typically farther from the noise source and exposed only briefly during the day. Noise standards from the California Department of Transportation (Caltrans), the American National Standards Institute (ANSI), the American Conference of Governmental Industrial Hygienists (ACGIH), the Federal Railroad Administration (FRA), and the California Department of Industrial Relations (DIR) were reviewed. Their limits are as follows:

Caltrans Standard Specifications Section 14-8

Do not exceed 86 dBA LMax at 50 feet from the job site activities from 9 p.m. to 6 a.m.

The American National Standards Institute

A10.46-2007, Hearing Loss Prevention in Construction and Demolition Workers. Applies to all construction and demolition workers with potential noise exposures (continuous, intermittent, and impulse) of 85 dBA and above.

The American Conference of Governmental Industrial Hygienists

The ACGIH has established exposure guidelines for occupational exposure to noise in its Threshold Limit Values (TLVs) (85 dBA PEL with a 3 dBA exchange rate).

Federal Railroad Administration

49 CFR 227, Occupational Noise Exposure for Railroad Operating Employees. Requires railroads to conduct noise monitoring and implement a hearing conservation program for employees whose exposure to cab noise equals or exceeds an 8-hour time-weighted-average of 85 dBA. This final rule became effective February 26, 2007.

California Department of Industrial Relations

Employers shall make hearing protectors available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors shall be replaced as necessary. The DIR also establishes time-based exposure limits to different noise levels; however, their table starts at the 90 dBA level.

As shown above, these agencies seem to settle on 85 dBA as a reasonable threshold of noise exposure for construction workers. It should be noted that this threshold is based on worker protection, which assumes continuous exposure for the worker. Construction activities would be intermittent and temporary, and it is unlikely that a noise-sensitive receptor would be exposed to construction-related noise levels above 85 dBA continuously for the length of the project's construction. However, the City has determined that exposure of noise-sensitive receptors to construction noise levels above 85 dBA would result in a potentially significant impact.

As shown in **Table 12-1**, most of the probable construction equipment has an upper range of noise that is consistent with the 85 dBA threshold. As shown on **Figure 2**, with the exception of a single home at the intersection of the proposed A Street and Central Street, all of the residences on the west side of A Street are more than 100 feet from the nearest construction area. Existing homes across the Murrieta Creek Channel right-of-way to the northeast are approximately 70 to 100 feet from the construction area for the proposed homes.

However, for the home at the intersection of the proposed A Street and Central Street, the distance to the roadway construction is approximately 15 feet, and the homes located to the southwest of the project site along Darby Street are also located approximately 10 to 20 feet from the site boundary. Noise-sensitive uses located between 10 and 70 feet from the project site could potentially be exposed to noise levels above 85 dBA during the site preparation and grading phase of project construction. Noise from construction activities at these locations would be sporadic and limited during the construction period. To address this impact, mitigation measure **NOI-1** requires that the construction contractor follow best management practices that include, but are not limited to, restricting grading and excavation activities to the hours of 9:00 a.m. to 4:00 p.m. on non-holiday Mondays through Fridays. This ensures that the loudest construction activities occur outside of recognized weekend, holiday, sleeping, and rest time; using grading and excavation equipment that has been certified to generate noise levels of no more than 85 dBA at a distance of 50 feet; either erecting a temporary noise barrier or developing the proposed masonry wall along the western, northern, and southern perimeters of the site; and coordinating with the adjacent residents such that the residents are fully aware of the construction schedule.

Compliance with mitigation measure **NOI-1** will ensure notification of the neighborhood, a contact to call concerning noise, a requirement to conduct the noisiest construction activities (e.g., grading and trenching) during the time of day when most residents are at work, and that the noise wall is constructed to reduce noise early in the project. This will ensure that noise levels are at or below the 85 dBA threshold; therefore, this impact is less than significant with mitigation incorporated.

Operational Noise Levels

Noise in the city is dominated by I-15 and traffic on local roadways. **Table 12-2** shows the existing noise levels along Central Street. As shown in **Table 12-2**, the estimated noise levels along Central Street are 59.9 dBA CNEL, which exceeds the 55 dBA CNEL standard established in Table 1 of Section 9.48.040, General Sound Level Standards, of the City of Wildomar Municipal Code. However, as shown in **Figure 2**, the perimeter of the project site would include a masonry wall with a height of approximately 5 feet 6 inches. Sound levels can be reduced by placing barriers between the noise source and the receiver. In general, barriers contribute to decreasing noise

levels only when the structure breaks the "line of sight" between the source and the receiver. Noise barriers can be constructed from earth, concrete, masonry, wood, metal, and other materials. To effectively reduce sound transmission through the barrier, the material chosen must be rigid and sufficiently dense (at least 20 kilograms per square meter). All noise barrier material types are equally effective, acoustically, if they have this density (FHWA 2015). The noise reduction from the masonry wall would reduce noise levels from Central Street by approximately 5 dBA, such that noise levels are estimated to be 54.9 dBA, which is below the maximum established in Table 1 of Section 9.48.040, General Sound Level Standards, of the City of Wildomar Municipal Code.

Table 12-2
Existing Noise Contour Distance

Roadway Segment	Existing CNEL at 100 Feet from Centerline	Distance to CNEL Contour from Centerline of Roadway (feet)*			
		70 CNEL	65 CNEL	60 CNEL	55 CNEL
Central Street, west of Palomar Street	59.9	—	46	98	211

Traffic noise calculation sheets are available in Appendix 9.
** Does not account for attenuating features such as intervening structure, walls, or earthen berms.*

The proposed project would introduce new noise sources due to the development of new residential uses on currently vacant land. The primary source of community noise would be from the installation heating, ventilation, and air conditioning (HVAC) systems. The HVAC equipment on the new residences would comply with the City of Wildomar noise ordinance. In addition, noise from the equipment would likely be indistinguishable in the ambient noise environment due to traffic noise along Central Street and the noise attenuation due to the distance between the HVAC systems and nearby residences. Thus, noise impacts from HVAC equipment would be less than significant.

b) **Less Than Significant Impact**. Construction of future development 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. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. **Table 12-3** displays vibration levels for typical construction equipment.

Table 12-3
Typical Construction-Equipment Vibration Levels

Equipment	PPV at 25 Feet (in/sec)[1]	Approximate Lv at 25 Feet[2]
Large Bulldozer	0.089	87
Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: FTA 2006
[1] Where PPV is the peak particle velocity
[2] Where 1_, is the velocity level in decibels (VdB) referenced to 1 micro-inch/second and based on the root mean square (RMS) velocity amplitude.

Future development on the project site may require the use of bulldozers and trucks. According to the Federal Transit Administration (FTA) (2006), vibration levels associated with the use of a large bulldozer are 0.089 inches per second (in/sec) peak particle velocity (PPV) and 87 vibration decibels [VdB referenced to 1 gin/sec and based on the RMS velocity amplitude] at 25 feet, as shown in **Table 12-3**. Using the FTA-recommended procedure for applying a propagation adjustment to these reference levels, predicted worst-case vibration levels of approximately 0.03 in/sec PPV and 81 dBA at approximately 50 feet from the project site's boundary could occur from use of a large bulldozer. These vibration levels would not exceed the California Department of Transportation's recommended standard of 0.2 in/sec PPV (Caltrans 2002) with respect to the prevention of structural damage for normal buildings, which standard is also incorporated into the Noise Element of the City of Wildomar General Plan. Vibration levels at greater distances would be substantially diminished. Because zoning provides for residential development, no vibration impacts are anticipated from operations. Any impacts would be less than significant.

c) **Less Than Significant Impact**. Buildout of the proposed project will result in new homes with residents that may increase the ambient noise levels in the area from the current condition. However, the noise from the project will be similar in scope and type to the existing residential units in the area (i.e., periodic noise from lawn mowers, car engines, leaf blowers, children). As the proposed residential development, and the associated noise from the new residents, is similar to the existing uses in the area, no substantial increases in ambient noise levels are anticipated and this impact is considered less than significant.

d) **Less Than Significant Impact With Mitigation Incorporated**. Future construction activity on the project site would temporarily increase ambient noise levels above existing levels, as discussed in more detail in Issue a) above. This condition is expected to occur as the site is graded and as the homes and other site improvements are constructed. There will be a temporary increase in noise as the site is prepared for construction of the roadway and with construction of the homes. Compliance with the City's noise ordinance and implementation of mitigation measure **NOI-1** will ensure that these impacts are less than significant with mitigation incorporated.

e) **No Impact**. The project site is not located within the influence area for any airport. The closest public general aviation airfield is French Valley Airport, approximately 8.5 miles southeast of the project site. The project site is outside of the airport noise and safety influence or flight surface control areas. No impact is expected.

f) **Less Than Significant Impact**. Skylark Field is located approximately 2 miles northwest of the project site at the south end of Lake Elsinore. As shown on Figure 5 of the Elsinore Area Plan (2003), the proposed project is outside the Airport Influence Policy area for Skylark Field. The proposed project is not within an airport master plan area and does not require review by the Airport Land Use Commission. Because the proposed project is distant from the airfield and not part of the influence policy area for the airport, aircraft will be higher in overflight of the property and would not subject the project site to excessive noise. This impact is considered less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. All construction and general maintenance activities shall be limited to the hours and decibel levels described in Wildomar Municipal Code Chapter 9.48, except as further restricted by mitigation measure **NOI-1**.

MITIGATION MEASURES

NOI-1 The applicant shall require by contract specifications that the following construction best management practices (BMPs) be implemented by contractors to reduce construction noise levels:

a) Notification shall be mailed to owners and occupants of all developed land uses immediately bordering the project site, immediately across the Murrieta Creek Channel from the project site, and directly across the street from the project site providing a schedule for major construction activities that will occur for the duration of the construction period. In addition, the notification will include the identification of and contact number for a community liaison and a designated construction manager who would be available on-site to monitor construction activities. The construction manager will be located at the on-site construction office during construction hours for the duration of all construction activities. Contact information for the community liaison and the construction manager will be located at the construction office, City Hall, and the police department.

b) Site grading and excavation activity shall be limited to weekdays between 9:00 a.m. and 4:00 p.m., and no construction activities shall occur on Saturdays, Sundays, or federally recognized holidays.

c) The construction contractor shall utilize grading and excavation equipment that is certified to generate noise levels of no more than 85 dBA at a distance of 50 feet.

d) All construction equipment shall be properly maintained with operating mufflers and air intake silencers as effective as those installed by the original manufacturer.

e) The construction contractor shall erect a temporary noise construction barrier along the southwestern, northwestern, and western perimeters of the project site. If a temporary construction barrier is deemed technically infeasible, the contractor shall construct a masonry wall along the southern and western perimeters of the project prior to any other phase of construction activity, including site grading. The applicant shall demonstrate that the temporary barrier achieves a noise reduction of at least 5 decibels during construction activities.

f) The construction contractor shall evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets, for example, and implement such measures if such measures are feasible and would noticeably reduce noise impacts.

g) The construction contractor shall monitor the effectiveness of noise attenuation measures by taking noise measurements.

Timing/Implementation: *Prior to any earth movement permit or activity*

Enforcement/Monitoring: *City of Wildomar Planning and Public Works Departments*

13. 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 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 housing, necessitating the construction of replacement housing elsewhere?				✓
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

DISCUSSION

a) **Less Than Significant Impact.** The proposed project will eventually result in 15 additional single-family homes. Using January 1, 2014, California Department of Finance (DOF) estimates, an average of 3.3 persons per household is assumed for residences within the city. Considering this estimate, the proposed project will result in approximately 50 new residents. As of 2014, according to the DOF, Wildomar's estimated population was 33,718. The addition of 50 residents to the city's population represents an increase of less than 0.001 percent. Any impact would be less than significant.

b, c) **No Impact.** No housing units or people would be affected, and the construction of replacement housing is not required. No impact is expected.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

14. Public Services

Issues: Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 following 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. The proposed project will be primarily served by Wildomar Fire Station #61, located at 32637 Gruwell Street, approximately 200 feet from the project site. In addition to Fire Station #61, several other Riverside County fire stations in the surrounding area would be able to provide fire protection safety services to the project site if needed. The 2011 RCFD annual report concluded that there were a total of 2,674 incidents in 2010 and 2,555 incidents in 2011 in Wildomar. Considering the number of housing units in the city, 10,806 in 2010 and 10,840 in 2011, there were 0.25 incidents per household in 2010 and 0.24 incidents per household in 2011. The proposed project will eventually add 15 single-family homes. Considering the 2011 incident rate of 0.24 incidents per housing unit, the proposed project may be projected to generate 3.6 annual incidents. An additional 3.6 incidents would represent a 0.14 percent increase in the number of incidents in Wildomar, which is considered less than significant.

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 development impact fees by any future home builder pursuant to Section 3.44.080 of the Wildomar Municipal Code. The proposed project is not expected to result in activities that create unusual fire protection needs or significant impacts. Any impact would be considered incremental and less than significant.

b) **Less Than Significant Impact.** Police protection services are provided by the Riverside County Sheriff's Department (RCSD). The nearest sheriff's station is located at 333 Limited Street in Lake Elsinore, approximately 5.3 miles from the project site. Traffic enforcement is provided for

Riverside County in this area by the California Highway Patrol, with additional support from the local Riverside County Sheriff's Department.

For the purpose of establishing acceptable levels of service, the Riverside County Sheriff's Department maintains a recommended service ratio of 1.2 sworn law enforcement personnel for every 1,000 residents (City of Wildomar 2008). As stated in Issue a) in subsection 13, Population and Housing, of this Initial Study, the proposed project will result in approximately 50 new residents. Considering the RCSD's recommended service ratio, the population increase resulting from the proposed project would require 0.06 additional sworn law enforcement personnel.

In addition, as a standard condition of approval, any future building permit applicant will be required to pay the standard development impact fees pursuant to Section 3.44.080 of the Wildomar Municipal Code. The proposed project is not expected to result in activities that create unusual police protection needs or result in the need to construct new facilities. Any impacts would be considered incremental and less than significant.

c) **Less Than Significant Impact.** The project site is located in the Lake Elsinore Unified School District (LEUSD). The district has established school impact mitigation fees to address the facility impacts created by residential, commercial, and industrial development.

According to the LEUSD's (2012) School Facilities Needs Analysis, the generation rates for single-family homes include 0.2877 per unit for elementary school (K–5), 0.1376 per unit for middle school (grades 6–8), and 0.1702 per unit for high school (grades 9–12). Based on these rates, the project will generate four elementary school students, two middle school students, and three high school students, for a total of seven students. As of the 2011/12 academic year, the LEUSD enrolled 22,171 students. The proposed project will represent an increase in LEUSD enrollment of less than 1 percent.

Current state law requires that impacts to current school facilities be mitigated though mandatory development impact fees. The fees enacted within the LEUSD of $3.10 per square foot of residential development will be collected for future development as stated in standard conditions of approval. This standard condition of approval will act to fully mitigate any impact the proposed project will have on the LEUSD's facilities. Any impact would be less than significant.

d) **Less Than Significant Impact.** The City of Wildomar owns and manages three public parks: Marna O'Brien Park, Regency Heritage Park, and Windsong Park. In addition, the city contains 306.93 acres of land dedicated to open space recreation and 220.92 acres of land dedicated to open space conservation. Upon city incorporation in 2008, the City of Wildomar adopted the Riverside County Municipal Code. The code includes an open space requirement of 3 acres of neighborhood and community parkland per 1,000 residents for residential subdivisions. The completion of the proposed project will result in a population increase of approximately 50 residents in Wildomar, generating a demand for 0.15 acres of parkland. This incremental increase in the demand for parkland will be offset by the standard condition of payment of Quimby park impact fees as required by Section 16.20.020 of the Wildomar Municipal Code.

e) **Less Than Significant Impact.** Development associated with the proposed project may result in a slight increase in the demand for other governmental services, economic development, and the other community support services commonly provided by the City of Wildomar, including but not

limited to City Hall, the Mission Trail Library, and the Animal Friends of the Valleys animal shelter. As stated in Issue a) in subsection 13, Population and Housing, of this Initial Study, the proposed project will result in approximately 50 new residents. Considering the 2014 population of Wildomar of 33,718, the proposed project would result in a population increase of 0.001 percent. Impacts to community support services as a result of this incremental population increase would be less than significant.

A standard condition of approval for the proposed project includes the payment of standard development impact fees pursuant to Section 3.44.080 of the Wildomar Municipal Code. The proposed project is not expected to result in activities that create unusual demands on local government services. Any impact would be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. Prior to issuance of any building permit, the project applicant(s) for future development shall pay the required development impact fees for the Riverside County Sheriff's Department, Riverside County Fire Department, and other governmental services pursuant to Chapter 3.44 of the Wildomar Municipal Code and in effect at the time of building permit issuance.

2. Prior to issuance of any building permit, the project applicant(s) for future development shall pay the required school impact mitigation fees established by the Lake Elsinore Unified School District and in effect at the time of building permit issuance.

3. Prior to issuance of any building permit, the project applicant(s) for future development shall pay the required Quimby park impact fees established by the City of Wildomar and in effect at the time of building permit issuance.

MITIGATION MEASURES

None required.

15. Recreation

Issues: Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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) 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.** The proposed project and future residential development associated with the proposed project may result in the incremental increased use of existing neighborhood and regional parks or other recreational facilities. However, considering the very small population increase of 50 residents, the impacts are expected to be less than significant.

b) **No Impact.** The proposed project and future residential development associated with the proposed project would not be expected to require the construction or expansion of new recreational facilities. There are no parks or recreational facilities included in the project. As a result, no impacts are anticipated.

STANDARD CONDITIONS AND REQUIREMENTS

1. Prior to issuance of any building permit, the project applicant(s) for future development shall pay the required park impact fees established by the City of Wildomar and in effect at the time of building permit issuance.

MITIGATION MEASURES

None required.

16. Transportation/Traffic

Issues: Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			✓	
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			✓	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?				✓
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
e) Result in inadequate emergency access?				✓
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			✓	

DISCUSSION

a) **Less Than Significant Impact.** Intersection and roadway functioning is usually described by its level of service (LOS). LOS A constitutes light traffic conditions with no interruptions in service or delays at intersections, while LOS F represents congested and unstable conditions with slow moving traffic accompanied by significant delays at many intersections. The City of Wildomar General Plan (2008) establishes a citywide goal for intersection performance during peak traffic periods at LOS D or better.

Development associated with the proposed project would result in additional vehicle trips on the citywide road network. Assumptions regarding the number of trips a proposed project will generate are based on trip generation rates in the Institute of Transportation Engineers, *Trip*

Generation Manual, 8th Edition (2008). The manual, which determines daily traffic trips based on land use, states that detached single-family residential units generate 0.75 a.m. peak-hour trips, 1.01 p.m. peak-hour trips, and 9.57 daily trips. Considering these generation rates, the proposed development is projected to generate a total of 144 additional daily vehicle trips on a weekday, 11 of which will occur during the morning peak hour and 15 of which will occur during the evening peak hour.

The Wildomar General Plan (2008) also classifies local roadways by the number of lanes of the road and certain design standards for vertical and horizontal roadway alignment. According to these criteria, both Central Street and Gruwell Street are categorized as secondary collector roadways south of Palomar Street. For collector roadways to be classified as a LOS D, the maximum allowed average daily trips (ADT) are 23,300 (City of Wildomar 2008). The 2013 Riverside County Transportation Department (RCTD) traffic count book included a 9,661 ADT count for Central Street north of Grand Avenue and a 1,949 ADT count for Gruwell Street south of Palomar Street (RCTD 2013). A 9,661 ADT for Central Street allows a level of service lower than D, and an additional 144 vehicle trips would not impact this designation. A 1,949 ADT count for Gruwell Street allows a level of service lower than D, and an additional 144 vehicle trips would not result impact this designation. The additional 144 vehicle trips resulting from the proposed project would represent a less than 0.01 percent increase to a collector roadway already operating at LOS D.

The proposed project represents a population increase of approximately 50 people, representing an increase of less than .001 percent to the current population of the city. Such a small increase in population is not enough to affect public transit systems or non-motorized transit opportunities. Any impact would be less than significant.

b) **Less Than Significant Impact**. Every county in California is required to develop a Congestion Management Program (CMP) that looks at the links between land use, transportation, and air quality. In its role as Riverside County's Congestion Management Agency, the Riverside County Transportation Commission (RCTC) prepares and periodically updates the county's CMP to meet federal Congestion Management System guidelines as well as state CMP legislation. The Southern California Association of Governments (SCAG) is required under federal planning regulations to determine that CMPs within its region are consistent with the Regional Transportation Plan. The RCTC's current Congestion Management Program was adopted in March 2011; of the roadways in Wildomar, Interstate 15 (I-15) is included in the CMP.

The RCTC's Congestion Management Program does not require traffic impact assessments for development proposals. However, local agencies are required to maintain the minimum level of service thresholds included in their respective general plans. If a street or highway segment included as part of the CMP falls below the adopted minimum LOS E, a deficiency plan is required.

Some of the vehicle trips generated by residential development on the project site will connect to the CMP network at Interstate 15, and development associated with the proposed project may add 15 p.m. peak-hour vehicle trips and 11 a.m. peak-hour vehicle trips to the designated CMP network at the Baxter Road/I-15 ramps. However, these additional trips do not exceed the City of Wildomar's specialized significance criteria for determining whether to study traffic impacts if a project that generates 50 p.m. peak-hour vehicle trips or that increases an intersection delay by more than 5.0 seconds. Any generation of traffic less than this is considered less than significant.

The proposed project is projected to generate 15 p.m. peak-hour trips; therefore, the impact would be less than significant.

c) **No Impact.** The proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. The maximum building height of the project is significantly less than the height of the terrain in the vicinity of the project. Since the location and height of the project would not affect air traffic patterns or aircraft operations from any private or public airport, no impacts are expected.

d) **Less Than Significant Impact.** The proposed project will include the creation of a roadway (A Street). A Street will run along the southwestern boundary of the project site, will be accessed via Central Street (right turn in), and will terminate at Gruwell Street (right turn out) as shown on **Figure 2**. The City has site design criteria governing the placement of driveways along A Street to allow adequate site distance and turning movements, allowing any impact to be less than significant.

e) **No Impact.** The proposed project would include the creation of a roadway (A Street). Traffic will flow from Central Street, through A Street and out to Gruwell Street. A Street will be designed to provide adequate emergency access. The proposed project would not interfere with area-wide emergency access or the implementation of local emergency response plans. No impact is anticipated.

f) **Less Than Significant Impact.** The proposed project will construct curb improvements along A Street consistent with City requirements. All roadway and driveway improvements within the City's right-of-way will be designed to comply with design criteria contained in Chapter 16.24 of the Wildomar Municipal Code, including the construction of sidewalks, curbs, and gutters along the property frontage. The proposed project site is not located on a current Riverside Transit Authority transit line, bike lane, or pedestrian path.

STANDARD CONDITIONS AND REQUIREMENTS

1. Prior to issuance of any building permit on the project site, any project applicant(s) shall pay the appropriate Transportation Uniform Mitigation Fee to the Western Riverside County Council of Governments.

MITIGATION MEASURES

None required.

17. 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) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			✓	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓	
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?			✓	
e) Result in a determination by the wastewater 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?			✓	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			✓	

DISCUSSION

a) **Less Than Significant Impact.** The San Diego Regional Water Quality Control Board regulates wastewater discharges within the portion of Wildomar encompassing the project site.[2]

[2] The city lies within two different watersheds and therefore is subject to the jurisdiction of two different regional boards: Santa Ana (Lake Elsinore) and San Diego (Santa Margarita River). This would require the City to administer two separate MS4 permits, which would add considerably to the cost and burden of development. The City requested to be governed by one MS4 permit to reduce costs. The City and the Regional Boards agreed that the City would be governed by the MS4 permit issued by the San Diego Regional Water Quality Control Board for the Santa Margarita River watershed. So, no matter where a project is located within the city, it must comply with the MS4 permit issued by the San Diego Regional Board for the Santa Margarita River watershed. However, the Santa Ana Regional Water Quality Control Board will continue to regulate grading activities as well as any hydrology changes within its permit area.

Development on the project site would receive wastewater services from the Elsinore Valley Municipal Water District. Sewer service will be provided through connection to an existing 8-inch gravity feed sewer line in Central Street. The proposed project is within the EVMWD's Regional Sewershed, which manages and directs sewage flows from approximately 56,100 acres to the Regional Water Reclamation Facility (WRF) at 14980 Strickland Avenue in Lake Elsinore. Flows from the project site will be directed from the project site though the existing B-2 LS lift station located at 32741 Mission Trail in Wildomar (EVMWD 2008a). Per California Regional Water Quality Control Board Order No. R8-2005-0003, the Regional WRF has a capacity of 8 million gallons per day (mgd) with an average flow of approximately 4.66 mgd, resulting in a treatment capacity of approximately 3.34 mgd (EVMWD 2008a). The proposed project will not result in a flow of wastewater that exceeds the permitted flow of this facility. Any impact would be less than significant.

b) **Less Than Significant Impact**. The EVMWD will provide water and wastewater services for the proposed project. To anticipate and meet the service needs of future growth, the EVMWD has an adopted Urban Water Management Plan (UWMP) (2011) and a Wastewater Master Plan (2008a).

The EVMWD Urban Water Management Plan established a baseline per capita water demand for residents within the district's service area by compiling overall water demands for a ten-year period from 1999 to 2008. This per capita demand rate is measured in gallons per capita per day (gpcd). The 2010 baseline water demand baseline is 248 gpcd. Based on this estimate, the proposed project would result in an increased water demand of 12,400 gpd (13.88 acre-feet per year). The UWMP states that the current average daily production of potable water is 43,800 acre-feet per year and that the EVMWD has the capacity to produce 66,500 acre-feet per year of potable water. Considering the incremental increase in potable water production required by the proposed project and the remaining production capacity of the EVMWD, the proposed project will have a less than significant impact on water treatment and conveyance facilities.

For this study, assumptions on wastewater production from the proposed project are based on the EVMWD's 2008 Wastewater Master Plan, which estimated that land designated for medium-density residential use produced 900 gallons of wastewater per day per acre. Using this estimation, the proposed project would produce 3,744 gallons of wastewater per day. Current capacity at lift station B-2 LS is 3,600 gallons per minute, which would allow flows from the proposed project (EVMWD 2008a). The Lake Elsinore Regional WRF has an existing average flow of 8 mgd and a peak flow of 17.6 mgd. Estimated wastewater flows from the proposed project would result in an incremental increase to treatment demands at the treatment plant. Any impact would be less than significant.

c) **Less Than Significant Impact.** A preliminary hydrology study performed for the proposed project by RDS and Associates in May 2013 determined that current stormwater flows from the site are 3.5 cubic feet per second (cfs) for 10-year storm events and 6.1 cfs for 100-year storm events. The proposed project will include the construction of A Street, which will direct flows via rolled curb and gutter southwesterly to Central Street. Flows within A Street will be directed to a low point fronting Lot 15. The low point within A Street will be conveyed through a vegetated swale in Lot 15. The filtered flows from the vegetated swale will then outlet to the Murrieta Creek Channel via a grated inlet and 24-inch reinforced concrete pipe. The existing drainage flows discharged into the Murrieta Creek Channel for the developed condition of the proposed project were calculated to be 5.3 cfs and 8.7 cfs for the 10-year and 100-year storms, respectively (RDS and Associates 2013a; **Appendix 7**).

The stormwater system as described will be discharged directly into a publicly owned, operated, and maintained MS4, and the discharge will be in full compliance with Riverside County Flood Control requirements for connections and discharges to the MS4.

Finally, the vegetated swale, and the outlet to the Murrieta Creek Channel will be owned and maintained by the homeowners association of the proposed project, allowing any impact to existing stormwater facilities to be less than significant.

d) **Less Than Significant Impact**. The project site is within the service boundary for the EVMWD, and future development on the project site would connect to the EVMWD's water service infrastructure. Using EVMWD baseline per capita water demand rates and population projection information provided by the California Department of Finance (DOF), the proposed project is estimated to result in an increased annual demand of 13.88 acre-feet of water (EVMWD 2011; DOF 2014).[3] The projected demand of 13.88 acre-feet per year would represent an increase of less than 0.01 percent to the water demand of the district through 2034 (EVMWD 2011). Furthermore, since the proposed project would not result in any change to the current land use designation, any increase in water demand resulting from the proposed project has been anticipated by the EVMWD and was considered in the 2010 Urban Water Management Plan. Any impact would be less than significant.

e) **Less Than Significant Impact**. The proposed project would connect to existing wastewater service infrastructure provided by the EVMWD. To determine future demand for wastewater facilities, the EVMWD relies on recommended generation factors included in Appendix B of the Wastewater Master Plan (2008a). The recommended generation factors are determined according to land use designation, with the designation of the proposed project being Medium Density Residential (MDR). The generation factor for the MDR land use is 900 gallons per day per acre (EVMWD 2008a). Using this factor, the proposed project may be expected to result in an additional wastewater demand of 3,744 gpd. An increase of 3,744 gpd represents an increase of less than 0.01 percent to the wastewater demand of the EVMWD and its facilities. Any impact would be less than significant.

f, g) **Less Than Significant Impact**. The main disposal site in the vicinity of the project site is the El Sobrante Landfill in Corona. The El Sobrante Landfill (CalRecycle Solid Waste Information System Number 33-AA-0217) is projected to reach full capacity of 184,930,000 tons in 2045 (CalRecycle 2013). The landfill covers approximately 1,322 acres and receives approximately 16,054 tons of solid waste per day.

The California Department of Resources Recycling and Recovery (CalRecycle) collects and maintains data that records the rate of solid waste disposal at local, regional, and statewide levels. CalRecycle inputs this data into the Disposal Reporting System (DRS), which is used to determine per capita disposal rates as well as other solid waste disposal statistics. There is currently no regional reporting system in place for inland Southern California, so for this analysis the statewide per capita disposal rate will be used. The most current data available (2011) from

[3] Calculation includes the EVMWD's base daily per capita water use of 248 gallons per day (gpd) and the DOF's average 2014 population per household estimate of 3.3 people (15 DUs x 3.3 = 49.5 (50) people; 50 people x 248 gpd = 12,400 gpd; 12,400 gpd x 365 = 4,526,000 gallons per year (gpy); 4,526,000 gpy/ 325,851 = 13.88 acre-feet per year).

the CalRecycle DRS assigns a disposal rate of 4.4 pounds per day to the residents of California (CalRecycle 2011). Using the CalRecycle DRS disposal rates for California residents, the 50 projected new residents of the proposed project may be expected to generate 220 pounds per day of solid waste. This increase in solid waste generation is within the capacity of the El Sobrante Landfill, and impacts would be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

V. 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) Have the potential to 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, 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) 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) Have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

DISCUSSION

The following are Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

a) **Less Than Significant Impact With Mitigation Incorporated.** Based on evaluations and discussions contained in this IS/MND, the proposed project and associated future residential development on the project site have a very limited potential to incrementally degrade the quality of the environment because the site was previously disturbed, is not in an environmentally sensitive location, and is consistent with the City of Wildomar General Plan. As a result, the proposed project would not significantly affect the environment following implementation of the mitigation measures contained in this IS/MND.

b) **Less Than Significant Impact With Mitigation Incorporated**

Aesthetics

Implementation of the proposed project and associated future residential development on the project site would not contribute to cumulative visual resource or aesthetic impacts. The proposed project will include residential development that is consistent with existing surrounding land uses, and the City's plot plan application process will ensure that future residential development is in compliance with all aesthetic zoning development standards. Any impact would be less than cumulatively considerable.

Agricultural Resources

Implementation of the proposed project and associated future residential development on the project site would not contribute to cumulative impacts to agricultural resources or forestland impacts. Thus, less than cumulatively considerable impacts to agricultural resources and forestland resources are anticipated under cumulative conditions.

Air Quality

The SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and California Clean Air Acts. If a project is consistent with AQMP, the SCAQMD considers the project to have less than significant cumulative impacts. As discussed earlier, the proposed project would be consistent with the AQMP, which is intended to bring the South Coast Air Basin into attainment for all criteria pollutants. In addition, the construction and operations emissions calculated for the proposed project (see **Tables 3-1, 3-2,** and **3-3**) are less than the applicable SCAQMD daily significance thresholds that are designed to assist the region in attaining the applicable state and national ambient air quality standards. As such, cumulative impacts would be less than cumulatively considerable.

Biological Resources

The potential for impacts to raptors and migratory birds is addressed through mitigation. The cumulative biological impacts associated with the project will be mitigated through payment of mitigation fees required by the MSHCP. Therefore, any impact would be less than cumulatively considerable.

Cultural Resources

Future residential development on the project site could contribute to an increase in cultural resource impacts. However, mitigation measures identified in subsection 5, Cultural Resources, of this IS/MND would reduce the potential impacts associated with future development on the project site and ensure that any cultural resources discovered during construction are properly handled and preserved. Thus, the project would have a less than cumulatively considerable impact.

Geology and Soils

Project-related impacts on geology and soils associated with future residential development on the project site would be site-specific. The mitigation measures in subsection 6, Geology and Soils, would ensure that the development on the site would not contribute to seismic hazards or water quality impacts associated with soil erosion. As geology and soils impacts are site-specific, the project will not have a cumulatively considerable impact.

Greenhouse Gas Emissions

The greenhouse gas analysis provided in subsection 7, Greenhouse Gas Emissions, evaluated the proposed project's cumulative contribution to global climate change and determined that the project would not create a cumulatively considerable environmental impact resulting from greenhouse gas emissions.

Hazards and Hazardous Materials

The proposed project is not expected to utilize or contribute to hazards associated with the accidental release of hazardous materials. However, even if hazardous materials are used on the site, compliance with federal, state, and City regulations will ensure that cumulative hazard conditions are less than cumulatively considerable.

Hydrology and Water Quality

Future residential development on the project site has the potential to result in cumulative hydrology and water quality impacts; however, implementation of the best management practices (BMPs) included in the preliminary water quality management plan and a stormwater pollution prevention plan (SWPPP) will ensure that any cumulative impact is less than cumulatively considerable.

Land Use and Planning

The proposed project and associated future residential development on the project site are consistent with the existing land use designation of the General Plan and with the zoning district. The proposed division of the site is consistent with other development in the project area. Future development of each parcel will require completion of a plot planning process. Because the proposed project area is surrounded by residential development, and the project is consistent with the General Plan designation for the site, the project would result in no cumulative impacts to land uses.

Mineral Resources

The proposed project and associated future residential development on the project site would not result in any site-specific significant impacts to mineral resources. Less than cumulatively considerable impacts under cumulative conditions are anticipated.

Noise

Future residential development on the project site would result in incremental temporary and permanent changes in the ambient noise levels in the vicinity. However, the proposed project is consistent with the current land use designation of the project site as well as the land uses surrounding the project site. In addition, there are no pending or approved projects in the immediate vicinity of the project site that would create cumulative noise impacts to which this project could contribute. Any impacts would be less than cumulatively considerable.

Population and Housing

Cumulative development in the vicinity of the project would increase the population and number of housing units in Wildomar and Riverside County. However, development at the proposed project site is consistent with current land use designations and growth assumed in the Land Use Element of the Wildomar General Plan. The cumulative environmental and growth inducement effects are evaluated in the technical sections of this IS/MND. Given that this growth is anticipated in the General Plan, this impact is considered less than cumulatively considerable.

Public Services

The proposed project is not expected to contribute to cumulative public service impacts. Future regional development may result in impacts to public services. However, the incremental impacts on public services from this project and from future development will be offset through the implementation of development impact fees. Less than cumulatively considerable public services impacts are anticipated.

Recreation

Cumulative development within the city and the projected population increase of 50 people due to the proposed project may lead to cumulative impacts to recreation facilities. However, these impacts are offset by the payment of park and recreation fees, allowing any impact to be less than cumulatively considerable.

Transportation/Traffic

Cumulative impacts to traffic within the region are anticipated by considering current approved land use designations. Specific ranges of the daily trips are assigned to particular land use types. Since the proposed project will not include a change in the land use designation of the project site the proposed project's contribution to cumulative traffic impacts will be less than significant. In addition, as a standard condition, the project applicant will be responsible to implement and pay its fair-share contribution toward necessary improvements through payment of the Transportation Uniform Mitigation Fee. The project's impacts to cumulative traffic conditions would be less than cumulatively considerable.

Utilities and Service Systems

The proposed project and any future development of the project site would not result in any impacts to utilities and service systems. However, future development of the surrounding areas could result in potential impacts to utilities and service systems. These potential impacts would be offset by the payment of service fees and would therefore be less than cumulatively considerable.

c) **Less Than Significant Impact With Mitigation Incorporated**. The proposed project and associated future development of single-family residential homes does not have the potential to significantly adversely affect humans, either directly or indirectly. While a number of the future development impacts were identified as having a potential to significantly impact humans, with the implementation of the identified mitigation measures and standard requirements and conditions of the City of Wildomar, these impacts are expected to be less than significant. With implementation of the identified measures, the proposed project and associated future residential development is not expected to cause significant adverse impacts to humans.

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RESPONSE TO COMMENTS ON THE INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR

Elm Street Tentative Tract Map
(Planning Application 08-0154)
SCH# 2014071028
Lead Agency:

CITY OF WILDOMAR
23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595

Prepared by:

PMC
6020 Cornerstone Court West, Suite 260
San Diego, CA 92121

June 2015

1.0 INTRODUCTION

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1.2 Intended Uses of the IS/MND 1.0-1
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2.0 COMMENTS AND RESPONSES TO COMMENTS

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ATTACHMENTS TO THIS DOCUMENT

A Public Notices

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1.0 INTRODUCTION

This document, in conjunction with the draft Initial Study/Mitigated Negative Declaration (IS/MND) responds to comments made on the proposed Elm Street Tentative Tract Map (TTM No. 33840) project. While the State California Environmental Quality Act (CEQA) Guidelines do not require a final initial study or the preparation of formal responses to comments on draft initial studies/mitigated negative declarations, in order to provide further disclosure of the project's impacts, the City has determined to provide responses to the comments it has received.

1.1 BACKGROUND OF ENVIRONMENTAL REVIEW PROCESS FOR THE PROJECT

FIRST INITIAL STUDY

The first IS/MND was circulated for public and agency review from July 9, 2014 through August 7, 2014. Three comments were received on this Initial Study. Because of changes proposed to the project, the City decided to revise and recirculate the initial IS/MND.

RECIRCULATED INITIAL STUDY

The recirculated IS/MND was released for public and agency review from March 25, 2015 through April 23, 2015. The City received six comments during this review period.

RESPONSE TO COMMENTS

This document provides a response to comments received on both versions of the IS/MND. The nine comment letters are listed chronologically in Chapter 2.0, Response to Comments. It should be noted that the comments received during the first circulated draft IS/MND were incorporated into the recirculated draft IS/MND.

1.2 INTENDED USES OF THE IS/MND

The IS/MND in its final form will be used by the City of Wildomar in considering approval of the proposed project. In accordance with CEQA Guidelines Section 15074, the IS/MND will be used as the primary environmental document in consideration of all subsequent planning and permitting actions associated with the project, to the extent such actions require CEQA compliance and as otherwise permitted under applicable law.

CONSIDERATION OF COMMENTS

Prior to taking action on the proposed project, the City will consider the IS/MND, this response to comments document, and any additional comments or testimony. Negative declarations and mitigated declarations are considered and adopted per CEQA Guidelines Section 15074, which reads as follows:

15074. CONSIDERATION AND ADOPTION OF A NEGATIVE DECLARATION OR MITIGATED NEGATIVE DECLARATION.

(a) Any advisory body of a public agency making a recommendation to the decision-making body shall consider the proposed negative declaration or mitigated negative declaration before making its recommendation.

(b) Prior to approving a project, the decision-making body of the lead agency shall consider the proposed negative declaration or mitigated negative declaration together with any comments received during the public review process. The

decision-making body shall adopt the proposed negative declaration or mitigated negative declaration only if it finds on the basis of the whole record before it (including the initial study and any comments received), that there is no substantial evidence that the project will have a significant effect on the environment and that the negative declaration or mitigated negative declaration reflects the lead agency's independent judgment and analysis.

(c) *When adopting a negative declaration or mitigated negative declaration, 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.*

(d) When adopting a mitigated negative declaration, the lead agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to mitigate or avoid significant environmental effects.

(e) A lead agency shall not adopt a negative declaration or mitigated negative declaration for a project within the boundaries of a comprehensive airport land use plan or, if a comprehensive airport land use plan has not been adopted, for a project within two nautical miles of a public airport or public use airport, without first considering whether the project will result in a safety hazard or noise problem for persons using the airport or for persons residing or working in the project area.

(f) When a non-elected official or decision making body of a local lead agency adopts a negative declaration or mitigated negative declaration, that adoption may be appealed to the agency's elected decision making body, if one exists. For example, adoption of a negative declaration for a project by a city's planning commission may be appealed to the city council. A local lead agency may establish procedures governing such appeals.

Upon review and consideration of the IS/MND, the City may take action to adopt, revise, or reject the proposed project. A decision to approve the proposed project would be made in a resolution recommending certification of the IS/MND as part of the consideration of the proposed project. The City of Wildomar has prepared this IS/MND and has determined that the environmental impacts of the proposed project have been reduced to a less than significant level through mitigation measures adopted as part of a Mitigation Monitoring and Reporting Program (MMRP).

1.3 ORGANIZATION AND SCOPE OF THIS DOCUMENT

This document is organized in the following manner:

SECTION 1.0 – INTRODUCTION

Section 1.0 provides an overview of the environmental review process to date and discusses the CEQA requirements for consideration and adoption of a mitigated negative declaration.

SECTION 2.0 – COMMENTS AND RESPONSES TO COMMENTS

Section 2.0 provides a list of commenters, copies of written comments (coded for reference), and the responses to those comments made on the IS/MND.

SECTION 3.0 – MINOR REVISIONS TO THE IS/MND

Section 3.0 provides a list of minor edits made to the IS/MND as a result of comments received or other staff-initiated changes.

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2.0 RESPONSE TO COMMENTS

2.1 LIST OF COMMENTERS

The following individuals and representatives of organizations and agencies submitted written comments on the Draft MND. As discussed in Chapter 1.0, Introduction, the Initial Study/Mitigated Negative Declaration ("IS/MND") was circulated during two different public review/comment periods. The initial IS/MND was first circulated from July 9, 2014 through August 7, 2014 ("First Distribution"), a revised IS/MND was circulated from March 25, 2015 through April 23, 2015 ("Second Distribution").

Letter	Agency, Organization, or Individual	Date
First Distribution – July 2014		
Aa	Native American Heritage Commission	July 17, 2014
Bb	Johnson & Sedlack	August 7, 2014
Cc	Pechanga Cultural Resources	August 7, 2014
Second Distribution – March 2015		
A	Riverside County Flood Control	April 15, 2015
B	Elsinore Valley Municipal Water District	April 15, 2015
C	California Department of Fish and Wildlife	April 20, 2015
D	Pechanga Cultural Resources	April 23, 2015
1	Bridges-Bucket-St. Marie	April 23, 2015
2	Soboba Band of Luiseno Indians	April 23, 2015

2.2 COMMENTS AND RESPONSES

RESPONSES TO COMMENT LETTERS

Written comments on the draft IS/MND are reproduced on the following pages, along with responses to those comments. Note that the comments span two versions of the IS/MND. CEQA does not require lead agencies to provide formal responses to comments received on initial studies supporting proposed mitigated negative declarations; however, the City prepared these response to comments document to provide responses to comments received on both circulations of the IS/MND in order to provide comprehensive information and disclosure for both the public and City's decision-makers.

Where changes deemed necessary to clarify the draft IS/MND text result from responding to comments, those minor changes are included in the response and demarcated with revision marks (<u>underline</u> for new text, ~~strikeout~~ for deleted text). The six comment letters are listed chronologically.

Letter Aa

SATE OF CALIFORNIA — Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
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July 17, 2014 CITY OF WILDOMAR

Mr. Matthew C. Bassi, Planning Director
City of Wildomar
23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595

RE: SCH# 2014071028 CEQA Notice of Completion and Environmental Document Transmittal for the **"Elm Street Tentative Tract Map MND, Change of Zone 08-0154, Tentative Tract Map No. 33840"** project located in the City of Wildomar; Riverside County, California

Dear Mr. Bassi:

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document.

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f). **Aa-1**

We suggest that this (additional archaeological activity) be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. Any information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure pursuant

Letter Aa Continued

to California Government Code Section 6254.10. **Aa-1 cont.**

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the proposed active might impinge on any cultural resources.

California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies." (The California Code is consistent with the Federal Executive Order 12898 regarding 'environmental justice.' Also, applicable to state agencies is Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans. **Aa-2**

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Gayle Totton
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list

Letter Aa Continued

Native American Contacts
Riverside County
July 17, 2014

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resources Manager
P.O. Box 1477 Luiseno
Temecula , CA 92593
pmacarro@pechanga-nsn.gov
(951) 770-8100
(951) 506-9491 Fax

Pechanga Cultural Resources Department
Anna Hoover, Cultural Analyst
P.O. Box 2183 Luiseño
Temecula , CA 92593
ahoover@pechanga-nsn.gov
(951) 770-8104
(951) 694-0446 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list s only applicable for contacting locative Americans with regard to cultural resources for the proposed Elm Street Tentative Tract Map MND, Change of Zone 08-0154: Tentative Tract Map No. 33840 Project; located near the City of Windomar; Riverside County, California for which a Sacred Lands file search and Native American Contacts list were requested.

Comment Letter Aa – Native American Heritage Commission

Aa-1 The commenter states that pursuant to California Environmental Quality Act (CEQA) 15064.5(f), lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered resources. Furthermore, California Public Resources Code Section 21083.2 requires documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f). The commenter suggests that this (additional archaeological activity) be coordinated with the NAHC, if possible.

Mitigation measure CUL-6 on Page 40 of the IS/MND includes identification and evaluation of accidentally discovered archaeological resources pursuant to CEQA 15064.5(a)(b)(f) and California Public Resources Code Section 21083.2. Mitigation measure CUL-6 has been revised and is reflected in Chapter 3 of the Final IS/MND to include coordination with the NAHC.

CUL-6 If inadvertent discoveries of subsurface archaeological resources are discovered during grading, work shall be halted immediately within 50 feet of the discovery. The developer, the project archeologist, the Native American Heritage Commission and the Tribe shall assess the significance of such resources and shall meet and confer regarding the mitigation for such resources. If the developer and the Tribe cannot agree on the significance of or the mitigation for such resources, these issues will be presented to the City of Wildomar Planning Director. The Planning Director shall make the determination based on the provisions of CEQA with respect to archaeological resources and shall take into account the religious beliefs, customs, and practices of the Pechanga Tribe. Notwithstanding any other rights available under the law, the decision of the Planning Director shall be appealable to the City of Wildomar. In the event the significant resources are recovered and if the qualified archaeologist determines the resources to be historic or unique as defined by relevant state and local law, avoidance and mitigation would be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4.

Aa-2 The commenter states that lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a) and should include provisions for discovery of Native American human remains in their mitigation plan.

Mitigation Measures CUL-3, CUL-4, CUL-5 on Page 40 of the IS/MND include mitigation for addressing sacred and/or historical sites and human remains.

Letter Bb

Johnson & Sedlack
ATTORNEYS at LAW

Raymond W. Johnson, Esq. AICP, LEED GA
Carl T. Sedlack, Esq. Retired
Abigail A. Smith, Esq.
Kimberly Foy, Esq.
Kendall Holbrook, Esq.

26785 Camino Seco, Temecula, CA 92590

E-mail EsqAICP@gmail.com
Abby.JSLaw@gmail.com
Kim.JSLaw@gmail.com
Kendall.JSLaw@gmail.com
Telephone: (951) 506-9925
Facsimile: (951) 506-9725

August 7, 2013

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

VIA US MAIL AND EMAIL

RE: Elm Street Tentative Tract Map No. 33840 (PA 08-0154), Initial Study/Mitigated Negative Declaration.

Greetings:

On behalf of Alliance for Intelligent Planning, I hereby submit these comments on, and in opposition to, the Initial Study/Mitigated Negative Declaration for the Elm Street Tentative Tract Map Mitigated Negative Declaration, TTM No. 33840 ("Project").

The Project foresees the development of TTM 33840 to subdivide an existing 4.16-acre parcel into 12 single family lots, construct a private street, and make improvements to Elm Street from Darby Street to the project site including paving, rolled curbs and gutters, and traffic striping. The Project would rezone parcel from Rural Residential to One-Family Dwelling (R-1).

GENERAL COMMENTS

The California Environmental Quality Act ("CEQA") was adopted as a disclosure and transparency document. The theory is that by providing a document that adequately describes the environmental consequences of a project to decision makers and the public, the decision makers will make a rational decision based upon the true environmental consequences of the project and if they do not, the electorate can hold them accountable for their decisions. The core of this statutory structure is the adequacy of the document as an informational document.

The EIR requirement is the "heart of CEQA." (California Code of Regulations, tit. 14 ("CEQA Guidelines") § 15003(a).) An EIR is required for any proposed project that may have a significant effect on the environment. (Public Resources Code § 21100 (a).) A lead agency may prepare a mitigated negative declaration for a proposed project only when: (1) revisions in the project would avoid or mitigate the potentially significant project effects to a point where ***clearly*** no significant effects would occur; and (2) there is no substantial evidence in light of the whole record that the project as revised ***may*** have a significant effect on the environment. (CEQA Guidelines § 15070 (b).)

Letter Bb Continued

CEQA also mandates that mitigation measures be certain, enforceable, and not deferred. (CEQA Guidelines § 15126.4.) "Formulation of mitigation measures should not be deferred until some future time. (CEQA Guidelines § 15126.4(a)(1)(B).) Deferral can be found improper if unnecessary and no reason is given for such deferral. (*Sacramento Old City Assn. v. City Council* (1991) 229 Cal. App. 3d 1011, 1028-9; 1 Kostka & Zischke Mitigation Measures § 14.12, p. 699.) The MND relies on vague, unenforceable, and deferred mitigation measures not permitted by law. Moreover, all feasible mitigation has not been adopted for this Project.

The adoption of the Mitigated Negative Declaration ("MND") for the Elm Street Tentative Tract Map, TTM No. 33840 ("Project"), is improper where, as here, there is substantial evidence in the record of a fair argument of significant environmental impacts as a result of the project. There is a fair argument of significant unmitigated impacts to, at least, biological resources, hydrology and water quality, and noise. Significant impacts are not shown to be mitigated below a level of significance. For the reasons detailed below, an EIR must be prepared for this Project.

POTENTIAL SIGNIFICANT IMPACTS

Geology Soils

Over-excavation of the building areas and extending distance of at least 5 feet beyond the building areas to a depth of 5 feet is required as a mitigation measure to reduce the potentially significant impacts from expansive soils. While some of the material may be reused, the over-excavation may require exportation and importation of new soils. The MND provides no discussion of the potential amount of soils to be imported/exported, or potential construction air quality and traffic impacts of this soils work. **Bb-1**

Hydrology and Water Quality

The MND incorrectly states that the Project site is not located within a 100-year flood hazard area. Yet, the portion of the Project site adjacent to Murrieta Creek Channel is within the 100-year flood hazard area (Zone A) (according to Federal Emergency Management Agency (FEMA) Flood Map Number 06065C2682G). Because a portion of the Project site is located within a 100-year flood hazard area, the Project would place housing within a 100-year flood hazard area and impacts would be potentially significant. The MND does not propose any mitigation to reduce such impacts below a level of significance. Therefore, impacts from placing housing with a 100-year flood should be considered significant and an EIR must be prepared. **Bb-2**

Noise

The MND states that since construction noise impacts "would not approach a dangerous threshold", which is 140 dB, and the City's noise ordinance places limits on the time of construction, the impacts to temporary ambient noise levels is less than significant. However, the threshold is not whether temporary ambient noise will be above safe noise levels; rather, the issue is whether ambient noise would be increased above *existing* noise levels. The Project is expected to cause construction noise impacts above the General Plan's 60 dBA CNEL community noise exposure level for single family homes, and thus will cause significant noise **Bb-3**

Letter Bb Continued

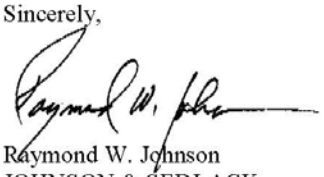
impacts well above existing ambient noise levels. Noise increases may be particularly significant on this presently undeveloped site and in an area with rural residences, as the existing noise levels are relatively low so that increases may be more markedly perceived. Therefore, an EIR must be prepared to consider these significant impacts.

Under CEQA, consideration must be given to the magnitude of any noise increase, the existing ambient noise levels, and the location of noise-sensitive receptors in order to determine if a noise increase represents a significant adverse environmental effect. This is because noise impacts may be greater if substantial increases occur in a relatively quiet area, or if noise is added to an existing high noise level in a manner that increases noise to a problem/tipping point level. (*See, e.g., Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1122-23.) Attachments incorporated herein by reference, detail the properties of noise and its potential effects on people, including where noise increases occur in a relatively quiet area. Preparation of an EIR is needed to quantify, disclose, and mitigate the noise impacts of this Project to the extent feasible.

Bb-3 cont.

Conclusion
For each of these reasons, an EIR must be prepared for the Elm Street Tentative Tract Map.

Sincerely,



Raymond W. Johnson
JOHNSON & SEDLACK

Letter Bb Continued

Attachments

1. U.S. Department of Transportation, Federal Highway Administration. (August 2006) *Construction Noise Handbook, Chapter 4.0 Construction Noise Criteria and Descriptors.*

2. U.S. Department of Transportation, Federal Highway Administration. (August 2006) *Construction Noise Handbook, Chapter 9.0 Construction Equipment Noise Levels and Ranges.*

3. U.S. Department of Housing and Urban Development. (March 1985) *The Noise Guidebook.*

4. Suter, Dr. Alice H., Administrative Conference of the United States. (November 1991) *Noise and Its Effects.*

5. Federal Interagency Committee on Urban Noise. (June 1980) *Guidelines for Considering Noise in Land Use Planning and Control.*

Letter Bb Continued

RAYMOND W. JOHNSON, Esq., AICP LEED GA
26785 Camino Seco
Temecula, CA 92590
(951) 506-9925
(951) 506-9725 Fax
(951) 775-1912 Cellular

Johnson & Sedlack, an Environmental Law firm representing plaintiff environmental groups in environmental law litigation, primarily CEQA.

City Planning:

Current Planning

- Two years principal planner, Lenexa, Kansas (consulting)
- Two and one half years principal planner, Lee's Summit, Missouri
- One year North Desert Regional Team, San Bernardino County
- Thirty years subdivision design: residential, commercial and industrial
- Thirty years as applicants representative in various jurisdictions in: Missouri, Texas, Florida, Georgia, Illinois, Wisconsin, Kansas and California
- Twelve years as applicants representative in the telecommunications field

General Plan

- Developed a policy oriented Comprehensive Plan for the City of Lenexa, Kansas.
- Updated Comprehensive Plan for the City of Lee's Summit, Missouri.
- Created innovative zoning ordinance for Lenexa, Kansas.
- Developed Draft Hillside Development Standards, San Bernardino County, CA.
- Developed Draft Grading Standards, San Bernardino County.
- Developed Draft Fiscal Impact Analysis, San Bernardino County

Environmental Analysis

- Two years, Environmental Team, San Bernardino County
  - Review and supervision of preparation of EIR's and joint EIR/EIS's
  - Preparation of Negative Declarations
  - Environmental review of proposed projects
- Eighteen years as an environmental consultant reviewing environmental documentation for plaintiffs in CEQA and NEPA litigation

Letter Bb Continued

Representation:

- Represented various clients in litigation primarily in the fields of Environmental and Election law. Clients include:
  - Sierra Club
  - San Bernardino Valley Audubon Society
  - Sea & Sage Audubon Society
  - San Bernardino County Audubon Society
  - Center for Community Action and Environmental Justice
  - Endangered Habitats League
  - Rural Canyons Conservation Fund
  - California Native Plant Society
  - California Oak Foundation
  - Citizens for Responsible Growth in San Marcos
  - Union for a River Greenbelt Environment
  - Citizens to Enforce CEQA
  - Friends of Riverside's Hills
  - De Luz 2000
  - Save Walker Basin
  - Elsinore Murrieta Anza Resource Conservation District

Education:

- B. A. Economics and Political Science, Kansas State University 1970
- Masters of Community and Regional Planning, Kansas State University, 1974
- Additional graduate studies in Economics at the University of Missouri at Kansas City
- J.D. University of La Verne. 1997 Member, Law Review, Deans List, Class Valedictorian, Member Law Review, Published, Journal of Juvenile Law

Professional Associations:

- Member, American Planning Association
- Member, American Institute of Certified Planners
- Member, Association of Environmental Professionals
- Member, U.S. Green Building Council, LEED GA

Letter Bb Continued

Johnson & Sedlack, Attorneys at Law
26785 Camino Seco 12/97- Present
Temecula, CA 92590
(951) 506-9925

Principal in the environmental law firm of Johnson & Sedlack. Primary areas of practice are environmental and election law. Have provided representation to the Sierra Club, Audubon Society, AT&T Wireless, Endangered Habitats League, Center for Community Action and Environmental Justice, California Native Plant Society and numerous local environmental groups. Primary practice is writ of mandate under the California Environmental Quality Act.

Planning-Environmental Solutions
26785 Camino Seco 8/94- Present
Temecula, CA 92590
(909) 506-9825

Served as applicant's representative for planning issues to the telecommunications industry. Secured government entitlements for cell sites. Provided applicant's representative services to private developers of residential projects. Provided design services for private residential development projects. Provided project management of all technical consultants on private developments including traffic, geotechnical, survey, engineering, environmental, hydrogeological, hydrologic, landscape architectural, golf course design and fire consultants.

San Bernardino County Planning Department
Environmental Team 6/91-8/94
385 N. Arrowhead
San Bernardino, CA 92415
(909) 387-4099

Responsible for coordination of production of EIR's and joint EIR/EIS's for numerous projects in the county. Prepared environmental documents for numerous projects within the county. Prepared environmental determinations and environmental review for projects within the county.

San Bernardino County Planning Department
General Plan Team 6/91-6/92
385 N. Arrowhead
San Bernardino, CA 92415
(909) 387-4099

Created draft grading ordinance, hillside development standards, water efficient landscaping ordinance, multi-family development standards, revised planned development section and fiscal impact analysis. Completed land use plans and general plan amendment for approximately 250 square miles. Prepared proposal for specific plan for the Oak Hills community.

San Bernardino County Planning Department

Letter Bb Continued

North Desert Regional Planning Team
15505 Civic 6/90-6/91
Victorville, CA
(619) 243-8245

Worked on regional team. Reviewed general plan amendments, tentative tracts, parcel maps and conditional use permits. Prepared CEQA documents for projects.

Broadmoor Associates/Johnson Consulting
229 NW Blue Parkway
Lee's Summit, MO 64063
(816) 525-6640 2/86-6/90

Sold and leased commercial and industrial properties. Designed and developed an executive office park and an industrial park in Lee's Summit, Mo. Designed two additional industrial parks and residential subdivisions. Prepared study to determine target industries for the industrial parks. Prepared applications for tax increment financing district and grants under Economic Development Action Grant program. Prepared input/output analysis of proposed race track Provided conceptual design of 800 acre mixed use development.

Shepherd Realty Co.
Lee's Summit, MO 6/84-2-86

Sold and leased commercial and industrial properties. Performed investment analysis on properties. Provided planning consulting in subdivision design and rezoning.

Contemporary Concepts Inc.
Lee's Summit, MO 9/78-5/84
Owner

Designed and developed residential subdivision in Lee's Summit, Mo. Supervised all construction trades involved in the development process and the building of homes.

Environmental Design Association
Lee's Summit, Mo.
Project Coordinator 6/77-9/78

Was responsible for site design and preliminary building design for retirement villages in Missouri, Texas and Florida. Was responsible for preparing feasibility studies of possible conversion projects. Was in charge of working with local governments on zoning issues and any problems that might arise with projects. Coordinated work of local architects on projects. Worked with marketing staff regarding design changes needed or contemplated.

City of Lee's Summit, MO
220 SW Main

Letter Bb Continued

Lee's Summit, MO 64063
Community Development Director 4/75-6/77

Supervised Community Development Dept. staff. Responsible for preparation of departmental budget and C.D.B.G. budget. Administered Community Development Block Grant program. Developed initial Downtown redevelopment plan with funding from block grant funds. Served as a member of the Lee's Summit Economic Development Committee and provided staff support to them. Prepared study of available industrial sites within the City of Lee's Summit. In charge of all planning and zoning matters for the city including comprehensive plan.

Howard Needles Tammen & Bergendoff
9200 Ward Parkway
Kansas City, MO 64114
(816) 333-4800 5/73-4/75
Economist/Planner

Responsible for conducting economic and planning studies for Public and private sector clients. Consulting City Planner for Lenexa, KS.

Conducted environmental impact study on maintaining varying channel depth of the Columbia River including an input/output analysis. Environmental impact studies of dredging the Mississippi River. Worked on the Johnson County Industrial Airport industrial park master plan including a study on the demand for industrial land and the development of target industries based upon location analysis. Worked on various airport master plans. Developed policy oriented comprehensive plan for the City of Lenexa, KS. Developed innovative zoning ordinance heavily dependent upon performance standards for the City of Lenexa, KS.

Comment Letter Bb – Johnson & Sedlack

Bb-1 **Geology and Soils – the commenter makes recommendations to include a mitigation measure for over-excavation of the building areas to mitigate for expansive soils.**

This request was addressed in the recirculated MND on page 45 as mitigation measure GEO-1 which includes over-excavation requirements prescribed in the accompanying Soils Investigation conducted by John R. Byerly, Inc. (Appendix 6 of the recirculated MND).

Bb-2 **Hydrology and Water Quality – the commenter states that the MND incorrectly states that the project site is not within the 100-year flood hazard area. The commenter states that according to Flood Hazard Map Number 06065C2682G, the project site is within a 100-year flood hazard area and therefore impacts are potentially significant, requiring mitigation.**

A more detailed analysis is provided on page 56 of the recirculated MND which states that a portion of the project may be within the 100-year floodplain as mapped by Flood Insurance Rate Map (FIRM) Panel Number 06065C2682G (FEMA 2008) and therefore, may be subject to flooding. The City's Municipal Code Chapter 15.96 relates to flood hazard area regulations. One of the provisions of the Flood Hazard Area Regulations is that "for all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices; provided that they permit the automatic entry and exit of floodwaters." If the area is within the 100-year flood elevation, the FIRM map indicates that flooding would be 1 foot or less in elevation. The 100-year flood line appears to be within the channel and adjacent right-of-way for the Murrieta Creek Channel, but the actual location of the line will need to be determined by final engineering. If the project engineer can demonstrate to the City Engineer that the property is outside of the floodplain, the provisions of Municipal Code Chapter 15.96 will not apply. Either compliance with Chapter 15.96 or evidence that the property is outside of the 100-year floodplain will result in a less than significant impact.

Bb-3 **Noise – The commenter states that the MND states that since construction noise impacts "would not approach a dangerous threshold", which is 140 dB, and the City's noise ordinance places limits on the time of construction, the impacts to temporary ambient noise levels is less than significant. The commenter states that the project is expected to cause construction noise impacts above the General Plan's 60 dBA CNEL community noise exposure level for single family homes, and thus will cause significant noise impacts well above existing ambient noise levels.**

In the recirculated MND, pages 64 through 70 provide a more detailed discussion on temporary construction noise impacts and a temporary increase in ambient noise, Thresholds A and G, respectively. Initially, in the MND dated July 2014, these thresholds were determined to be "Less Than Significant." However, in the recirculated MND, the determination for these thresholds was revised to "Less than Significant with Mitigation" due to project related construction noise. This determination is based on thresholds of other agencies, since the City's General Plan does not set decibel standards for

temporary construction noise impacts. Additionally, Chapter 9.48 of the Wildomar Municipal Code contains noise standards in addition to the standards included in the General Plan, but Section 9.48.010 specifically states that the noise standards contained in that chapter are not thresholds of significance for the purposes of CEQA review. However, Section 9.48.020(l) of the Wildomar Municipal Code states that sound emanating from private construction projects located within one-quarter of a mile of an inhabited dwelling is exempt from the noise ordinance, and restricts construction noise from 6:00pm to 6:00am during June through September and 6:00pm to 7:00am during October through May. Therefore, mitigation measure NOI-1 was added. This mitigation measure requires that owners and occupants immediately bordering the project site are notified of major construction activities; puts limitations on the hours of grading and excavation; and requires that noise attenuation measures be implemented and monitored for effectiveness.

Letter Cc

PECHANGA CULTURAL RESOURCES
Temecula Band of Luiseño Mission Indians

Post Office. Box 2183 • Temecula, CA 92593
Telephone (951) 308-9295 • Fax (951) 506-9491

Chairperson:
Mary Bear Magee

Vice Chairperson:
Darlene Miranda

Committee Members:
Evie Gerber
Bridgett Barcello Maxwell
Richard B. Scearce, III

Director:
Gary DuBois

Coordinator:
Paul Macarro

Planning Specialist:
Tuba Ebru Ozdil

Cultural Analyst:
Anna Hoover

August 7, 2014

VIA E-MAIL and USPS

Mr. Matthew Bassi
Planning Director
City of Wildomar
23873 Clinton Keith Road, Ste 201
Wildomar, CA 92595

RECEIVED
AUG 20 2014
CITY OF WILDOMAR

Re: Pechanga Tribe Comments on the Notice of Availability of a Mitigated Negative Declaration for Tentative Tract Map 33840, Change of Zone 08-0154, Planning Application 12-0364, Elm Street Project

Dear Mr. Bassi:

This comment letter is written on behalf of the Pechanga Band of Luiseño Indians (hereinafter, "the Tribe"), a federally recognized Indian tribe and sovereign government. The Tribe formally requests, pursuant to Public Resources Code §21092.2, to be notified and involved in the entire CEQA environmental review process for the duration of the above referenced project (the "Project"). If you have not done so already, please add the Tribe to your distribution list(s) for public notices and circulation of all documents, including environmental review documents, archaeological reports, and all documents pertaining to this Project. The Tribe further requests to be directly notified of all public hearings and scheduled approvals concerning this Project. Please also incorporate these comments into the record of approval for this Project.

The Tribe thanks the City of Wildomar and the Developer for providing mitigation to preserve and protect any sensitive Luiseño cultural resources and traditional landscapes that could be impacted and to require both archaeological and Pechanga tribal monitoring during earthmoving activities. The State and Federal governments have mandated that cultural resources must be appropriately mitigated for within the confines of development projects. The Tribe appreciates the active role the City takes to maintain the significant history of the Tribe and California.

DRAFT ENVIRONMENTAL IMPACT REPORT MITIGATION MEASURES

The Pechanga Band is not opposed to this Project; however, we are opposed to any direct, indirect and cumulative impacts this Project may have to tribal cultural resources. The

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

Letter Cc Continued

Tribe's primary concerns stem from the Project's proposed impacts on Native American cultural resources. The Tribe is concerned about both the protection of unique and irreplaceable cultural resources, such as Luiseño village sites, sacred sites and archaeological items which would be displaced by ground disturbing work on the Project, and on the proper and lawful treatment of cultural items, Native American human remains and sacred items likely to be discovered in the course of the work.

The Tribe is in receipt of the Mitigated Negative Declaration (MND) and the Project archaeological study. The proposed Project is located in a sensitive region of Luiseño territory and the Tribe concurs with the City that there is the potential for impacting cultural resources during earthmoving activities.

Based upon the information provided to the Tribe, there are no known cultural resources located within the Project boundaries. Therefore, the sensitivity of this Project lies with the potential to impact subsurface, unknown cultural resources during earthmoving activities. At this time, the Tribe thanks the City of Wildomar for working closely with us to develop appropriate and adequate mitigation measures. These are identified in the MND as CUL-1 to 6 and -8 and have been copied below for reference. We request that these mitigation measures, with the few minor updated edits proposed, be incorporated into the final MND, as Conditions of Approval and in any other final environmental documents approved by the City for this Project.

CUL-1 If during grading or construction activities cultural resources are discovered on the project site, work shall be halted immediately within 50 feet of the discovery and the resources shall be evaluated by a qualified archeologist and the Pechanga Tribe. Any unanticipated cultural resources that are discovered shall be evaluated ~~and a~~ in the final report prepared by the qualified archeologist. The report shall include a list of the resources discovered, documentation of each site/locality, and interpretation of the resources identified, and the method of preservation and/or recovery for identified resources. In the event the significant resources are recovered and if the qualified archaeologist and the Tribe determines the resources to be historic or unique, avoidance and/or mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4 and Public Resources Code Section 21083.2 and the Cultural Resources Treatment and Monitoring Agreement required by mitigation measure CUL-2. This mitigation measure shall be incorporated in all construction contract documentation. **Cc-1**

CUL-2 At least 30 days prior to seeking a grading permit, the project applicant(s) for future development shall contact the Pechanga ~~appropriate~~[1] Tribe to notify the Tribe of grading, excavation, and the monitoring program and the project applicant(s) shall **Cc-2**

[1] ~~It is anticipated that the Pechanga Band of Luiseño Indians will be the "appropriate" Tribe due to their prior and extensive coordination with the surrounding cities~~ City of Wildomar ~~in determining potentially significant impacts and appropriate mitigation measures.~~

Letter Cc Continued

coordinate with the City of Wildomar and the Tribe to develop a Cultural Resources Treatment and Monitoring Agreement. The agreement shall address the treatment of known cultural resources; the designation, responsibilities, and participation of Native American Tribal monitors during grading, excavation, and ground-disturbing activities; project grading and development scheduling; terms of compensation; and treatment and final disposition of any cultural resources, sacred sites, and human remains discovered on the site. A copy of this signed agreement shall be provided to the Planning Director and Building Official prior to the issuance of the first grading permit.

Cc-2 cont.

CUL-3 If human remains are encountered, California Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources 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 ~~a reasonable time frame~~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 consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98. This mitigation measure shall also be included in all construction contract documentation.

Cc-3

CUL-4 All cultural materials, with the exception of sacred items, burial goods, and human remains, (which will be addressed in the Cultural Resources Treatment and Monitoring Agreement required by mitigation measure **CUL-2**), that are collected during the grading monitoring program and from any previous archeological studies or excavations on the project site shall be curated according to the current professional repository standards. The collections and associated records shall be transferred, including title, to the Pechanga Tribe's curation facility, which meets the standards set forth in 36 CRF Part 79 for federal repositories.

CUL-5 All sacred sites, should they be encountered within the project area, shall be avoided and preserved as the preferred mitigation, if feasible as determined by a qualified professional in consultation with the Pechanga Tribe. To the extent that a sacred site cannot be feasibly preserved in place or left in an undisturbed state, mitigation measures shall be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4.

Cc-4

CUL-6 If inadvertent discoveries of subsurface archaeological resources are discovered during grading, work shall be halted immediately within 50 feet of the discovery and the developer, the project archeologist, and the Tribe shall assess the significance of

Cc-5

Letter Cc Continued

such resources and ~~and the Tribe~~ shall meet and confer regarding the mitigation for such resources. If the developer and the Tribe cannot agree on the significance of or the mitigation for such resources, these issues will be presented to the City of Wildomar Planning Director for decision. The Planning Director shall make the determination based on the provisions of CEQA with respect to archaeological resources and shall take into account the religious beliefs, customs, and practices of the Pechanga Tribe. Notwithstanding any other rights available under the law, the decision of the Planning Director shall be appealable to the City Council of the City of Wildomar. In the event the significant resources are recovered and if the qualified archaeologist determines the resources to be historic or unique as defined by relevant state and local law, avoidance and mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4 and Public Resources Code Section 21083.2

Cc-5 cont.

CUL-8 To address the possibility that cultural resources may be encountered during future grading or construction, a qualified professional archeologist shall monitor all construction activities that could potentially impact archaeological deposits (e.g., grading, excavation, and/or trenching). However, monitoring should be discontinued as soon the qualified professional is satisfied that construction will not disturb cultural resources. A final mitigation monitoring report shall be prepared by the archaeologist documenting any resources found, their treatment, ultimate disposition, new or updated site records and any other pertinent information associated with the Project. Final copies of the report will be submitted to the City of Wildomar, the Developer, the Eastern Information Center and the Pechanga Tribe.

Cc-6

The Pechanga Tribe appreciates the consultation efforts and provided mitigation and we look forward to continuing to work together with the City of Wildomar in protecting the invaluable Pechanga cultural resources found in the Project area. Please contact me at 951-770-8104 or at ahoover@pechanga-nsn.gov once you have had a chance to review these comments if you have any comments or concerns. Thank you.

Sincerely,

Anna Hoover
Cultural Analyst

Cc Pechanga Office of the General Counsel
Mark Teague, PMC

Pechanga Cultural Resources • Temecula Band of Luiseño Mission Indians
Post Office Box 2183 • Temecula, CA 92592

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

Comment Letter Cc – Pechanga Cultural Resources

Cc-1 The commenter states the following revisions be made to mitigation measure CUL-1:

CUL-1 If during grading or construction activities cultural resources are discovered on the project site, work shall be halted immediately within 50 feet of the discovery and the resources shall be evaluated by a qualified archeologist and the Pechanga Tribe (Tribe). Any unanticipated cultural resources that are discovered shall be evaluated ~~and a~~ in the final report prepared by the qualified archeologist. The report shall include a list of the resources discovered, documentation of each site/locality, and interpretation of the resources identified, and the method of preservation and/or recovery for identified resources. In the event the significant resources are recovered and if the qualified archaeologist and the Tribe determines the resources to be historic or unique, avoidance and/or mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4 and Public Resources Code Section 21083.2 and the Cultural Resources Treatment and Monitoring Agreement required by mitigation measure CUL-2. This mitigation measure shall also be included in all construction contract documentation.

This mitigation measure does not need to be updated because it is written as the commenter requested it in the first distribution. Therefore, no changes were made to the subsequent second distribution of the MND.

Cc-2 The commenter states the following revisions be made to mitigation measure CUL-2:

CUL-2 At least 30 days prior to seeking a grading permit, the project applicant(s) for future development shall contact the appropriate Pechanga ~~Tribe~~ to notify the Tribe of the proposed grading, excavation, and the monitoring program and the project applicant(s) shall coordinate with the City of Wildomar and the Tribe to develop a Cultural Resources Treatment and Monitoring Agreement.[1] The agreement shall address the treatment of known cultural resources; the designation, responsibilities, and participation of Native American Tribal monitors during grading, excavation, and ground-disturbing activities; project grading and development scheduling; terms of compensation; and treatment and final disposition of any cultural resources, sacred sites, and human remains discovered on the site. A copy of this signed agreement shall be provided to the Planning Director and Building Official prior to the issuance of the first grading permit.

Mitigation measure CUL-2 on page 39 of the IS/MND has been revised and is reflected in the recirculated initial IS/MND.

Cc-3 The commenter states the following revisions be made to mitigation measure CUL-3:

CUL-3 If human remains are encountered, California Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place

[1] ~~It is anticipated that the Pechanga Band of Luiseño Indians will be the "appropriate" Tribe due to their prior and extensive coordination with the surrounding cities in determining potentially significant impacts and appropriate mitigation measures.~~

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 ~~a reasonable time frame~~ 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 consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Mitigation measure CUL-3 on Page 40 of the IS/MND has been revised and is reflected in the recirculated initial IS/MND.

Cc-4 The commenter states the following revisions be made to mitigation measure CUL-5:

CUL-5 All sacred sites, should they be encountered within the project area, shall be avoided and preserved as the preferred mitigation, if feasible as determined by a qualified professional in consultation with the Pechanga Tribe. To the extent that a sacred site cannot be feasibly preserved in place or left in an undisturbed state, mitigation measures shall be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guideline Sections 15064.5 and 15126.4.

Mitigation measure CUL-5 on Page 40 of the IS/MND has been revised in the initial IS/MND.

Cc-5 The commenter states the following revisions be made to mitigation measure CUL-6.

CUL-6 If inadvertent discoveries of subsurface archaeological resources are discovered during grading, work shall be halted immediately within 50 feet of the discovery and the developer, the project archaeologist, and the Tribe shall assess the significance of such resource and ~~Tribe~~ shall meet and confer regarding the significance of and mitigation for such resources. If the developer and the Tribe cannot agree on the significance of or the mitigation for such resources, these issues will be presented to the City of Wildomar Planning Director for decision. The Planning Director shall make the determination based on the provisions of CEQA with respect to archaeological resources and shall take into account the religious beliefs, customs, and practices of the Pechanga Tribe. Notwithstanding any other rights available under the law, the decision of the Planning Director shall be appealable to the City Council of the City of Wildomar. In the event the significant resources are recovered and if the qualified archaeologist determines the resources to be historic or unique as defined by relevant state and local law, avoidance and mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4 and Public Resources Code Section 21083.2.

This mitigation measure shall also be included in all construction contract documentation.

Mitigation measure CUL-6 on Page 40 of the IS/MND has been revised in the initial IS/MND.

Cc-6 The commenter states the following revisions be made to mitigation measure CUL-8 (now CUL-7):

CUL-7~~8~~ To address the possibility that cultural resources may be encountered during future grading or construction, a qualified professional archeologist shall monitor all construction activities that could potentially impact archaeological deposits (e.g., grading, excavation, and/or trenching). However, monitoring should be discontinued as soon the qualified professional is satisfied that construction will not disturb cultural resources. A final mitigation monitoring report shall be prepared by the archaeologist documenting any resources found, their treatment, ultimate disposition, new or updated site records and any other pertinent information associated with the project. Final copies of the report will be submitted to the City of Wildomar, the developer, the Eastern Information Center, and the Pechanga Tribe.

Mitigation measure CUL-7 on Page 41 of the IS/MND has been revised in the initial IS/MND.

Letter A

WARREN D. WILLIAMS
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.rcflood.org

169087

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

RECEIVED
APR 15 2015
CITY OF WILDOMAR

City of Wildomar
Planning Department
23873 Clinton Keith Road, Suite 201
Wildomar, California 92595

Attention: Mathew C. Bassi

Ladies and Gentlemen: Re: Initial Study/MND for TR 33840 (P808-0154)

The District does not normally recommend conditions for land divisions or other land use cases in incorporated cities. The District also does not plan check city land use cases, or provide State Division of Real Estate letters or other flood hazard reports for such cases. District comments/recommendations for such cases are normally limited to 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). In addition, information of a general nature is provided.

The District has not reviewed the proposed project in detail and the following checked 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:

____ No comment.

_X_ This project would not be impacted by District Master Drainage Plan facilities nor are other facilities of regional interest proposed.

____ This project involves District Master Plan facilities. The District will accept ownership of such facilities on written request of the City. 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.

____ 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 of the adopted _____ Master Drainage Plan. The District would consider accepting ownership of such facilities on written request of the City. 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.

____ This project is located within the limits of the District's _____ Area Drainage Plan for which drainage fees have been adopted; applicable fees should be paid by cashier's check or money order only to the Flood Control District or City prior to issuance of grading permits. Fees to be paid should be at the rate in effect at the time of issuance of the actual permit.

____ An encroachment permit shall be obtained for any construction related activities occurring within District right of way or facilities. For further information, contact the District's encroachment permit section at 951.955.1266.

_X_ The Districts previous comments are still valid. Tract 33840

GENERAL INFORMATION

This project may require a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources 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 flood plain, 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

A-1

A-2

Comment Letter A – Riverside County Flood Control

A-1 The commenter states that the project would not be impacted by District Plan facilities nor are other facilities of regional interest proposed.

This comment does not raise an environmental issue; therefore, no further response is necessary.

A-2 The commenter states that the project may require a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board. In addition, the commenter states that the applicant is required to provide relevant information (studies, calculations, plans, and other information) if the project involves a Federal Emergency Management Agency (FEMA) flood plain. Further, the commenter requests that a Conditional Letter of Map Revision (CLOMR) be obtained prior to grading or recordation or other final approval.

NPDES

As stated on page 44 and page 57 (Standard Conditions and Requirements) of the IS/MND, the project is conditioned to provide the City (Engineering Department) evidence of compliance with the NPDES and obtain a construction permit from the SWRCB. Therefore, the project would meet this regulatory requirement.

FEMA

Page 56 of the IS/MND discusses that a portion of the residential project may be located inside of the 100-year floodplain as mapped by FIRM Panel Number 06065C2682G (FEMA 2008) and therefore, may be subject to flooding. The 100-year flood line appears to be within the channel and adjacent right-of-way for the Murrieta Creek Channel, but the actual location of the line will need to be determined by final engineering (see **Figure 7** of the IS/MND). If the area is within the 100-year flood elevation, the FIRM map indicates that flooding would be 1 foot or less in elevation.

Chapter 15.96 of the City's Municipal Code regulates flood hazard areas and requires that "for all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices; provided that they permit the automatic entry and exit of floodwaters." Section 15.96.040 of the City of Wildomar Municipal code requires compliance with Chapter 15.96 of the Municipal Code and precludes any development if there are any conflicts.

It should be noted that if the project engineer can demonstrate to the City Engineer that the property is outside of the floodplain, the provisions of Municipal Code Chapter 15.96 will not apply. As stated on page 56 of the IS/MND, the project has to either comply with Chapter 15.96 or provide evidence that the property is outside of the 100-year floodplain. If the property is demonstrated to be outside of the 100-year floodplain, then it may be prudent to request an amendment to the Flood Insurance Rate Map (FIRM) through a Letter of Map Revision (LOMR) however a map amendment is not required.

Letter B

Board of Directors
Phil Williams, President
Harvey R. Ryan, Vice President
Andy Morris, Treasurer
George Cambero, Director
Nancy Horton, Director

Elsinore Valley Municipal Water District

Our Mission…
EVMWD will provide reliable, cost-effective, high quality water and wastewater services that are dedicated to the people we serve.

General Manager
John D. Vega
District Secretary
Terese Quintanar
Legal Counsel
Best Best & Krieger

April 10, 2015

RECEIVED
APR 15 2015
CITY OF WILDOMAR

Attn: Matt Bassi
City of Wildomar
23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595

Subject: **Initial Study/MND for Elm St. TTM 33840 (15 Single Family Homes)**
WO# 2013-073

On March 27, 2015, the District received the above Initial study/MND for review. The project proposes a subdivision of 4.07 acres with 15 single family residential lots, including a change of zone (from R-R to R-1) located south of Gruwell Street, west of Front Street, north of Central Ave. and east of Darby Street (APN 376-043-027).

Please make the following corrections/additions to the document:

1) Page 80 – **17. Utilities and Service Systems – b) Less Than Significant Impact.** Correct "Current capacity at lift station B-2 is 3,600 gallons per minute," to say "2,806" gallons per minute. **B-1**

2) Page 82 – **f,g) Standard Conditions and Requirements** **B-2**
   a) The sewer collection system shall be privately owned and maintained.
   b) The water system shall be looped; also show an access and maintenance easement in favor of EVMWD for the full width of Street A.
   c) Detailed plans and specifications will be required during the plan review process.

Please feel free to call me at (951) 674-3146, Ext. 6705, should you have any questions.

Respectfully,

Imad Baiyasi
Development Services Manager

IB/ac

cc: File

F:\ENGIN\2_ Developer Projects\2013\13-073 - Tract 33840 (City of Wildomar)\1. Pre-Planning\3rd PAR\04-10-15 - Comments to City - Initial Study-MND - 13-073.doc

951.674.3146
Fax 951.674.9872
www.evmwd.com

31315 Chaney Street
P.O. Box 3000
Lake Elsinore, CA 92530

Comment Letter B – Elsinore Valley Municipal Water District

B-1 The commenter requests that the gallons per minute capacity for lift station B-2 LS be corrected on Page 80 , Utilities and Service Systems" for Threshold B.

Page 80 of the IS/MND has been revised and is reflected in Chapter 3 of the Final IS/MND:

"Current capacity at lift station B-2 LS is ~~3,600~~ 2,806 gallons per minute…"

B-2 The commenter requests that the project be conditioned to include sewer collection system and water system requirements.

Page 82 of the IS/MND has been revised and is reflected in Chapter 3 of the Final IS/MND:

a) The sewer collection system shall be privately owned and maintained.
b) The water system shall be looped; also show an access and maintenance easement in favor of EVMWD for the full width of Street A.
c) Detailed plans and specification will be required during the plan review process.

Letter C

State of California - Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764
(909) 484-0459
www.wildlife.ca.gov

EDMUND G. BROWN, Jr., Governor
CHARLTON H. BONHAM, Director

April 20, 2015

Matthew Bassi
Planning Director
City of Wildomar
23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595

Subject: Initial Study and Mitigated Negative Declaration
Elm Street Subdivision Project
State Clearinghouse No. 2014071028

Dear Mr. Bassi:

The Department of Fish and Wildlife (Department) appreciates the opportunity to comment on the Initial Study (IS) and Mitigated Negative Declaration (MND) for the Elm (Project) [State Clearinghouse No. 2015031036]. The Department is responding to the IS and MND as a Trustee Agency for fish and wildlife resources (California Fish and Game Code Sections 711.7 and 1802, and the California Environmental Quality Act [CEQA] Guidelines Section 15386), and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines Section 15381), such as the issuance of a Lake or Streambed Alteration Agreement (California Fish and Game Code Sections 1600 *et seq.)* and/or a California Endangered Species Act (CESA) Permit for Incidental Take of Endangered, Threatened, and/or Candidate species (California Fish and Game Code Sections 2080 and 2080.1).

Project Description

The Project is located in the City of Wildomar, California, at the end of Elm Street between Central Street to the northeast and Gruwell Street to the southwest, with the Murrieta Creek Channel drainage course to the northeast. The Riverside County Assessor's Parcel Number (APN) for the Project Site is 376-043-027.

The Project would involve the subdivision of an existing 4.16-acre parcel into 15 parcels, each meeting or exceeding the 7,200-square-foot minimum lot size required in the One-Family Dwelling (R-1) zone. All 15 parcels are intended for future single-family residential dwelling units.

Conserving California's Wildlife Since 1870

Letter C Continued

Initial Study and Mitigated Negative Declaration
Elm Street Subdivision Project
SCH No. 2014071028
Page 2 of 3

Biological Resources and Impacts

Following review of the Biological Resources section of the IS, the Department identified a number of questions, comments and concerns, and requests that each of these be addressed prior to adoption of the proposed MND. The Department's questions, comments, and concerns include:

1. Impacts to Nesting Birds. Mitigation Measure Bio-1 requires that the developer conduct a pre-construction nesting bird survey during the nesting bird season, described as January 15 – August 31, up to 14 days prior to initiation of construction activities. The Department recommends that the City of Wildomar require the completion of a pre-construction nesting bird survey no more than three (3) days prior to ground disturbance activities, as instances of nesting could be missed if surveys are conducted sooner. Because not all species adhere to these nesting dates, the Department recommends that the City of Wildomar require nesting bird surveys regardless of time of year to ensure compliance with all applicable laws related to nesting birds and birds-of-prey. Nesting bird surveys should be carried out over the entire project site, not just areas with trees and shrubs, as some species nest directly on the ground.

   Please note that it is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Migratory non-game native bird species are protected by international treaty under the federal Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). In addition, sections 3503, 3503.5, and 3513 of the Fish and Game Code (FGC) stipulate the following: Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by FGC or any regulation made pursuant thereto; Section 3503.5 states that is it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by FGC or any regulation adopted pursuant thereto; and Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. **C-1**

2. Conversion of Oak Woodlands. Oak Woodland, defined by the Riverside County Planning Department's Oak Tree Management Guidelines as "an area of natural vegetation that includes at least one oak tree and associated understory," occurs on-site. Please clarify whether any of the native oak trees on-site will be removed as a result of the Project and, if so, whether mitigation measures under CEQA Guidelines §21083.4(b) (Conversion of Oak Woodlands; exemptions) will be required. **C-2**

Letter C Continued

Initial Study and Mitigated Negative Declaration
Elm Street Subdivision Project
SCH No. 2014071028
Page 3 of 3

The Department appreciates the opportunity to comment on the Initial Study and proposed Mitigated Negative Declaration for the Elm Street Subdivision Project (SCH No. 2014071028), and requests that the City address the Department's comments and concerns prior to adoption of the MND. If you should have any questions pertaining to these comments, please contact Gabriele Quillman at (909) 980-3818 or at gabriele.quillman@wildlife.ca.gov.

Sincerely,

Leslie MacNair
Acting Regional Manager

cc: State Clearinghouse, Sacramento

Comment Letter C – California Department of Fish and Wildlife

C-1 The commenter recommends that mitigation measure BIO-1 be revised to require preconstruction nesting bird surveys no more than 3 days prior to vegetation clearing or ground disturbing activities, as instances of nesting may be missed if surveys are conducted sooner. The commenter goes on to state that some avian species may not adhere to the nesting dates stated in the IS/MND, and recommends that the City of Wildomar revise mitigation measure BIO-1 to require the completion of nesting bird surveys regardless of time of year to ensure compliance with all applicable laws related to nesting birds and birds of prey. The commenter states that nesting bird surveys should be carried out over the entire project site, not just areas with trees and shrubs, as some species nest directly on the ground. Lastly, the commenter states that it is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey.

Mitigation measure BIO-1 was incorporated to ensure that project-related activities will not result impacts to migratory birds. Nesting of migratory birds in Southern California typically occurs between March 15 and August 15, while raptors typically nest between January 15 and August 31; therefore, the proposed survey window was designed to ensure that project-related impacts to special-status birds are less than significant. Additionally, there is no language in mitigation measure BIO-1 that obviates the need to survey the entire project site, including herbaceous vegetation. Page 36 of the IS/MND has been revised and is reflected in Chapter 3 of the Final IS/MND:

BIO-1 All developers of the proposed project site shall conduct ~~construction and clearing activities outside of the avian nesting season (January 15-August 31), where feasible. If clearing and/or construction activities occur during the nesting season,~~ preconstruction surveys for nesting raptors, migratory birds, and special-status resident birds (e.g., coastal California gnatcatcher). Surveys shall be conducted by a qualified biologist, up to 3 ~~14~~ days before initiation of construction activities. The qualified biologist shall survey the construction zone and a 250-foot radius surrounding the construction zone to determine whether the activities may have the potential to disturb or otherwise harm nesting birds.

C-2 The Commenter incorrectly refers to a Riverside County Ordinance that does not apply within the corporate limits of the City of Wildomar.

There are no state or local requirements regarding the oak trees that apply to the property as noted on page 34 of the initial study.

Letter D

PECHANGA CULTURAL RESOURCES
Temecula Band of Luiseño Mission Indians

Post Office. Box 2183 • Temecula, CA 92593
Telephone (951) 308-9295 • Fax (951) 506-9491

Chairperson:
Mary Bear Magee

Vice Chairperson:
Darlene Miranda

Committee Members:
Evie Gerber
Bridgett Barcello Maxwell
Richard B. Scearce, III
Neal Ibanez
Michael Vasquez

Director:
Gary DuBois

Coordinator:
Paul Macarro

Planning Specialist:
Tuba Ebru Ozdil

Cultural Analyst:
Anna Hoover

April 23, 2015

VIA E-Mail and USPS

Mr. Matthew Bassi
Planning Director
City of Wildomar
Planning Department
23873 Clinton Keith Rd., Ste. 201
Wildomar, CA 92595

Re: Pechanga Tribe Comments on the Elm Street Tentative Tract Map 33840 Initial Study/Mitigated Negative Declaration (Planning Application No. 08-0154)

Dear Mr. Bassi:

This comment letter is submitted by the Pechanga Band of Luiseño Indians (hereinafter, "the Tribe"), a federally recognized Indian tribe and sovereign government, in response to receipt of the March 2015 Revised Initial Study/Mitigated Negative Declaration (IS/MND) for the above named project

The Tribe is in agreement with the proposed mitigation measures for cultural resources as presented in the revised document for this Project and request that they be incorporated into the final MND and added as conditions of approval for the Project. Wildomar is a culturally significant area and the Tribe appreciates the opportunity to preserve and protect our sensitive cultural resources and to monitor earthmoving activities in the area. The Tribe thanks the City for the proposed mitigation measures which address the potential impacts to cultural resources, and for the inclusion of the Tribe in those measures. **D-1**

The Pechanga Tribe looks forward to continuing to work together with the City of Wildomar in protecting the invaluable Pechanga cultural resources found in the City. Please contact me at 951-770-8113 if you have any questions or comments.

Sincerely,

Tuba Ebru Ozdil
Planning Specialist

cc: Pechanga Office of the General Counsel

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

Comment Letter D – Pechanga Cultural Resources

D-1 The commenter states that the Tribe agrees with the proposed mitigation measures for cultural resources, as presented in the revised document, and requests that they be incorporated into the final IS/MND and also added as conditions of approval for the project.

The mitigation measures are included in the final IS/MND and included in the Mitigation Monitoring and Reporting Program (MMRP), which is adopted when the Final IS/MND is certified.

Letter 1

April 23, 2015

From: Martha Bridges
35465 Woshka Lane
Wildomar, CA 92595

John Burkett
32721 Mesa Drive
Lake Elsinore, CA 92530

Gerard Ste. Marie
P.O. Box 486
Wildomar, CA 92595

To: City of Wildomar – Attn: Matthew C. Bassi, Planning Director
23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595
[By Email to: mbassi@cityofwildomar.org, dlee@cityofwildomar.org]

Re: Written Comments to Elm Street Tentatuve Tract Map No. 33840 Project (Planning Application No. 08-0154) Mitigated Negative Declaration (SCH No. 2014071028)

To Matthew C. Bassi, Planning Director for the City of Wildomar:
Please consider the following comments to the Elm Street Tentatuve Tract Map No. 33840 Project (Planning Application No. 08-0154) Mitigated Negative Declaration (SCH No. 2014071028).
Please also make this Letter, and all documents referred to in the Letter, a part of the Administrative Record for this Project.

I. The Conclusion of the MND of a "Less than Significant Impact" Pertaining to Placement of Housing Within a 100-Year Flood Hazard Zone is Contradicted by Facts Cited in the Analysis, which Indicate a "Potentially Significant Impact" Requiring Preparation of an EIR

Under Section 9 (Hydrology and Water Quality) of the "*Inititial Study-Mitigated Negative Declaration*" ("MND") for the Project, while Wildomar acknowledges that "*A portion of the residential project may be located inside of the 100-year floodplain as mapped on a Flood Insurance Rate Map (FIRM) Panel Number 06065C2682G (FEMA 2008) and may be subject to flooding*" (see also Exhibit "1" attached hereto, a Parcel Report from the Riverside County Land Information System indicating the site is "WITHIN AREAS OF FLOODING SENSITIVITY"), the MND inexplicably concludes that there is a "Less Than Significant Impact" under this criteria. However, the conclusion is contradicted by the facts, which constitue a fair argument for a "Potentially Significant Impact" requiring preparation of a full EIR. 1-1

Project site is location within a 100-year flood hazard zone is a threshold of

Letter 1 Continued

significance under CEQA which requires preparation of an EIR. The fair argument standard only requires that there be a potentially significant impact under any CEQA threshold of significance to trigger the requirement for preparation of a full EIR. That very low evidentiary standard is easily met here where it is undisputed that the "*project may be located inside of the 100-year floodplain as mapped on a Flood Insurance Rate Map (FIRM) Panel Number 06065C2682G (FEMA 2008) and may be subject to flooding*." Indeed, the FEMA Flood Insurance Rate Map referred to by Wildomar shows that part of the site is in fact contained within the floodplain, and the attached Parcel Report acknowledges that the site is "WITHIN AREAS OF FLOODING SENSITIVITY." A full EIR must be prepared.

1-1 Cont.

II. The MND Improperly Defers Analysis and Mitigation of Floodplain Impacts

Furthermore, the MND improperly defers analysis and mitigation of floodplain impacts. Again, under Section 9 (Hydrology and Water Quality) of the MND, Wildomar states "*The 100-year flood line appears to be within the channel and adjacent right-of-way for the Murrieta Creek Channel, but the actual location of the line will need to be determined by final engineering (see Figure 7).*" The purposes of CEQA are only properly served when analysis and mitigation of potential impacts are considered and implemented prior to project approval. Location of the floodplain boundary must done, and any mitigation determined, prior to project approval, not deferred to some unkown time in the future after the project is approved. The MND fails as an informational document under CEQA, and an EIR must be prepared.

1-2

DATED: April 23, 2015

By: Martha Bridges, John Burkett & Gerard Ste. Marie

Letter 1 Continued

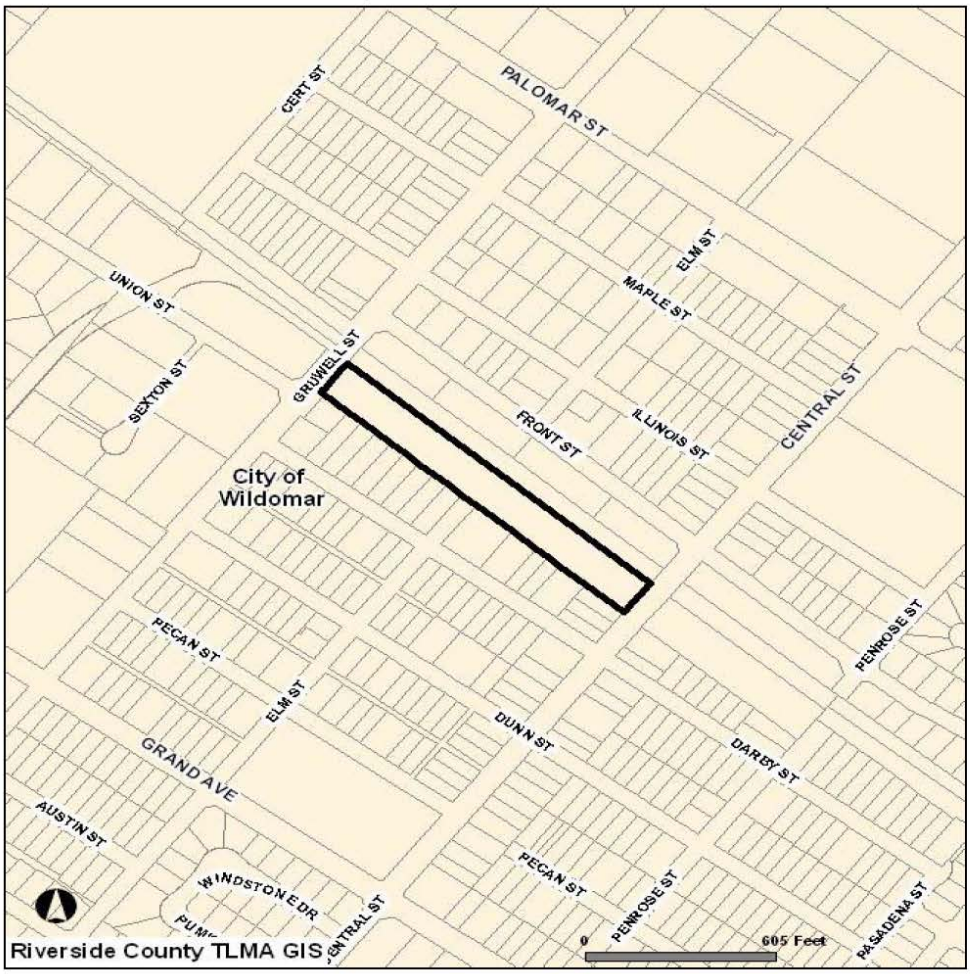
Exhibit "1" Separator

Exhibit "1" Separator

Exhibit "1" Separator

4/23/2015 Riverside County GIS **Letter 1 Continued**

Report for APN 376-043-027



Selected parcel(s):
376-043-027

IMPORTANT
Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

STANDARD REPORT

APNs
376-043-027-4

OWNER NAME
NOT AVAILABLE ONLINE

ADDRESS
376-043-027

http://tlmabld5.agency.tlma.co.riverside.ca.us/website/rclis/MapFrame.htm 1/5

Letter 1 Continued

ADDRESS NOT AVAILABLE

MAILING ADDRESS
(SEE OWNER)
3173 VERA VALLEY RD
FRANKLIN TN. 37064

LEGAL DESCRIPTION
RECORDED BOOK/PAGE: MB 6/294 SD
SUBDIVISION NAME: TOWN OF WILDOMAR
LOT/PARCEL: 17, BLOCK: NOT AVAILABLE
TRACT NUMBER: NOT AVAILABLE

LOT SIZE
RECORDED LOT SIZE IS 4.07 ACRES

PROPERTY CHARACTERISTICS
NO PROPERTY DESCRIPTION AVAILABLE

THOMAS BROS. MAPS PAGE/GRID
PAGE: 897 GRID: B7

CITY BOUNDARY/SPHERE
CITY OF WILDOMAR
NOT WITHIN A CITY SPHERE
ANNEXATION DATE: JUL. 1, 2008
LAFCO CASE #: 2007-107-1&3
PROPOSALS: NOT APPLICABLE

MARCH JOINT POWERS AUTHORITY
NOT IN THE JURISDICTION OF THE MARCH JOINT POWERS AUTHORITY

INDIAN TRIBAL LAND
NOT IN A TRIBAL LAND

SUPERVISORIAL DISTRICT 2011 (ORD. 813)
KEVIN JEFFRIES, DISTRICT 1

SUPERVISORIAL DISTRICT (2001 BOUNDARIES)
BOB BUSTER, DISTRICT 1

TOWNSHIP/RANGE
T6SR4W SEC 34
T6SR4W SEC 35

ELEVATION RANGE
1248/1256 FEET

PREVIOUS APN
NO DATA AVAILABLE

PLANNING

LAND USE DESIGNATIONS
Consult with the city for land use information.

SANTA ROSA ESCARPMENT BOUNDARY
NOT IN THE SANTA ROSA ESCARPMENT BOUNDARY

AREA PLAN (RCIP)
ELSINORE

COMMUNITY ADVISORY COUNCILS
NOT IN A COMMUNITY ADVISORY COUNCIL AREA

GENERAL PLAN POLICY OVERLAYS
NOT IN A GENERAL PLAN POLICY OVERLAY AREA

GENERAL PLAN POLICY AREAS

Letter 1 Continued

NONE

ZONING CLASSIFICATIONS (ORD. 348)
See the city for more information

ZONING DISTRICTS AND ZONING AREAS
NOT IN A ZONING DISTRICT/AREA

ZONING OVERLAYS
NOT IN A ZONING OVERLAY

HISTORIC PRESERVATION DISTRICTS
NOT IN AN HISTORIC PRESERVATION DISTRICT

SPECIFIC PLANS
NOT WITHIN A SPECIFIC PLAN

AGRICULTURAL PRESERVE
NOT IN AN AGRICULTURAL PRESERVE

REDEVELOPMENT AREAS
PROJECT AREA NAME: 1-1986
SUBAREA NAME: LAKELAND VILLAGE/WILDOMAR
AMENDMENT NUMBER: 1
ADOPTION DATE: JUL. 20, 1999
ACREAGE: 2888 ACRES

AIRPORT INFLUENCE AREAS
NOT IN AN AIRPORT INFLUENCE AREA

AIRPORT COMPATIBILITY ZONES
NOT IN AN AIRPORT COMPATIBILTY ZONE

ENVIRONMENTAL

CVMSHCP (COACHELLA VALLEY MULTI-SPECIES HABITAT CONSERVATION PLAN) CONSERVATION AREA
NOT IN A CONSERVATION AREA

CVMSHCP FLUVIAL SAND TRANSPORT SPECIAL PROVISION AREAS
NOT IN A FLUVIAL SAND TRANSPORT SPECIAL PROVISION AREA

WRMSHCP (WESTERN RIVERSIDE COUNTY MULTI-SPECIES HABITAT CONSERVATION PLAN) CELL GROUP
NOT IN A CELL GROUP

WRMSHCP CELL NUMBER
NOT IN A CELL

HANS/ERP (HABITAT ACQUISITION AND NEGOTIATION STRATEGY/EXPEDITED REVIEW PROCESS)
NONE

VEGETATION (2005)
DEVELOPED/DISTURBED LAND

FIRE

HIGH FIRE AREA (ORD. 787)
NOT IN A HIGH FIRE AREA

FIRE RESPONSIBLITY AREA
NOT IN A FIRE RESPONSIBILITY AREA

DEVELOPMENT FEES

CVMSHCP FEE AREA (ORD. 875)
NOT WITHIN THE COACHELLA VALLEY MSHCP FEE AREA

Letter 1 Continued

WRMSHCP FEE AREA (ORD. 810)
IN OR PARTIALLY WITHIN THE WESTERN RIVERSIDE MSHCP FEE AREA. SEE MAP FOR MORE INFORMATION.

ROAD & BRIDGE DISTRICT
SOUTHWEST AREA A

EASTERN TUMF (TRANSPORTATION UNIFORM MITIGATION FEE ORD. 673)
NOT WITHIN THE EASTERN TUMF FEE AREA

WESTERN TUMF (TRANSPORTATION UNIFORM MITIGATION FEE ORD. 824)
IN OR PARTIALLY WITHIN A TUMF FEE AREA. SEE MAP FOR MORE INFORMATION.SOUTHWEST

DIF (DEVELOPMENT IMPACT FEE AREA ORD. 659)
ELSINORE

SKR FEE AREA (STEPHEN'S KANGAROO RAT ORD. 663.10)
NOT WITHIN AN SKR FEE AREA.

DEVELOPMENT AGREEMENTS
NOT IN A DEVELOPMENT AGREEMENT AREA

TRANSPORTATION

CIRCULATION ELEMENT ULTIMATE RIGHT-OF-WAY
IN OR PARTIALLY WITHIN A CIRCULATION ELEMENT RIGHT-OF-WAY. SEE MAP FOR MORE INFORMATION. CONTACT THE TRANSPORTATION DEPT. PERMITS SECTION AT (951) 955-6790 FOR INFORMATION REGARDING THIS PARCEL IF IT IS IN AN UNINCORPORATED AREA.

ROAD BOOK PAGE
77

TRANSPORTATION AGREEMENTS
NOT IN A TRANSPORTATION AGREEMENT

CETAP (COMMUNITY AND ENVIRONMENTAL TRANSPORTATION ACCEPTABILITY PROCESS) CORRIDORS
NOT IN A CETAP CORRIDOR.

HYDROLOGY

FLOOD PLAIN REVIEW
WITHIN AREAS OF FLOODING SENSITIVITY. CONTACT THE FLOOD PLAIN MANAGEMENT SECTION AT (951) 955-1200 FOR INFORMATION

WATER DISTRICT
WMWD

FLOOD CONTROL DISTRICT
RIVERSIDE COUNTY FLOOD CONTROL DISTRICT

WATERSHED
SANTA MARGARITA

GEOLOGIC

FAULT ZONE
NOT IN A FAULT ZONE

FAULTS
WITHIN A 1/2 MILE OF
ELSINORE FAULT
ELSINORE FAULTS
WILDOMAR FAULT
WILLARD FAULT

LIQUEFACTION POTENTIAL

Letter 1 Continued

MODERATE

SUBSIDENCE
SUSCEPTIBLE

PALEONTOLOGICAL SENSITIVITY
LOW POTENTIAL.
FOLLOWING A LITERATURE SEARCH, RECORDS CHECK AND A FIELD SURVEY, AREAS MAY BE DETERMINED BY A QUALIFIED VERTEBRATE PALEONTOLOGIST AS HAVING LOW POTENTIAL FOR CONTAINING SIGNIFICANT PALEONTOLOGICAL RESOURCES SUBJECT TO ADVERSE IMPACTS.

MISCELLANEOUS

SCHOOL DISTRICT
LAKE ELSINORE UNIFIED

COMMUNITIES
NOT IN A COMMUNITY

COUNTY SERVICE AREA
NOT IN A COUNTY SERVICE AREA.

LIGHTING (ORD. 655)
ZONE B, 29.09 MILES FROM MT. PALOMAR OBSERVATORY

2010 CENSUS TRACT
043271

FARMLAND
URBAN-BUILT UP LAND

TAX RATE AREAS
025066
•CITY OF WILDOMAR
•COUNTY FREE LIBRARY
•CSA 152
•ELS MURRIETA ANZA RESOURCE CONS
•ELSINORE AREA ELEM SCHOOL FUND
•ELSINORE VAL MUN WTR IMP DIST 1
•ELSINORE VALLEY MUNICIPAL WATER
•ERAF RDV
•FLOOD CONTROL ADMINISTRATION
•FLOOD CONTROL ZONE 7
•GENERAL
•GENERAL PURPOSE
•LAKE ELSINORE UNIF IMP NO 96-1
•LAKE ELSINORE UNIFIED
•METRO WATER EAST 1301999
•METRO WATER WEST
•MT SAN JACINTO JUNIOR COLLEGE
•PROJECT1-LAKELANDRDV AB1290
•RIV CO REG PARK & OPEN SPACE
•RIV. CO. OFFICE OF EDUCATION
•WESTERN MUNICIPAL WATER
•WILDOMAR CEMETERY
•WILDOMAR FIRE PROTECTION

SPECIAL NOTES
NO SPECIAL NOTES

REPORT PRINTED ON...Thu Apr 23 2015 12:58:46 GMT-0700 (Pacific Daylight Time)
Version 131127

Report for APN 376-043-027

Comment Letter 1 – Bridges – Bucket – Ste. Marie

1-1 The commenter states that the IS/MND incorrectly concludes a "Less than Significant" impact determination for Thresholds G and H of Hydrology and Water Quality (page 56 of the IS/MND) section. The commenter also states that because the project is within a 100-year floodplain and as per the Parcel Report (attachment 1 to the Comment Letter) "within areas of flooding sensitivity," the correct determination should have been "Potentially Significant Impact" requiring an EIR.

It should be noted that the GIS used by Riverside County to generate a Parcel Report has general information and may not be accurate to the project level scale needed for analysis and development. The two maps depict slightly conflicting information as to the boundary of the 100-year floodplain in relation to the project site. As such, the project engineer has to provide evidence that the property is outside of the 100-year floodplain. If a portion of the project does indeed fall within the 100-year floodplain, the project applicant will be subject to provisions in Chapter 15.96 of the City of Wildomar Municipal Code. See also response to comment A-2.

1-2 The commenter states that the MND improperly defers analysis and mitigation of floodplain impacts under Hydrology and Water Quality, (Section 9, Thresholds G and H in the IS/MND) discussion and analysis.

In this case, the Riverside County GIS and FEMA FIRM Panel Number 06065C2682G depict slightly conflicting information as to the boundary of the 100-year floodplain in relation to the project site. The IS/MND conditioned the project to comply with required provisions in Chapter 15.96 of the City of Wildomar Municipal Code, if the project is determined to be within the 100-year floodplain. In fact, reliance on required future compliance with the applicable regulatory framework is common practice (Tracy First V. City of Tracy (2009)). A previous court case (*Oakland Heritage Alliance v. City of Oakland* (2011) determined that requiring compliance with Seismic Hazards Mapping Act and relevant provisions of State and City's Building Codes as an EIR mitigation measure is considered acceptable under CEQA and therefore, not considered to be deferring mitigation.

Letter 2

RECEIVED
MAY 06 2015
CITY OF WILDOMAR

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

April 23, 2015

Matthew C. Bassi, Planning Director
City of Wildmar, Planning Division
23873 Clinton Keith Road, Ste. 201
Wildomar, CA 92595

Re: Initial Study/ Mitigated Negative Declaration for Elm Street Tentative Tract Map 33840 (Planning Application No. 08-0154)

The Soboba Band of Luiseño Indians has reviewed the Initial Study/ Mitigated Negative Declaration for this project. We have several concerns regarding the mitigation measures for the cultural resources, and respectfully requested that that revisions be made to the document.

- CUL-1 states, "If during construction or grading activities Cultural Resources are discovered on the project site, work shall be halted immediately within 50 feet of the discovery and the resources shall be evaluated by a qualified archaeologist and the **Pechanga Tribe** (Tribe).

  The Project Applicant shall notify **both** the Soboba Band and the Pechanga Band to notify them of grading, excavation, and the proposed monitoring program. Although this project is located outside the Soboba Band's existing reservation boundaries, the project area does fall within the bounds of our Traditional Luiseno Use Area. This project location is in close proximity to known village sites, is a shared use area that was no just utilized by one existing Band, but rather the Luiseño people, and was used in ongoing trade between tribes. This area is regarded as highly sensitive to the people of Soboba Band, as well as those of the Pechanga Band, and we are equally concerns about potential cultural resources that may be affected by the future ground-disturbance associated with this project. **2-1**

- CUL-2 states, "At least 30 days prior to any grading activities, the project applicant(s) shall **contact the Pechanga Tribe** to notify the Tribe of grading, excavation, and the monitoring program and to coordinate with the City of Wildomar and the Tribe to develop a Cultural Resources Treatment and Monitoring Agreement.

  The Project Applicant shall notify **both** the Soboba Band and the Pechanga Band to notify them of grading, excavation, and the proposed monitoring program. **2-2**

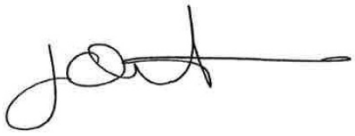
  As part of the mitigation measures, the tribe requests that it be mandated that an Agreement **between the project applicant and both the Soboba Band and the Pechanga Band shall be provided to the City of Wildomar prior to the issuance of a grading permit** and before conducting any additional archaeological fieldwork

Soboba Band of Luiseño Indians P.O. Box 487 San Jacinto, CA 92581

Letter 2 Continued

The Soboba Band of Luiseno Indians is requesting a face-to-face meeting between a representative from the City of Wildomar and the Soboba Cultural Resource Department. Please contact me at your earliest convenience either by email or on my cell phone in order to make arrangements.

Sincerely,



Joseph Ontiveros
Director of Cultural Resources
Soboba Band of Luiseño Indians
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

Soboba Band of Luiseño Indians P.O. Box 487 San Jacinto, CA 92581

Comment Letter 2 – Soboba Band of Luiseno Indians

2-1 The commenter states mitigation measure CUL-1 should also include the Soboba Band in the notification process.

Page 39 of the IS/MND has been revised and is reflected in Chapter 3 of the Final IS/MND:

CUL-1 If during grading or construction activities cultural resources are discovered on the project site, work shall be halted immediately within 50 feet of the discovery and the resources shall be evaluated by a qualified archeologist and the Pechanga Tribe ~~(Tribe)~~ and the Soboba Band of Luiseno Indians. Any unanticipated cultural resources that are discovered shall be evaluated in the final report prepared by the qualified archeologist. The report shall include a list of the resources discovered, documentation of each site/locality, and interpretation of the resources identified, and the method of preservation and/or recovery for identified resources. In the event the significant resources are recovered and if the qualified archaeologist and the Tribe determines the resources to be historic or unique, avoidance and/or mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4 and Public Resources Code Section 21083.2 and the Cultural Resources Treatment and Monitoring Agreement required by mitigation measure CUL-2.

This mitigation measure shall be incorporated in all construction contract documentation.

2-2 The commenter states that mitigation measure CUL-2 should also include the Soboba Band in the notification process.

Page 39 of the IS/MND has been revised and is reflected in Chapter 3 of the Final IS/MND:

CUL-2 At least 30 days prior to seeking a grading permit, the project applicant(s) shall contact the Pechanga Tribe and the Soboba Band of Luiseno Indians to notify both tribes ~~the Tribe~~ of grading, excavation, and the monitoring program and to coordinate with the City of Wildomar and the Pechanga Tribe and Soboba Band of Luiseno Indians to develop a Cultural Resources Treatment and Monitoring Agreement. The agreement shall include, but not be limited to, outlining provisions and requirements for addressing the treatment of cultural resources; project grading and development scheduling; terms of compensation for the monitors; treatment and final disposition of any cultural resources, sacred sites, and human remains discovered on the site; and establishing on-site monitoring provisions and/or requirements for professional Tribal monitors during all ground-disturbing activities. A copy of this signed agreement shall be provided to the Planning Director and Building Official prior to the issuance of the first grading permit.

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3.0 MINOR REVISIONS TO THE IS/MND

3.1 INTRODUCTION

This section includes minor edits to the IS/MND. These modifications resulted from responses to comments received during the public review period as well as from staff-initiated changes.

Revisions herein do not result in new significant environmental impacts, do not constitute significant new information, and do not alter the conclusions of the environmental analysis. Changes are provided in revision marks (underline for new text and ~~strikeout~~ for deleted text).

3.2 MINOR CHANGES AND EDITS TO THE IS/MND

The following minor changes are made to clarify the IS/MND based on comments received on the project and review of those comments by the City and by the technical experts responsible for the supporting studies.

BIOLOGICAL RESOURCES

Mitigation measure BIO-1 on page 36 is amended as follows:

BIO-1 All developers of the proposed project site shall conduct ~~construction and clearing activities outside of the avian nesting season (January 15-August 31), where feasible. If clearing and/or construction activities occur during the nesting season,~~ preconstruction surveys for nesting raptors, migratory birds, and special-status resident birds (e.g., coastal California gnatcatcher). Surveys shall be conducted by a qualified biologist, up to 3 ~~14~~ days before initiation of construction activities. The qualified biologist shall survey the construction zone and a 250-foot radius surrounding the construction zone to determine whether the activities may have the potential to disturb or otherwise harm nesting birds.

CULTURAL RESOURCES

1. Mitigation measure CUL-1 on page 39 is amended as follows:

CUL-1 If during grading or construction activities cultural resources are discovered on the project site, work shall be halted immediately within 50 feet of the discovery and the resources shall be evaluated by a qualified archeologist and the Pechanga Tribe ~~(Tribe)~~ and the Soboba Band of Luiseno Indians. Any unanticipated cultural resources that are discovered shall be evaluated in the final report prepared by the qualified archeologist. The report shall include a list of the resources discovered, documentation of each site/locality, and interpretation of the resources identified, and the method of preservation and/or recovery for identified resources. In the event the significant resources are recovered and if the qualified archaeologist and the Tribe determines the resources to be historic or unique, avoidance and/or mitigation would be required pursuant to and consistent with CEQA Guidelines Sections 15064.5 and 15126.4 and Public Resources Code Section 21083.2 and the Cultural Resources Treatment and Monitoring Agreement required by mitigation measure CUL-2.

This mitigation measure shall be incorporated in all construction contract documentation.

2. Mitigation measure CUL-2 on page 39 is amended as follows:

CUL-2 At least 30 days prior to seeking a grading permit, the project applicant(s) shall contact the Pechanga Tribe and the Soboba Band of Luiseno Indians to notify both tribes ~~the Tribe~~ of grading, excavation, and the monitoring program and to coordinate with the City of Wildomar and the Pechanga Tribe and Soboba Band of Luiseno Indians to develop a Cultural Resources Treatment and Monitoring Agreement. The agreement shall include, but not be limited to, outlining provisions and requirements for addressing the treatment of cultural resources; project grading and development scheduling; terms of compensation for the monitors; treatment and final disposition of any cultural resources, sacred sites, and human remains discovered on the site; and establishing on-site monitoring provisions and/or requirements for professional Tribal monitors during all ground-disturbing activities. A copy of this signed agreement shall be provided to the Planning Director and Building Official prior to the issuance of the first grading permit.

3. Mitigation measure CUL-6 on page 40 is amended as follows:

CUL-6 If inadvertent discoveries of subsurface archaeological resources are discovered during grading, work shall be halted immediately within 50 feet of the discovery. The developer, the project archeologist, the Native American Heritage Commission and the Tribe shall assess the significance of such resources and shall meet and confer regarding the mitigation for such resources. If the developer and the Tribe cannot agree on the significance of or the mitigation for such resources, these issues will be presented to the City of Wildomar Planning Director. The Planning Director shall make the determination based on the provisions of CEQA with respect to archaeological resources and shall take into account the religious beliefs, customs, and practices of the Pechanga Tribe. Notwithstanding any other rights available under the law, the decision of the Planning Director shall be appealable to the City of Wildomar. In the event the significant resources are recovered and if the qualified archaeologist determines the resources to be historic or unique as defined by relevant state and local law, avoidance and mitigation would be required pursuant to and consistent with Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4.

HYDROLOGY AND WATER QUALITY

Thresholds G and H of the IS/MND are amended as follows:

g, h) **Less Than Significant**. A portion of the residential project may be located inside of the 100-year floodplain as mapped on a Flood Insurance Rate Map (FIRM) Panel Number 06065C2682G (FEMA 2008) and may be subject to flooding. The 100-year flood line appears to be within the channel and adjacent right-of-way for the Murrieta Creek Channel, but the actual location of the line will need to be determined by final engineering (see **Figure 7**). If the area is within the 100-year flood elevation, the FIRM map indicates that flooding would be 1 foot or less in elevation. The City's Municipal Code Chapter 15.96 relates to flood hazard area regulations. One of the provisions of the Flood Hazard Area Regulations is that "for all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. A minimum of two openings having a total

net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices; provided that they permit the automatic entry and exit of floodwaters." If the project engineer can demonstrate to the City Engineer that the property is outside of the floodplain, the provisions of Municipal Code Chapter 15.96 will not apply. If the property is demonstrated to be outside of the 100-year floodplain, then it may be prudent to request an amendment to the Flood Insurance Rate Map (FIRM) through a Letter of Map Revision (LOMR); however a map amendment is not required. Either compliance with Chapter 15.96 or evidence that the property is outside of the 100-year floodplain will result in a less than significant impact.

UTILITIES AND SERVICE SYSTEMS

1. Threshold B on page 49 of the IS/MND is amended as follows:

Current Capacity at lift station B-2 is ~~3,600~~ 2,806 gallons per minute.

2. Standard Conditions and Requirements on Page 82 will be amended as follows:

1) The sewer collection system shall be privately owned and maintained.
2) The water system shall be looped; also show an access and maintenance easement in favor of EVMWD for the full width of Street A.
3) Detailed plans and specification will be required during the plan review process.

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ATTACHMENTS

ATTACHMENT A: PUBLIC NOTICES

Ben J. Benoit, Mayor
Bridgette Moore, Mayor Pro Tem
Bob Cashman, Council Member
Timothy Walker Council Member
Marsha Swanson, Council Member

23873 Clinton Keith Rd, Ste 201
Wildomar, CA 92595
951/677-7751 Phone
951/698-1463 Fax
www.CityofWildomar.org

TO: Reviewing Agencies and Other Interested Parties

FROM: Matthew C. Bassi, Planning Director

DATE: March 25, 2015

SUBJECT: Elm Street Tentative Tract Map 33840 Initial Study/Mitigated Negative Declaration (Planning Application No. 08-0154)

The City of Wildomar (City) is the lead agency for the preparation and review of an Initial Study/Mitigated Negative Declaration (IS/MND) for the Elm Street Tentative Tract Map project.

The residential project will subdivide 4.16 acres into 15 parcels and includes a change of zone from the existing zone designation of R-R (Rural Residential) to a proposed zone designation of R-1 (One-Family Dwelling). All 15 parcels are intended for the development of future single-family residential dwelling units. The change of zone designation will make the zoning consistent with the current Medium Density Residential (MDR) General Plan land use designation for the site.

A previous IS/MND for the proposed project was circulated on July 9, 2014 through August 7, 2014. The State Clearinghouse Number (SCH) is 2014071028. Comments received on the previous IS/MND during the public review period have been included and addressed in this updated IS/MND in accordance with CEQA guidelines.

The proposed project site is located in the City of Wildomar, California, at the end of Elm Street between Central Street to the northeast and Gruwell Street to the southwest, with the Murrieta Creek Channel drainage course to the northeast. The Riverside County Assessor's Parcel Number (APN) for the project site is 376-043-027.

At this time, the City is requesting comments on the IS/MND for the proposed project. This notice is being sent to responsible agencies, trustee agencies, and other interested parties in accordance with state CEQA laws along with a copy of the IS/MND on a CD. The public comment period for the IS/MND will begin on **Wednesday, March 25, 2015, and conclude on Thursday, April 23, 2015.** Written comments can be provided to Matthew C. Bassi, Planning Director, City of Wildomar, 23873 Clinton Keith Road, Suite 201, Wildomar, CA 92595. Comments can also be emailed to mbassi@cityofwildomar.org.

Sincerely,

Matthew C. Bassi
Planning Director

Enclosure – IS/MND on CD

NOTICE OF INTENT TO ADOPT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE ELM STREET TENTATIVE TRACT MAP PROJECT

An Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the City of Wildomar for the Elm Street Tentative Tract Map project (Planning Application No. 08-0154). The IS/MND is available for public review and can be downloaded from the City of Wildomar Environmental Documents Center webpage at http://www.cityofwildomar.org/environmental-documents.asp beginning Wednesday, March 25, 2015. A printed copy of the Elm Street Tentative Tract IS/MND will also available for review at Wildomar City Hall, Planning Department, 23873 Clinton Keith Road, Suite 201, Wildomar, CA 92595 (8 a.m. to 5 p.m., Monday through Thursday).

The proposed project site is located in the City of Wildomar, California, at the end of Elm Street between Central Street to the northeast and Gruwell Street to the southwest, with the Murrieta Creek Channel drainage course to the northeast. The Riverside County Assessor's Parcel Number (APN) for the project site is 376-043-027.

The proposed project would change the existing zone district from R-R (Rural Residential) to R-1 (One-Family Dwelling). The project will also subdivide 4.16 acres into 15 parcels. All 15 parcels are intended for the development of future single-family residential dwelling units. The change of zone designation will make the zoning consistent with the current Medium Density Residential (MDR) General Plan land use designation for the site.

A previous IS/MND for the proposed project was circulated on July 9, 2014 through August 7, 2014. The State Clearinghouse Number is 2014071028. Comments received on the previous IS/MND during the public review period have been included and addressed in this updated IS/MND in accordance with CEQA guidelines.

In accordance with CEQA Guidelines Sections 15072(a) and (b), this public notice is posted to officially notify the public, public agencies, and responsible and trustee agencies that the required 30-day public review period will commence on **Wednesday, March 25, 2015 and will conclude on Thursday, April 23, 2015.** Any written comments (via email or letter) on the IS/MND must be submitted no later than April 23, 2015 by 5 p.m. The Planning Commission is tentatively scheduled to take action on this project at a regular meeting to be held on June 3, 2015. The City Council is tentatively scheduled to take action on this project at a regular meeting to be held on July 8, 2015. 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.

Posted: March 25, 2015

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE ELM STREET TENTATIVE TRACT MAP PROJECT

An Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the City of Wildomar for the Elm Street Tentative Tract Map project (Planning Application No. 08-0154). The IS/MND is available for public review and can be downloaded from the City of Wildomar Environmental Documents Center webpage at http://www.cityofwildomar.org/environmental-documents.asp beginning Wednesday, March 25, 2015. A printed copy of the Elm Street Tentative Tract IS/MND is also available for review at Wildomar City Hall, Planning Department, 23873 Clinton Keith Road, Suite 201, Wildomar, CA 92595 (8 a.m. to 5 p.m., Monday through Thursday).

The proposed project site is located in the City of Wildomar, California, at the end of Elm Street between Central Street to the northeast and Gruwell Street to the southwest, with the Murrieta Creek Channel drainage course to the northeast. The Riverside County Assessor's Parcel Number (APN) for the project site is 376-043-027.

The project proposes to change the existing zone designation from R-R (Rural Residential) to R-1 (One-Family Dwelling). The project also proposes to subdivide the 4.16 acre site into 15 parcels for future single family residential development consistent with the existing General Plan land use designation of Medium Density Residential (MDR). The change of zone designation will make the zoning consistent with the current Medium Density Residential (MDR) General Plan land use designation of the site.

A previous IS/MND for the proposed project was circulated on July 9, 2014 through August 7, 2014. The State Clearinghouse Number is 2014071028. Comments received on the previous IS/MND during the public review period have been included and addressed in this updated IS/MND in accordance with CEQA guidelines.

In accordance with CEQA Guidelines Sections 15072(a) and (b), this public notice is posted to officially notify the public, public agencies, and responsible and trustee agencies that the required 30-day public review period will commence on **Wednesday, March 25, 2015 and will conclude on Thursday April 23, 2015.** Any written comments (via email or letter) on the IS/MND must be submitted no later than April 23, 2015 by 5 p.m. The Planning Commission is tentatively scheduled to take action on this project at a regular meeting to be held on June 3, 2015. The City Council is tentatively scheduled to take action on this project at a regular meeting to be held on July 8, 2015. 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.

Published: March 25, 2015

City of Wildomar
Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, PO Box 3044, Sacramento, CA 95812-3044
(916) 445-0613 state.clearinghouse@opr.ca.gov

SCH # **2014071028**

PROJECT TITLE
Elm Street Tentative Tract Map IS/MND (Planning Application No. 08-0154/TM No. 33840)

LEAD AGENCY		CONTACT PERSON
City of Wildomar		Matthew C. Bassi, Planning Director
STREET ADDRESS		PHONE
23873 Clinton Keith Road, Suite 201		951/677-7751, Ext. 213
CITY	ZIP CODE	COUNTY
Wildomar	92595	Riverside

PROJECT LOCATION

COUNTY	CITY/NEAREST COMMUNITY		
Riverside	City of Wildomar		
ADDRESS		ZIP CODE	TOTAL ACRES
At the end of Elm Street between Central Street to the northeast and Gruwell Street to the southwest, with Murrieta Creek Channel drainage course adjacent to the northeast.		92595	4.16
ASSESSOR'S PARCEL NUMBER	SECTION	TOWNSHIP	RANGE
376-043-027			

WITHIN 2 MILES:

STATE HIGHWAY NUMBER	AIRPORTS	SCHOOLS
Interstate 15	None within 2 miles	William Collier Elementary (approx. 2 miles to the north) Cal Lutheran HS (approx. 2 miles to the north) Wildomar Elementary (approx. ½ mile to the west) Donald Graham Elementary (approx. 2 miles to the west) Davie A. Brown Middle (approx 2 miles to the south)

RAILWAYS	WATERWAYS
None	Murrieta Creek Channel drainage course to the northeast/adjacent to the project site

DOCUMENT TYPE

CEQA			NEPA		OTHER	
	☐NOP	☐ Supplement/Subsequent EIR		☐NOI		☐Joint Document
	☐Early Cons	(Prior SCH No.) ____		☐EA		☐Final Document
	☒Initial Study	☐Other		☐Draft EIS		☐Other ____
	☐Draft EIR			☐FONSI		

LOCAL ACTION TYPE

☐General Plan Update	☐Specific Plan Amendment	☒Rezone	☐Annexation
☐General Plan Amendment	☐Master Plan	☐Prezone	☐Redevelopment
☐General Plan Element	☐Planned Unit Development	☐Use Permit	☐Coastal Permit
☐Community Plan	☐Site Plan	☒Land Division (Subdivision, etc.)	☐Conditional Use Permit (CUP)

DEVELOPMENT TYPE

☒Residential	Units 15	Acres 4.16		☐Transportation	Type ____
☐Administrative Building	Sq. ft. ____	Acres ____	Employees ____	☐Mining	Mineral ____
☐Shopping/Commercial	Sq. ft. ____	Acres	Employees ____	☐Waste Treatment	Type ____
☐Industrial	Sq. ft. ____	Acres ____	Employees ____	☐Hazardous Waste	Type ____
☐Educational	Sq. ft. ____				
☐Other	Sq. ft.				
☐Recreational				☐Water Facilities	Type ____ MGD ____
				☐Power	Type ____ Watts ____

FUNDING

Federal $ ____ State $ ____ Total $ ____

PROJECT ISSUES DISCUSSED IN DOCUMENT

☒Aesthetic/Visual	☒Flood Plain/Flooding	☒Schools/Universities	☒Water Supply
☐Agricultural Land	☐Forest Land/Fire Hazard	☐Septic Systems	☒Wetland/Riparian
☒Air Quality	☒Geological/Seismic	☒Soil Erosion/Compaction/Grading	☒Wildlife
☒Archaeological/Historical	☐Minerals	☒Solid Waste	☒Growth Inducing
☐Coastal Zone	☒Noise	☒Toxic/Hazardous	☒Land Use
☒Drainage/Absorption	☒Population/Housing Balance	☒Traffic/Circulation	☒Cumulative Effects
☐Economic/Jobs	☒Public Services/Facilities	☒Vegetation	☐Other ____
☐Fiscal	☒Recreation/Parks	☒Water Quality	

PRESENT LAND USE/ZONING/GENERAL PLAN DESIGNATION: The project site is currently vacant and is designated Medium Density Residential and zoned Rural Residential**.**

PROJECT DESCRIPTION: The project includes a change of zone from the existing designation of R-R (Rural Residential) to R-1 (One-Family Dwelling). The change of zone designation will make the zoning consistent with the existing General Plan land use designation of Medium Density Residential (MDR). The project also includes a Tentative Tract Map (TTM No. 33840) to subdivide the 4.16-acre parcel into 15 parcels for future single family residential development.

REVIEWING AGENCIES CHECKLIST

☐ Resources Agency
☐ Boating & Waterways
☐ Coastal Conservancy
☐ Colorado River Board
☒ Conservation
☒ Fish and Wildlife
☒ Forestry & Fire Protection
☐ Office of Historic Preservation
☐ Parks and Recreation
☐ Reclamation Board
☐ San Francisco Bay Conservation & Development Commission
☐ Water Resources

Business, Transportation & Housing

☐ Aeronautics
☐ California Highway Patrol
☒ CALTRANS District # 8
☐ Federal Aviation Authority
☐ Department of Transportation Planning (headquarters)
☐ Housing & Community Development
☐ Food & Agriculture Health & Welfare
☐ Health Services ____

State & Consumer Services

☐ General Services

Environmental Protection Agency

☐ Air Resources Board
☐ California Waste Management Board
☐ SWRCB: Clean Water Grants
☐ SWRCB: Delta Unit
☐ SWRCB: Water Quality
☐ SWRCB: Water Rights
☒ Regional WQCB # 8 (San Ana Region)
☒ Regional WQCB # 9 (San Diego Region)

Youth & Adult Corrections

☐ Corrections

Independent Commissions & Offices

☐ Energy Commission
☐ Native American Heritage Commission
☐ Public Utilities Commission
☐ Santa Monica Mountains Conservancy
☐ State Lands Commission
☐ Tahoe Regional Planning Agency

PUBLIC REVIEW PERIOD

Starting Date Wednesday, March 25, 2015

Ending Date Thursday, April 23, 2015

Signature Matthew Bassi

Matthew C. Bassi, Planning Director
City of Wildomar Planning Department

Consultant:

Consulting Firm: Pacific Municipal Consultants

Address: 6020 Cornerstone Court West, Suite 260

City/State/Zip: San Diego, CA 92128

Contact: Mark Teague, AICP

Phone: (858) 453-3602, ext 15201

Lead Agency:

Matthew C. Bassi, Planning Director

City of Wildomar

23837 Clinton Keith Road, Suite 201

Wildomar, CA 92595

Phone: (951) 677-7751

For SCH Use Only: _____

Date Received at SCH _____

Date Review Starts _____

Date to Agencies _____

Date to SCH _____

Clearance Date _____

Notes:

CITY OF WILDOMAR – PLANNING COMMISSION
Agenda Item #3.2
GENERAL BUSINESS
Meeting Date: November 7, 2018

TO: Chairman and Members of the Planning Commission

FROM: Matthew Bassi, Planning Director

SUBJECT: **Tentative Tract Map No. 33840 - Extension of Time (PA 18-0146):** Planning Commission review and consideration of a 3-year Extension of Time for a City approved Tentative Tract Map No. 33840 to subdivide 4.16 acres into 15 single family residential lots located at the terminus of Elm Street between Gruwell Street and Central Street (APN: 376-043-027).

STAFF REPORT

RECOMMENDATION:

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

1. Adopt a Resolution entitled:

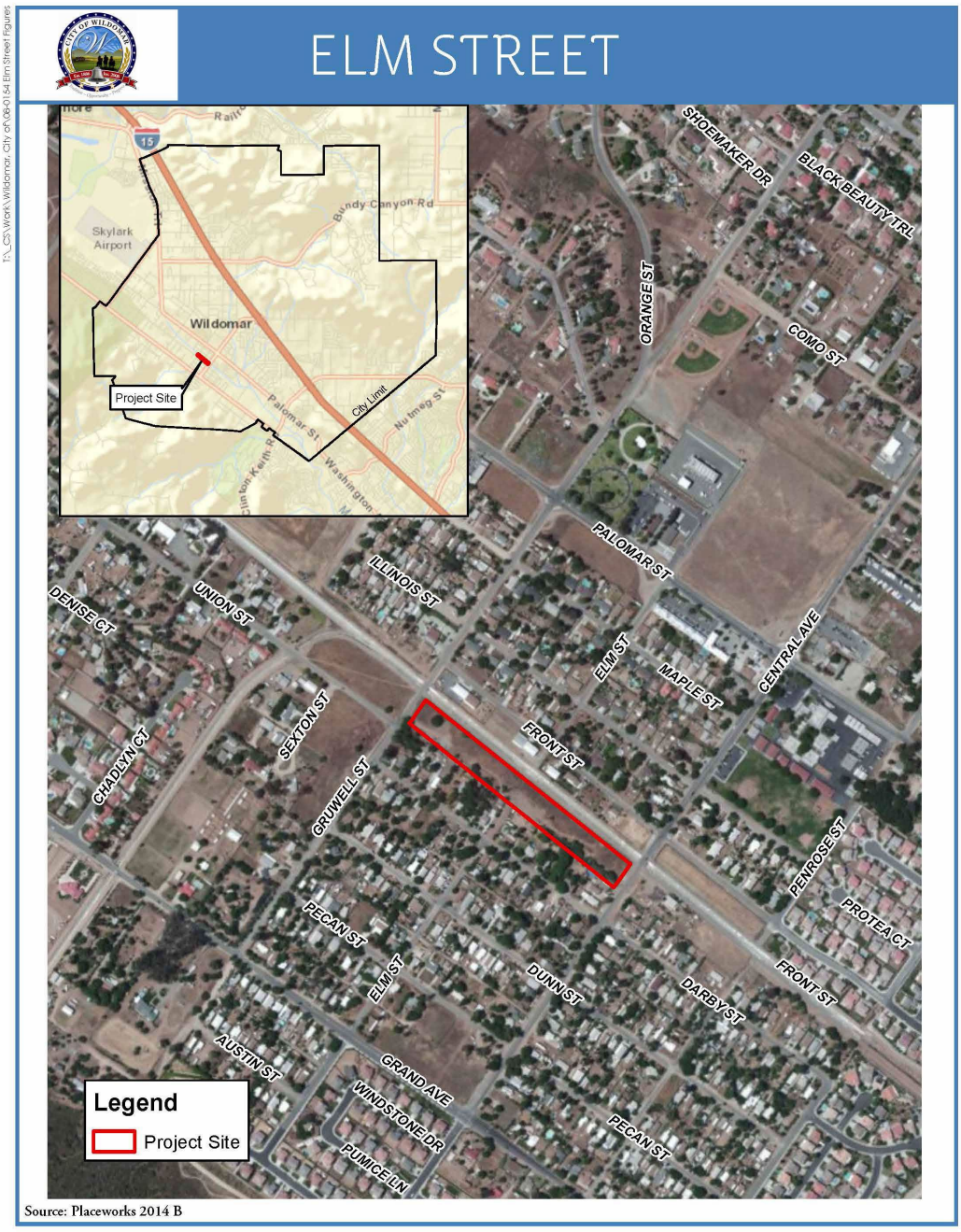
PC RESOLUTION NO. 2018-28

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING A 3-YEAR EXTENSION OF TIME TO SEPTEMBER 23, 2021 FOR TENTATIVE TRACT MAP NO. 33840 TO SUBDIVIDE 4.16 ACRES INTO 15 LOTS LOCATED AT THE TERMINUS OF ELM STREET BETWEEN GRUWELL STREET AND CENTRAL STREET (APN: 376-043-027) AND A DETERMINATION THAT ADDITIONAL ENVIRONMENTAL REVIEW IS NOT REQUIRED PER CEQA GUIDELINES SECTION 15162

DESCRIPTION:

The Applicant (Zareh Hookasian) is requesting a 3-year extension of time for Tentative Tract Map No. 33840. This request represent the 1st of three (3) possible time extensions for this residential tract map. The residential subdivision is located at the terminus of Elm Street between Gruwell Street and Central Street (APN: 376-043-027). The vicinity map on the following page illustrates the location of the project site and surrounding area.

Vicinity/Location Map



Surrounding Land Uses

The project site is surrounded by low- and medium-density residential uses and/or open space immediately to the west, east, and south and by Murrieta Creek Channel and residential uses to the north. Table 1 lists the current land uses, General Plan designations, and zoning for the site and abutting properties.

Table 1 – Adjacent Land Use, General Plan, and Zoning

ADJACENT LAND USE, GENERAL PLAN AND ZONING			
Location	**Current Land Use**	**General Plan Land Use Designation**	**Zoning**
Subject Property	Vacant	MDR (Medium Density Residential)	R-1 (One Family Dwelling)
North	Murrieta Creek Canal; Single-Family Residential; Open Space	MDR (Medium Density Residential); LDR (Low Density Residential)	R-1 (One-Family Dwelling)
South	Single-Family Residential	MDR (Medium Density Residential)	R-R (Rural Residential)
East	Single-Family Residential	MDR (Medium Density Residential)	R-R (Rural Residential)
West	Single-Family Residential; Open Space	MDR (Medium Density Residential); LDR (Low Density Residential)	R-R (Rural Residential)

DISCUSSION / ANALYSIS:

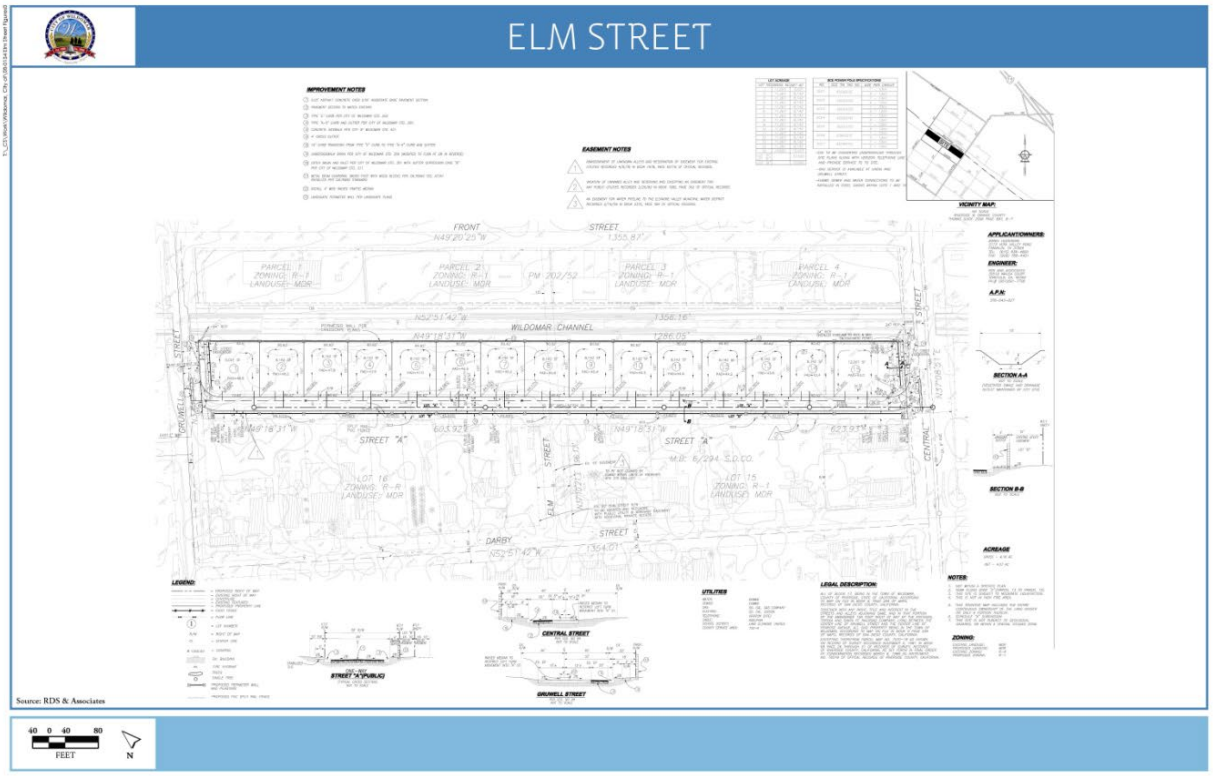
Upon recommendation of the Planning Commission, TTM No. 33840 was originally approved by the City Council on September 23, 2018 to subdivide 4.16 acres into 15 lots for single family residential development. The City Council also adopted a Mitigated Negative Declaration and a Change of Zone from R-R (Rural Residential) to R-1 (One-Family Dwelling) to accommodate the proposed project. The tentative map has an existing condition that requires the final map to be approved by City Council and recorded with the County Clerk before September 23, 2018 (3 years after the original approval).

Section 16.12.240. A of the Subdivision Ordinance allows tentative tract maps up to six (6) years of extension of times provided the Applicant files an application and filing fee with the Planning Director prior to the expiration date. On September 13, 2018, the Applicant did submit an EOT application and paid the required processing fee with a request for a 3-year extension of time to September 23, 2021. This would be the first of three possible time extensions.

The approval or denial of an extension of time is in the purview of the Planning Commission. The Applicant has indicated the need for additional time to market the approved tract map to a residential builder but has not yet been able to secure a deal (refer to Attachment D). In reviewing the extension of time request, the Planning and Engineering departments have determined that the approved tract map has not been modified from its original approval, nor has the Applicant requested any changes. Thus, it is staff's opinion that the extension of time is a reasonable request.

A copy of the approved tract map is provided below and in Attachment C.

Approved Tentative Tract Map No. 33840



The tract map still shows 15 single family (R-1) lots that range in size from 8,142 to 12,007 square feet with an average lot size of about 8,458 square feet. The subdivision's primary access into the site will occur from Elm Street and a "right-in" turning movement on Central Street with a "right-out" turning movement onto Gruwell Street. A lot summary table has been provided on the following page.

Proposed Lot Acreage

Lot Number	Gross Lot Sizes (square feet)
1	9,021
2	8,142
3	8,142
4	8,142
5	8,142
6	8,142
7	8,142
8	8,142
9	8,142
10	8,142
11	8,142
12	8,142
13	8,142
14	8,142
15	12,007

Staff has determined that the approved tentative tract map remains in compliance with the current development standards and policies of the City's zoning and subdivision ordinances. Further, the approved R-1 zoning remains consistent with the adopted general plan land use designation of Medium Density Residential (MDR). The MDR designation allows single family residential development within a density range of 2 – 5 units/acre. The approved tract map reflects a density of about 3.6 units/acre which falls within the MDR density range. For these reasons, staff supports this final extension of time request.

A copy of the Council approved conditions for TTM No. 33840 and a copy of the adopted Mitigated Negative Declaration is provided in Attachment A, Exhibit 1 and Attachment B, respectively. A reduced copy of the approved tract map is provided in Exhibit C.

CEQA DISCUSSION:

In accordance with the requirements of the California Environmental Quality Act (Public Resources Code § 21000, et seq. ("CEQA")), a Mitigated Negative Declaration was prepared, considered and adopted by the City Council on September 23, 2015 as part of its approval of Tentative Tract Map No. 33840. The accompanying Change of Zone from R-R to R-1 was also approved by Council at the same meeting. A Notice of Determination (NOD) was filed with the Riverside County Clerk on September 24, 2015 within the prescribed time frame in accordance with CEQA.

As part of the environmental assessment for Tentative Tract Map No. 33840, the Council identified four (4) areas with potentially significant impacts. Of the impact categories identified, the conclusion in the IS/MND is that all potential impacts would be fully mitigated via implementation of the adopted mitigation measures and conditions of approval.

CEQA Guideline 15162 provides that once a mitigated negative declaration is adopted for a project, when a subsequent discretionary approval is required for the project the lead agency may determine, based on substantial evidence, whether additional environmental review of the project is warranted. More specifically, if one or more of the conditions stated in Guideline 15162(a) are present (discussed in more detail below), then the lead agency must prepare a subsequent EIR for the project. If none of the conditions stated in Guideline 15162(a) are present, then the lead agency has the discretion to determine whether to require a lesser form of environmental review (such as an addendum) or no further documentation at all. (Guideline 15162(b)).
Guideline 15162(a) requires a subsequent EIR to be prepared if one or more of the following conditions exist:

> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
>
> (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
>
> (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
>
> > (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
> >
> > (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
> >
> > (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative."

Staff has evaluated the above criteria and determined that there have been no significant changes in the project, no significant changes in the circumstances under which the project will be undertaken, and no new information has come to light regarding new or significant environmental effects. Therefore, no conditions exist that might otherwise require a subsequent EIR, subsequent MND, subsequent Negative Declaration, or an Addendum pursuant to Title 14 Cal. Code Regs. Section 15162. Therefore, it can be concluded with certainty that no additional CEQA documentation is required.

Therefore, the Planning Department is recommending the Planning Commission make the following findings:

1) *Substantial changes are not proposed in the project:*
The Applicant is not proposing any technical or physical changes to TTM No. 33840 as part of the proposed extension of time. Therefore, no major revisions of the previously adopted mitigated negative declaration are necessary because there are no new significant environmental effects, or a substantial increase in the severity of previously identified significant effects, resulting from changes to the project.

2) *No Substantial Changes to the Project's Circumstances:*
No substantial changes have occurred with respect to the circumstances under which the project is undertaken that will require major revisions of the previously adopted mitigated negative declaration due to the involvement of new significant environmental effects, or a substantial increase in the severity of previously identified significant effects. The proposed 3-year extension of time request being considered for TTM No. 33840 does not include any request for technical or physical changes to the design, specifications, conditions or requirements for construction of the project covered by the approved tentative tract map.

3) *No New Information of Substantial Importance:*
This final element under CEQA Guideline 15162(a) requires a showing that there is no new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time of the original project approval. The City has not been made aware of any new information that was not known and could not have been known at the time the City Council originally adopted the mitigated negative declaration that evidences new or increased significant environmental effects or that new mitigation measures or mitigation measures previously found infeasible are available that would substantially decrease the project's environmental impacts.

EOT - FINDINGS OF FACT:

Pursuant to Section 16.12.240.C of the Subdivision Ordinance, and in light of the record before it, including the staff report dated November 7, 2018 and all evidence and testimony heard at the public hearing for said extension of time for Tentative Tract Map No. 33840, staff recommends the Planning Commission hereby find as follows:

Finding 1: The proposed extension of time for TM No. 33840 is consistent with the City of Wildomar General Plan.

Evidence: The General Plan land use designation for the project site is Medium Density Residential (MDR) which allows single family residential land uses with densities ranging from 2 to 5 dwelling units per acre. The approved tentative tract map would allow for the development of 15 single family lots on 4.16 acres with a density of 3.6 units/acre which falls within the allowable density range permitted under the MDR land use designation. Further, the Land Use Element of the General Plan encourages the development of a variety of housing types, styles and densities that are accessible to and meet the needs of a range of lifestyles, physical abilities, and income levels. The proposed tract map, and subsequent residential development, remains consistent with this policy as it will provide single family residential homeownership opportunities for Wildomar residents. Considering these facts, the proposed request for a 3-year extension of time for Tentative Tract Map No. 33840 continues to be consistent with the General Plan.

Finding 2: The proposed extension of time for TM No. 33840 is consistent with the City of Wildomar Zoning Ordinance.

Evidence: The R-1 (One-Family Dwelling) zoning designation approved by the City Council on September 23, 2015 is highly consistent with the General Plan land use designation of Medium Density Residential (MDR). Further, the approved tentative tract map will allow for the development of 15 single family residential dwelling units consistent with the R-1 development standards related to required lot depth (100 feet) and lot width (60 feet). Lastly, single family residential land uses are a permitted use on the R-1 zone, therefore, the project remains consistent with the Zoning Ordinance.

Finding 3: The proposed extension of time for TM No. 33840 does not adversely affect the general health, safety and welfare of the public.

Evidence: The proposed extension of time does not adversely affect the general health, safety and welfare of the public as the originally approved tract map remains in compliance with all the required design and development standards of the R-1 (One-Family Dwelling) zone, and appropriate mitigation for the project's environmental impacts have been imposed on the project. As there have been no amendments to the R-1 zone since approval of the tract map, the original development standards remain the same. Further, the design of the subdivision remains in conformance with the City's General Plan and Subdivision Ordinance. The design and construction of all improvements related to the proposed project remain as originally conditioned which are intended to protect the general health, safety and welfare of the public.

Finding 4: The Applicant submitted the EOT application and required fees prior to the expiration of Tentative Tract Map No. 33840.

Evidence: The Applicant submitted the EOT application and paid the required fees on September 13, 2018 in advance of the September 23, 2018 expiration date. Considering this fact, the proposed request for a 3-year extension of time meets this finding.

PUBLIC NOTICING:

In accordance with Chapter 17.04.050 of the Wildomar Municipal Code, the Planning Department on October 23, 2018, mailed a public notice to all adjacent property owners within a 600-foot radius of the project site notifying them of the November 7, 2018 Planning Commission meeting. As this EOT request does not require a public hearing and is not a new development project, the provisions of Ordinance No. 135 requiring the posting of a "notice of public hearing sign board" on the project site does not apply.

Respectfully Submitted,
Matthew C. Bassi
Planning Director

Reviewed By,
Tom Jex
City Attorney

ATTACHMENTS

A. PC Resolution No. 2018-28
   Exhibit 1 - Approved Conditions of Approval for TTM 33840
B. Adopted Mitigated Negative Declaration (MND)
C. Reduction of the approved TTM No. 33840
D. Applicant EOT Request Letter

INCORPORATED HEREIN BY REFERENCE THE FOLLOWING:

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

ATTACHMENT A

PC Resolution No. 2018-28

PC RESOLUTION NO. 2018-28

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING A 3-YEAR EXTENSION OF TIME TO SEPTEMBER 23, 2021 FOR TENTATIVE TRACT MAP NO. 33840 TO SUBDIVIDE 4.16 ACRES INTO 15 LOTS LOCATED AT THE TERMINUS OF ELM STREET BETWEEN GRUWELL STREET AND CENTRAL STREET (APN: 376-043-027) AND A DETERMINATION THAT ADDITIONAL ENVIRONMENTAL REVIEW IS NOT REQUIRED PER CEQA GUIDELINES SECTION 15162

WHEREAS, an application for an Extension of Time to September 23, 2021 for Tentative Tract Map No. 33840 (Planning Application No. 18-0146) has been filed by:

Applicant/Owner:	Zareh Hookasian
Project Location:	End of Elm Street between Central Street to the northeast and Gruwell Street to the southwest
APN:	376-043-027
Lot Area:	4.16 acres

WHEREAS, the Applicant has submitted a formal application request and paid the required planning/processing fees on September 13, 2018, requesting a 3-year extension of time for Tentative Tract Map No. 33840, thereby, meeting the requirements for an Extension of Time as outlined in Section 16.12.240 of the Wildomar Municipal Code; and

WHEREAS, the City Council of the City of Wildomar approved Tentative Tract Map No. 33840 on September 23, 2015 for the subdivision of 4.16 acres into 15 lots for future single family residential homes/development on said property currently owned by the Applicant; and

WHEREAS, the City Council of the City of Wildomar, in connection with the approval of Tentative Tract Map No. 33840, adopted a Mitigated Negative Declaration on September 23, 2015; and

WHEREAS, in accordance with Title 16, Section 16.12.140 of the Wildomar Municipal Code, the Planning Department on October 23, 2018 mailed a public notice to all adjacent property owners within a 600-foot radius of the project site notifying the adjacent residents of the November 7, 2018 Planning Commission meeting where the Commission would review the proposed extension of time; and

WHEREAS, in accordance with Wildomar Municipal Code Section 16.12.240, the City of Wildomar Planning Commission conducted the duly noticed public meeting on November 7, 2018, at which time interested persons had an opportunity to testify in support of, or opposition to, the proposed 3-year extension of time for Tentative Tract Map No. 33840, and at which time the Planning Commission received public testimony concerning the extension of time.

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

SECTION 1. CEQA FINDINGS.

In accordance with the requirements of the California Environmental Quality Act (Public Resources Code § 21000, et seq. ("CEQA")), a Mitigated Negative Declaration was prepared, considered and adopted by the City Council on September 23, 2015 as part of its approval of Tentative Tract Map No. 33840. The accompanying Change of Zone from R-R to R-1 was also approved by Council at the same meeting. A Notice of Determination (NOD) was filed with the Riverside County Clerk on September 24, 2015 within the prescribed time frame in accordance with CEQA. As part of the environmental assessment for Tentative Tract Map No. 33840, the Council identified four (4) areas with potentially significant impacts. Of the impact categories identified, the conclusion in the IS/MND is that all potential impacts would be fully mitigated via implementation of the adopted mitigation measures and conditions of approval.

CEQA Guideline 15162 provides that once a mitigated negative declaration is adopted for a project, when a subsequent discretionary approval is required for the project the lead agency may determine, based on substantial evidence, whether additional environmental review of the project is warranted. More specifically, if one or more of the conditions stated in Guideline 15162(a) are present (discussed in more detail below), then the lead agency must prepare a subsequent EIR for the project. If none of the conditions stated in Guideline 15162(a) are present, then the lead agency has the discretion to determine whether to require a lesser form of environmental review (such as an addendum) or no further documentation at all. (Guideline 15162(b)).
Guideline 15162(a) requires a subsequent EIR to be prepared if one or more of the following conditions exist:

> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
>
> (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
>
> (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
>
> > (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative."

The Planning Commission has evaluated the above criteria and determined that there have been no significant changes in the project, no significant changes in the circumstances under which the project will be undertaken, and no new information has come to light regarding new or significant environmental effects. Therefore, no conditions exist that might otherwise require a subsequent EIR, subsequent MND, subsequent Negative Declaration, or an Addendum pursuant to Title 14 Cal. Code Regs. Section 15162. Therefore, it can be concluded with certainty that no additional CEQA documentation is required. Therefore, the Planning Commission hereby makes the following findings:

1) *Substantial changes are not proposed in the project:*
The Applicant is not proposing any technical or physical changes to TTM No. 33840 as part of the proposed extension of time. Therefore, no major revisions of the previously adopted mitigated negative declaration are necessary because there are no new significant environmental effects, or a substantial increase in the severity of previously identified significant effects, resulting from changes to the project.

2) *No Substantial Changes to the Project's Circumstances:*
No substantial changes have occurred with respect to the circumstances under which the project is undertaken that will require major revisions of the previously adopted mitigated negative declaration due to the involvement of new significant environmental effects, or a substantial increase in the severity of previously identified significant effects. The proposed 3-year extension of time request being considered for TTM No. 33840 does not include any request for technical or physical changes to the design, specifications, conditions or requirements for construction of the project covered by the approved tentative tract map.

3) *No New Information of Substantial Importance:*
This final element under CEQA Guideline 15162(a) requires a showing that there is no new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time of the original project approval. The City has not been made aware of any new

information that was not known and could not have been known at the time the City Council originally adopted the mitigated negative declaration that evidences new or increased significant environmental effects or that new mitigation measures or mitigation measures previously found infeasible are available that would substantially decrease the project's environmental impacts.

SECTION 2. EOT FINDINGS

Pursuant to Section 16.12.240.C of the Subdivision Ordinance, and in light of the record before it, including the staff report dated November 7, 2018 and all evidence and testimony heard at the public hearing for said extension of time for Tentative Tract Map No. 33840, the Planning Commission hereby finds and determines as follows:

Finding 1: The proposed extension of time for TM No. 33840 is consistent with the City of Wildomar General Plan.

Evidence: The General Plan land use designation for the project site is Medium Density Residential (MDR) which allows single family residential land uses with densities ranging from 2 to 5 dwelling units per acre. The approved tentative tract map would allow for the development of 15 single family lots on 4.16 acres with a density of 3.6 units/acre which falls within the allowable density range permitted under the MDR land use designation. Further, the Land Use Element of the General Plan encourages the development of a variety of housing types, styles and densities that are accessible to and meet the needs of a range of lifestyles, physical abilities, and income levels. The proposed tract map, and subsequent residential development, remains consistent with this policy as it will provide single family residential homeownership opportunities for Wildomar residents. Considering these facts, the proposed request for a 3-year extension of time for Tentative Tract Map No. 33840 continues to be consistent with the General Plan.

Finding 2: The proposed extension of time for TM No. 33840 is consistent with the City of Wildomar Zoning Ordinance.

Evidence: The R-1 (One-Family Dwelling) zoning designation approved by the City Council on September 23, 2015 is highly consistent with the General Plan land use designation of Medium Density Residential (MDR). Further, the approved tentative tract map will allow for the development of 15 single family residential dwelling units consistent with the R-1 development standards related to required lot depth (100 feet) and lot width (60 feet). Lastly, single family residential land uses are a permitted use on the R-1 zone, therefore, the project remains consistent with the Zoning Ordinance.

Finding 3: The proposed extension of time for TM No. 33840 does not adversely affect the general health, safety and welfare of the public.

Evidence: The proposed extension of time does not adversely affect the general health, safety and welfare of the public as the originally approved tract map remains in compliance with all the required design and development standards of the R-1 (One-Family Dwelling) zone, and appropriate mitigation for the project's environmental impacts

have been imposed on the project. As there have been no amendments to the R-1 zone since approval of the tract map, the original development standards remain the same. Further, the design of the subdivision remains in conformance with the City's General Plan and Subdivision Ordinance. The design and construction of all improvements related to the proposed project remain as originally conditioned which are intended to protect the general health, safety and welfare of the public.

Finding 4: The Applicant submitted the EOT application and required fees prior to the expiration of Tentative Tract Map No. 33840.

Evidence: The Applicant submitted the EOT application and paid the required fees on September 13, 2018 in advance of the September 23, 2018 expiration date. Considering this fact, the proposed request for a 3-year extension of time meets this finding

SECTION 3. PLANNING COMMISSION ACTION

The Planning Commission of the City of Wildomar, based on the criteria/findings above, hereby adopts PC Resolution No. 2018-28 approving a 3-year extension of time to September 23, 2021 for Tentative Tract Map No. 33840 (PA 18-0146), subject to the original conditions of approval adopted by the City Council on September 23, 2021, attached hereto as Exhibit 1 to this Resolution.

PASSED, APPROVED AND ADOPTED this 7th day of November, 2018 by the following vote:

AYES.

NOES:

ABSENT:

ABSTAINED:

_____
John Lloyd
Planning Commission Chairman

ATTEST:

_____
Matthew C. Bassi
Planning Director/Minutes Secretary

APPROVED AS TO FORM:

_____
Tom D. Jex
City Attorney

EXHIBIT 1

Original Conditions of Approval for TM 33840

ATTACHMENT B

Adopted IS/MND

ATTACHMENT C

Approved TTM 33840

ATTACHMENT D

Applicant EOT Request Letter

TENTATIVE TRACT MAP NO. 33840
AMENDMENT NO. 4
IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE
APN: 376-043-027

ALL OF BLOCK 17, BEING IN THE TOWN OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA. ACCORDING TO THE MAP ON FILE IN BOOK 6, PAGE 294 OF MAPS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA.

NORTH

40' 0 20' 40' 80' 160'

GRAPHIC SCALE
1"=40'

IMPROVEMENT NOTES

1. 0.25' ASPHALT CONCRETE OVER 0.50' AGGREGATE BASE PAVEMENT SECTION
2. PAVEMENT SECTION TO MATCH EXISTING
3. TYPE 'C' CURB PER CITY OF WILDOMAR STD. 202
4. TYPE "A-6" CURB AND GUTTER PER CITY OF WILDOMAR STD. 200
5. CONCRETE SIDEWALK PER CITY OF WILDOMAR STD. 401
6. 4' CROSS GUTTER
8. 10' CURB TRANSITION FROM TYPE "C" CURB TO TYPE "A-6" CURB AND GUTTER
9. UNDERSIDEWALK DRAIN PER CITY OF WILDOMAR STD. 309 (MODIFIED TO FLOW AT 2% IN REVERSE)
10. CATCH BASIN AND INLET PER CITY OF WILDOMAR STD. 301 WITH GUTTER DEPRESSION CASE "B" PER CITY OF WILDOMAR STD. 311
11. METAL BEAM GUARDRAIL (WOOD POST WITH WOOD BLOCK) PER CALTRANS STD. A77A1 INSTALLED PER CALTRANS STANDARD.
12. INSTALL 4' WIDE RAISED TRAFFIC MEDIAN
13. LANDSCAPE PERIMETER WALL PER LANDSCAPE PLANS

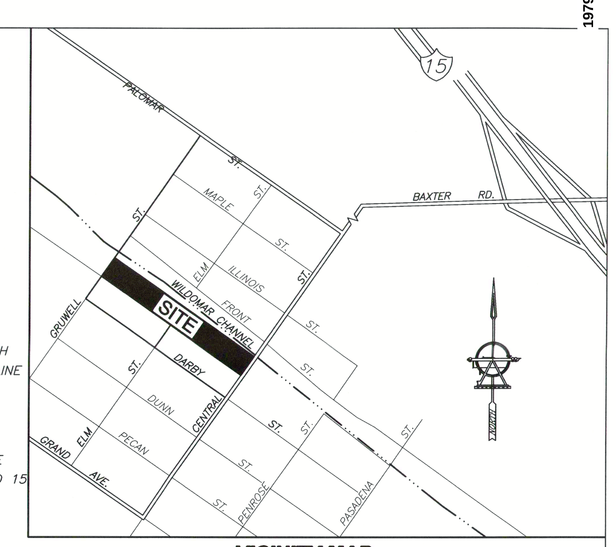
LOT ACREAGE		
LOT NO.	GROSS AC.	NET AC
1	11,603	9,021
2	11,367	8,142
3	11,367	8,142
4	11,367	8,142
5	11,367	8,142
6	11,367	8,142
7	11,367	8,142
8	11,367	8,142
9	11,367	8,142
10	11,367	8,142
11	11,367	8,142
12	11,367	8,142
13	11,367	8,142
14	11,367	8,142
15	15,822	12,007
LOT "A", ST. "A"		37,560
LOT "B"		12,600

SCE POWER POLE SPECIFICATIONS		
NO.	SCE TIN TAG NO.	SIZE PER CIRCUIT
SCE1	4529972E	1 - 33kV
		2 - 12kV
SCE2	4554372E	1 - 33kV
		2 - 12kV
SCE3	4554373E	1 - 33kV
		2 - 12kV
SCE4	4554374E	1 - 33kV
		2 - 12kV
SCE5	4554375E	1 - 33kV
		2 - 12kV
SCE6	4364257E	1 - 33kV
		2 - 12kV
SCE7	4529975E	1 - 33kV
		2 - 12kV

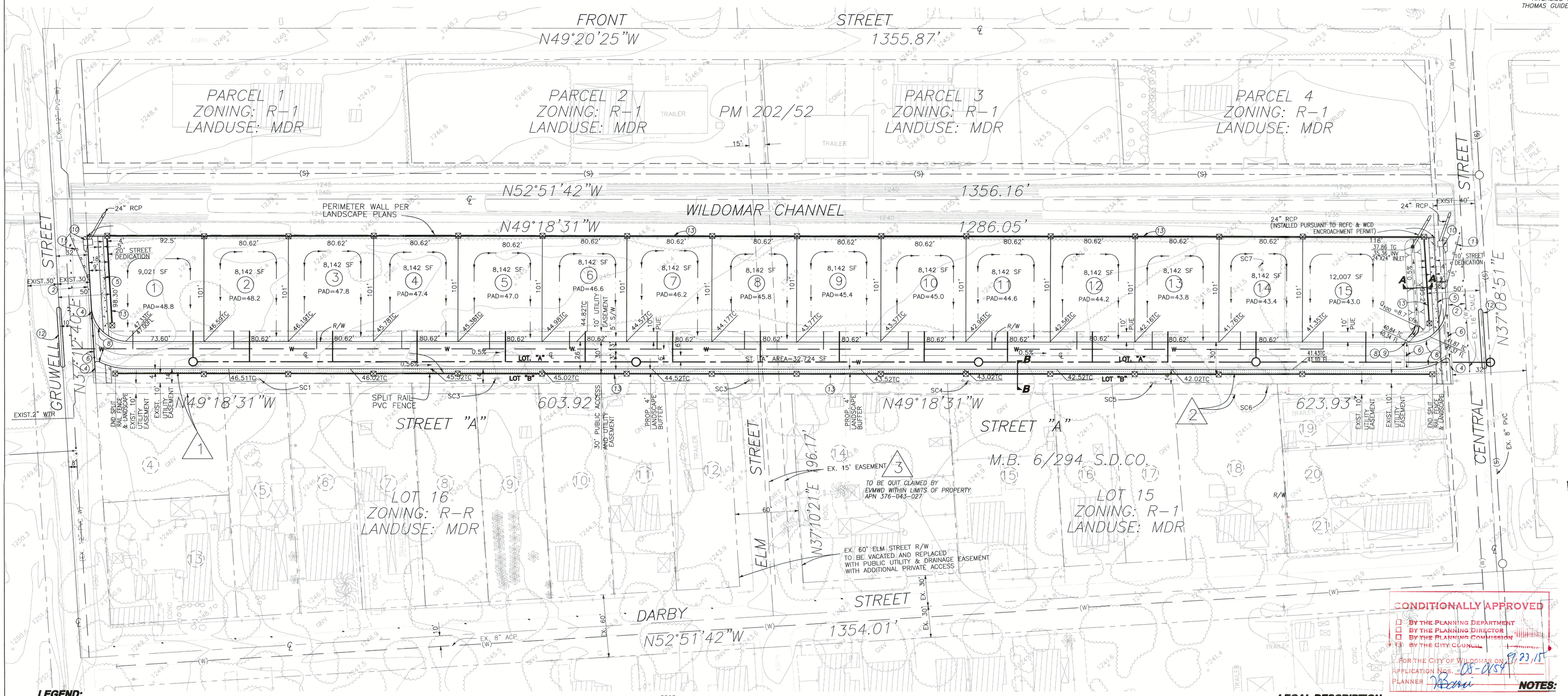
-SCE TO BE CONVERTED UNDERGROUND THROUGH SITE PLANS ALONG WITH VERIZON TELEPHONE LINE AND PROVIDE SERVICE TO TO SITE.
-GAS SERVICE IS AVAILABLE AT UNION AND GRUWELL STREET.
-EVMWD SEWER AND WATER CONNECTIONS TO BE INSTALLED IN STEEL CASING WITHIN LOTS 1 AND 15

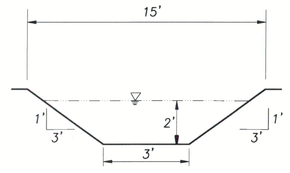
EASEMENT NOTES

1. ABANDONEMENT OF UNKNOWN ALLEYS AND RESERVATION OF EASEMENT FOR EXISTING UTILITIES RECORDED 4/6/78 IN BOOK 1978, PAGE 65718 OF OFFICIAL RECORDS.
2. VACATION OF UNNAMED ALLEY AND RESERVING AND EXCEPTING AN EASEMENT FOR ANY PUBLIC UTILITIES RECORDED 2/26/82 IN BOOK 1982, PAGE 342 OF OFFICIAL RECORDS.
3. AN EASEMENT FOR WATER PIPELINE TO THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT RECORDED 2/16/59 IN BOOK 2375, PAGE 584 OF OFFICIAL RECORDS.

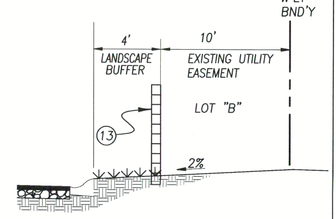


VICINITY MAP:
NO SCALE
RIVERSIDE & ORANGE COUNTY
THOMAS GUIDE 2006 PAGE 897, B-7





SECTION A-A
NOT TO SCALE
(VEGETATED SWALE AND DRAINAGE OUTLET MAINTAINED BY CITY CFD)



SECTION B-B
NOT TO SCALE

APPLICANT/OWNERS:
ZAREH HOOKASIAN
3173 VERA VALLEY ROAD
FRANKLIN, TN 37064
TEL: (615) 838-4820
FAX: (909) 768-4401

ENGINEER:
RDS AND ASSOCIATES
30519 WAILEA COURT
TEMECULA, CA 92592
PH.# (951)691-7706

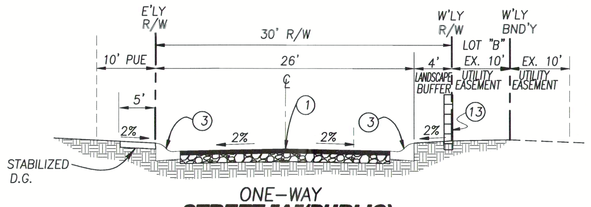
A.P.N:
376-043-027

CONDITIONALLY APPROVED
☐ BY THE PLANNING DEPARTMENT
☐ BY THE PLANNING DIRECTOR
☐ BY THE PLANNING COMMISSION
☒ BY THE CITY COUNCIL
FOR THE CITY OF WILDOMAR ON 9.23.15
APPLICATION NOS. 05-459
PLANNER

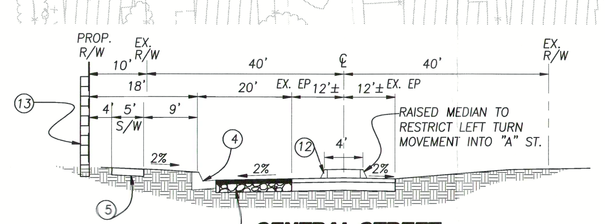
ACREAGE
GROSS - 4.16 AC
NET - 4.07 AC

NOTES:
1. NOT WITHIN A SPECIFIC PLAN.
2. FEMA FLOOD ZONE "X".(PARCEL 13 TO PARCEL 15)
3. THIS SITE IS SUBJECT TO MODERATE LIQUEFACTION.
4. THIS IS NOT IN HIGH FIRE AREA.
5. THIS TENTATIVE MAP INCLUDES THE ENTIRE CONTIGUOUS OWNERSHIP OF THE LAND DIVIDER OR ONLY A PORTION THEREOF.
6. SCHEDULE "A" SUBDIVISION.
7. THIS SITE IS NOT SUBJECT TO GEOLOGICAL HAZARDS, OR WITHIN A SPECIAL STUDIES ZONE.

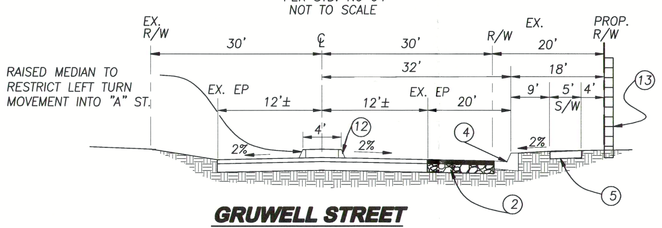
LEGEND:
- = PROPOSED RIGHT OF WAY
- = EXISTING RIGHT OF WAY
- = CENTERLINE
- = EXISTING FEATURES
- = PROPOSED PROPERTY LINE
- = EXIST FENCE
- = FLOW LINE
- (1) = LOT NUMBER
- R/W = RIGHT OF WAY
- CL = CENTER LINE
- Δ 1350.00 = CONTROL
- EX. BUILDING
- FIRE HYDRANT
- TREES
- SINGLE TREE
- PROPOSED PERIMETER WALL AND PILASTERS
- PROPOSED PVC SPLIT RAIL FENCE



ONE-WAY
STREET "A" (PUBLIC)
(TYPICAL CROSS SECTION)
NOT TO SCALE



CENTRAL STREET
PER STD. NO 94
NOT TO SCALE



GRUWELL STREET
PER STD. NO 94
NOT TO SCALE

UTILITIES

WATER:	EVMWD
SEWER:	EVMWD
GAS:	SO. CAL. GAS COMPANY
ELECTRIC:	SO. CAL. EDISON
TELEPHONE:	VERIZON (GTE)
CABLE:	ADELPHIA
SCHOOL DISTRICT:	LAKE ELSINORE UNIFIED
COUNTY SERVICE AREA:	152-A

LEGAL DESCRIPTION:

ALL OF BLOCK 17, BEING IN THE TOWN OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA. ACCORDING TO MAP ON FILE IN BOOK 6, PAGE 294 OF MAPS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA.

TOGETHER WITH ANY RIGHT, TITLE AND INTEREST IN THE STREETS AND ALLEYS ADJOINING SAME, AND IN THAT PORTION OF THE ABANDONED 100 FOOT RIGHT OF WAY OF THE ATCHISON, TOPEKA AND SANTA FE RAILROAD COMPANY, LYING BETWEEN THE CENTER LINE OF GRUWELL STREET AND THE CENTER LINE OF PENROSE AVENUE, ALL SAID PROPERTY BEING IN THE TOWN OF WILDOMAR, ACCORDING TO MAP ON FILE IN BOOK 6 PAGE 294 OF MAPS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA.

EXCEPTING THEREFROM PARCEL MAP NO. 7070-18 AS SHOWN ON RECORD OF SURVEY RECORDED NOVEMBER 5, 1981 IN BOOK 68 PAGE 26 THROUGH 31 OF RECORDS OF SURVEY, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, AS SET FORTH IN FINAL ORDER OF CONDEMNATION RECORDED MARCH 6, 1986 AS INSTRUMENT NO. 76518 OF OFFICAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

RECEIVED
JUL 27 2015
CITY OF WILDOMAR

ZONING:

EXISTING LANDUSE:	MDR
PROPOSED LANDUSE:	MDR
EXISTING ZONING:	R-R
PROPOSED ZONING:	R-1

DATE	REVISIONS
1 12/03/13	ADDRESS CITY COMMENTS
2 5/1/14	SHIFT PRIVATE STREET 14' EASTERLY AND TRAIL. REMOVE PERIMETER
	WALL ALONG WESTERLY BOUNDARY. REPLACE CUL-DE-SAC WITH
	STANDARD HAMMERHEAD.
3 11/4/14	ADD ONE WAY PUBLIC STREET, ELIMINATE W'LY TRAIL
4 3/4/15	ADD MEDIAN TO RESTRICT LEFT TURN MOVEMENT TO "A" STREET

RDS & ASSOCIATES
30519 Wailea Ct.
Temecula, CA. 92592
PH: 951.691.7706

CITY OF WILDOMAR

TENTATIVE TRACT MAP 33840
APN# 376-043-027
July 24, 2015

SERV. AREA	
W.O.	1019-01
C.O.	
COORD.	
SHT	1 of 1
	July 2015

Zareh Hookassian
1105 N. 8th Street Lot B
Nashville, TN 37207

March 8, 2023

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

Subject: TTM No. 33840 - Extension of Time #2 (#23-0019 - Elm St Res)

Dear **City of Wildomar**:

This letter is to request an Extension of Time (#2) for **TTM No. 33840**. There has been quite a lot of work done to take the map to Final but the project has fallen behind schedule. The project engineer has completed the necessary documents to submit the Final Map for approval.

I am asking for an approval for an Extension of Time (#2) so that we have additional time to secure funding for a Bond for improvements. Due to inflation and interest rates rising this taken more time then anticipated.

I hope this provides you with sufficient information.

Sincerely,

Zareh Hookassian

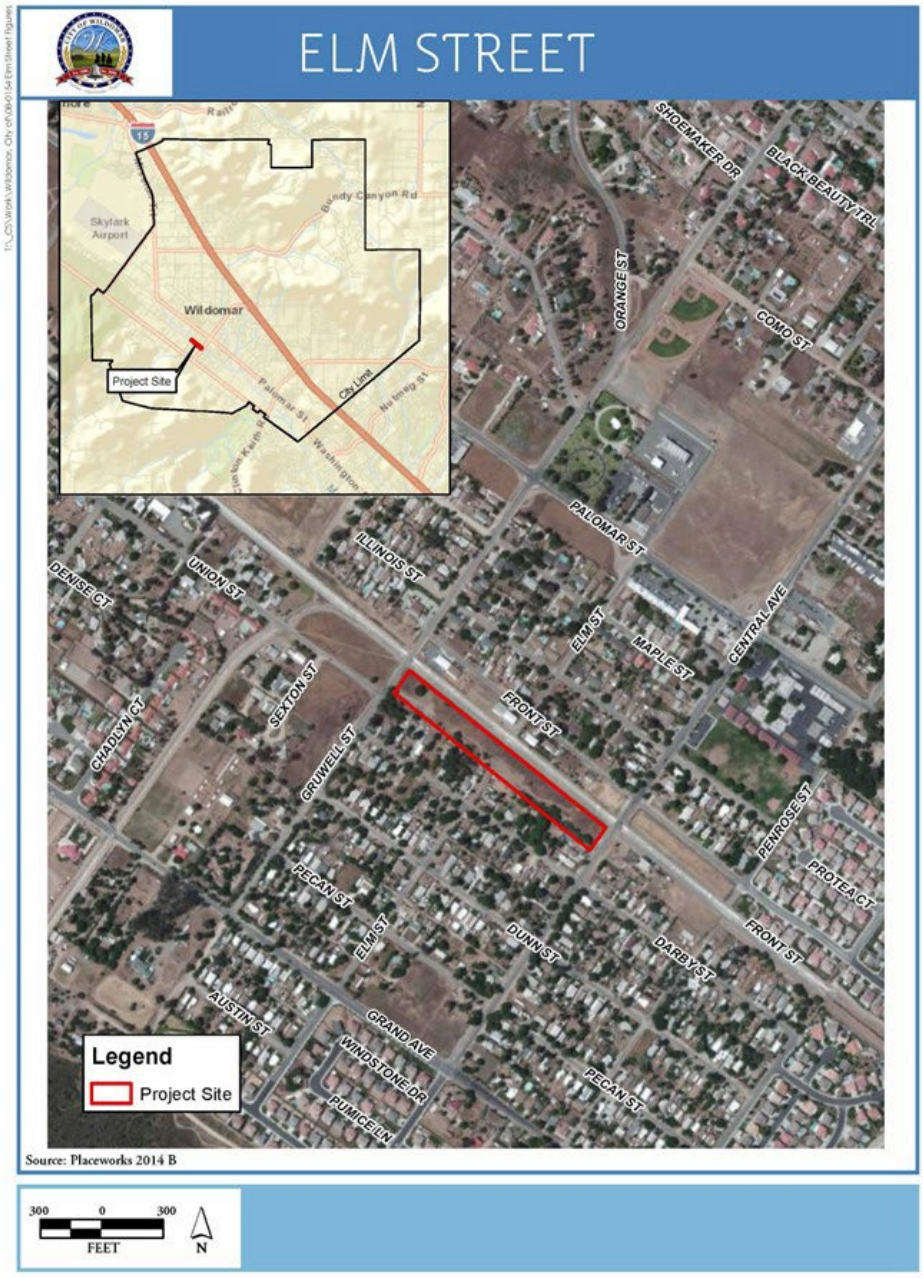
Zareh Hookassian – Property Owner

ATTACHMENT F

Vicinity Map and Exhibits

Project Location/Vicinity:
The residential subdivision is located at the terminus of Elm Street between Gruwell Street and Central Street (APN: 376-043-027).

Vicinity/Location Map



Surrounding Land Uses

The project site is surrounded by low- and medium-density residential uses and/or open space immediately to the west, east, and south and by Murrieta Creek Channel and residential uses to the north. Table 1 lists the current land uses, General Plan designations, and zoning for the site and abutting properties.

Table 1 – Adjacent Land Use, General Plan, and Zoning

ADJACENT LAND USE, GENERAL PLAN AND ZONING			
Location	**Current Land Use**	**General Plan Land Use Designation**	**Zoning**
Subject Property	Vacant	MDR (Medium Density Residential)	R-1 (One Family Dwelling)
North	Murrieta Creek Canal; Single-Family Residential; Open Space	MDR (Medium Density Residential); LDR (Low Density Residential)	R-1 (One-Family Dwelling)
South	Single-Family Residential	MDR (Medium Density Residential)	R-R (Rural Residential)
East	Single-Family Residential	MDR (Medium Density Residential)	R-R (Rural Residential)
West	Single-Family Residential; Open Space	MDR (Medium Density Residential); LDR (Low Density Residential)	R-R (Rural Residential)

Approved Lot Acreage

Lot Number	Gross Lot Sizes (square feet)
1	9,021
2	8,142
3	8,142
4	8,142
5	8,142
6	8,142
7	8,142
8	8,142
9	8,142
10	8,142
11	8,142
12	8,142
13	8,142
14	8,142
15	12,007

CITY OF WILDOMAR
PC - REGULAR MEETING
PUBLIC HEARING
Agenda Staff Report # 2.4
Meeting Date: April 5, 2023

SUBJECT: Zoning Ordinance Amendment No. 2023-05:

SUBMITTED BY: Matthew Bassi

PREPARED BY: Matthew Bassi

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

1. Find and determine that approval of Zoning Ordinance Amendment No. 2023-05 meets the findings for a General Rule Exemption in accordance with Section 15061(B)(3); and

2. Adopt a Resolution entitled:

PC RESOLUTION NO. 2023-11

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, RECOMMENDING CITY COUNCIL APPROVAL OF ZONING ORDINANCE AMENDMENT NO. 2023-05 TO AMEND CHAPTER 17.315 (CANNABIS BUSINESSES) OF WILDOMAR MUNICIPAL CODE, AND FIND THAT THAT ZONING ORDINANCE AMENDMENT NO. 2023-05 IS EXEMPT FROM CEQA REVIEW PURSUANT TO CEQA GUIDELINES SECTION 15061(B)(3)

FISCAL IMPACT:
None.

PROJECT DESCRIPTION:
Staff is proposing Zoning Ordinance Amendment No. 2023-04 for Planning Commission review and recommendation to the City Council regarding those cannabis retailers that operate solely as a delivery business. Approval of ZOA No. 2023-04 requires adoption of a General Rule CEQA Exemption and an amendment to Chapter 17.315 (Cannabis Businesses) of the Wildomar Municipal Code. the proposed changes are illustrated in Attachment A, Exhibit 1.

PROJECT ANALYSIS:

Discussion:

The City Council adopted Ordinance No. 187 in May 2020 authorizing cannabis businesses to operate in the City. Ordinance No. 187 authorizes cannabis retail businesses to operate in the C-P-S and C-1/C-P zones with a conditional use permit and development agreement. As of today's date, there are four (4) retail cannabis businesses currently operating in the City.

In implementing Ordinance No. 187 over the past 3 years, staff determined that we need to strengthen the ordinance to distinguish cannabis retailers that operate as a storefront business from those cannabis retailers that operate solely as a delivery business (i.e., no in-store customers). While the City does not have any delivery only cannabis businesses at this time, this code amendment will provide the necessary regulations for these uses.

Retail cannabis businesses may only operate in the C-P-S and C-1/C-P zones currently subject to approval of a conditional use permit and development agreement. With this code amendment, staff is proposing that cannabis retailers whom will operate solely as a delivery business will be allowed to operate in the M-SC and I-P zones, subject to approval of a conditional use permit and development agreement. It was determined that the M-SC and I-P zones were best suited for these specific uses so they would not impact retail sales opportunities in commercial lease spaces.

Staff believes this amendment is fair and reasonable and restricting these uses to the industrial zones safeguards the commercial retail zones. Given the requirement for a conditional use permit and development agreement, cannabis only delivery businesses will maintain the same processing procedures already in place, thereby, giving the City the ability to negotiate conditions and fees like retail cannabis businesses.

CEQA Determination:

In accordance with the requirements of the California Environmental Quality Act (Public Resources Code § 21000, et seq. ("CEQA")), a review of the potential environmental impacts was conducted by the Planning Department for ZOA No. 2023-05. This evaluation indicated no potential for significant impacts on the environment since the proposed ordinance amendment which results in only text changes to address delivery only cannabis businesses. As a result, ZOA No. 2023-05 can be exempted from CEQA review pursuant to CEQA Guideline Section 15061(b)(3) which states that if an activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment and where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

ZOA No. 2023-04 Findings:

In accordance with the provisions of Chapter 17.280 of the Zoning Ordinance, the Planning Commission hereby makes the following finding in support of a recommendation to the City Council for approval of Zoning Ordinance Amendment No. 2023-05:

A. The proposed amendment is consistent with the City of Wildomar General Plan and Zoning Ordinance.

Evidence. The proposed amendment is consistent with the City of Wildomar General Plan and Zoning Ordinance in that the proposed amendment establishing location and processing procedures for delivery only cannabis businesses will maintain the standard review and processing procedures for a conditional use permit and development agreement as is done for cannabis retailers that operate as a storefront business. Safeguarding the City's commercial retail zones for retail uses furthers the goal of expanding the city's revenues related to sales tax users. Further, the proposed revision is consistent with and, will further the provisions of protecting the public health, safety and general welfare of the residents of Wildomar through the conditional use permit and development agreement process.

ATTACHMENTS:
Attach_A-PC_Reso_2023-11-final.pdf

ATTACHMENT A

PC Resolution No. 2023-11

PC RESOLUTION NO. 2023-11

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, RECOMMENDING CITY COUNCIL APPROVAL OF ZONING ORDINANCE AMENDMENT NO. 2023-05 TO AMEND CHAPTER 17.315 (CANNABIS BUSINESSES) OF WILDOMAR MUNICIPAL CODE, AND FIND THAT THAT ZONING ORDINANCE AMENDMENT NO. 2023-05 IS EXEMPT FROM CEQA REVIEW PURSUANT TO CEQA GUIDELINES SECTION 15061(B)(3)

WHEREAS, the Planning Commission has proposed to the City Council an amendment to Chapter 17.315 of the Wildomar Municipal Code related to cannabis businesses; and

WHEREAS, in accordance with Section 17.280 of the Wildomar Municipal Code, the City of Wildomar Planning Commission has the authority to take action on, and make a recommendation to the City Council regarding Zoning Ordinance Amendment No. 2023-05; and

WHEREAS, in accordance with the Wildomar Municipal Code, the Planning Department on March 24, 2023 published a legal notice in the Press Enterprise, a local newspaper of general circulation, notifying the general public of a public hearing before the Planning Commission on April 5, 2023 to consider Zoning Ordinance Amendment No. 2023-05; and

WHEREAS, in accordance with California Government Code, Section 65800, et seq. and Chapter 17.04.050 of the Wildomar Municipal Code, the Wildomar Planning Commission conducted the duly noticed public hearing on April 5, 2023, at which time interested persons had an opportunity to testify in support of, or opposition to Zoning Ordinance Amendment No. 2023-05, and at which time the Planning Commission received public testimony concerning Zoning Ordinance Amendment No. 2023-05 and has made a recommendation to the City Council regarding said amendment.

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

SECTION 1. ENVIRONMENTAL DETERMINATION.

In accordance with the requirements of the California Environmental Quality Act (Public Resources Code § 21000, et seq. ("CEQA")), a review of the potential environmental impacts was conducted by the Planning Department for ZOA No. 2023-11. This evaluation indicated no potential for significant impacts on the environment since the proposed ordinance amendment which results in only text changes related to cannabis businesses and does not alter the existing requirements that specific development projects must comply with the provisions of the California Environmental Quality Act. As a result, ZOA 2023-05 is exempt from CEQA review pursuant to CEQA Guideline 15061(b)(3) which states that if an activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment and where it can be seen with certainty that there is no possibility that

the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. As a result, the Planning Commission has made a determination that the proposed code amendment has no potential to negatively impact the environment and is hereby recommending City Council find that Zoning Ordinance Amendment No. 2023-05 is exempt from CEQA for the reasons stated above.

SECTION 2. REQUIRED ZOA FINDING.

In accordance with the provisions of Chapter 17.280 of the Zoning Ordinance, the Planning Commission hereby makes the following finding in support of a recommendation to the City Council for approval of Zoning Ordinance Amendment No. 2023-05.

A. The proposed amendment is consistent with the City of Wildomar General Plan and Zoning Ordinance.

The proposed amendment is consistent with the City of Wildomar General Plan and Zoning Ordinance in that the proposed amendment establishing location and processing procedures for delivery only cannabis businesses will maintain the standard review and processing procedures for a conditional use permit and development agreement as is done for cannabis retailers that operate as a storefront business. Safeguarding the City's commercial retail zones for retail uses furthers the goal of expanding the city's revenues related to sales tax users. Further, the proposed revision is consistent with and, will further the provisions of protecting the public health, safety and general welfare of the residents of Wildomar through the conditional use permit and development agreement process.

SECTION 3. PLANNING COMMISSION ACTION.

Based on the foregoing finding, and on substantial evidence in the whole of the record, the Planning Commission hereby adopts PC Resolution No. 2023-11 recommending City Council approval of an Ordinance, attached hereto and incorporated herein by reference as Exhibit 1, approving Zoning Ordinance Amendment No. 2023-05.

PASSED, APPROVED AND ADOPTED this 5th day of April, 2023 by the following vote:

AYES.

NOES:

ABSENT:

ABSTAINED:

_____
Kim L. Strong
Planning Commission Chairman

ATTEST:

_____
Matthew C. Bassi
Planning Director/Minutes Secretary

APPROVED AS TO FORM:

_____
Stephanie Gutierrez
Assistant City Attorney

EXHIBIT 1

Draft City Council Ordinance for ZOA No. 2023-05

ORDINANCE NO. ____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING ZONING ORDINANCE AMENDMENT NO. 2023-05 TO AMEND CHAPTER 17.315 (CANNABIS BUSINESSES) OF WILDOMAR MUNICIPAL CODE, AND FIND THAT THAT ZONING ORDINANCE AMENDMENT NO. 2023-05 IS EXEMPT FROM CEQA REVIEW PURSUANT TO CEQA GUIDELINES SECTION 15061(B)(3)

THE CITY COUNCIL OF THE CITY OF WILDOMAR ORDAINS AS FOLLOWS:

SECTION 1. Findings. The City Council finds as follows:

A. The City Council adopted Ordinance No. 187 in 2020 authorizing cannabis businesses to operate in the City. Ordinance No. 187 authorizes cannabis retail businesses to operate in the C-P-S and C-1/C-P zones with a conditional use permit and development agreement.

B. The purpose of this ordinance is to distinguish cannabis retailers that operate a storefront business from cannabis retailers that operate a delivery only business, and provide that storefront retailers may operate in the C-P-S and C-1/C-P zones while delivery-only retailers may operate in the M-SC and I-P zones, with a conditional use permit and development agreement.

C. The proposed amendment is consistent with the City of Wildomar General Plan and Zoning Ordinance in that the delivery only cannabis businesses will maintain the standard review and processing procedures for a conditional use permit and development agreement. Further, safeguarding the city's commercial retail zones for retail uses furthers the goal of expanding the city's revenues related to sales tax users.

D. On April 5, 2023, the Planning Commission conducted a duly noticed public hearing to consider the proposed ordinance and voted to recommend to the City Council that they adopt the proposed zoning text change.

E. On _____, 2023, the City Council conducted a duly noticed public hearing to consider the proposed ordinance.

F. The adoption of this Ordinance is exempt from review under the California Environmental Quality Act (CEQA) because any proposed cannabis business will undergo environmental review at the time a project is proposed, unless the business qualifies for an exemption. As such, it can be seen with certainty that the adoption of this Ordinance will not have a potentially significant impact on the environment and is exempt from CEQA review pursuant to CEQA Guideline 15061(b)(3).

SECTION 2. Amendment of the Wildomar Municipal Code. Sections 17.88.010, 17.92,020, 17.76.010 and 17.72.010 of the Wildomar Municipal Code are amended as shown below.

A. 17.88.010, paragraph C.4, is amended to read as follows:

"4. Cannabis cultivation, manufacturing, distribution, delivery-only retailers and testing laboratories, subject to the requirements of Chapter 17.315 (Cannabis Businesses)."

B. 17.92.020, paragraph C.19, is amended to read as follows:

"19. Cannabis cultivation, manufacturing, distribution, delivery-only retailers and testing laboratories, subject to the requirements of Chapter 17.315 (Cannabis Businesses)."

C. 17.76.010, paragraph C.24, is amended to read as follows:

"24. Cannabis storefront retailers, subject to the requirements of Chapter 17.315 (Cannabis businesses);"

D. 17.72.010, paragraph C.18, is amended to read as follows:

"18. Cannabis storefront retailers, subject to the requirements of Chapter 17.315 (Cannabis businesses)."

SECTION 3. SEVERABILITY

If any chapter, subsection, subdivision, sentence, clause, phrase, or portion of this ordinance, is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision will not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have adopted this ordinance, and each Chapter, subsection, subdivision, sentence, clause, phrase, or portion thereof, irrespective of the fact that any one or more Sections, subsections, subdivisions, sentences, clauses, phrases, or portions thereof be declared invalid or unconstitutional."

SECTION 4. EFFECTIVE DATE.

This ordinance shall take effect thirty (30) days after its passage by the City Council.

SECTION 5. CITY CLERK ACTION

The City Clerk is authorized and directed to cause this Ordinance to be published within fifteen (15) days after its passage in a newspaper of general circulation and circulated within the City in accordance with Government Code Chapter 36933(a) or, to

cause this Ordinance to be published in the manner required by law using the alternative summary and posting procedure authorized under Government Code Chapter 39633(c).

INTRODUCED AND APPROVED FOR FIRST READING this __, day of _____, 2023.

_____
Joseph Morabito
Mayor

APPROVED AS TO FORM:

_____
Thomas D. Jex
City Attorney

ATTEST:

_____
Janet Morales, CMC
City Clerk