Village of Lemont

PLANNING AND ZONING COMMISSION
September 6, 2023 – 6:30 PM
Village Hall - Village Board Room
418 Main Street, Lemont, IL 60439
AGENDA

I. CALL TO ORDER

- I.A Pledge of Allegiance
- I.B Verify Quorum
- I.C Approval of Minutes

II. CHAIRMAN'S COMMENTS

III. PUBLIC HEARINGS

- III.A Case 2023-05 Sun Hill Plaza (Continued)
- III.B Case 2023-10 UDO Amendments

IV. ACTION ITEMS

V. GENERAL DISCUSSION

VI. AUDIENCE PARTICIPATION

VII. ADJOURNMENT

418 Main Street | Lemont, IL 60439

TO: Planning and Zoning Commission
FROM: Jamie Tate, Community Development
THROUGH:
SUBJECT: Approval of Minutes
DATE: September 6, 2023

SUMMARY/BACKGROUND

ANALYSIS

Consistency with Village Policy

STAFF RECOMMENDATION

BOARD ACTION REQUESTED

ATTACHMENTS
August 2023 Lemont Meeting.pdf

Village of Lemont
Planning and Zoning Commission
Regular Meeting of August 2, 2023

A regular meeting of the Plan Commission for the Village of Lemont was held at 6:30 p.m. on Wednesday, August 2, 2023, in the second floor Board Room of the Village Hall, 418 Main Street, Lemont, Illinois.

I. CALL TO ORDER

A. Pledge of Allegiance

Chairman Studebaker called the meeting to order at 6:33 p.m. He then led the Pledge of Allegiance.

B. Verify Quorum

Upon roll call the following were:
Present: Cunningham, Carmody, O'Connor, Pawlak, Studebaker
Absent: McGleam and Zolecki

Community Development Director Jason Berry, Consulting Planner Jamie Tate, and Village Trustee Ron Stapleton were also present.

C. Approval of Minutes

Commissioner Cunningham made a motion, seconded by Commissioner Pawlak to approve the minutes from June 7, 2023, regular meeting with no changes. A roll call vote was taken:
Ayes: Cunningham, Pawlak, O'Connor, Studebaker
Nays: None
Abstain: Carmody
Motion passed

Commissioner Cunningham made a motion, seconded by Commissioner Pawlak to approve the minutes from June 14, 2023, special meeting with no changes. A roll call vote was taken:
Ayes: Cunningham, Pawlak, O'Connor
Nays: None
Abstain: Carmody and Studebaker
Motion passed

II. CHAIRMAN'S COMMENTS

Chairman Studebaker greeted the audience and asked anyone in the audience that was planning on speaking to stand and raise his/her right hand. He then administered the oath.

III. PUBLIC HEARINGS

A. CASE 2023-05 – SUN HILL PLAZA

Chairman Studebaker stated the applicant has requested to continue the public hearing until the September 6, 2023, regular meeting. He then called for a motion to continue the public hearing.

Commissioner O'Connor made a motion, seconded by Commissioner Carmody to continue the public hearing for Case 2023-05 to the September 6, 2023 regular meeting. A roll call vote was taken:
Ayes: O'Connor, Carmody, Pawlak, Cunningham, Studebaker
Nays: None
Motion passed

B. CASE 2023-08 – SWEATIN SEXY FITNESS & DANCE STUDIO SPECIAL USE

Chairman Studebaker called for a motion to open the public hearing for Case 2023-08.

Commissioner Cunningham made a motion, seconded by Commissioner Pawlak to open the public hearing for Case 2023-08. A roll call vote was taken:
Ayes: Cunningham, Pawlak, Carmody, O'Connor, Studebaker
Nays: None
Motion passed

Staff Presentation

Jamie Tate, Consulting Planner, said the applicant, Tosha Anderson, is proposing a special use to open a fitness and dance studio in the Downtown District with an accessory use to host small gatherings. Health and sports club is a special use in the Downtown District and so is a banquet hall. The fitness and dance studio will inhabit the 1,959 square foot space at 335 Front Street. Classes are to be offered Monday through Saturday at various times. Sundays are to be reserved for private events only accommodating about 55 people. They expect class size will vary from six to 25 adults with classes lasting about an hour long. Parking is available in the parking garage which is behind the unit.

The leased space is within the Lofts building which faces the I & M Canal. It does have a mix of commercial and office uses on the first floor and residential above. The parking garage has about 260 parking spaces with 80 being reserved for residential tenants. The

Comprehensive Plan does show the Future Land Use as mixed use. The Comprehensive Plan does not address uses but does talk about a mix of residential and commercial.

Mrs. Tate stated the proposed floor plan shows six new fitness poles in separate room in the back of the leased space. The largest room is in the center with a kitchen and bathroom that is existing. They do show a bar island in front of the kitchen space. The applicant intends to install new flooring, paint, and place a counter along the wall by the bathroom. The primary use is for a fitness and dance studio with the ability to hold an event only on Sundays when there are no classes offered. There will be three instructors upon opening and they are independent contractors. The class schedule will vary depending on the class and availability.

The code does require two parking stalls for this use. The parking stalls can be within 500 feet of that use or they can be on the actual property. The special use does meet the requirement. Staff did look at the standards for a special use. There is a mixed martial arts studio and an outdoor fitness court off of River Street in the downtown area. This studio does allow downtown residents the ability to walk to the facility and there is also parking available. Parking is heaviest on nights and weekends so having the classes held during the day will be a compliment to what is existing in the downtown. There was a letter submitted recently from the Board of Directors of the HOA that will be made part of the public record. Their concern is about noise affecting any adjacent units or residential units above. When looking at the standards for the special use in regard to the event use, there are places that offer to hold events in the downtown area. This would only be offered on a Sunday and should not affect parking. The HOA did have concerns about a sublessor and the applicant will have to go through a process to get approved by the HOA.

Mrs. Tate said more information needs to be provided about whether or not there will be liquor because that is a whole other process. There are a lot of other open-ended questions for the event use portion that still needs to be answered. Staff is recommending approval of the sports and health club with conditions. She then read through the conditions. An additional condition was added this evening. The applicant has to obtain approval from the HOA before any work can be done.

Chairman Studebaker asked if any of the Commissioners had any questions for staff.

Commissioner Cunningham asked that the packet states an event can hold up to 55 people but the code requires only two parking stalls. The parking garage is there but multiple tenants use the garage. He asked how that gets allotted.

Mrs. Tate stated it is not allotted but rather assumed. The Bridge is supposed to be using the Metra Lot as well.

Commissioner Cunningham asked if the Metra Lot could be used for this venue.

Mrs. Tate said yes. There are other ancillary lots as well.

Chairman Studebaker asked if there were any further questions for staff from the Commission. None responded. He then asked the applicant to come up and make a presentation.

Applicant Presentation

Tosha Anderson, the applicant, stated the events will only be offered to their members. She does not anticipate having them every Sunday. The bar area is for the future where she would like to do smoothies for the patrons. They are eliminating the serving counter along the wall. She does plan on serving alcohol and the food they would bring themselves. The only thing she will provide are tables and chairs. For alcohol, she would like it to be an option where they can bring their own but she will have to look further into what is required for that.

Commissioner Pawlak asked if she had other locations.

Ms. Anderson said this is her first location.

Commissioner O'Connor asked if all the classes will be in the back room.

Ms. Anderson stated there will be two areas to have classes.

Commissioner O'Connor asked if there will be music for the classes.

Ms. Anderson said next to her are stairwells. The building is concrete so there shouldn't be a sound issue. If there is they could soundproof the room.

Commissioner Carmody asked what time is the earliest class and the latest class she will be having.

Ms. Anderson stated the first class will be at 8 a.m. but they could fluctuate depending on the instructor. The latest would be starting at 7 p.m. and ending at 8 p.m.

Commissioner Cunningham asked what type of classes does she intend on having.

Ms. Anderson said step aerobics and all types of fitness classes. They are all dancercise type aerobics.

Chairman Studebaker asked how long has she been in this type of business.

Ms. Anderson stated 25 years.

Commissioner Cunningham asked if she agreed with staff's recommendations.

Ms. Anderson said she just found out about the HOA today, but she agrees.

Mrs. Tate stated she would add that the special event is for members only.

Chairman Studebaker asked if any of the Commissioners had any further questions for the applicant. None responded. He then asked if there was anyone in the audience that wanted to speak in regard to this public hearing.

Public Comment

Brad Grzevic said he runs the Edward Jones office at 343 Front Street. His concern is that the attendees will want to park in front first. His clients are usually there for only five to ten minutes. His other concern is the noise. It is surprising how the noise will travel from unit to unit. The work they are doing on the building currently you cannot even make a phone call in the building. He is trying to run a professional business so he would be concerned about loud music.

Chairman Studebaker asked if there was anyone else who wanted to speak in regard to this public hearing. None responded. He then called for a motion to close the public hearing.

Commissioner Cunningham made a motion, seconded by Commissioner Carmody to close the public hearing for Case 2023-08. A roll call vote was taken:
Ayes: Cunningham, Carmody, Pawlak, O'Connor, Studebaker
Nays: None
Motion passed

Plan Commission Discussion

Chairman Studebaker asked if there were any further comments or questions from the Commission. None responded. He then called for a motion for a recommendation.

Plan Commission Recommendation

Commissioner Cunningham made a motion, seconded by Commissioner O'Connor to recommend to the Mayor and Board of Trustees approval of Case 2023-08 – Sweatin Sexy Dance Fitness Studio Special Use with the following conditions for the dance studio:

1. Make a good effort to communicate about the public parking garage and how to access the garage through the business website, social media, brochures, and any other forms.
2. Require employees to park in the garage and not along Front Street.

And the following conditions for the banquet hall use:

1. Events can be held on Sundays only.
2. Make a good effort to communicate about the public parking garage and how to access the garage through the business website, social media, brochures, and any other forms.

3. Explore an appropriate time limit, such as events cannot extend past 9 p.m.
4. No staging, operations or preparations for the purpose of an event by staff or contractors may occur in the public right-of-way.
5. Applicant needs to get approval from the Board of Directors of the HOA for the Lofts for the special events.
6. Special events will only be made available to members of the Dance Fitness Studio.

A roll call vote was taken:
Ayes: Cunningham, O'Connor, Pawlak, Carmody, Studebaker
Nays: None
Motion passed

Commissioner Carmody made a motion, seconded by Commissioner Cunningham to authorize the Chairman to approve the Findings of Fact for Case 2023-08 as prepared by staff. A roll call vote was taken:
Ayes: Carmody, Cunningham, Pawlak, O'Connor, Studebaker
Nays: None
Motion passed

C. CASE 2023-09 BARRE IT ALL SPECIAL USE

Chairman Studebaker called for a motion to open the public hearing for Case 2023-09.

Commissioner O'Connor made a motion, seconded by Commissioner Pawlak to open the public hearing for Case 2023-09. A roll call vote was taken:
Ayes: O'Connor, Pawlak, Carmody, Cunningham, Studebaker
Nays: None
Motion passed

Staff Presentation

Mrs. Tate said the applicant is the lessee of the property and they are requesting a special use for a health and sports club. It is to occupy the 1,800-square-foot space at 606 State Street. Health and sports club are a special use in the B-1 zoning district which is what this property is zoned. Barre It All Fitness will offer small group fitness classes for women consisting of barre, yoga, and Pilates. There is an adjacent parking lot with 13 parking stalls. Ten are reserved for the occupant at 606 State Street and they are not proposing any changes to the property. The property is surrounded by R-4A which is the Infill Preservation District that has existing homes. The property does have a two-story framed residence and then attached is the one-story commercial building. Previously an HVAC company occupied the space.

Special uses are not uses by right in that district and you have to take into consideration the neighborhood, design, location, and configuration in order to decide if it is appropriate for that particular space. For parking, the code requires one space for every 200 square feet of gross floor area. Nine off-street parking spaces are required and they are assigned ten as part of the lease agreement. She then read through the standards for a

special use and staff feels the special use does meet the standards. Staff is recommending approval with conditions.

Chairman Studebaker asked if signage was addressed.

Mrs. Tate stated there are signage requirements in the UDO and they are not asking for anything beyond what is required by code.

Commissioner Cunningham asked if the house portion was part of this.

Mrs. Tate said as far as she understands it is separate.

Chairman Studebaker asked for the applicant to come up and make a presentation.

Applicant Presentation

Kelly Lucio stated she has been working in special education for 18 years and she opened up her first location in 2015 in Mount Greenwood. They offer small group fitness classes for women. They offer barre, yoga, and strength training and their main goal is to empower women. She has been looking into Lemont for quite some time and found something that she can make work. The ten parking spots are for the fitness location. There are residents in the home but the owner of the building does not see it being an issue. They have a 5:15 and 6 a.m. class at their current location. Then they have a midmorning at 8:15 a.m. and 9:15 a.m. and then in the evening a 4:30 p.m., 5:30 p.m., and 6:30 p.m. For Lemont, she might start small and offer a 4:30 p.m. or a 5:30 p.m. class.

Commissioner O'Connor asked what is the typical size of the class.

Ms. Lucio said at their other location they have about 18 to 20 but this will be smaller so they might cap it at 10 to 12 people.

Chairman Studebaker asked if there were any further questions for the applicant from the Commission. None responded. He then asked if there was anyone in the audience that wanted to speak.

Public Comment

Thomas Knopinski, 608 State Street, stated he tried to contact the Village to find out what was coming to the property. He finally found out that it was a fitness place coming in. When he got home he found out that there was a website already for the business stating it was opening in July. He questions how they could put that they are opening already without going through this procedure. The lot is 54 feet by 110 feet so he is not sure where they are getting the 1,800 square feet. Originally the house and the commercial unit were all considered as one and the last owner had it divided. He asked if most of the hours of operation will be in the afternoon.

Ms. Lucio said it will be morning and afternoon.

Mr. Knopinski stated there is an issue with traffic when the church across the street lets out. They will speed down the alley. He asked if they could put a speed bump there but public works will not allow it. He is concerned about signage on the south side of the building because his house is right there. He welcomes business but when they start advertising before they get approval he does not appreciate it.

Commissioner Cunningham asked if the applicant agreed with all the conditions in staff's report.

Ms. Lucio said yes.

Chairman Studebaker asked if there was anyone else who wanted to speak in regard to this public hearing. None responded. He then called for a motion to close the public hearing.

Commissioner Cunningham made a motion, seconded by Commissioner Carmody to close the public hearing for Case 2023-09. A roll call vote was taken:
Ayes: Cunningham, Carmody, Pawlak, O'Connor, Studebaker
Nays: None
Motion passed

Plan Commission Discussion

Chairman Studebaker asked if there were any further comments or questions from the Commission. None responded. He then called for a motion for a recommendation.

Plan Commission Recommendation

Commissioner Cunningham made a motion, seconded by Commissioner Pawlak to recommend to the Mayor and Board of Trustees approval of Case 2023-09 – Barre It All Fitness Special Use with the following conditions:
1. Advertise and promote the adjacent parking lot on the website and any marketing materials.
2. Schedule classes with enough time in between to allow for the parking lot to clear.

A roll call vote was taken:
Ayes: Cunningham, Pawlak, Carmody, O'Connor, Studebaker
Nays: None
Motion passed

Commissioner Carmody made a motion, seconded by Commissioner O'Connor to authorize the Chairman to approve the Findings of Fact for Case 2023-09 as prepared by staff. A roll call vote was taken:
Ayes: Carmody, O'Connor, Cunningham, Pawlak, Studebaker

Nays: None
Motion passed

D. CASE 2023-07 – J.B. HUNT

Chairman Studebaker called for a motion to open the public hearing for Case 2023-07.

Commissioner O'Connor made a motion, seconded by Commissioner Carmody to open the public hearing for Case 2023-07. A roll call vote was taken:
Ayes: O'Connor, Carmody, Pawlak, Cunningham, Studebaker
Nays: None
Motion passed

Staff Presentation

Mrs. Tate said the applicant J.B. Hunt is represented by attorney Vince Rosanova. They are requesting approval of a special use for a Planned Unit Development to allow for a freight transportation terminal, truck and trailer parking, and container storage in the M-3 zoning district. Both freight transportation terminals and cargo container storage are special uses in the M-3 district. Also, in the PUD they are requesting a few exceptions. One is to allow for parking lot lighting to be up to 60 feet in height and parking stall width to be eleven feet.

They plan on using the parcel as one unified parcel and employ approximately 75 people. The 28,000-square-foot two-story building will be utilized that is currently on the property. There are 12 loading bay doors on the building. They plan on painting the building, paving the parking lot, removing the one access point, upgrading the stormwater detention areas, providing landscaping improvements, installing fencing, and striping the lot. The property to the north and west is also M-3. To the south is Cog Hill Golf Course located in Palos Park. To the east is unincorporated Cook County.

Mrs. Tate stated the property consists of three parcels and they are owned by two different entities. The eastern property was Ahern Rentals and they were purchased by United Rentals in 2022. They closed the Lemont location shortly after the purchase. Champagne Carriers are the owner of the two parcels immediately adjacent to Ahern Rentals. They currently operate a freight transportation parking facility that is utilized by independent contractors. The Comprehensive Plan designates this area as Industrial. It does speak to any redevelopment of this area must comply with the Village's high standards for site design and aesthetics. The Comprehensive Plan talks about inviting gateways into the Village of Lemont. Route 83 which is near the subject property, is currently being redeveloped and is one of these gateways. The area should continue to

improve and enhance as you travel towards the downtown and this should continue on Main Street in the same way.

The applicant is proposing 643 stripped truck and trailer parking stalls and 41 vehicle parking stalls surrounding the existing building. There is the 28,000 square foot existing building. They are proposing two detention basins to the north of the property. The primary entrance gate is in the northwest corner of the site and is accessed from Maley Road. The stacked cargo area is in the northwest portion of the site. The cargo storage containers are a special use in the M-3 district. If allowed they can be stacked up to the building height in that district which is 35 feet. Each of the cargo containers is eight feet in height so they want to stack a maximum of four.

Mrs. Tate said the parking stalls are shown at 11 feet by 54 feet. The code requires a 12-foot wide which would give them more area to park the trailers. The property is to be paved with heavy-duty asphalt and heavy-duty concrete ribbons to support the trailer arms. They are having curbing surrounding the entire site. There is no demolition proposed for the terminal. The terminal is going to be used for freight truck repair and maintenance. Employees will be present 24 hours a day to ensure that trucks are parked in their assigned stalls. All trucks and employees will enter the property from the one entrance. There is an access site that is currently along Main Street. It will be gated and only used for emergency access.

The visibility and appearance of trailer parking and stacked cargo containers from Main Street during all seasons of the year are a priority for the site. Maintaining and keeping the existing buffer in the southeast corner of the site will help screen the property from the right-of-way. The applicant has agreed to eliminate the 13 parking stalls in the southeast corner and continue the berm. There is a linear 40-foot parcel that extends out from the southeast corner of the site. As a part of the purchase of the property, there is a lease for a certain amount of time that the linear portion stays the way it is. Once that lease is phased out then the applicant should continue that buffer. There is a portion of the property that has a chain link fence and they will continue that fence. They are proposing a chain link with black slats. Staff is suggesting using black vinyl rather than stark metal.

Mrs. Tate stated Kimley Horn was obtained by J.B. Hunt to do the traffic impact study. Maley Road is a private drive and Main Street is under the control of IDOT. Maley Road does provide access to the entire industrial park. The entrance and exit onto Main Street is very wide. Staff is recommending that they update the markings on the pavement for Maley Road since they have faded. The traffic study is indicating that the proposal will generate 280 trips a day inbound and outbound. All of the trucks will travel east on Main

Street and only 40% of the passenger cars will travel west through the downtown. The trucks will have a GPS in them to show them which way to go and the applicant will post signs. The Village's traffic consultant did ask for some data on the proposed trips and whether or not IDOT should be informed of this project.

The Village engineer did review the plan and provided feedback. The applicant is proposing to connect to the Village's utilities. The applicant did provide the height of the cargo containers, the maximum height, and the location. The cargo containers will be there only during downtime. The Village engineer also talked about light spillage onto Main Street that will need to be corrected. The light poles being at 60 feet in height would be an exception. Staff is not in favor of allowing them and the applicant will just have to install more light poles. The other exception is for the stalls to be eleven feet wide. The eleven feet for stalls allows them to have more parking stalls on the property. Staff is recommending approval of the proposal with several conditions listed in the staff report. She then read those conditions.

Chairman Studebaker asked if any of the Commissioners had any questions for staff.

Commissioner Pawlak asked what prevents the trucks from going west to the downtown.

Mrs. Tate said their attorney can talk about it more but the trucks will have GPS in them which will tell them which way to go when they leave. The applicant can also provide signage. The trucks will all have the J.B. Hunt name on them so it will be easier to know if they are going through the downtown.

Commissioner Pawlak stated the stacking of trucks is close to Main Street. He asked if there were any setback requirements.

Mrs. Tate said there are no parking lot setbacks.

Commissioner Cunningham asked if there could be any violations that could be enforced if the trucks travel westbound.

Mrs. Tate stated it is an IDOT road so she does not believe so.

Commissioner Cunningham said the traffic study is based on 100% of the traffic going down Route 83 and he does not believe this will happen. He is concerned that they will now be increasing the amount of trucks that come through the downtown.

Commissioner O'Connor stated the other concern is the trucks traveling to their facility that might come through the downtown as well.

Chairman Studebaker said he is happy with the recommendation for the removal of the 13 stalls. Some of the businesses in that area have moved their parking areas closer to Main Street and the vegetation has come down. He feels it is starting to become a big problem and it can be taken care of with the proper screening. He is concerned about the height of the cargo stacking and it being visible from Main Street. He suggested moving the cargo stacking area further back from Main Street and increasing the vegetation for screening. They need to make sure they set the tone that the buffering needs to be significant because this will not be the end of this activity. He does not want to destroy the entryway into the Village.

Commissioner O'Connor asked if they knew how many trucks Champagne Carriers has.

Mrs. Tate stated they did not know. A lot of these areas are not paved or striped so it is hard to tell.

Commissioner O'Connor confirmed that J.B. Hunt is the contract purchaser for both lots.

Mrs. Tate said yes.

Commissioner O'Connor asked if condition number nine was added about the light poles.

Mrs. Tate stated yes. It was not included as part of the packet but it was added.

Commissioner Cunningham asked where the stormwater basin was located.

Mrs. Tate said it is north of the existing building. There is an existing stormwater basin that is there now and they will enhance and improve it. They are going to add another basin.

Commissioner Pawlak asked if the stormwater basin could be moved south and the cargo stacking further north.

Mrs. Tate stated she believes the reason why they designed it this way was because of the way the site is pitched.

Chairman Studebaker asked if there were any further questions for staff from the Commission. None responded. He then called for the applicant to come up and make a presentation.

Applicant Presentation

Vince Rosanova, attorney from Rosanova & Whitaker, said he is representing J.B. Hunt, Inc. J.B. Hunt is listed at the 240th slot of the Fortune 500 list and one the nation's largest transportation companies. J.B. Hunt has received several awards in the transportation industry. There are awards for their innovation and for placing a strong value on its employees and the communities it works in. Sustainability is an important aspect as well as working towards a low-carbon future.

When you look at the subject property it is located in an industrial area. He showed an aerial view of the property and the surrounding area. The existing building has been there since 2003 and they will be addressing deferred maintenance on the building along with paving the parking lot. The property is zoned M-3 and is in compliance with the Comprehensive Plan. Freight transportation was a permitted use up until 2022 and was changed to a special use as of last year. This will be the most organized maintained property in this whole industrial park.

Mr. Rosanova stated at the north end of the property is where the stormwater detention will be. There is about 30 feet of fall from Main Street to the north property line. The detention basin will be improved significantly and brought up to modern stormwater practices. There will be native wetland bottom plantings incorporated into the basin which will further enhance the water quality. They are consolidating the access points to just one on the western portion of the property. This will improve circulation and eliminate vehicle conflict in that area. There is a full access point off of Main Street and that will be closed and only utilized for emergency access. They will only be using the Maley Road access point. They will be eliminating the 13 stalls near the south portion of the site which will create an additional eight feet of separation. The entire parking lot today is a gravel surface and they will pave it in conformance with Village standards. They are proposing an eight-foot fence along the entire perimeter of the site and will be connecting to the Village's water and sewer.

The landscaping will be significant around the entire site. They will preserve the landscape buffers that exist and plant additional materials to create that delineation between their property and the surrounding area. There will be evergreen plantings along where the 13 stalls are being eliminated to provide year-round screening. He then showed a topographical exhibit which shows if a car was driving down Main Street it

would sit at an elevation of 619 and the berm sits at an elevation of 627. On top of that berm, there is the existing landscape buffer and they will be providing additional plantings inside the berm. Inside the evergreen screening, there will be an eight-foot fence that will provide additional safety and screening. The nearest residence is over a third of a mile away. He then showed a depiction of the fence which is a chain link fence on the west, east, and northern property line. For the south property line, the fence will have vinyl slates. Staff requested that it be a black chain link fence which J.B. Hunt would be in agreement with for a nicer aesthetic look. The fence will be behind the landscape buffer so it will be hard to see what material they are using.

Mr. Rosanova said the traffic engineer is here this evening. They do anticipate that 100% of the truck trips will head east on Main to Route 83. He understands and he agrees that there is a good probability that some trucks could go west. Most of this industrial park is defined by independent contractors paying for truck rental spaces. Every single truck coming to the J.B. Hunt site will be their employee. They have control over their employees whereas other properties in this industrial park don't have that. J.B. Hunt also invests heavily in technology so ultimately they can preprogram GPS to send the trucks east on Main Street. If the trucks head west to the downtown area they will have the J.B. Hunt logo on the side and they will know immediately who is doing it. Main Street is an IDOT route that permits trucks but they can try and protect the downtown as well.

The traffic engineer did review the level of service at each of the intersections and the adjacent roadways and overall they function very well. The only delay is at Maley Road when it comes to Main Street. A driver might have to wait 25 to 35 seconds for the break to make the turn. There are significant economic impacts with this project. There are 75 jobs in the industry. There are one-time impact permit fees and construction jobs. There is the sales tax, fuel motor tax, utility tax, and a substantial annual property tax. The school district is expected to receive about $200,000 annually with no student generation or impact. In addition, they worked closely with staff over the past few months to look at ways to creatively enhance this property and provided an additional buffer to bring this property more in conformance with the Comprehensive Plan vision. They also reached out to the neighbors to work with them and collaborate on a cost share for Maley Road. They have no objection to staff's requests to make sure that Maley to the Main Street intersection is striped properly. He appreciates the Commission's time and they are available for any questions.

Commissioner Cunningham asked if it will be all J.B. Hunt employees in and out of the lot.

Mr. Rosanova stated they will be J.B. Hunt employees and J.B. Hunt independent contractors that will have to abide by the rules and protocols.

Commissioner Cunningham asked if the independent contractors used the same GPS systems that the J.B. Hunt employees will have and what percentage of independent contractors will be at this facility.

Mr. Rosanova said it will be less than 5%.

Commissioner Cunningham stated with being such a big company he is sure they have a similar facility across the country and where they have operating instructions for their drivers. He asked if they had documented procedures at other facilities and can Village staff be provided with those operating instructions so something similar can be documented. He does not want to see a potential of 140 trucks in the downtown area. There needs to be a plan to educate and make sure that all employees and independent contractors comply with it.

Rachel Christensen, Vice President of Intermodal Operations, said currently a lot of their safety policies or standards are more around road regulations.

Commissioner Cunningham stated this is not about safety but more about what you can and cannot do.

Mr. Rosanova said they can come up with a protocol that they can advise each driver of to make sure they are well advised and then provide it to staff.

Keith Stevens, Senior Regional Director of Maintenance, stated he left a facility in Kansas today and when you exit that facility you have to take a right. You can go left but all of their trucks go right. You do get ticketed if you go left so all of their drivers will turn right.

Commissioner Cunningham said they don't have the option for ticketing. It has to be a company policy. He asked how they are going to guarantee that 100% of the truck traffic, which was stated in their traffic study, will go east to Route 83.

Mr. Stevens stated they will have to set a policy for their drivers and train them that they must go eastbound.

Chairman Studebaker said it is also for when they are coming to the facility.

Lynn Boyd, Director of Real Estate, stated he has been with the company for 20 years and they have a facility in Pennsylvania where they have to go a certain way due to safety and the flow of traffic. What the Commission and staff are requesting are things that they can mandate and they can take care of. It comes through training and proper protocol. If someone does make a wrong turn they will be pulling a J.B. Hunt trailer so they will know about it. He understands that they have no control because it is an IDOT road. There might be a few mistakes but they will jump in and fix it.

Mr. Berry asked if they have any examples of policies at other facilities to just provide a copy to staff.

Chairman Studebaker said he would like to hear their opinion on staff's recommendation regarding lighting. The area is very peaceful with not a lot of lighting. They do not want to be setting precedence.

Mr. Rosanova stated they want to work with staff and accommodate all their requests. Lighting is very important to them because of safety. The lower the lighting the more poles they need to have which interferes with circulation and the more real estate it takes up. If the concern is light pollution, modern lights are LED and they shine down and they are shielded. They are not the old type of lighting that emanates and causes light pollution. Even if their poles are taller they will still comply with the Village's photometric requirements at the property line. He does not believe they will be an eyesore. They can work together and maybe only allow them in certain areas or have them taper down in some areas. He is hoping to have some flexibility on that one.

Chairman Studebaker said he understands that they are going to be improving the site line and setting an example for future development along that roadway. If he can't see it when he is driving by on the road then he does not have an issue with the height. He feels the same about the stacking of the cargo containers.

Mr. Rosanova stated in the M-3 district for the cargo containers you are permitted to go to 35 feet. The terminal building is 30 feet.

Chairman Studebaker said when he drove by he did not know the building was there.

Mr. Rosanova stated that is because of the topography of the property. If they have four containers stacked it will be 32 feet and that will not be visible. There is the Main Street right-of-way which is an 80-foot width, then there is the 100 feet of the Gas Company berm, and the container stacking area is setback another 150 to 200 feet.

Commissioner Carmody clarified that there is a 15-foot drop before they start stacking the containers.

Mr. Rosanova said at the start of the containers it might be 10 feet but on the far side it will be 15 to 20 feet. The stacking will vary with their busy seasons.

Chairman Studebaker asked if they can move some of the stacking containers to the east side of the property so they are not so close to Main Street.

Mr. Rosanova stated it affects circulation. They can agree that the stacking of containers should always start at the north section of the property where the topography is lower.

Chairman Studebaker asked if having the parking stalls at 11 feet was something that they wanted to set as precedence.

Mr. Rosanova said he would say the precedence right now out there is gravel surfaces, no paving, and no marked parking stalls. This is going to be the nicest portion of this industrial park and it will feed into what they want to see in the future.

Commissioner Pawlak stated one clarification with their presentation is that there is residential right across the street from the subject property.

Chairman Studebaker stated when they make their presentation to the Village Board he would recommend an additional site line that shows the containers from Main Street.

Commissioner Cunningham asked besides the lighting if there was an agreement with staff's recommendations.

Mr. Rosanova said for recommendation number six they are going to reach out to IDOT and provide them with their traffic study. They are aware that IDOT is in the process of improving this section of Main Street but there are no plans for turning lane improvements. If they come back and say that turning lanes are warranted then they feel that is something IDOT should work on and install because it serves a much greater area of existing uses for the last 50 years. He does not feel it would be fair to pin on the back of one small fraction of this industrial park. They will take staff's recommendations and coordinate with IDOT. They don't want this condition to give IDOT any authority over the property which is currently solely in the hands of the Village to make the decision.

Chairman Studebaker asked if the Commission had any further questions for the applicant. None responded. He then asked if there was anyone in the audience that wanted to speak in regard to this public hearing.

Public Comment

Jeanette Daubaras said she is concerned about the 60-foot lighting. She asked if they will be washing the trucks at the facility.

Mr. Rosanova stated there will be a truck wash bay in the building.

Ms. Daubaras said when she drove by the area there were some kind of blue things that look like trailers all over the area and she did not know what they were.

Mr. Rosanova stated he is not sure what she is referencing.

Chairman Studebaker asked if there was anyone else who wanted to speak in regard to this public hearing. None responded. He then called for a motion to close the public hearing.

Commissioner Pawlak made a motion, seconded by Commissioner O'Connor to close the public hearing for Case 2023-07. A roll call vote was taken:
Ayes: Pawlak, O'Connor, Carmody, Cunningham, Studebaker
Nays: None
Motion passed

Plan Commission Discussion

Chairman Studebaker asked if it has been determined the number of evergreens for the landscaping.

Mrs. Tate stated she has not received any comments from the Village Arborist. There has been communication about ensuring that it is properly screened in that area.

Chairman Studebaker said he wants to make sure there is substantial screening along the south property line and not just standard. He asked if there were any further comments or questions from the Commission. None responded. He then called for a motion for a recommendation.

Plan Commission Recommendation

Commissioner Cunningham made a motion, seconded by Commissioner O'Connor to recommend to the Mayor and Board of Trustees approval of Case 2023-07 – J.B. Hunt special use for a Planned Unit Development with the following conditions:

1. The special use for a Planned Unit Development is granted to the contract purchaser J.B. Hunt exclusively. If the property is purchased by another user within the time from of the special use being approved, the use must follow the UDO procedures.
2. Provide a plan for the 40-foot gravel strip under lease along Main Street that will include significant landscaping, berming, and fencing.
3. Utilize the use of a vinyl-coated black chain link fence rather than the typical grey metal cyclone fence.
4. All truck traffic must travel east. Signs should be posted and this should be relayed to all drivers on a consistent basis.
5. Verify if the review by IDOT is appropriate for the intersection of Maley Road and Main Street. Dedicated turn lanes may be warranted.
6. Jersey barriers cannot be used in place of curbing on the site. Remove all jersey barriers during redevelopment.
7. Address all outstanding comments from staff and consultants, including the Fire District, Village Engineer, Village Arborist, Village Ecologist, Village Traffic Consultant, and Consulting Planner.
8. Light poles cannot be greater than 30 feet in height.
9. Advised moving stacked cargo containers to the northern property line as a possible feasibility and be reviewed.
10. A site line plan should be prepared for the stacked cargo containers from Main Street.
11. Screening along Main Street should be as significant as possible to cover the site line.
12. Company policy should be provided from other facilities with similar inbound/outbound restrictions that can be used to incorporate a new policy for this facility. A 100% of the traffic must head to Main Street than Route 83 for all inbound and outbound traffic.

A roll call vote was taken:
Ayes: Cunningham, O'Connor, Pawlak, Carmody, Studebaker
Nays: None
Motion passed

Commissioner Carmody made a motion, seconded by Commissioner Cunningham to authorize the Chairman to approve the Findings of Fact for Case 2023-07 as prepared by staff. A roll call vote was taken:
Ayes: Carmody, Cunningham, Pawlak, O'Connor, Studebaker
Nays: None
Motion passed

IV. ACTION ITEMS

None

V. GENERAL DISCUSSION

Commissioner Cunningham asked what is happening at the building on State Street where the old Celina's used to be.

Mr. Berry said part of it will be a Title Company but at this time there is no user for the bigger section.

Chairman Studebaker asked if anything is happening further on Smith Road.

Mr. Berry stated the Park District owns a part of Bambrick Park and it is not annexed into the Village so they might come before this Commission in September for an annexation and rezoning.

Commissioner Cunningham asked about Sun Hill Plaza.

Mr. Berry said they addressed a lot of the comments but they had a lot of work to do but they should be at next month's meeting.

VI. AUDIENCE PARTICIPATION

None

VII. ADJOURNMENT

Chairman Studebaker called for a motion to adjourn the meeting.

Commissioner Pawlak made a motion, seconded by Commissioner Carmody to adjourn the meeting. A voice vote was taken:
Ayes: All
Nays: None
Motion passed

Minutes prepared by Peggy Billig

418 Main Street | Lemont, IL 60439

TO: Planning and Zoning Commission
FROM: Jamie Tate
THROUGH:
SUBJECT: Case 2023-05 Sun Hill Plaza (Continued)
DATE: September 6, 2023

SUMMARY/BACKGROUND

ANALYSIS

Consistency with Village Policy

STAFF RECOMMENDATION

BOARD ACTION REQUESTED

ATTACHMENTS
Memo and Attachments

STAFF REPORT
TO: Planning & Zoning Commission (PZC)
FROM: Jamie Tate, AICP, Consulting Planner
THRU: Jason Berry, CEcD, AICP, Economic & Community Development Director

CASE NUMBER & NAME
2023-05 Sun Hill Plaza

APPLICANT & OWNER REPRESENTATIVE
R/J Rymek Co. / Richard Rymek

DATE:
September 6, 2023

PROPERTY ADDRESS/LOCATION
12300 S. Bell Road

BRIEF SUMMARY OF REQUEST
The Applicant, R/J Rymek Co. represented by Rich Rymek, is requesting approval of a special use for a Preliminary Planned Unit Development (PUD) and Plat for a multi-building commercial development to include a special uses for multiple drive-throughs and a special use for outdoor seating in the B-3 zoning district with exceptions from the Unified Development Ordinance (UDO) to be incorporated into the PUD.

The proposal came before the PZC on June 14, 2023. The public hearing for Sun Hill Plaza was continued for the applicant to have the opportunity to revise the plans and documents following staff, PZC and public input. The plans have been updated with a summary of the changes provided by the applicant in Attachment 1. Some of the modifications include:

- Removing parking stalls to allow for a central plaza, pedestrian gathering feature and more landscaping; and
- Reduce the height of the medical office building to one-story; and
- Shifting the day care play area farthest from neighboring residents.



Subject property highlighted in red.
Map source: Cook County GIS
PIN: 22-26-401-032

EXISTING ZONING	EXISTING LAND USE	SURROUNDING ZONING & LAND USE	REQUESTED ACTIONS	SIZE OF PROPERTY
Village of Lemont B-3, Arterial Commercial District	Vacant	**North:** Lemont R-5A / Villas of Equestrian Meadows **South:** Village of Lemont R-1 / Sunhill Subdivision with existing detached single-family homes **East:** Palos Park / McGinty Slough and CCFP **West:** Lemont R-1 / Sunhill Subdivision with existing detached single-family homes	Preliminary Planned Unit Development (PUD) and Plat to include drive-throughs and outdoor seating/dining	8.7-acres

RECOMMENDATION

Analysis of the proposed project was provided in the Staff Memo from June 14, 2023 and provided in the attachments. While the applicant has modified the plans to reflect some of Staff, PZC and the public's suggestions, there are still outstanding concerns that should be discussed, determined, and conditioned including:

1. Provide information on lighting with a photometric plan to ensure there is no light spillover to adjacent residences. Decorative but efficient lighting shall be used throughout the development and parking lot. This should be clear in the PUD so if each lot is developed by different entities at different times, there is a universal light fixture for the plaza.
2. Establish a maximum number of drive-throughs for the plaza to incorporate into the Preliminary PUD.
3. Provide a vehicle stacking exhibit for the drive-throughs. The UDO states that the que area shall not interfere with other on-site circulation and parking arrangements.
4. Truck deliveries and garbage pick-up is a concern. Provide an auto turn exhibit to demonstrate circulation through the site and anticipated garbage routes and delivery areas. If each building was allowed to choose a different garbage company, the removal of garbage from the site could be problematic. Garbage containers require screening and it is unclear where they can be located for each business as shown.
5. Outdoor dining is requested in the PUD, but there are no locations shown on any of the plans. If outdoor dining is recommended, there should be an established procedure in the PUD for staff review for approval.
6. Address the outstanding comment letters from staff and consultants, including the comment letter from the TRC dated February 23, 2023. There are comments within this letter that have not been addressed such as garbage pick up and dumpster locations.

STAFF RECOMMENDATION: **CONTINUE** **APPROVE WITH CONDITIONS** **DENY**

ATTACHMENTS

1. Narrative Letter from Applicant
2. Updated Site Plan
3. Updated Renderings
4. Updated Landscaping Plan
5. Updated PUD Plat
6. Updated Preliminary Engineering
7. PZC Minutes from June 14, 2023
8. PZC Memo, Analysis and Attachments from June 14, 2023, public hearing

Attachment 1

Narrative Letter

ADVANTAGE
CONSULTING ENGINEERS

August 28, 2023

Jamie Tate, AICP
Village of Lemont
418 Main Street
Lemont, IL 60439

SunHill Plaza
SWx 123rd & Bell Road
Case #2023-05

Dear Ms. Tate:

On behalf of the property owner and the applicant, Advantage Consulting Engineers has revised the site plan based on your recommendations listed in the June 14, 2023 Staff Report. The intent is to present a Concept Plan to the Village of Lemont to review and approve without going into too much detail. The concern is if the Staff, Plan Commission and Board have any objects to the basic site plan the client is not burden with the expense of detail drawings if the basic site plan is not acceptable.

Buildings 6 and 7 were shifted west to create a gathering area or plaza center. The internal pedestrian friendly connections have been maintained, the pedestrian bridge was reorientate to take advantage of the plaza center.

As recommended, the parking was reduced creating more landscaped areas, the minimum number of parking stalls per building are listed in the site plan site which is associated with the parking around each building. If additional parking is needed in the future these green spaces can be converted to parking areas – effectively creating a land bank for parking if needed.

Buildings 8 and 9 were shifted to allow for a playground to be placed between the buildings to be further away from the residential properties. These buildings are proposed to be 1-story and be used for office or daycare/school.

If you should have any questions regarding our responses please do not hesitate to contact our office at 630-520-2467

Very Truly Yours,

Advantage Consulting Engineers

William J. Zalewski, P. E.
Partner

Attachment 2

Updated Site Plan

PRELIMINARY PUD PLAT OF SUBDIVISION
SUNHILL PLAZA
LEMONT, IL

FOREST PRESERVE

BELL ROAD

N00°32'44"W 711.18'

EXISTING ROW

ROW HEREBY DEDICATED

17' ROW DEDICATION

8' ASPHALT PATH

WATER FEATURE

OUTLOT A

B-3 ZONING

R-1 ZONING

R-5A ZONING

MCCARTHY ROAD

ONLY

SIGN

P.U.E.

P.U.D.E.

LOT 1
6200 SF
(25 STALLS)

LOT 2
3500 SF
(14 STALLS)

4130 SF
(17 STALLS)
LOT 3

4500 SF
(18 STALLS)
LOT 4

4500 SF
(18 STALLS)
LOT 5

LOT 6
2640 SF
(11 STALLS)

LOT 7
2640 SF
(11 STALLS)

LOT 8
9000 SF
(33 STALLS)
1 STORY OFFICE OR PRESCHOOL

LOT 9
9000 SF
(45 STALLS)
1 STORY OFFICE OR PRESCHOOL

OUTLOT B

OUTLOT C

DETENTION

WATERFALL FEATURE

BRIDGE

PLAYGROUND

S89°36'10"W 499.82'

S89°38'44"W 530.77'

S00°30'33"E 264.94'

S00°27'18"E 295.72'

S14°45'26"W 74.23'

N31°47'19"W 112.19'

S89°38'44"E 52'

NOTES:

PUBLIC UTILITY EASEMENT TO BE PLACED OVER SANITARY SEWER AND WATER MAINS. OUTLOT A TO BE COMMON AREA FOR THE USE OF PUBLIC FOR INGRESS/EGRESS AND PUBLIC UTILITIES.

LEGAL DESCRIPTION

A TRACT OF LAND IN THE NORTH 1/2 OF THE EAST 1/2 (EXCEPT THE WEST 250.00 FEET THEREOF) OF THE SOUTHEAST QUARTER OF SECTION 26, TOWNSHIP 37 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS. BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 26, 786.00 FEET EAST OF THE WEST LINE OF THE WEST LINE OF THE EAST 1/2 OF SAID SECTION 26; THENCE SOUTH ALONG A LINE THAT IS PARALLEL* WITH THE SAID WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SAID SECTION 26 AND 746.00 FEET EAST OF THE WEST LINE OF SAID EAST 1/2 OF THE SOUTHEAST 1/4 OF* SAID SECTION 26; THENCE SOUTH ALONG A LINE PARALLEL WITH THE WEST LINE OF THE EAST 1/2 OF* THE SOUTHEAST 1/4 OF SAID SECTION 26, A DISTANCE OF 276.00 FEET; THENCE WEST ALONG A LINE PARALLEL TO THE SOUTHEAST TO THE NORTHWEST CORNER OF SUNHILL SUBDIVISION UNIT #1 AS RECORDED APRIL 8, 1981, AS DOCUMENT NO. 25833414 IN COOK COUNTY, ILLINOIS. THENCE EAST ALONG THE NORTH LINE OF SUNHILL SUBDIVISION UNIT #1, A DISTANCE OF 500.00 FEET TO THE EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 26; THENCE NORTH ALONG SAID EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 26, A DISTANCE OF 710.86 FEET TO THE NORTHEAST CORNER OF THE SOUTHEAST 1/4 OF SAID SECTION 26, THENCE WEST ALONG THE NORTH LINE OF THE SAID SOUTHEAST 1/4 OF SECTION 26, A DISTANCE OF 531.41 FEET TO THE PLACE OF BEGINNING.

*APPARENT TYPOGRAPHICAL ERRORS CORRECTED BY SURVEYOR

GRAPHIC SCALE 1"= 30'
0 15' 30' 60'

Copyright © 2023 Advantage Consulting Engineers, LLC

NO.	DATE	REMARKS

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439
630-502-2467
www.adengr.us

EXHIBIT
PRELIMINARY PLAT OF SUBDIVISION
SUNHILL PLAZA
123RD STREET & BELL ROAD
LEMONT, IL

R/J RYMEK CO.
16 W 475 FRONTAGE ROAD
BURR RIDGE, IL

AUGUST 28, 2023
JOB: 21-065

SHEET:
POS
1 OF 1

Attachment 3

Updated Renderings



SUNHILL PLAZA, LEMONT

RJ RYMEK COMPANY

16W475 SO. FRONTAGE ROAD
BURR RIDGE, IL
630-257-8888

PERSPECTIVE VIEW #1

LINDENGROUP ARCHITECTS
10100 ORLAND PARKWAY
STE 110, ORLAND PARK, IL
708-799-4400

ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT
630-520-2467



SUNHILL PLAZA, LEMONT

RJ RYMEK COMPANY

16W475 SO. FRONTAGE ROAD
BURR RIDGE, IL
630-257-8888

LINDENGROUP
ARCHITECTS

10100 ORLAND PARKWAY
STE 110, ORLAND PARK, IL
708-799-4400

PERSPECTIVE VIEW #2

ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT
630-520-2467

Attachment 4

Updated Landscape Plan

Preliminary Landscape Plan

SunHill Plaza

12300 Bell Road, Lemont, IL

August 21, 2023

CONSULTANTS:

LANDSCAPE ARCHITECT:

GARY R. WEBER ASSOCIATES, INC
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187

CIVIL ENGINEER:

ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET, SUITE 17
LEMONT, ILLINOIS 60439



LOCATION MAP

SCALE: 1"=200'

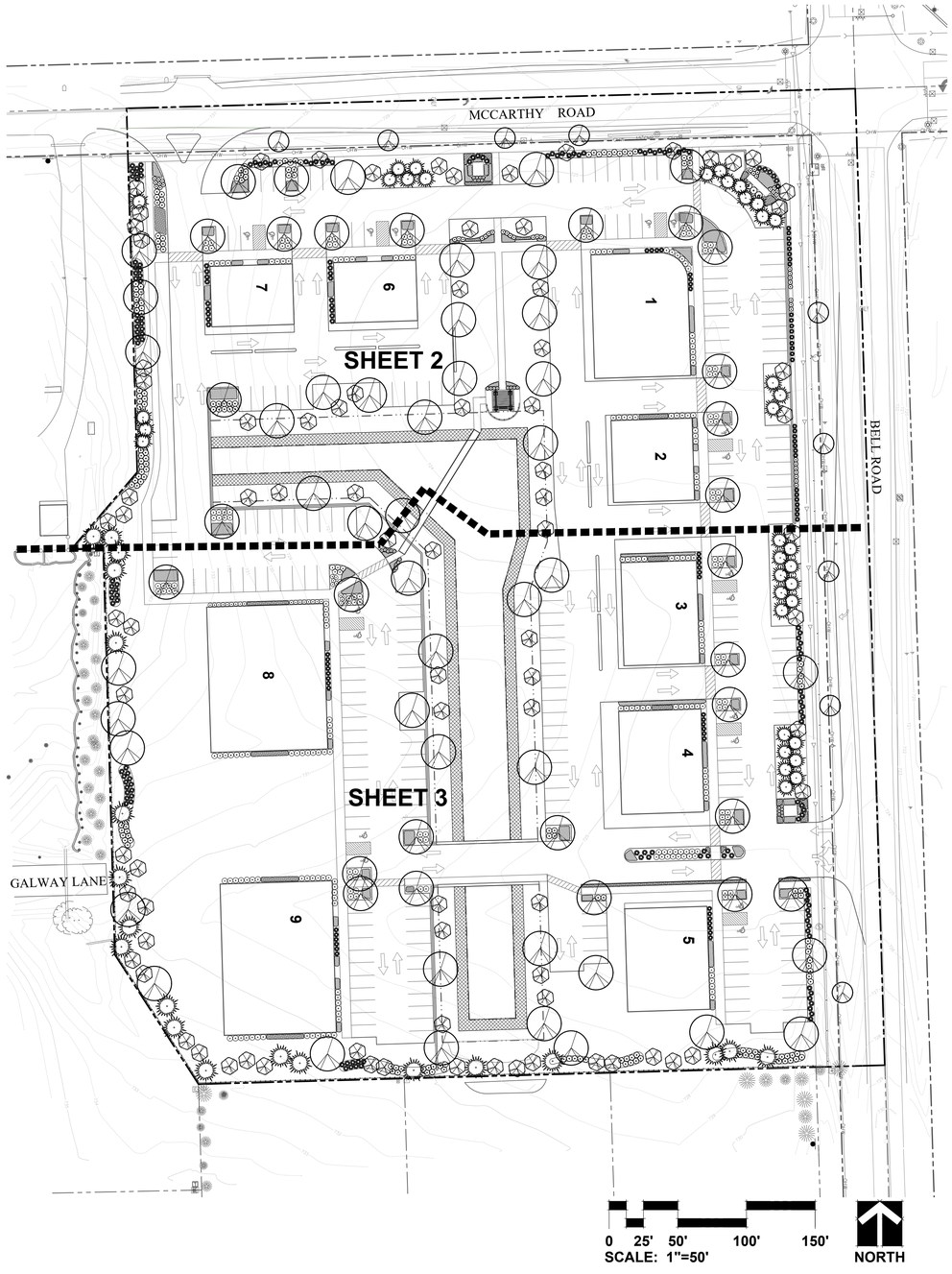
INDEX OF SHEETS

SHEET NO.	DESCRIPTION
0	COVER SHEET
1	OVERALL LANDSCAPE PLAN
2	LANDSCAPE PLAN
3	LANDSCAPE PLAN
4	LANDSCAPE DETAILS

L:\Projects\AC23121\Acad\AC23121_A02_00PLP.dwg

LANDSCAPE REQUIREMENT TABLE

	REQUIRED	PROVIDED
TRANSITION YARD (TO RES. UNINCORP COOK) = 1177 L.F.		
2 PLANT UNITS/100 FT.	23.54 PLANT UNITS	
95% OPAQUE WOOD FENCE	12 CANOPY	12 CANOPY
	24 EVERGREENS	24 EVERGREENS
	36 ORNAMENTALS	36 ORNAMENTALS
	142 SHRUBS/GRASSES	142 SHRUBS
	SOLID WOOD FENCE	SOLID WOOD FENCE
PARKING LOTS = 486 LF EXTERIOR		
EXTERIOR - 3 PLANT UNITS/100 FT.	14.58 PLANT UNITS	
	7 CANOPY	7 CANOPY
	15 EVERGREENS	15 EVERGREENS
	22 ORNAMENTALS	22 ORNAMENTALS
	88 SHRUBS/GRASSES	88 SHRUBS
INTERIOR - 1 CANOPY TREE/ISLAND	45 CANOPY TREES	45 CANOPY TREES
BELL ROAD STREET FRONTAGE = 678 L.F.		
ARTERIAL STREET	10.17 PLANT UNITS	
1.5 PLANT UNITS/100 FT.	5 CANOPY	5 CANOPY
	10 EVERGREENS	10 EVERGREENS
	15 ORNAMENTALS	15 ORNAMENTALS
	61 SHRUBS/GRASSES	61 SHRUBS
MCCARTY ROAD STREET FRONTAGE = 497 L.F.		
ARTERIAL STREET	7.46 PLANT UNITS	
1.5 PLANT UNITS/100 FT.	4 CANOPY	4 CANOPY
	8 EVERGREENS	8 EVERGREENS
	11 ORNAMENTALS	11 ORNAMENTALS
	45 SHRUBS/GRASSES	45 SHRUBS



REPRESENTATIVE PLANT LIST

Key	Botanical/Common Name	Size	Remarks
	SHADE TREES		
	Acer x freemanii 'Jeffer's Red' AUTUMN BLAZE MAPLE	3" Cal.	
	Celtis occidentalis COMMON HACKBERRY	2 1/2" Cal.	
	Gleditsia triacanthos var. inermis 'Skycole' SKYLINE HONEYLOCUST	2 1/2" Cal.	
	Quercus bicolor SWAMP WHITE OAK	2 1/2" Cal.	
	Tilia americana 'Redmond' REDMOND AMERICAN LINDEN	3" Cal.	
	Tilia cordata 'Greenspire' GREENSPIRE LITTLELEAF LINDEN	2 1/2" Cal.	
	Ulmus carpinifolia 'New Horizon' NEW HORIZON SMOOTHLEAF ELM	3" Cal.	
	ORNAMENTAL TREES		
	Amelanchier x grandiflora APPLE SERVICEBERRY	6' Ht.	Multi-Stem
	Betula nigra 'Cully' HERITAGE RIVER BIRCH	6' Ht.	Multi-Stem
	Cercis canadensis EASTERN REDBUD	6' Ht.	Multi-Stem
	Malus 'Prairifire' PRAIRIFIRE CRABAPPLE	6' Ht.	Multi-Stem
	Syringa reticulata 'Ivory Silk' IVORY SILK JAPANESE TREE LILAC	6' Ht.	Multi-Stem
	EVERGREEN TREES		
	Abies concolor WHITE FIR	8' Ht.	
	Picea abies NORWAY SPRUCE	8' Ht.	
	Picea glauca var. densata BLACK HILLS SPRUCE	8' Ht.	
	Picea omorika SERBIAN SPRUCE	8' Ht.	
	Pinus strobus EASTERN WHITE PINE	8' Ht.	
	DECIDUOUS SHRUBS		
	Cornus sericea 'Baileyi' BAILEY'S REDTWIG DOGWOOD	36" Tall	5' O.C.
	Hydrangea paniculata 'SMHPLQF' LITTLE QUICK FIRE HYDRANGEA	24" Tall	3' O.C.
	Physocarpus opulifolius 'Seward' SUMMER WINE NINEBARK	30" Tall	4' O.C.
	Rhus aromatica 'Gro-low' GRO-LOW SUMAC	24" Wide	4' O.C.
	Syringa meyeri 'Palabin' DWARF KOREAN LILAC	24" Tall	4' O.C.
	Viburnum x juddii JUDD VIBURNUM	36" Tall	4' O.C.
	Weigela florida 'Bramwell' FINE WINE WEIGELA	24" Tall	3' O.C.
	EVERGREEN SHRUBS		
	Juniperus chinensis 'Kallays Compact' KALLAYS COMPACT PFITZER JUNIPER	24" Wide	4' O.C.
	Juniperus chinensis 'Sea Green' SEA GREEN JUNIPER	30" Wide	5' O.C.
	Taxus x media 'Densiformis' DENSE YEW	24" Wide	4' O.C.
	PERENNIALS		
	Allium 'Summer Beauty' SUMMER BEAUTY ONION	#1	18" O.C.
	Echinacea 'CBG Cone 2' PIXIE MEADOWBRITE CONEFLOWER	#1	18" O.C.
	Hemerocallis 'Happy Returns' HAPPY RETURNS DAYLILY	#1	18" O.C.
	Nepeta racemosa 'Walker's Low' WALKER'S LOW CATMINT	#1	18" O.C.
	ORNAMENTAL GRASSES		
	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#1	30" O.C.
	Panicum virgatum 'Heavy Metal' HEAVY METAL SWITCHGRASS	#1	24" O.C.
	Schizachyrium scoparium 'Twilight Zone' TWILIGHT LITTLE BLUESTEM	#1	24" O.C.
	Sporobolus heterolepis PRAIRIE DROPSEED	#1	24" O.C.
	GROUNDCOVERS		
	Liriope spicata CREEPING LILYTURF	#SP4	18" O.C.
	Vinca minor 'Dart's Blue' DART'S BLUE PERIWINKLE	#SP4	12" O.C.

LEGEND

Key	Description
	WET MEADOW SEED MIX & EROSION CONTROL BLANKET

GENERAL LANDSCAPE NOTES

1. Contractor shall verify underground utility lines and is responsible for any damage.
2. Contractor shall verify all existing conditions in the field prior to construction and shall notify landscape architect of any variance.
3. Material quantities shown are for contractors convenience only. The Contractor must verify all material and supply sufficient materials to complete the job per plan.
4. The landscape architect reserves the right to inspect plant materials either at place of growth or at site before planting, for compliance with requirements of variety, size and quality.
5. Work shall conform to American Standard for Nursery Stock, State of Illinois Horticultural Standards, and Local Municipal requirements.
6. Contractor shall secure and pay for all permits, fees, and inspections necessary for the proper execution of this work and comply with all codes applicable to this work.
7. See General Conditions and Specifications for landscape work for additional requirements.

GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

ENGINEER
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT, IL 60439

SUNHILL PLAZA

12300 BELL ROAD, LEMONT, ILLINOIS

OVERALL LANDSCAPE PLAN

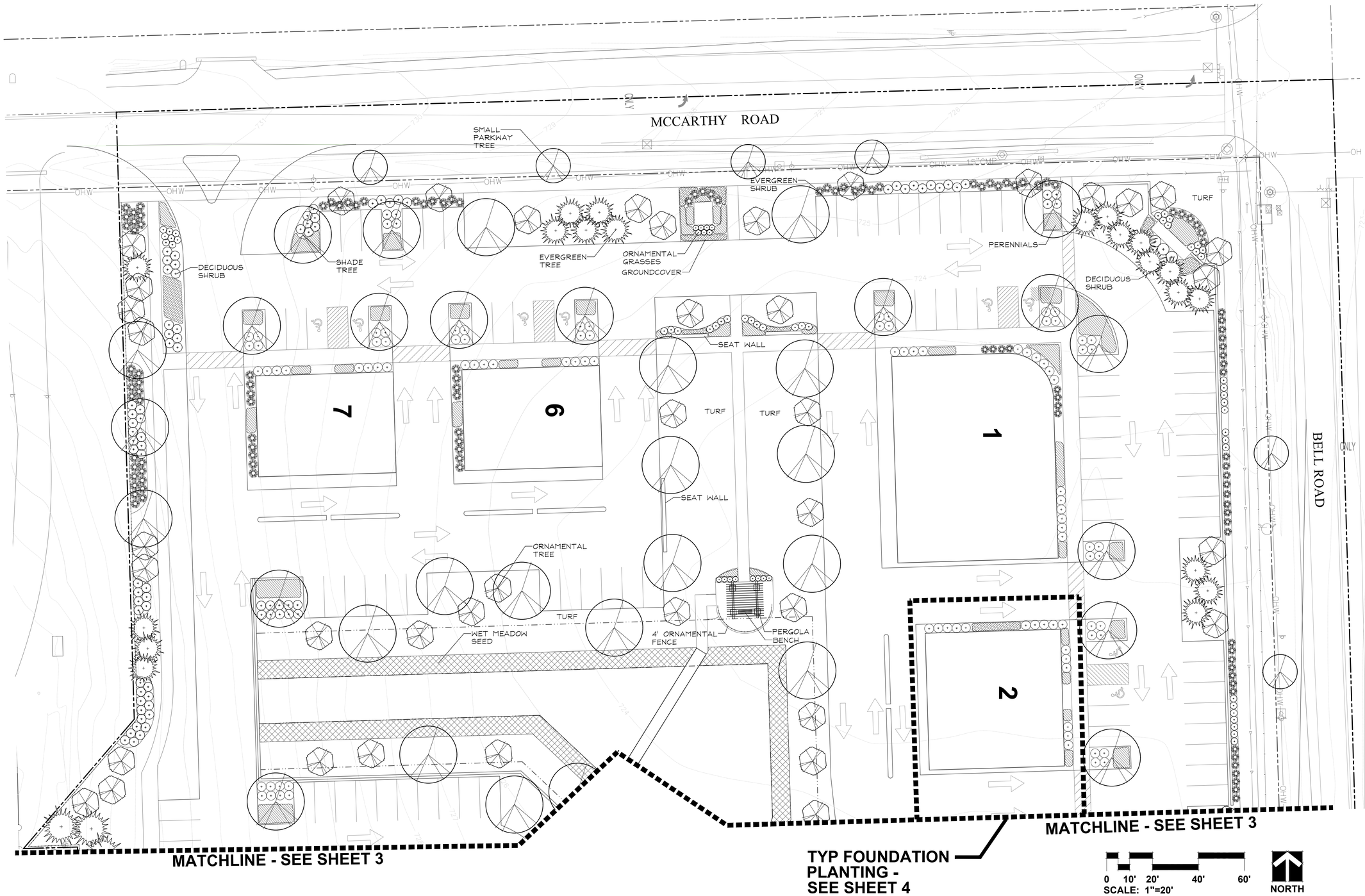
1	8.21.2023
REVISIONS	

DATE	3.20.2023
PROJECT NO.	AC23121
DRAWN	MNW
CHECKED	DHS
SHEET NO.	

1 OF 4

Know what's below. Call before you dig.

PLOT DWG:



GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

ENGINEER
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT, IL 60439

SUNHILL PLAZA

12300 BELL ROAD, LEMONT, ILLINOIS

LANDSCAPE PLAN

1	8.21.2023
REVISIONS	

DATE	3.20.2023
PROJECT NO.	AC23121
DRAWN	MNW
CHECKED	DHS
SHEET NO.	

2 OF 4

Know what's below. Call before you dig.

MATCHLINE - SEE SHEET 2

MATCHLINE - SEE SHEET 2

PERENNIALS

DECIDUOUS SHRUB

SHADE TREE

ORNAMENTAL TREE

EVERGREEN SHRUB

EVERGREEN TREE

DECIDUOUS SHRUB

TURF

WET MEADOW SEED

SHADE TREE

GROUNDCOVER

TURF

ORNAMENTAL GRASSES

PERENNIALS

SMALL PARKWAY TREE

SMALL PARKWAY TREE

BELL ROAD

8

6

3

4

5

0 10' 20' 40' 60'
SCALE: 1"=20'

NORTH

Know what's below. Call before you dig.

GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

ENGINEER
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT, IL 60439

SUNHILL PLAZA

12300 BELL ROAD, LEMONT, ILLINOIS

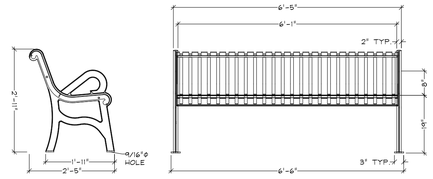
LANDSCAPE PLAN

1	8.21.2023
REVISIONS	

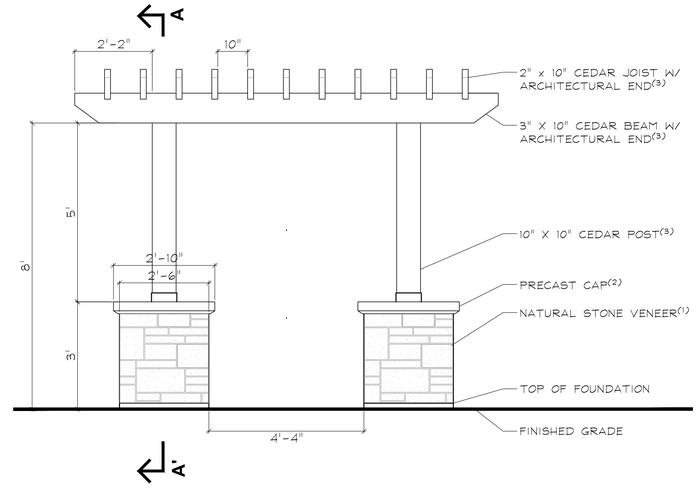
DATE	3.20.2023
PROJECT NO.	AC23121
DRAWN	MNW
CHECKED	DHS
SHEET NO.	3 OF 4

XREFS

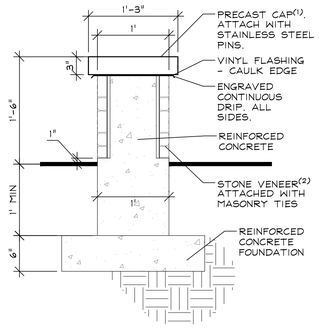
PLOT CONFIG



BENCH DETAIL
SCALE: NTS

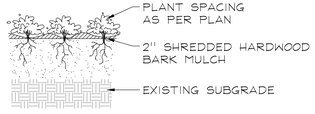


PERGOLA DETAIL
SCALE: NTS

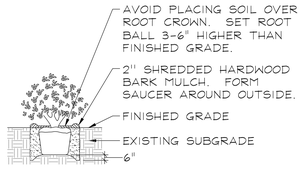


SEAT WALL DETAIL
SCALE: NTS

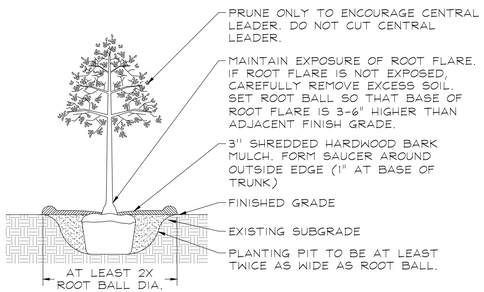
PLANTING DETAILS



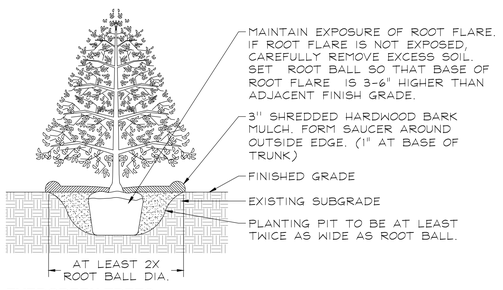
PERENNIALS AND GROUNDCOVERS
NOT TO SCALE



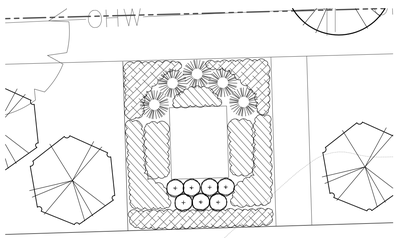
DECIDUOUS AND EVERGREEN SHRUBS
NOT TO SCALE



DECIDUOUS TREES
NOT TO SCALE



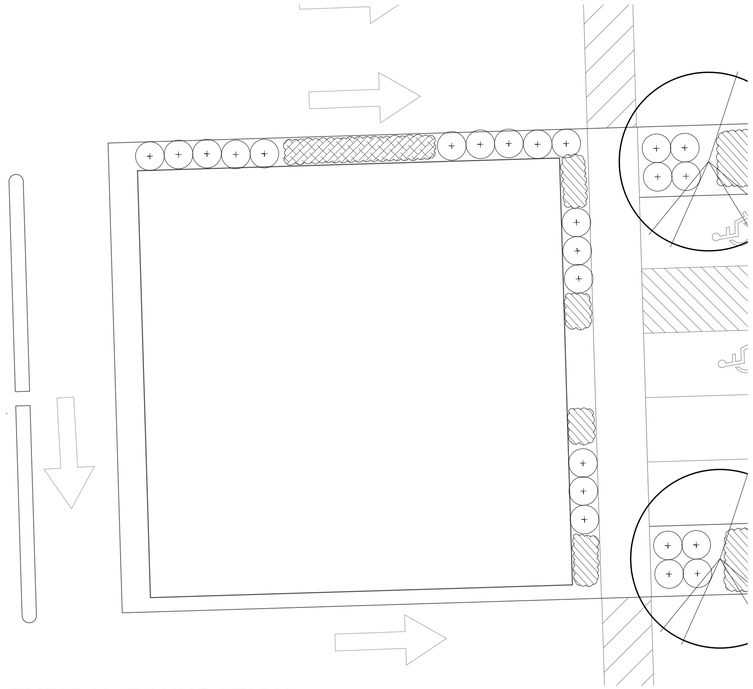
EVERGREEN TREES
NOT TO SCALE



TYPICAL SIGN LANDSCAPE DETAIL

0 5' 10' 20' 30'
SCALE: 1"=10'

NORTH



TYPICAL FOUNDATION LANDSCAPE

0 5' 10' 20' 30'
SCALE: 1"=10'

NORTH

GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

ENGINEER
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT, IL 60439

SUNHILL PLAZA
12300 BELL ROAD, LEMONT, ILLINOIS

LANDSCAPE DETAILS

1	8.21.2023
REVISIONS	

DATE	3.20.2023
PROJECT NO.	AC23121
DRAWN	MNW
CHECKED	DHS
SHEET NO.	

4 OF 4

Know what's below. Call before you dig.

KREFS
PLOT CONFIG

Attachment 5

Updated PUD Plat Plan

PRELIMINARY PUD PLAT OF SUBDIVISION
SUNHILL PLAZA
LEMONT, IL

FOREST PRESERVE

BELL ROAD

N00°32'44"W 711.18' EXISTING ROW

17' ROW DEDICATION

ROW HEREBY DEDICATED

ONLY

MCCARTHY ROAD

S89°38'44"W 530.77'

R-5A ZONING

B-3 ZONING

OUTLOT A

LOT 1

LOT 2

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 8

LOT 9

OUTLOT A

OUTLOT B

OUTLOT C

OUTLOT A

B-3 ZONING

R-1 ZONING

R-1 ZONING

R-1 ZONING

P.U.D.E.

S01° 43' 58"E 146.00'

S01° 43' 58"E 90.69'

S01° 43' 58"E 106.00'

S01° 43' 58"E 92.10'

S01° 43' 58"E 108.13'

S01° 43' 55"E 109.13'

S01° 43' 58"E 92.69'

S01° 43' 58"E 70.50'

S01° 43' 58"E 161.00'

S01° 43' 58"E 43.00'

S01° 38' 33"E 116.03'

S01° 43' 58"E 182.60'

S01° 43' 58"E 129.41'

S01° 43' 58"E 51.10'

S01° 43' 58"E 96.95'

N01° 43' 58"W 200.78'

N01° 43' 58"W 43.10'

N88° 16' 02"E 106.00'

N88° 16' 02"E 102.00'

N88° 16' 02"E 109.61'

N88° 16' 02"E 81.70'

N88° 16' 02"E 43.00'

N88° 16' 02"E 163.32'

S88° 16' 02"W 149.00'

S88° 16' 02"W 84.87'

S88° 16' 02"W 19.00'

S88° 16' 02"W 18.50'

S88° 24' 55"E 191.50'

S88° 24' 55"E 167.86'

S88° 21' 28"W 25.00'

N08° 16' 07"E 25.04'

S35° 52' 10"E 76.17'

S35° 52' 34"E 74.84'

S00°30'33"E 264.94'

S00°27'18"E 295.72'

S89°36'10"W 499.82'

S47°45'26"W 74.23'

N31°41'19"W 112.19'

S89°38'44"E 52'

53.45'

54.57'

95.5'

62.32'

62.38'

54.41'

52.03'

25'

12'

18'

46'

20'

10'

40'

25'

47'

LOT AREA SUMMARY

LOT NO.	AREA S.F.	AREA ACRE
1	15,476	0.36
2	9,613	0.22
3	10,812	0.25
4	9,395	0.22
5	20,752	0.48
6	8,342	0.19
7	8,341	0.19
8	36,722	0.84
9	33,776	0.78
OUTLOT A	120,785	2.77
OUTLOT B	39,621	0.91
OUTLOT C	21,383	0.49
ROW DEDICATION	11,842	0.27
TOTAL	346,860	7.96

NOTES:

PUBLIC UTILITY EASEMENT TO BE PLACED OVER SANITARY SEWER AND WATER MAINS. OUTLOT A TO BE COMMON AREA FOR THE USE OF PUBLIC FOR INGRESS/EGRESS AND PUBLIC UTILITIES.

LEGAL DESCRIPTION

A TRACT OF LAND IN THE NORTH 1/2 OF THE EAST 1/2 (EXCEPT THE WEST 250.00 FEET THEREOF) OF THE SOUTHEAST QUARTER OF SECTION 26, TOWNSHIP 37 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS, BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 26, 796.00 FEET EAST OF THE WEST LINE OF THE WEST LINE OF THE EAST 1/2 OF SAID SECTION 26; THENCE SOUTH ALONG A LINE THAT IS PARALLEL* WITH THE SAID WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SAID SECTION 26 AND 746.00 FEET EAST OF THE WEST LINE OF SAID EAST 1/2 OF THE SOUTHEAST 1/4 OF* SAID SECTION 26; THENCE SOUTH ALONG A LINE PARALLEL WITH THE WEST LINE OF THE EAST 1/2 OF* THE SOUTHEAST 1/4 OF SAID SECTION 26, A DISTANCE OF 276.00 FEET; THENCE WEST ALONG A LINE PARALLEL TO THE SOUTHEAST TO THE NORTHWEST CORNER OF SUNHILL SUBDIVISION UNIT #1 AS RECORDED APRIL 8, 1981, AS DOCUMENT NO. 25833414 IN COOK COUNTY, ILLINOIS; THENCE EAST ALONG THE NORTH LINE OF SUNHILL SUBDIVISION UNIT #1, A DISTANCE OF 500.00 FEET TO THE EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 26; THENCE NORTH ALONG SAID EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 26, A DISTANCE OF 710.86 FEET TO THE NORTHEAST CORNER OF THE SOUTHEAST 1/4 OF SAID SECTION 26, THENCE WEST ALONG THE NORTH LINE OF THE SAID SOUTHEAST 1/4 OF SECTION 26, A DISTANCE OF 531.41 FEET TO THE PLACE OF BEGINNING.

*APPARENT TYPOGRAPHICAL ERRORS CORRECTED BY SURVEYOR

GRAPHIC SCALE 1"= 30'

0 15' 30' 60'

Copyright © 2023 Advantage Consulting Engineers, LLC

NO.	DATE	REMARKS

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439
630-503-2467
www.aceng.us

EXHIBIT
PRELIMINARY PLAT OF SUBDIVISION
SUNHILL PLAZA
123RD STREET & BELL ROAD
LEMONT, IL

R/J RYMEK CO.
16 W 475 FRONTAGE ROAD
BURR RIDGE, IL

AUGUST 28, 2023
JOB: 21-065

SHEET:
POS
1 OF 1

Attachment 6

Updated Preliminary Engineering Plans

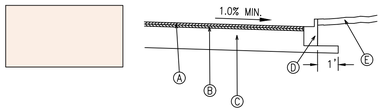
NOT FOR CONSTRUCTION

PRELIMINARY ENGINEERING PLANS

FOR

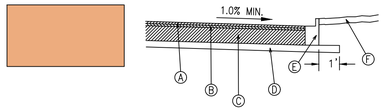
SUNHILL PLAZA

123RD STREET AND BELL ROAD
LEMONT, ILLINOIS



A 2" BITUMINOUS CONCRETE SURFACE COURSE, HOT MIX ASPHALT, MIX. C, N50
B 3" BITUMINOUS CONCRETE BINDER COURSE, HOT MIX ASPHALT, IL19, N50
C 10" CA-6 (GRADE B) COMPACTED GRAVEL SUB BASE
D CONC. CURB & GUTTER, TYPE B-6.12 WITH 4" CA-6 GRAVEL SUB-BASE
E 6" TOP SOIL AND SEEDING W/BLANKET

ASPHALT PAVEMENT SECTION - PARKING PAVEMENT



A 1.5" BITUMINOUS CONCRETE SURFACE COURSE, HOT MIX ASPHALT, MIX. C, N70
B 1.5" BITUMINOUS CONCRETE BINDER COURSE, HOT MIX ASPHALT, IL19, N70
C 9" BITUMINOUS CONCRETE BASE COURSE, HOT MIX ASPHALT, N70
D 4" CA-6 (GRADE B) COMPACTED GRAVEL SUB BASE
E CONC. CURB, TYPE B, 6" WITH 4" CA-6 GRAVEL SUB-BASE
F 6" TOP SOIL AND SEEDING W/BLANKET

ASPHALT PAVEMENT SECTION - PAVEMENT WITHIN ROW

SITE DATA TABLE		
ACREAGE AND/OR SQUARE FOOTAGE OF SUBJECT SITE	335,024	S.F.
	7.69	ACRES
SQUARE FOOTAGE OF COMMERCIAL SPACE	46,110	S.F.
TOTAL SQUARE FOOTAGE COVERED BY STRUCTURES	46,110	S.F.
TOTAL SQUARE FOOTAGE COVERED BY ROADS AND OTHER IMPERVIOUS SURFACES	147,283	S.F.
TOTAL SQUARE FOOTAGE OF COMMONLY OWNED AND MAINTAINED OPEN SPACE	182,458	S.F.
NUMBER OF OFF-STREET PARKING SPACES	223	
TOTAL PARKING BETWEEN FRONT FAÇADE & STREET	103	
PERCENTAGE OF PARKING BETWEEN FRONT FAÇADE & STREET	46.19%	

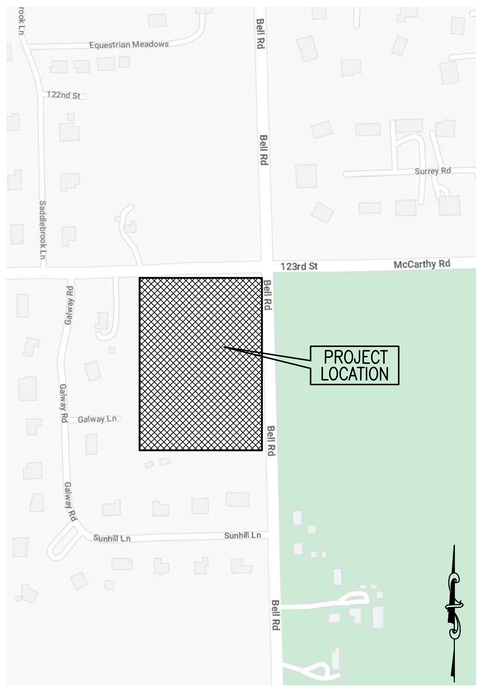
GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS AND STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS AND THE SUBDIVISION ORDINANCES FOR THE VILLAGE OF LEMONT.
2. ALL SANITARY SEWERS SHALL BE PVC PIPE, TYPICALLY ASTM D-3034, SDR 26, 8" DIAMETER, UNLESS NOTED OTHERWISE.
3. ALL STORM SEWERS SHALL BE REINFORCED CONCRETE PIPE ASTM C-76, SIZES TO BE DETERMINED AT TIME OF FINAL ENGINEERING.
4. ALL WATER MAIN TO BE DUCTILE IRON PIPE, CLASS 52. SIZE TO BE 8" DIAMETER UNLESS NOTED OTHERWISE. DEPTH 5'-6" FROM FINISHED SURFACE ELEVATION.
5. A MINIMUM HORIZONTAL DISTANCE OF TEN FEET SHALL BE MAINTAINED BETWEEN ALL WATER MAINS AND STORM/SANITARY SEWERS & STRUCTURES.
6. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND ARE TO BE VERIFIED PRIOR TO FINAL ENGINEERING AND SHOULD BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
7. PROPOSED ELEVATIONS AND GRADING, PROPOSED UTILITY SIZES AND LOCATIONS, AS WELL AS PROPOSED SECTIONS AND DETAILS SHOWN HEREIN ARE SCHEMATIC AND PRELIMINARY IN NATURE AND ARE SUBJECT TO REVISION AT THE TIME OF FINAL ENGINEERING.
8. APPROPRIATE EASEMENTS FOR ALL UTILITIES WILL BE PROVIDED AT THE TIME OF FINAL ENGINEERING AND SHALL BE REFLECTED ON THE PLAT.
9. UTILITY EASEMENTS FOR SEWERS AND WATER MAIN OUTSIDE OF PUBLIC R.O.W. ARE TO BE PROVIDED AS WELL AS STORM WATER MANAGEMENT EASEMENTS FOR STORM WATER MANAGEMENT FACILITIES.
10. ALL SIDEWALKS ARE TO BE CONCRETE AND HAVE RAMPS AT INTERSECTIONS WITH CURBS TO MEET THE MOST RESTRICTIVE ADA CODE REQUIREMENTS.

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	STORM SEWER	
8W	WATER MAIN WITH SIZE	W
	SANITARY SEWER	
	RIGHT-OF-WAY	
42	CONTOUR	701
+43.2	SPOT GRADE	+701.30
	SANITARY MANHOLE	
	STORM MANHOLE	
	STORM INLET	
	STORM CATCH BASIN	
	FIRE HYDRANT	
	BUFFALO BOX	
	GATE VALVE W/VAULT	
	STREET LIGHT	
SL	STREET LIGHT W/MAST	
	OVERFLOW DIRECTION	
	CURB	
	SILT FENCE	
	FENCE	
	CONSTRUCTION FENCE	
	ROAD SIGN	
E	ELECTRIC	E
G	GAS	G
	UTILITY POLE	
DS	DOWNSPOUT (TO UNDERGROUND)	DS
DS	DOWNSPOUT	DS
	DEPRESSED CURB FOR RAMP/DRIVEWAY	
TF	TOP OF FOUNDATION	
TD	TOP OF CURB, DEPRESSED	
TW, BW	TOP WALL, BOTTOM OF WALL	
R=	RIM FOR STRUCTURES	
R	RISER FOR SANITARY SERVICE	
HWL/NWL	HIGH/NORMAL WATER LEVEL	

LOCATION MAP



INDEX

SHEET #	SHEET I.D.	SHEET DESCRIPTION
1	C1	COVER SHEET
2	L1	PRELIMINARY SITE PLAN
3	G1	PRELIMINARY GRADING AND DRAINAGE PLAN
4	U1	PRELIMINARY SANITARY AND WATER MAIN PLAN

REVISIONS

ORIGINAL PLAN DATE: MARCH 20, 2023

#	SHEET #	REMARKS	DATE
1	ALL	REVISED PER VILLAGE	08/28/23

ENGINEER
WILLIAM J ZALEWSKI, P.E.
BILLZ@ACENG.US

ILLINOIS REGISTRATION NO.: 062-046121
EXPIRATION DATE: 11/30/2023

PROFESSIONAL DESIGN FIRM NO.: 184-007386
EXPIRATION DATE: 4/30/2025

08/28/2023
DATE

WILLIAM J. ZALEWSKI
062-46121
REGISTERED
PROFESSIONAL
ENGINEER OF ILLINOIS

THESE PLANS OR ANY PART THEREOF SHALL BE CONSIDERED VOID WITHOUT THE SIGNATURE , SEAL, AND EXPIRATION DATE OF SEAL OF THE ENGINEER

ACE
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439
847-260-4758
www.aceng.us

21-065
SUNHILL
AUG 28, 2023

Copyright © 2020 Advantage Consulting Engineers, LLC

PIN: 22-26-401-032-0000

BELL ROAD

N00°32'44"W 711.18'

8' ASPHALT PATH

WATER FEATURE

MCCARTHY ROAD

ONLY

S00°28'44"W 530.77'

8' ASPHALT PATH

SIGN

1
6200 SF
(25 STALLS)

2
3500 SF
(14 STALLS)

3
4130 SF
(17 STALLS)

4
4500 SF
(18 STALLS)

5
4500 SF
(18 STALLS)

DETENTION

DETENTION

BRIDGE

DETENTION

WATERFALL FEATURE

N89°36'10"W 499.82'

BRIDGE

6
2640 SF
(11 STALLS)

7
2640 SF
(11 STALLS)

BRIDGE

1 STORY OFFICE OR PRESCHOOL

8
9000 SF
(33 STALLS)

PLAYGROUND

9
9000 SF
(45 STALLS)

1 STORY OFFICE OR PRESCHOOL

S00°30'33"E 264.94'

S41°45'26"W 74.23'

S38°44"E 52'

S00°27'18"E 295.72'

N51°41'19"W 112.19'

GRAPHIC SCALE 1"= 30'
0 15' 30' 60'

NO.	DATE	REMARKS
1	08/28/2023	REVISED PER VILLAGE

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439
630-302-2467
www.aceng.us

PRELIMINARY
SITE PLAN

SUNHILL PLAZA
123RD STREET & BELL ROAD
LEMONT, IL

R/J RYMEK CO.
16 W 475 FRONTAGE ROAD
BURR RIDGE, IL

MARCH 20, 2023
JOB: 21-065

SHEET:
L1
2 OF 4

Copyright © 2023 Advantage Consulting Engineers, LLC

PIN: 22-26-401-032-0000

BELL ROAD

N00°32'44"W 711.18

MCCARTHY ROAD

ONLY

S00°38'41"W 530.77'

S89°36'10"W 499.82'

S00°30'33"E 264.94'

S00°27'18"E 295.72'

N31°41'19"W 112.19'

S14°45'26"W 74.23'

S9°38'44"E 52.

GRAPHIC SCALE 1"= 30'

0 15' 30' 60'

NO.	DATE	REMARKS
1	08/28/2023	REVISED PER VILLAGE

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439
630-503-2467
www.aceng.us

PRELIMINARY
GRADING AND DRAINAGE PLAN

SUNHILL PLAZA
123RD STREET & BELL ROAD
LEMONT, IL

R/J RYMEK CO.
16 W 475 FRONTAGE ROAD
BURR RIDGE, IL

MARCH 20, 2023
JOB: 21-065

SHEET:
L1
3 OF 4

Copyright © 2023 Advantage Consulting Engineers, LLC

BELL ROAD

N00°32'44"W 711.18

MCCARTHY ROAD

ONLY

S00°38'44"W 530.77'

1"12" PRESSURE CONNECTION

1"12" PRESSURE CONNECTION

1 TF=726.5

2 TF=727.0

3 TF=727.0

4 TF=727.0

5 TF=727.0

6 TF=729.0

7 TF=730.0

8 TF=733.0

9 TF=600.0

12W

8W

20" CASING

S89°36'10"W 499.82'

S00°30'33"E 264.94'

S14°45'26"W 74.23'

S00°27'18"E 295.72'

N31°41'19"W 112.19'

GRAPHIC SCALE 1"= 30'

0 15' 30' 60'

NO.	DATE	REMARKS
1	08/28/2023	REVISED PER VILLAGE

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439
630-502-2467
www.aceng.us

PRELIMINARY
SANITARY AND WATER MAIN PLAN

SUNHILL PLAZA
123RD STREET & BELL ROAD
LEMONT, IL

R/J RYMEK CO.
16 W 475 FRONTAGE ROAD
BURR RIDGE, IL

MARCH 20, 2023
JOB: 21-065

SHEET:
U1
4 OF 4

Copyright © 2023 Advantage Consulting Engineers, LLC

Attachment 7

PZC Minutes from June 14, 2023 – First Public Hearing

Village of Lemont
Planning and Zoning Commission
Special Called Meeting of June 14, 2023

A special called meeting of the Plan Commission for the Village of Lemont was held at 6:30 p.m. on Wednesday, June 14, 2023, in the second floor Board Room of the Village Hall, 418 Main Street, Lemont, Illinois.

I. CALL TO ORDER

A. Pledge of Allegiance

Commission McGleam stated that Chairman Studebaker is absent this evening and he will be acting as Pro Tem Chairman for the meeting. He then led the Pledge of Allegiance.

B. Verify Quorum

Upon roll call the following were:
Present: Cunningham, O'Connor, Pawlak, McGleam
Absent: Carmody, Zolecki, Studebaker

Community Development Director Jason Berry, Consulting Planner Jamie Tate, and Village Trustee Ron Stapleton were also present.

II. CHAIRMAN'S COMMENTS

Pro Tem Chairman McGleam greeted the audience and asked anyone in the audience that was planning on speaking to stand and raise his/her right hand. He then administered the oath.

III. PUBLIC HEARINGS

A. CASE 2023-05 SUNHILL PLAZA

Pro Tem Chairman McGleam called for a motion to open the public hearing for Case 2023-05.

Commissioner O'Connor made a motion, seconded by Commissioner Pawlak to open the public hearing for Case 2023-05. A roll call vote was taken:
Ayes: O'Connor, Pawlak, Cunningham, McGleam
Nays: None
Motion passed

Staff Presentation

Jamie Tate, Consulting Planner, said the applicant R/J Rymek Co., who is represented by Rich Rymek, is requesting approval of Preliminary Planned Unit Development and Plat for the Sunhill Plaza. The property is located on the corner of Bell Road and McCarthy Road. Within the PUD they are requesting multiple commercial buildings and special uses for drive-throughs and outdoor seating. The property is currently zoned B-3 and drive-throughs and outdoor dining are special uses in the B-3 district. The UDO does require a PUD when there are multiple buildings on one zoning lot. They are showing nine standalone buildings with 321 parking stalls and pathways along McCarthy and Bell Road with internal pedestrian connections throughout the site. There is a right-in/right-out on McCarthy Road and full access along Bell Road.

The subject property is surrounded by the Villas of Equestrian Meadows to the north. To the south and west is the Lemont R-1 zoning which is a single-family zoning district known as the Sunhill Subdivision. To the east is the Village of Palos Park which is Cook County Forest Preserve. The B-3 district is intended to provide an environment suitable for retail service and commercial uses where patrons arrive by vehicle. This district is meant for the highest intensity of commercial use. The property is currently zoned B-3 at this time and was annexed into the Village in 2011. The annexation agreement allows for two drive-throughs. In the agreement, it states that while it allows for two drive-throughs they still have to obtain the special use for the drive-throughs. Also, the annexation agreement does require transition yards. The proposal has met this agreement as shown.

Mrs. Tate stated the Comprehensive Plan talks about the property being Community Retail. It shows in the plan more neighborhood-orientated businesses than you would find in this district. The Comprehensive Plan has different goals and objectives like developing inviting gateways into the Village of Lemont. The conceptual drawings show a monument sign on the corner with a water feature. There is ample landscaping surrounding the sign and benches along the walkways around and throughout the plaza. Another goal is to provide a safe and convenient bicycle and pedestrian network. The proposal is showing an eight-foot path along the perimeter of the development. Normally, there are PUD objectives that are provided by the applicant. Staff will be recommending continuing this public hearing because the application is not complete enough with these objectives along with other items. A sign plan will have to be provided as part of the PUD. There were no evergreen or canopy trees shown with the ornamental trees on both McCarthy Road and Bell Road which is a requirement of the parking lot perimeter landscaping and street standards.

The site design shows nine buildings for a total of 46,885 square feet of commercial area. In building nine, they are showing a daycare and in building eight it is slated for a medical office. A lot of the uses have been stated by the applicant in conversation or from the traffic study which listed some potential uses. For parking, the uses are speculative so it is difficult to figure out the parking minimums. Another requirement in the UDO is that parking cannot be greater than 140% of the parking minimum. It is important to take a look at the property because a lot of the uses are speculative and you

do not want too much parking. By removing some of the unneeded parking it can create more of an open space for patrons to gather or for special events that might be held by the proposed businesses.

Mrs. Tate said it was hard to determine how many drive-throughs the applicant is looking for. The annexation agreement did allow for two but there are standards in the code for drive-throughs. A queuing exhibit had been asked for during the application process and staff has not received this as of yet. Some other items to consider with drive-throughs are where menu boards will be placed, height bars, canopies, and hours of operation. The outdoor dining is not specifically shown where it is going to be located. There are standards that are provided in the outdoor dining section. A traffic study was provided and the Village's Traffic Engineer did review it and provided comments which she has given to the applicant. There were questions about the trip estimates and no upgrades for the intersection. There were concerns about people cutting through the Sunhill subdivision and if signs were needed to prevent cut-through traffic. The buildings are speculative but they will have to meet all the design standards.

The application came before the Technical Review Committee in February 2023 and the applicant received comments and feedback at that time. Staff did provide a thorough review at that time. The Village Engineer did a quick review and did state that the asphalt path should be ten feet to match Glen Eagles. They did have questions about the storm sewer outfall onto Bell Road. The Village Arborist is still reviewing the plans. Staff at this time is recommending continuing this public hearing until further documents can be obtained and reviewed.

Pro Tem Chairman McGleam asked if any of the Commissioners had questions for staff.

Commissioner Pawlak asked if money was put aside for sidewalks for Equestrian Villas when they came through for approval.

Mrs. Tate stated yes it was written into their PUD.

Pro Tem Chairman McGleam said he agrees with staff that there are a lot of things missing from their application and feels the applicant will have to come back.

Commissioner Cunningham asked who determines the upgrades for intersections.

Mrs. Tate stated it is the traffic study that looks at that but the applicant will have to get permits through IDOT and Cook County Department of Transportation.

Pro Tem Chairman McGleam said the Village's Traffic Consultant also reviews the traffic study. He asked if there were any further questions from the Commission for staff. None responded. He then asked if the applicant wanted to make a presentation.

Applicant Presentation

Rich Rymek, R/J Rymek Co., stated the property is zoned B-3 and was annexed into the Village since about 2013. The owner has owned the property for about 10 years and has looked at different avenues for developing the property. The new trend for commercial development is smaller units. Those big 20,000 to 40,000-square-foot buildings are hard to lease out. A lot of these small box units are going up in Frankfort, Mokena, and La Grange Road. They do not want to see a bunch of asphalt so that is why they have the open detention. They are showing two waterfalls with one in the back and one in the corner.

They did meet with the residential property owners to find out what their concerns were. Most of the concern he heard was about the buffer that will be provided between this property and their homes. Their setbacks will meet what the Village is requesting which is 25 feet. If there is a big concern they can try and work a little more but they will not be able to please everyone. There was a concern about the medical building being two stories. They did speak to the medical group that they were talking to and they can modify the building to a one story. The other concern was with the daycare and the playground being close to the residential properties. They were going to try and move the playground more towards the front and between the buildings.

Mr. Rymek said the corner is the premium location and they are talking with a national company about that spot. The other buildings would be about 3,200 to 4,200 square feet that might be fast food with drive-throughs. They wanted to make the development as openly friendly as possible with a park-like setting. They will have a pedestrian bridge across there. They hope as more development comes in the residents will be able to walk there and utilize the area as well.

Pro Tem Chairman McGleam asked if they have an issue providing any of the items that staff has outlined.

Mr. Rymek stated he does not and he has been working on them. They are working on a lot of projects so their engineers and architects are backed up.

Trustee Stapleton asked if it was going to build all at once or in stages.

Mr. Rymek said it will be about a three to five-year project. There might be a few buildings that some of the national tenants want to buy. Their priority would be the medical building, then the daycare, and they are working with someone for the corner building. Once they expose who that national tenant might be then they feel more national tenants might come in. They are hoping buildings will start going up next year.

Commissioner O'Connor asked if he knew which buildings will be slated to have the drive-throughs.

Mr. Rymek stated possibly buildings one, three, four, and seven. They were going to have building five but they feel it is too close to the residential property. He is not sure about building two but it could be a possibility.

Mrs. Tate said the applicant wants it to be part of the PUD but it is hard because it is speculative.

Mr. Rymek stated when they talked to IDOT they were going to allow two entrance points off of Bell Road. Between buildings two and three they were going to allow a right-in/right-out there. After further discussion, it didn't make sense to do that. They pulled the full entrance further away from the residential to create just one entrance off of Bell. They also said off of McCarthy they could have a left turn there if they provided a left turn lane but it didn't make sense because across the street is a right-in/right-out only. They figured they would just match that.

Pro Tem Chairman McGleam asked if there were any further questions from the Commission for the applicant. None responded. He then asked if there was anyone in the audience that wanted to speak in regard to this public hearing.

Public Comment

Mitchell Predki said he prepared a presentation and had sent it to staff.

Pro Tem Chairman McGleam stated they did receive it so he can go through it and highlight any items.

Mr. Predki said the main concern is the traffic. The traffic study relates as to how people might cut through their subdivision and their suggestion was to put up a sign. You are unable to exit and head west on McCarthy so people will have to exit onto Bell Road. During peak times there are long wait times on Bell Road. So traffic will turn right on Bell Road and access their subdivision to get to Bell Road. Another concern is their subdivision does not have sidewalks or street lights so there is a safety concern if traffic starts to cut through there. In the presentation, he talked about the lack of economic attraction and provided multiple properties located in Lemont. He would like to talk about a development that Mr. Rymek is part of that is in New Lenox. In 2020 a PUD was approved for 67 acres that are located right off of I-355. He feels it has been three years and if he can't put a development on 67 acres then how does he think he can put one here.

Another concern is it has been proven that commercial properties can increase crime. The playground that they are proposing does encroach into the easement and buffer area. Drive-throughs do increase noise, light, car pollution, and prolong construction. It was stated that this development can take three to five years to be developed. In his presentation, he does talk about compatibility with the Lemont Comprehensive Plan. The PUD mentions retail and food opportunities for the surrounding neighborhoods. This is located in an area of higher income households and the establishment of fast food restaurants, medical buildings, and daycare centers will not increase local shopping. The water detention that is being proposed may have the possibility of appearing unwelcoming and unpleasing. Examples would be the Derby Road Plaza where a detention basin has low water levels and consistent weeds. It is also loaded with garbage

that creates an eyesore. So the water detention is not consistent with the PUD and Comprehensive Plan's objectives. An association will probably be created to maintain that detention basin.

Mr. Predki stated this development does not provide any economic or feasibility plans for the Village or the developer so they don't know how economical this development will be here. They do not have any sanitary sewers in their subdivision and there is a drain off of Galway Lane. The topographic plans show this development a little higher than their subdivision so they are concerned as to where that water will go. Overall, he feels this development is better than having a huge strip mall. He is concerned with it being so close to residential. This development is only on five acres so he is not sure if there is enough space for all of this. He understands that this property is already zoned B-3 but he hopes that this could be a topic open for discussion.

Mr. Rymek said in regard to the property in New Lenox. There were three properties that went bankrupt and they picked up the property from the bank. There was a lot of red tape involved with the property. The LLC who owns the site is the one who determines when he starts that project. This property in Lemont has been owned for ten years and it is just now that the owner wants to develop it.

David Klucznyk stated Mr. Predki's points are all valid. He does have a small child and he is also concerned about safety and traffic cutting through. There was a recommendation for signage but it should be demanded along with anything else they can do to deter traffic from coming through. There should be more public areas besides a detention pond. The number of drive-throughs needs to be considered because now it has doubled to four or five. He asked if the development would have a path that connects to Glen Eagles because otherwise, all those people will be walking on the street.

Sarunas Skadas said his house backs up to where the daycare is going. They do not have storm sewers for drainage but have ditches and all the water runs through the pipes to where the daycare is going. He is concerned that the detention is in the middle rather than in the back where the water is going. The detention is surrounded by parking so there is no gathering area or community space. The waterfall is way in the back where nobody will see it. The area is surrounded by million dollar homes so they don't need fast food places in the area. There are plenty of fast food places on 143rd Street and Bell Road.

Bill Zalewski, Advantage Engineers, stated they choose to put the detention in the middle because it shortens the distance from the parking lot and buildings. The detention is not planned to be a wetland or weeded bottom but rather open water. The waterfall feature is going to push water from the south to the west side so there is constant circulation. Whatever water is coming to their site they will have to gather it and put it into their detention basin. It will then be released in the northeast corner. This will have to be reviewed by IDOT, Cook County, MWRD, and the Village's Engineer.

Zach McElmury said he agrees with all his neighbors. He feels they need to limit the number of drive-throughs and having four to five is not good for the area. There is already a lot of traffic on Bell Road that backs up during peak times. He is not sure if the traffic study took into consideration the 400 homes that are going in by Glean Eagles. Traffic needs to be thought about really hard when considering this development and the drive-throughs. He asked if there is going to be a left turn lane going into the development off of Bell. If there is not a left turn lane it will only cause further backups. He agrees with the right-in/right-out on McCarthy. The rendering does show the sidewalks and parking close to the streets. He is not sure if they are taking into consideration for possible road expansion on Bell Road. He asked if there are going to be sidewalks from Equestrian Villas to this development and Glen Eagles. There are no parks in the area and they are putting one in at the Glen Eagles development so he wants to make sure there is connectivity to all these areas. At the intersection, there should be pedestrian signs with push buttons for crossings.

Mr. Zalewski stated traffic is a problem. A traffic study was submitted to Cook County and IDOT and they govern what is going to happen including any pedestrian walkways. As part of this plan, they are dedicating 17 feet along Bell Road because there are plans in the future to widen it. As far as a left turn lane into the property, that is going to be part of the study and reviewed by Cook County. The site plan does not depict it because they are more concerned at this time about the layout.

David Diviero said he has four kids that are older now that drive. He hates having them turn onto McCarthy Road. Once Glen Eagles is done they will have to turn onto that road blindly and traffic will be backed up. Traffic does need to be considered and they should lower the speed limit in the area. He does live on the side where the water does drain. Someone came out about five years ago and they were going to make a bigger drainage ditch but never did. The water does not flow correctly so if it does not make it to that area it will start backing up into their subdivision.

Mr. Rymek stated the drive-throughs are not all fast food places. There could be drive-throughs that get used in the morning and some in the evening so it is not all at one time.

Mr. Predki said the traffic study states it is going to attract 5,500 cars per day. There is still going to be a constant flow of traffic which is a safety concern.

Pro Tem Chairman McGleam asked if there was anyone else that wants to speak in regard to this public hearing. None responded. He stated at this time the application is incomplete and the public hearing will need to be continued until staff and this Commission is given all the information that is requested. He then called for a motion to continue the public hearing.

Commissioner Cunningham made a motion, seconded by Commissioner O'Connor to continue Case 2023-05 Sunhill Plaza to the next regularly scheduled meeting so the applicant can provide further information as outlined in staff's report. A roll call vote was taken:

Ayes: Cunningham, O'Connor, Pawlak, McGleam
Nays: None
Motion passed

IV. ACTION ITEMS

A. CASE 2021-08 - MARBELLA FINAL PUD

Pro Tem Chairman McGleam asked for staff to make a presentation.

Staff Presentation

Mrs. Tate said the final plat was already done for Lotus Design & Development in order to swap and sell the property. There was a condition in the Preliminary PUD, that approval and conveyance of the property needs to happen before the Final PUD can come forward. The Village now owns the property that is outside of the building so the Final PUD is for the building only. The Planning and Zoning Commission's role is to make sure it is in conformance with the Preliminary PUD. The units have not changed, the height has not changed, or the non-residential space has not been increased. The proposal is compatible with the approved Preliminary PUD and all the conditions have been met. Staff is recommending approval of the Final PUD.

Pro Tem Chairman McGleam asked if the piece north of the Marbella property was Village property. He wants to make sure there is open access for people to walk by the canal.

Mrs. Tate stated it is.

Mr. Berry said the Mayor has been making sure that remains open.

Commissioner O'Connor asked if there will be parking to the west of the Marbella property. It was discussed at the preliminary hearing since there is not enough parking underground for the residents.

Mrs. Tate stated it is all Village owned and controlled, but it is still in design at this time.

Mr. Berry said they think they can convert some of the Metra parking to permit parking as well for residents of Marbella. The parking under the bridge is owned by the Village with an easement to IDOT.

Commissioner Pawlak asked how much green space will there be.

Mrs. Tate stated she was not sure.

Mr. Berry said they can share any plans with this Commission.

Pro Tem Chairman McGleam asked if there were any further questions or comments from the Commission. None responded. Since there was nobody in the audience he called for a motion for a recommendation.

Commissioner Cunningham made a motion, seconded by Commissioner O'Connor to recommend to the Mayor and Board of Trustees approval of Case 2021-08 Marbella Final PUD. A roll call vote was taken:
Ayes: Cunningham, O'Connor, Pawlak, Studebaker
Nays: None
Motion Passed

V. GENERAL DISCUSSION

Pro Tem Chairman McGleam said the north elevation of the police department building needs to get cleaned.

Commissioner Cunningham asked how the Sunhill Plaza application was put on the agenda this evening when it was missing so much information.

Mrs. Tate stated she was promised that they would be providing the information but it never came.

VI. AUDIENCE PARTICIPATION

None

VII. ADJOURNMENT

Pro Tem Chairman McGleam called for a motion to adjourn the meeting.

Commissioner Pawlak made a motion, seconded by Commissioner O'Connor to adjourn the meeting. A voice vote was taken:
Ayes: All
Nays: None
Motion passed

Minutes prepared by Peggy Billig

Attachment 8

Case 2023-05 Sun Hill Plaza PZC Memo, Analysis and Attachments from June 14, 2023 Public Hearing

STAFF REPORT
TO: Planning & Zoning Commission
FROM: Jamie Tate, AICP, Consulting Planner
THRU: Jason Berry, CEcD, AICP, Economic & Community Development Director

CASE NUMBER & NAME
2023-05 Sunhill Plaza

APPLICANT & OWNER REPRESENTATIVE
R/J Rymek Co. / Richard Rymek

DATE:
June 14, 2023

PROPERTY ADDRESS/LOCATION
12300 S. Bell Road

BRIEF SUMMARY OF REQUEST
The Applicant, R/J Rymek Co. represented by Rich Rymek, is requesting approval of a special use for a Preliminary Planned Unit Development (PUD) and Plat for a multi-building commercial development to include a special uses for multiple drive-throughs and a special use for outdoor seating in the B-3 zoning district. There are exceptions from the Unified Development Ordinance (UDO) requested with the proposed commercial development to be incorporated into the PUD.

While commercial development is allowed and anticipated in the B-3 zoning district, the UDO states development of land including more than one principal building on the lot of record must be approved as a PUD. The proposed Sunhill Plaza includes 9 stand alone buildings with 321 parking stalls, multiple drive-throughs, a pathway along McCarthy and Bell Roads and internal pedestrian connections throughout the site. The stormwater detention area is featured in the center of the development with a pedestrian bridge, vehicle bridge and waterfall amenity. There is a monument sign at each of the entrances along McCarthy Road and Bell Road. Access into the development is a right-in/right-out along McCarthy and full access in and out along Bell Road.



Subject property highlighted in red.
Map source: Cook County GIS
PIN: 22-26-401-032

EXISTING ZONING	EXISTING LAND USE	SURROUNDING ZONING & LAND USE	REQUESTED ACTIONS	SIZE OF PROPERTY
Village of Lemont B-3, Arterial Commercial District	Vacant	**North:** Village of Lemont R-5A / Villas of Equestrian Meadows Subdivision (duplex subdivision under construction) **South:** Village of Lemont R-1 / Sunhill Subdivision with existing detached single-family homes **East:** Palos Park / McGinty Slough and Cook County Forest Preserve **West:** Village of Lemont R-1 / Sunhill Subdivision with existing detached single-family homes	Preliminary Planned Unit Development (PUD) and Plat to include drive-throughs and outdoor seating/dining	8.7-acres

PROPERTY HISTORY

The subject property was annexed into the Village and zoned B-3 with an Annexation Agreement (O-11-11) in 2011. The Annexation Agreement (AA) states that 'upon annexation, the Village shall adopt a special use for two drive-throughs' for the subject property. While the AA allows for the 2 drive-throughs, a special use was never granted as development has not occurred on the subject property. There are other requirements of the developer of the subject property stated in the Annexation Agreement provided in the Attachments.

COMPATIBILITY with the COMPREHENSIVE PLAN	**COMPATIBILITY** with the UNIFIED DEVELOPMENT ORDINANCE
The future land use map in the Lemont 2030 Comprehensive Plan designates the subject property Community Retail (CR).	The proposal is compatible with most aspects of the UDO besides the requested exceptions proposed within the PUD.

STAFF RECOMMENDATION: **CONTINUE** **APPROVE WITH CONDITIONS** **DENY**

ATTACHMENTS

1. Staff Analysis
2. Site Photographs
3. PUD Application
4. Plat of Survey
5. Preliminary Engineering Plans
6. Preliminary Landscaping Plans
7. Conceptual Renderings
8. Annexation Agreement O-11-11
9. UDO TRC Comment Letter Planning
10. Fire District TRC Comment Letter
11. Planning Follow Up List of Missing PUD Docs
12. Traffic Impact Study (TIS)
13. Village Consultant Review of TIS

Attachment 1 - Staff Analysis – Sunhill Plaza

CONSISTENCY WITH COMPREHENSIVE PLAN

Within the Lemont 2030 Comprehensive Plan is the future land use map that anticipates and categorizes land within the Village limits and land that is adjacent to or near the Village limits. It depicts the desirable future land use of certain property while also taking into account the likelihood, market factors and other influences.

The Lemont 2030 Comprehensive Plan's future land use map designates the subject property Community Retail (CR). Per Comprehensive Plan, the descriptions of the CR future land use category is as follows:

> The Community Retail District is characterized by general retail uses, in addition to the convenience-oriented uses also found in the neighborhood retail district. Local residents still form the primary customer base for businesses in this district, but the businesses draw from a slightly larger area and some customers may travel longer distances to visit certain establishments. Developments in this district are generally multi-tenant shopping centers. Shopping centers in this district rely on the populations within 3-6 miles for the majority of their customers. Shopping centers may have one or two anchor tenants; these tenants are typically grocery stores, discount stores, or large specialty discount stores like a sporting goods store. The other tenants in a community shopping center are the same as what would be found in a neighborhood centers: food service businesses, personal service businesses (i.e.. Salons), and financial service businesses (i.e. banks). However, tenants in a community center will generally represent the broader range of retail uses, including more apparel stores.
>
> Buildings in this district are often shopping centers of 125,000 SF to 400,000 SF on sites of 10-40-acres. Developments in the community retail district will be more auto-orientated than those in the neighborhood retail district, but bicycle and pedestrian access will still be accommodated, and buildings will be situated to encourage walking between businesses. Due to their size and intensity, community retail developments should be located at or near the intersection of two arterial roadways.

The proposed Sunhill development is generally aligned with the anticipated future land use in the Lemont 2030 Comprehensive Plan while less than the minimum size of 10-acres. The development is located at the intersection of two arterial roadways and is designed to encourage pedestrian movement between the buildings. The proposed site plan does not show anchor tenant sized buildings, but rather a mix of 2,600 SF – 9,000 SF stand-alone buildings

and many with drive-throughs. As stated above, the tenants likely found in Sunhill Plaza will be neighborhood orientated service, retail and financial businesses. The traffic study and conceptual renderings show a pharmacy-retail store on the hard corner of McCarthy and Bell Roads, a medical office building and a daycare. The traffic study lists the following anticipated uses: daycare center, drive-in bank, fast food restaurant with drive-through window and general retail.

Also within the Comprehensive Plan are Goals, Objectives and Implementation Actions in several categories painting a more detailed picture of the Village's desired future. Within the *Our Economic Prosperity* section of the plan, the following actions may apply to the proposed Sunhill Plaza development:

- **Develop Inviting Gateways into Lemont**. Gateways are key intersections and corridors that represent major points of entry into a community. Private development at gateways should reinforce the public improvements and further enhance the aesthetics of these important areas. The conceptual renderings provided by the applicant illustrate an inviting corner with a monument sign and waterfall feature highlighting the development. Ample landscaping surrounds the sign with benches and parkway trees lining McCarthy Road, Bell Road and inside the plaza.

- **Increase Local Shopping.** Providing Lemont residents with more locations to shop in town allows for increased local shopping. Existing residents and future residents in this area will have the opportunity to have convenient options for a bite to eat, services and more with the addition of a commercial retail plaza in this area of the Village.

Within the Our Mobility section, the following Guiding Principles are stated:

- Walking and biking should be a viable mode of transportation in Lemont for people of all ages and abilities.

- A safe and convenient bicycle and pedestrian network that links homes, schools, businesses and recreational facilities is an important contributor to a high quality of life for residents and supports improved public health.

- Creating safe connections to regional trails and improving transit service are not only important components of a complete transportation network, but are equally integral to this plan's recreation and economic development goals.

The addition of the perimeter path along McCarthy Road and Bell Road associated with this development follows the principles of the mobility goals in the Lemont 2030 plan. The McCarthy corridor is proposed for bicycle improvements within the Lemont Active Transportation Plan with near-term share the road signs and long-term bike lanes. Any addition to the pathway system in this area created by private development furthers the goals of the Comprehensive Plan and Active Trans plan.

GENERAL ANALYSIS

Planned Unit Developments (PUDs). The background statement in Section 17.08.010 for PUDs in the UDO reads "Within the framework of a PUD normal zoning standards may be modified. The resulting flexibility is intended to encourage a development that is more environmentally sensitive, economically viable, and aesthetically pleasing than might otherwise be possible under strict adherence to the underlying zoning district's standards". The UDO also states "while adherence to the Comprehensive Plan is not mandatory, PUDs should nevertheless remain in substantial compliance with densities, land use policies and other aspects of development outlined in the Comprehensive Plan. Each proposal for a PUD shall be presented and judged on its own merits, and approval shall not be based exclusively on a comparison to an already existing PUD".

The Sunhill Plaza is in substantial compliance with the Comprehensive Plan, particularly its land use policies and the plan's goals and objectives. The zoning standards that are proposed to be modified in the PUD are the following.

DEPARTURES FROM ZONING STANDARDS

Below is a summary of current UDO standards, how the proposed PUD differs from those standards, and staff's comments related to the proposed deviations.

UDO Section	UDO Standard	Proposed PUD	Staff Comments
17.11.150 Signs for Shopping Centers and PUDs	A sign plan that demonstrates compliance with the provisions of this section shall be submitted for approval for a commercial PUD approved by the Village Board. Sign plans shall include: 1. Site plan of the property and/or elevations that indicate the location of all signs; and 2. Computation of the aggregate maximum sign area for each individual sign, sign dimensions, and the height of all signs; and 3. Materials; and 4. Illumination details. All signs shall be in harmony with the overall architectural concept for the site and compatible with each other and with the building elevations. Separate wall signs shall be	The site plan shows the location of 2 monument signs but there are no details on the signs and the proposal is void of a sign plan.	A sign plan should be a part of the development. If not at this time, a condition of the Final PUD.

	located uniformly on a sign frieze, canopy or other appropriate architectural element consistent with the architectural concept for the development, and the signs shall be adequately separated from one another.		
17.20.050 and Table 17-20-01	One and half plant units per 100 feet of street frontage. One plant unit is comprised of ALL of the following: 1. 0.5 canopy trees; 2. 1.0 evergreen trees; 3. 1.5 ornamental/understory trees; and 6.0 shrubs or 6.0 minimum 18" containers of ornamental or native grasses.	There are no canopy trees or evergreen trees along either street frontages.	The plan should be adjusted to adhere to this UDO requirement.
17.20.070 Landscape Standards for Parking Lots.	The exterior of parking lots shall be landscaped with at least three plant units per 100 feet of linear distance surrounding the parking area. One plant unit is comprised of ALL of the following: 4. 0.5 canopy trees; 5. 1.0 evergreen trees; 6. 1.5 ornamental/understory trees; and 7. 6.0 shrubs or 6.0 minimum 18" containers of ornamental or native grasses.	There are no canopy trees or evergreen trees along the exterior of the parking lots.	The plan should be adjusted to meet this requirement.

Consistency with PUD Objectives. UDO Section 17.08.010.C lists 11 different objectives to be achieved through planned unit developments. Staff discussion is below with each applicable objective. The applicant did not provide a narrative describing the proposed development or addressing the PUD objectives.

1. *To ensure that future growth and development which occurs is in accordance with the policies and goals of the Village.* The development is in agreement with the Village's Comprehensive Plan's future land use.

2. *To provide a more desirable living environment by preserving and integrating the natural environment and landscape features of the property into land development.*

The proposed development is not preserving natural features on the site but is utilizing the centralized detention basins to create an attractive element of the plaza.

3. *To stimulate creative approaches to the residential, commercial and industrial development of land.* The multi-building design of the proposed development is more creative and modern compared to traditional strip center development.

4. *To encourage and stimulate economic development with the Village.* The development of the subject property will enhance the Village's workforce, tax base and allow for additional local spending.

5. *To preserve or enhance natural features on the site.* The proposed development is not preserving natural features on the site but is utilizing the centralized detention basins to create an attractive element of the development.

6. *To facilitate, in a cost effective manner, the development and maintenance of adequate public services.* There is water and sewer available to the property in sufficient capacity to serve this development and the Applicant will improve the systems to serve this development as well as surrounding areas. Both McCarthy Road and Bell Road will be improved with safety as the Applicant will construct necessary dedicated turning lanes into the proposed development, as recommended by the traffic study, the Village's traffic consultant, IDOT and CCDOT.

7. *To encourage patterns of and uses that decrease trip lengths and increase the use of modes of transportation other than a private vehicle.* The proposal includes sidewalks internal to the site and an 8-foot path along both McCarthy Road and Bell Road. As stated in the Village's review of the traffic study, McCarthy Road/123rd Street is identified in the Village's Bicycle Improvement Plan as a 'near-term' improvement.

8. *To reduce energy demand and consumption.* Developing vacant greenfield land does not assist in reducing energy demand and consumption. Development requires energy and creates consumption, but actions can be implemented within the development to reduce energy demand and consumption such as sustainable and green building design, utilizing solar and non-traditional energy production, planting more shade trees throughout the development and any other energy efficiency method or procedure.

9. *To encourage the introduction of related and complementary land uses*. The proposed commercial development on the corner of an increasingly busier intersection as residential development continues adjacent and within close proximity, can be complementary to the neighborhoods in the surrounding area providing them with retail, food and service opportunities inside a reasonable distance. While complementary to surrounding land uses, any commercial development adjacent to residential zoned or used land should provide a heavy buffer between the adjacent

homes and proposed development so not to negatively impact the existing subdivision. Surrounding property owners should be encouraged to be a part of the planning process to provide input on how to best provide a barrier and/or integrate the new development into the existing landscape.

Commercial Development Site Design. There are nine buildings proposed within the development providing a mix of potential retail, restaurants, service, office, and medical uses. Building 9 located in the southwest corner of the development, identified on the Preliminary Engineering Site Plan, is shown as a daycare with an outdoor playground area. There has been discussion surrounding Building 8 as a medical office and one of the outlots a possible drive-through coffee and donut chain. Other than these discussed uses, the other buildings are speculative as the development progresses. The sizes of the buildings may change as users sign on and the site design may then be modified due to the businesses requirements or preferences.

"Required" parking spaces are hard to determine without knowing all the end users of the development. The daycare in the southwest corner of the development, and it's shown at 9,680 SF. The UDO requires 0.33 spaces per licensed capacity. Speculating, if the daycare can have 100 children per their license, then the UDO requires 33 parking spaces for that specific use. Medical offices require 1 parking space per 200 SF of Gross Floor Area (GFA). Building #8 on the preliminary site plan is possibly a medical office, therefore requiring 45 parking spaces according to the UDO. A fast food "formula restaurant" requires 1 parking space per GFA, so one of the 2,640 SF buildings with a drive-through would require 26 parking spaces. General retail requires 1 parking space per 250 square-feet of GFA so if the 6,200 SF Building #1 were a national pharmacy retail store as depicted in the conceptual renderings, the use would require 25 parking spaces for Building #1. Other restaurants, not fast food, require 1 parking space per 100 SF as well, typically utilizing the most parking for a commercial center use.

Traditionally, different uses will have peak parking requirements at different times throughout the day. For example, the daycare occupying Building #9 will require peak parking in the morning and early evening when drop off and pick up will be heavy. A medical office will occupy the parking spaces closest to their building during the morning and daytime hours, freeing up the parking in the southwest corner of the site for the evening. While numbers of parking stalls are assigned to uses, the entire site should have shared parking

The proposed plan provides 321 parking spaces throughout the site, with 84 parking spaces approximately accounted for as discussed above for 3 buildings. With the [at-least] four drive-throughs shown on the plan, it's assumed that those businesses will be auto-focused with more customers utilizing the drive-through rather than the parking spaces. 321 parking spaces appears excessive when all over so many uses are speculative and could be reduced

with dedicated areas of 'potential future parking' rather than constructed prior to knowing all the end users. Communities throughout the country are eliminating 'required parking' in zoning codes. According to the American Planning Association (APA) parking minimums tend to be controversial because they can be inconsistent and unpredictable. Even the National Parking Association supports reducing or eliminating parking minimums and instead favors allowing communities and developers to make market-based decisions on parking supply and demand. There is an opportunity to eliminate parking within the development and slate it as 'potential' parking and instead create a gathering area or plaza center. The multi-building development with pedestrian connections throughout and centralized detention feature creates opportunity to provide a unique and inviting outdoor gathering area feature. Events such as farmers markets or small festivals could happen, bringing more customers and visitors to the plaza. Providing a location for families and kids to park their bikes and hang out in a safe and inviting way could be an exceptional draw to the plaza.



Small fake turf area set up for a fall event.



Outdoor fireplace with moveable chairs.

For example, the parking rows in the center of the development adjacent to the detention area can be eliminated to create this gathering space. There are examples of this in other multi-building developments, allowing businesses in the plaza to plan outdoor events or enjoy the central detention area overlooking the waterfall feature along the southern property line. If parking becomes an overwhelming issue in the future, the space can be evaluated to repurpose into parking stalls.

Also within the Urban Design Requirements for new construction in the B-3 zoning district, any commercial development in excess of 20,000 square-feet of gross floor area shall incorporate a public space, such as a plaza, courtyard or landscaped garden within the vicinity of the building's main entrance of the development's principal structure that incorporates at least three of the following:

a. Pedestrian seating in the form of benches or ledges of limestone; or
b. Water features, e.g. fountains or ponds; or
c. Textured paving such as brick or flagstone; or
d. Raised planters of limestone; or
e. Sculpture or other artwork; or
f. Outdoor eating or café.

The features incorporated into this paragraph shall be connected with public sidewalks adjacent or running through the property. While the proposal does not have one 20,000 SF building, the total gross floor area of all the buildings proposed in the plaza is well over the 20,000 SF threshold. The intentions of this requirement in the UDO transfer to the proposed development and should be applied.

Special Use for Drive-Throughs

Drive-through establishments are a special use in the B-3 zoning district. The Annexation Agreement for the subject property adopted in 2011 allows for 2 drive-throughs on the property. The applicant has stated they wish to have more than 2 drive-throughs as shown on the preliminary site plan, but it is unclear how many are being requested. There appears to be at least 4 drive-throughs shown, indicated by the single separated lane in the rear of the smaller up-front buildings. There could be more drive-throughs on the site as the double arrow one-way aisles indicate between buildings, such as between Building 1 and Building 2. The conceptual renderings depict Building 1' design to be similar to a Walgreens with a pharmacy drive through between Building 1 and Building 2. In the UDO, the following requirements for drive-throughs are found in the Urban Design Standards:

1. Each drive-through facility shall be designed so that the drive-through window is not on a side of a building facing a public street.
2. The queue area shall not interfere with other on-site circulation and parking arrangements.
3. All pedestrian walkways for a drive-through development shall be clearly marked and enhanced with special paving or markings when they intersect the drive-through aisles.

As shown on the site plan, no drive-through windows appear to be facing a public street adhering to the first urban design requirement for drive-throughs. At this time, it is unclear whether or not the que areas for any of the proposed drive-throughs will interfere with other on-site circulation and parking arrangements. Without knowing the businesses that will be

utilizing the drive-throughs, this is an assumption. Staff has requested a que and stacking exhibit for all of the drive-throughs that has not been provided at this time. Lastly, striped pavement markings appear in the parking lot in areas where pedestrians may intersect with drive-through aisles. Signage will be very important within the Plaza indicating pedestrian crossings in these areas as well, so if the markings were to fade or be covered by vehicles.

Before a special use for multiple drive-throughs can be recommended and a part of the Sunhill Plaza PUD, a number of allowed drive-throughs should be determined and an exhibit must be provided in order to verify no conflicts with parking and circulation. If the drive-throughs are to be approved on a conceptual basis, there should be further review directed to [at least] Staff once a business has committed to building in the Sunhill Plaza. There are many considerations with approving drive-throughs beside the UDO language already discussed above. For example:

- Where is the menuboard placed? Are there multiple? Is it digital?
- Some businesses desire double drive through lanes now, is there space for this?
- What is the distance between the menuboard and the drive up window?
- Are there other requests of the drive through, such as height bars, advertising signs, awnings over the menuboard or awnings over the drive through window?

With the unique site circulation within the proposed development, thought and planning must be incorporated into the allowance of many drive-throughs. Signage will be important along with pavement markings and other indicators to safely maneuver vehicles and pedestrians through the development.

Special Use for Outdoor Dining

Outdoor dining and drinking areas are a special use in the B-3 zoning district on private property with a seating capacity of ten or more if one or more of the following applies:

1. The outdoor dining and drinking area is to have any music, either live, amplified or alike, or generate noise other than typical sounds generated by dining and/or drinking.
2. The outdoor dining and drinking area is located within 50 feet of a residentially zoned lot or residential use, when a barrier exists, or 100 feet without a barrier, measured from the edge of the outdoor dining and drinking area to the shared property line.
3. The outdoor dining and drinking area is operable outside the hours of 11am – 9pm.

Another stated requirement in the UDO of outdoor dining and drinking areas is the placement of tables, chairs, and other furnishings shall leave at least three feet of an unobstructed, accessible route along any pedestrian way. This requirement applies to outdoor dining areas with or without a special use permit. If a business within Sunhill Plaza places

a few tables outside under the 10-person threshold and without having the attributes listed above, the 3-foot clearance will always apply. Once again, it is difficult to approve outdoor seating areas for unknown businesses in unknown locations. The Village encourages outdoor dining areas and would like to see them incorporated into this development, but like other special uses for outdoor dining, plans that indicate barriers, table set up and safety measures should be incorporated into the PUD.

Traffic & Site Access.

There is one full access point into Sunhill Plaza from Bell Road (Cook County Department of Transportation jurisdiction) and a right-in/right-out planned for McCarthy Road (IDOT jurisdiction). The applicant has provided a traffic study by Gewalt Hamilton Associates (GHA) dated October 12, 2022.

Based on the analyses and recommendations from the traffic study, the following conclusions by GHA were made:

- No specific improvements are needed at the Bell Road and McCarthy Road signalized intersection to accommodate the development.
- At the proposed site access along McCarthy Road, one inbound and one outbound lane should be provided at the site driveway with exiting traffic having stop control. The analyses conducted indicate that no auxiliary turn lanes are needed along McCarthy Road for the proposed site access.
- At the proposed site full access along Bell Road, one inbound and two outbound lanes (separate left and right turn lanes) should be provided at the site driveway with exiting traffic having stop control. The analyses conducted indicate that a northbound left-turn lane along Bell Road is warranted for the proposed site access. The left-turn lane should be designed based on IDOT BDE guidelines for storage and taper lengths.
- If the Village desires, "no thru traffic' signage should be placed on Sunhill Lane at Bell Road to discourage cut-through traffic that may result from the long northbound queues at the Bell Road and McCarthy intersection.

The Village's traffic consultant, TranSystems, reviewed the Sunhill Plaza traffic study from GHA, and associated documents and stated they were in agreement with GHA's methodology and recommendations, except for the additional considerations noted in the following comments:

- McCarthy Road/123rd Street (IDOT jurisdiction) is identified in the Village's Bicycle Improvement Plan as a 'near-term' improvement and SCM corridor. The proposed site plan should be reviewed to avoid conflicts with future/planned bicycle accommodations along McCarthy Road.

- The eastbound PM peak right turn volume for the McCarthy Road entrance may be understated, as 10 trips are shown bypassing the McCarthy Road entrance and entering the McCarthy/Bell intersection to utilize an entrance on Bell Road. If these trips enter the McCarthy entrance, the eastbound right turn lane would be warranted in IDOT BDE. The eastbound que lengths in the PM peak hour along McCarthy Road extend beyond the proposed entrance location and may block the entrance at times. Additional coordination with IDOT is recommended to determine if a right turn lane is desired on McCarthy Road at the proposed site entrance.

The applicant was sent the comments from Transystems and forwarded them onto GHA. It would be assumed that the McCarthy Road entrance be busy at peak times with pick up and drop off at the daycare and a possible drive-through coffee business. A dedicated right turn lane seems appropriate whether or not a traffic study deems it necessary. Without a dedicated right turn lane from McCarthy Road to head south down Bell Road, it appears unlikely that approximately 10 vehicles will choose to turn right on Bell rather than use the McCarthy entrance at peak times. Lastly, since the proposed Plaza is on the corner of a 'near term' improvement within the Village's Bicycle Improvement Plan, bicycle racks should be placed on the property in safe and visible locations.

Building Design and Architecture. The applicant has provided conceptual renderings with the submittal that are included in the attachments. While these renderings are conceptual, none of the stand-alone buildings appear to be nationally branded except the [assumed] pharmacy building on the hard corner of McCarthy and Bell Roads. Uniform design and materials should maintain throughout the development while shying from chain-style architecture. The difficulty in chain-style architecture is reuse of the building at a later date. While there are some successful examples, it is typically more difficult to locate a new business into a building that was specifically designed for one type of use or one type of business. For example, the reuse of a stand-alone building designed for Walgreens, CVS or Dunkin Donuts. A recent example in the Village is the reuse of a Wendy's into a dental office. The Wendy's sat vacant for years and finally was redeveloped into the dentist, but it necessitated the removal of a drive-through and it still looks like a traditional Wendy's with different colors and modifications.

All buildings within the Sunhill Plaza must meet the Commercial Design Requirements in the UDO applicable to all new construction in B-1 and B-3. For example, building walls facing public streets shall have a minimum of 75% constructed of face brick of clay, native stone or fiber cement board siding. All rooftop equipment must be screened from public view and the rear of parapets should not be visible from the right-of-way. There are specific requirements for building entrances such as overhangs, canopies, awnings or corniced parapets above entrances. If the proposed buildings within the development cannot meet these requirements, then an exception must be requested and reviewed in the PUD. Due to the unknown nature of the tenants and businesses within the development at this time, the architecture for the buildings may need to be a requirement of the Final PUD. If phasing is a part of the

development, several phases of Final PUD may be necessary for this unique development approach.

Technical Review Committee (TRC). The proposal went to TRC on Thursday, February 23, 2023. The applicant was provided feedback on the proposed development from the Village Engineer, Public Works, the Lemont Police Department, Community Development, and the Lemont Fire District. The applicant was sent comment letters from both planning and the Lemont Fire District. A follow up meeting with the Consulting Planner and applicant was held after the first PUD submittal to review the missing documents and go over what is required to move forward with the public hearing.

Consulting Planner Review. The Consulting Planner reviewed the concept plan at TRC and provided comments to the applicant. Another review has not been completed at this time as the plan did not significantly change and a response to the TRC comments has not been provided. The comments in the TRC letter still apply and include:

- Provide a vehicle stacking exhibit for the drive-throughs. The UDO states that 'the que area shall not interfere with other on-site circulation and parking arrangements. This must be verified with a stacking exhibit; and
- Provide a sign plan to be incorporated into the PUD (including location, amount of signage, dimensions, etc.); and
- Provide an autoturn exhibit to demonstrate circulation throughout the site. Provide details about expected deliveries and how trucks will maneuver the site; and
- Verify the following to ensure an exception in the PUD is not needed:
    a. No development shall have parking in excess of 140% of the parking spaces required by this ordinance.

Parking requirements were discussed above noting the difficulty in determining the appropriate number without knowing the tenants and businesses of the potential development. The full UDO Comment Letter dated February 23, 2023 is provided in the attachments. More comments may arise during the review, public hearing and development process.

Engineering Comments & Stormwater Management. The Village Engineer attended the TRC meeting and provided the applicant with feedback and comments. The development will be connecting to and extending the Village's utilities. Stormwater detention is shown in the center of the development with drainage directed towards the water bottom pond. The preliminary engineering plans that include preliminary site plan, a preliminary grading plan and a preliminary utility plan are currently under review and comments are forthcoming.

Landscaping. The applicant has provided a Preliminary Landscape Plan by Gary Weber dated 3/20/23. As noted in the requested zoning exceptions, there are no parkway/shade trees

shown on the plan along McCarthy Road and Bell Road as required by the UDO for arterial streets and parking lot perimeters. The perimeter of the wet bottom detention basin shows a wet meadow seed mix & erosion control blanket. The transition yard between the proposed development and the existing residences shows a solid board on board fence with a mix of shade trees, evergreen trees, ornamental trees and shrubs. The appropriate plant unit mix is shown in all the interior parking lot landscape islands, but there does appear to be utility conflicts that may cause shade trees to be removed from some islands. The two monument signs are appropriately landscaped and meet the UDO's requirements. A full review from the Village Arborist is forthcoming.

Fire District Comments. The Fire Marshall reviewed the proposal and provided feedback and comments to the applicant at the TRC in February. The Fire Marshall provided information on required hydrants throughout the development, sprinklers in the proposed buildings and needs for other interior safety measures. The review of the plans show that the required dimensions for the turning radius required to handle their ladder truck has been met. The Fire Marshall will review more final plans as the project continues.

CONCLUSIONS & RECOMMENDATIONS

The concept of the multi-building commercial development on this B-3 zoned property in this area of the Village is progressively appealing rather than outdated strip centers that often leave vacant units within the center or in corners. Commercial development on this corner is in agreement with the Lemont 2030 Comprehensive Plan and anticipated future land use. The layout and character of the plaza provides an opportunity to create an attractive space providing amenities to the neighbors, close subdivisions, residents of Lemont and those passing through. The conceptual renderings depict a vibrant, desirable commercial environment with space for benches, large parkways and landscaping along the corner of McCarthy and Bell Road. The site plan should agree with the renderings verifying available space for these amenities depicted on the renderings.

Staff recommends continuing the public hearing for Case 2023-05 Sunhill Plaza PUD allowing the applicant more time and opportunity to address concerns such as signage, number of drive-throughs, locations of outdoor dining, garbage pick-up, phasing, architecture, lighting and any other discussions of the Commission and public that attend the hearing.

Example conditions that would be recommended at this time if approval was recommended:

1. Address the outstanding comment letters from staff and consultants, including the comment letter from the TRC dated February 23, 2023. There are comments within this letter that have not been addressed such as garbage pick up and dumpster locations.

2. Any drive-through menuboard should not face the adjacent residential homes to reduce noise pollution for existing residences.

3. The only sign exception a part of this PUD is the 2 monument sign locations as shown on the preliminary site plan (one along McCarthy and one along Bell Road). The UDO allows one monument per zoning lot and the development is on one lot. All signs, including the monument signs, must meet the Village's UDO requirements for maximum size, maximum height, materials and any other specification.

4. Provide information on lighting and a photometric plan to ensure there is no spillover to the adjacent existing residences. Decorative but efficient lighting shall be used throughout the development and parking lot.

5. Work with IDOT to obtain a crossing signal across McCarthy Road at the intersection as a part of this development.

6. Remove some parking areas and dedicate them as 'potential parking areas' allowing for more green space and gathering areas within the development.

7. Provide details on the proposed fence (i.e. height, material, etc.).

Attachment 2

Site Photos



Figure 1:View looking northwest from intersection of Bell & McCarthy Roads.



Figure 2: View headed north on Bell Road with subject property starting on the left.



Figure 3: Approximate location of Bell Road full access on the left. A left turn lane into the plaza is not proposed.

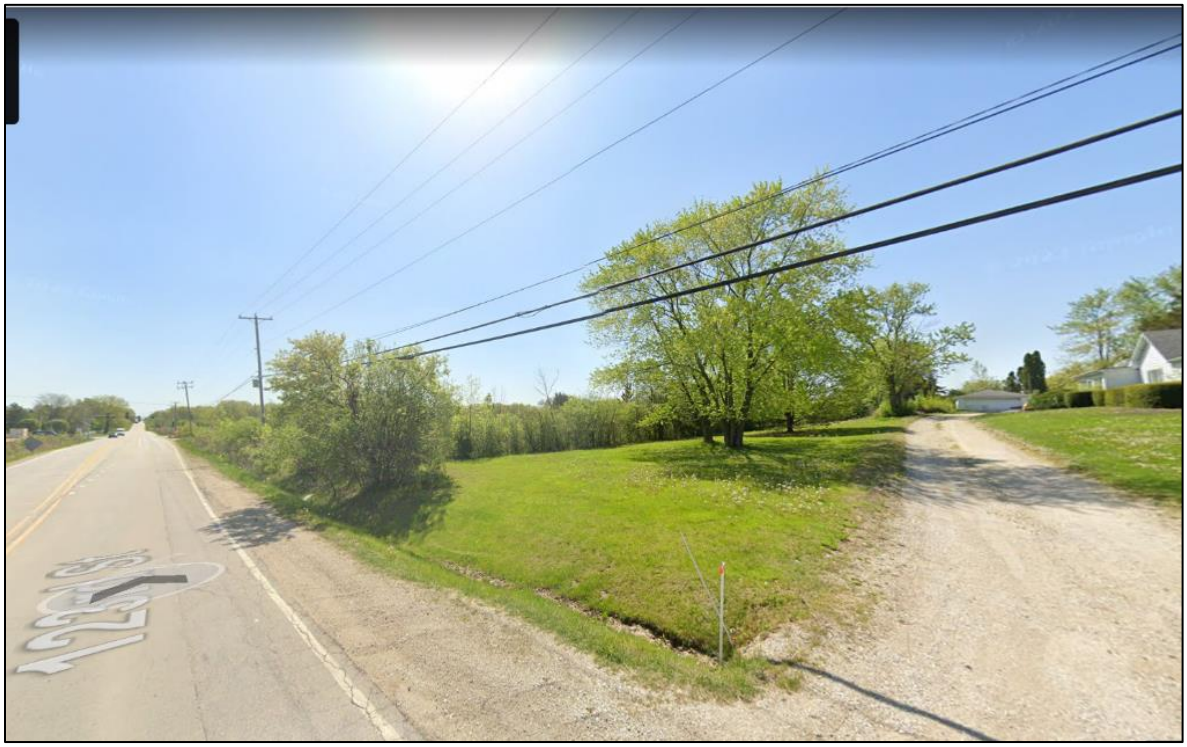


Figure 4: Looking east on McCarthy Road. Approximate location of where right-in/right-out begins into plaza.



Figure 5: Headed west on McCarthy Road. Equestrian Villas under construction on the right.



Figure 6: Subject property highlighted in RED.

Attachment 3

PUD Application

Village of Lemont
Community Development Department
418 Main Street Lemont, Illinois 60439
phone (630) 257-1595
fax (630) 257-1598

PUD Preliminary Plan/ Plat Application Form

APPLICANT INFORMATION

Richard Rymek
Applicant Name

R/J Rymek Co.
Company/Organization

16W475 Frontage road, Burr Ridge, IL 60527
Applicant Address

630-257-8888
Telephone & Fax

rjrymekco@cs.com
E-mail

CHECK ONE OF THE FOLLOWING:

_____ Applicant is the owner of the subject property and is the signer of this application.
_____ Applicant is the contract purchaser of the subject property.
_____ Applicant is acting on behalf of the beneficiary of a trust.
__X__ Applicant is acting on behalf of the owner.

PROPERTY INFORMATON

12300 S.Bell Road, Lemont IL 60439
Address of Subject Property/Properties

22-26-401-032
Parcel Identification Number of Subject Property/Properties

8.7 Acres Zoned B-3 Commercial/Retail
Size of Subject Property/Properties

REQUIRED DOCUMENTS

See Form 507-A, *PUD Preliminary Plan/Plat Application Checklist of Required Materials,* for items that must accompany this application.

FOR OFFICE USE ONLY

Application received on: _____ By: _____

Application deemed complete on: _____ By: _____

Current Zoning: _____

Fee Amount Enclosed: _____ Escrow Amount Enclosed: _____

APPLICATION FEE & ESCROW

Application Fee:
$500 for properties less than 10 acres, $750 for properties 10 acres or larger $500 ✓

AND

If the PUD includes a preliminary plat of subdivsion, the following fee applies (based on size of property and number of proposed and/or existing dwelling units):
< 3 acres = $300, plus $50 per existing and/or proposed dwelling unit
3 to <5 acres = $600, plus $50 per existing and/or proposed dwelling unit
5 to <10 acres = $1000, plus $50 per existing and/or proposed dwelling unit $1000
10 acres or more = $1200, plus $50 per existing and/or proposed dwelling unit

Fee is non-refundable.

X **Required Escrow = $2,000** $2000

At the time of application, the applicant shall submit a check for the establishment of an escrow account. The escrow money shall be used to defray costs of public notice, consultants, or other direct costs incurred by the Village in association with the PUD preliminary plan/plat application. After completion of the review process, any unused portion of the escrow account will be refunded upon request. ✓ $3000

AFFIRMATION

I hereby affirm that I have full legal capacity to authorize the filing of this application and that all information and exhibits herewith submitted are true and correct to the best of my knowledge. I permit Village representatives to make all reasonable inspections and investigations of the subject property during the period of processing of this application. I understand that as part of this application I am required to establish an escrow account to pay for direct costs associated with the approval of this application, such as the fulfillment of public notice requirements, removal of the public notice sign, taking of minutes at the public hearing and fees for consultants hired by the Village to evaluate this application. I understand that the submitted fee is non-refundable and that any escrow amount leftover upon project completion will be refunded upon request.

Richard Rymek 5-15-23

Signature of Applicant Date

State County

I, the undersigned, a Notary Public in and for the aforesaid County and State, do hereby certify that RICHARD RYMEK is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and that said person signed, sealed and delivered the above petition as a free and voluntary act for the uses and purposes set forth.

Georgene Karountzos

Notary Signature

Given under my hand and notary seal this 15th day of MAY A.D. 20 23.
My commission expires this 19th day of JUNE A.D. 20 26.

OFFICIAL SEAL
GEORGENE KAROUNTZOS
Notary Public - State of Illinois
My Commission Expires 06/19/2026

Attachment 4

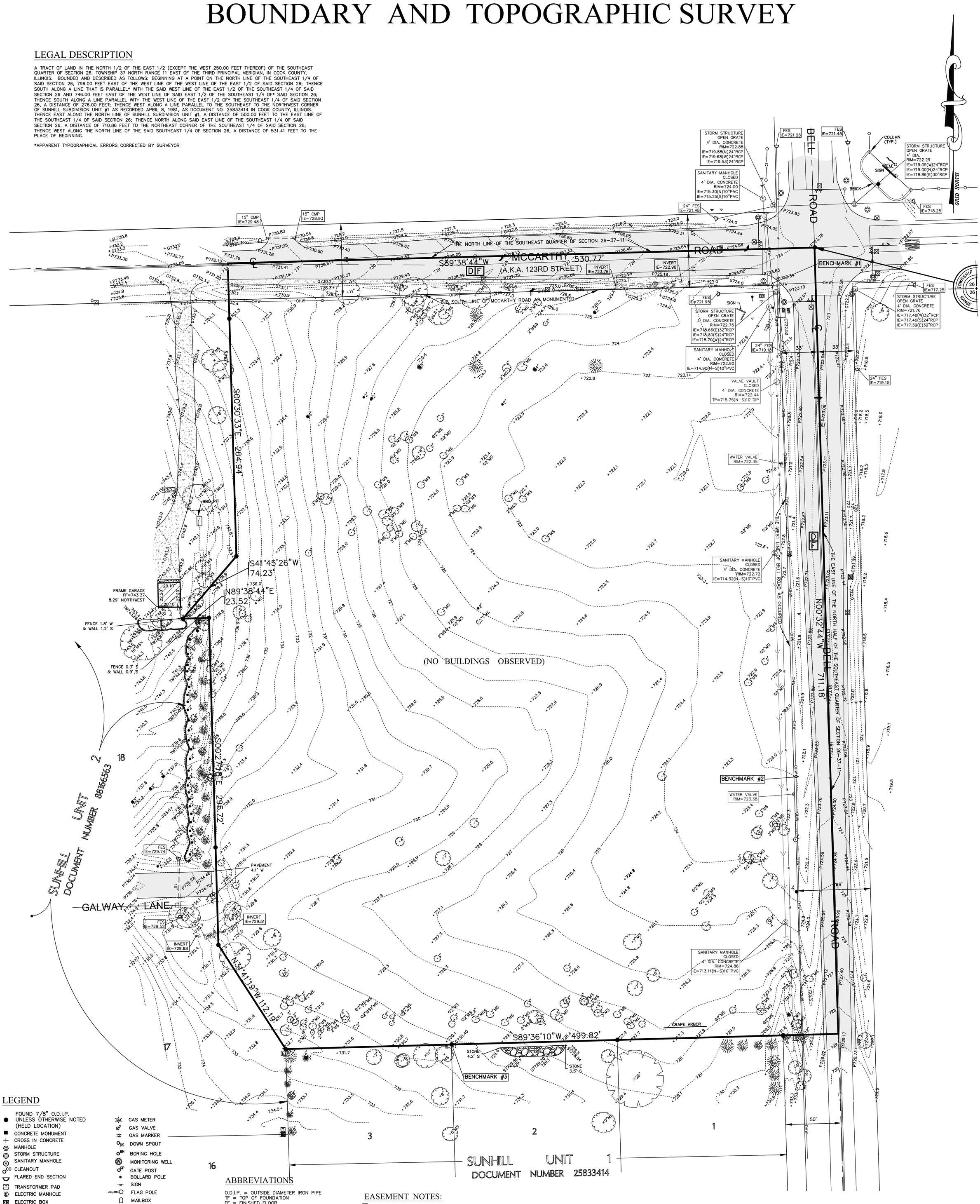
Plat of Survey

BOUNDARY AND TOPOGRAPHIC SURVEY

LEGAL DESCRIPTION

A TRACT OF LAND IN THE NORTH 1/2 OF THE EAST 1/2 (EXCEPT THE WEST 250.00 FEET THEREOF) OF THE SOUTHEAST QUARTER OF SECTION 26, TOWNSHIP 37 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS. BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTH LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 26, 796.00 FEET EAST OF THE WEST LINE OF THE WEST LINE OF THE EAST 1/2 OF SAID SECTION 26; THENCE SOUTH ALONG A LINE THAT IS PARALLEL* WITH THE SAID WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SAID SECTION 26 AND 746.00 FEET EAST OF THE WEST LINE OF SAID EAST 1/2 OF THE SOUTHEAST 1/4 OF* SAID SECTION 26; THENCE SOUTH ALONG A LINE PARALLEL WITH THE WEST LINE OF THE EAST 1/2 OF* THE SOUTHEAST 1/4 OF SAID SECTION 26, A DISTANCE OF 276.00 FEET; THENCE WEST ALONG A LINE PARALLEL TO THE SOUTHEAST TO THE NORTHWEST CORNER OF SUNHILL SUBDIVISION UNIT #1 AS RECORDED APRIL 8, 1981, AS DOCUMENT NO. 25833414 IN COOK COUNTY, ILLINOIS. THENCE EAST ALONG THE NORTH LINE OF SUNHILL SUBDIVISION UNIT #1, A DISTANCE OF 500.00 FEET TO THE EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 26; THENCE NORTH ALONG SAID EAST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 26. A DISTANCE OF 710.86 FEET TO THE NORTHEAST CORNER OF THE SOUTHEAST 1/4 OF SAID SECTION 26, THENCE WEST ALONG THE NORTH LINE OF THE SAID SOUTHEAST 1/4 OF SECTION 26, A DISTANCE OF 531.41 FEET TO THE PLACE OF BEGINNING.

*APPARENT TYPOGRAPHICAL ERRORS CORRECTED BY SURVEYOR



LEGEND

- FOUND 7/8" O.D.I.P. UNLESS OTHERWISE NOTED (HELD LOCATION)
- CONCRETE MONUMENT
- CROSS IN CONCRETE
- MANHOLE
- STORM STRUCTURE
- SANITARY MANHOLE
- CLEANOUT
- FLARED END SECTION
- TRANSFORMER PAD
- ELECTRIC MANHOLE
- ELECTRIC BOX
- ELECTRIC PEDESTAL
- ELECTRIC MARKER
- ELECTRIC METER
- UTILITY POLE
- UTILITY POLE W/LIGHT
- UTILITY POLE W/TSF
- GUY POLE
- OVERHEAD TRAFFIC SIGNAL
- TRAFFIC SIGNAL MANHOLE
- LIGHT
- LIGHT POLE
- HAND HOLE
- VALVE VAULT
- FIRE HYDRANT
- IRRIGATION CONTROL VALVE
- POST INDICATOR VALVE
- SIAMESE WATER CONNECTION
- WATER MARKER
- WATER METER
- VALVE BOX
- B/BOX
- SPRINKLER CONTROL VALVE
- TELEPHONE MANHOLE
- TELEPHONE NETWORK INTERFACE
- TELEPHONE MARKER
- TELEPHONE PEDESTAL
- CABLE TELEVISION PEDESTAL
- CONTROL BOX
- WETLAND FLAG
- GAS METER
- GAS VALVE
- GAS MARKER
- DOWN SPOUT
- BORING HOLE
- MONITORING WELL
- GATE POST
- BOLLARD POLE
- SIGN
- FLAG POLE
- MAILBOX
- SANITARY SEWER (FLOW) — SAN —
- STORM SEWER — STM —
- WATER MAIN
- GAS MAIN
- ELECTRIC LINE
- OVERHEAD WIRES
- TELEPHONE LINE
- CONIFEROUS TREE W/APPROX. DIAMETER
- DECIDUOUS TREE W/APPROX. DIAMETER MS=MULTI-STEM (DRIP LINE SHOWN IS APPROXIMATE)
- TREE LINE
- + ELEVATION
- BITUMINOUS PAVEMENT
- CONCRETE SURFACE
- DEPRESSED CURB
- GRAVEL SURFACE
- LANDSCAPE AREA
- STONE SURFACE
- DETECTABLE TACTILE WARNING SURFACE
- BRICK PAVERS
- WOOD FENCE
- CHAIN LINK FENCE
- METAL FENCE
- METAL GUARDRAIL
- OVERHEAD TRAFFIC ARM

ABBREVIATIONS

O.D.I.P. = OUTSIDE DIAMETER IRON PIPE
TF = TOP OF FOUNDATION
FF = FINISHED FLOOR
FES = FLARED END SECTION
VCP = VITRIFIED CLAY PIPE
DIP = DUCTILE IRON PIPE
PVC = POLYVINYL CHLORIDE
RCP = REINFORCED CONCRETE PIPE
CMP = CORRUGATED METAL PIPE
(R) = RECORD BEARING OR DISTANCE
(M) = MEASURED BEARING OR DISTANCE
(C) = CALCULATED BEARING OR DISTANCE
(D) = DEED BEARING OR DISTANCE
N = NORTH
S = SOUTH
E = EAST
W = WEST
A = ARC LENGTH
R = RADIUS
CH = CHORD
CB = CHORD BEARING
B.S.L. = BUILDING SETBACK LINE
U.E. = UTILITY EASEMENT
D.E. = DRAINAGE EASEMENT
P.U.E. = PUBLIC UTILITY EASEMENT
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
P.U. & D.E. = PUBLIC UTILITY AND DRAINAGE EASEMENT
BC = BACK OF CURB
BDC = BACK OF DEPRESSED
FL = FLOW LINE
C = CONCRETE
P = PAVEMENT
G = GRAVEL
EW = EDGE OF WALK
TW = TOP OF WALL
TP = TOP OF PIPE
IE = INVERT ELEVATION
PL = PROPERTY LINE
DS = DOWN SPOUT
S.F. = SQUARE FEET
SL = SHORE LINE
TSF = TRANSFORMER
B = PAVERS

EASEMENT NOTES:

[D] RIGHTS OF THE PUBLIC, THE STATE OF ILLINOIS AND THE MUNICIPALITY IN AND TO THAT PART OF THE LAND FALLING IN ROADS AND HIGHWAYS.

(AFFECTS THE NORTH LINE, MC CARTHY ROAD AND THE EAST LINE, BELL ROAD).

[E] GRANT RECORDED FEBRUARY 14, 1964 AS DOCUMENT 19048159 BETWEEN THE COMMONWEALTH EDISON COMPANY AND NORTHERN ILLINOIS GAS COMPANY TO INSTALL, CONSTRUCT, RECONSTRUCT, OPERATE, MAINTAIN, ALTER, REPAIR AND REPLACE AND REMOVE UNDERGROUND GAS MAIN IN, UNDER, ALONG AND THROUGH LAND.

[F] EASEMENT IN, UPON, UNDER, OVER AND ALONG AN UNSPECIFIED PORTION OF THE LAND TO INSTALL AND MAINTAIN ALL EQUIPMENT FOR THE PURPOSE OF SERVING THE LAND AND OTHER PROPERTY WITH TELEPHONE SERVICE, TOGETHER WITH RIGHT OF ACCESS TO SAID EQUIPMENT, AS CREATED BY GRANT TO ILLINOIS BELL TELEPHONE COMPANY, RECORDED SEPTEMBER 8, 1977 AS DOCUMENT 24095982.

(AFFECTS THAT PART FALLING WITHIN THE CONFINES OF MC CARTHY ROAD).

FLOOD STATEMENT

THIS SITE FALLS WITHIN "OTHER AREAS: ZONE X" (AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN) AS DEFINED BY THE FLOOD INSURANCE RATE MAP, MAP NUMBER 17031C0591 F, HAVING AN EFFECTIVE DATE OF NOVEMBER 6, 2000.

LINE LEGEND

- LIMITS OF LAND PER LEGAL DESCRIPTION
- ADJACENT LAND
- PARCEL LINE
- EASEMENT LINE
- CENTERLINE
- BUILDING SETBACK LINE
- SECTION LINE
- EXISTING CONTOUR

AREA SUMMARY

(TO HEAVY LINES)
386,733 SQUARE FEET
OR
8.878 ACRES
(BASED ON MEASURED VALUES)

BENCHMARKS

REFERENCE BENCHMARK:
NATIONAL GEODETIC SURVEY MONUMENT DN4686

FLANGE ENCASED ROD LOCATED 33 FEET EAST OF THE CENTERLINE OF BELL ROAD AND 27 FEET NORTH OF THE CENTERLINE OF HORSESHOE LANE

DATUM: NAVD 88
ELEVATION = 713.39

SITE BENCHMARKS:

SITE BENCHMARK #1
SPIKE IN THE NORTH FACE OF UTILITY POLE LOCATED AT THE SOUTHWEST CORNER OF MCCARTHY ROAD AND BELL ROAD.

ELEVATION = 724.86

SITE BENCHMARK #2
SPIKE IN THE SOUTH FACE OF THE FOURTH UTILITY POLE SOUTH OF THE INTERSECTION OF MCCARTHY ROAD AND BELL ROAD. (WEST SIDE OF BELL ROAD)

ELEVATION = 724.60

SITE BENCHMARK #3
SQUARE CUT IN THE NORTHWEST CORNER OF TRANSFORMER PAD LOCATED AT THE SOUTH LINE OF SUBJECT PROPERTY.

ELEVATION = 730.86

CERTIFICATION

STATE OF ILLINOIS)
COUNTY OF KANE) SS

THE ABOVE DESCRIBED PROPERTY WAS SURVEYED UNDER THE DIRECTION OF AN ILLINOIS PROFESSIONAL LAND SURVEYOR ON _____. ALL DISTANCES SHOWN ARE IN FEET AND DECIMAL PARTS THEREOF.

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR TOPOGRAPHIC SURVEYS.

COMPASS SURVEYING LTD
PROFESSIONAL DESIGN FIRM
LAND SURVEYOR CORPORATION NO. 184.002778
LICENSE EXPIRES 4/30/2023

BY: _____ DATE: _____

ILLINOIS PROFESSIONAL LAND SURVEYOR NO. _____
LICENSE EXPIRES 11/30/2022

NOTE: HEAVY BOUNDARY LINES DEPICT WRITTEN TITLE, OR DEED LINES – BUILDING AND EASEMENT LINES SHOWN PER RECORDED SUBDIVISION PLAT. REFER TO TITLE POLICY FOR SUBSEQUENT RESTRICTIONS.

J:\PSDATA\2021 PROJECTS\21.0269\21.0269 BNDY TOPO.DWG

PROJ. NO.: 21.0269 | 1 OF 1 | SCALE: 1" = XX'

COMPASS SURVEYING LTD
ALTA SURVEYS ● TOPOGRAPHY ● CONSTRUCTION STAKING
2631 GINGER WOODS PARKWAY, STE. 100
AURORA, IL 60502
PHONE: (630) 820-9100 FAX: (630) 820-7030 EMAIL: ADMIN@CLSURVEYING.COM

PROJECT
12300 BELL
LEMONT, IL

CLIENT
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET, SUITE 17
LEMONT, IL 60439

DATE: 10/11/21 | PC CS | DRAWN BY MRA | CHECKED BY SK | BOOK 599 PG 47-48

NO.	REVISIONS	DATE	BY

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM VISIBLE FIELD EVIDENCE AND EXISTING DRAWINGS, MAPS AND RECORDS SUPPLIED TO SURVEYOR. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION. THE SURVEYOR HAS PHYSICALLY LOCATED VISIBLE STRUCTURES; HOWEVER, HE HAS NOT PHYSICALLY LOCATED THE UNDERGROUND LINES.

811 Know what's below. Call before you dig.

J:\Psdata\2021 Projects\21.0269\21.0269 BNDY TOPO.dwg, 10/21/2021 10:24:16 AM

Attachment 5

Preliminary Engineering Plans

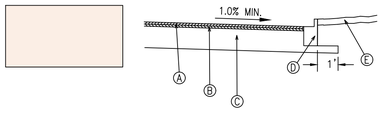
NOT FOR CONSTRUCTION

PRELIMINARY ENGINEERING PLANS

FOR

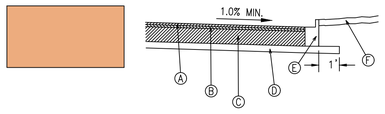
SUNHILL PLAZA

123RD STREET AND BELL ROAD
LEMONT, ILLINOIS



A 2" BITUMINOUS CONCRETE SURFACE COURSE, HOT MIX ASPHALT, MIX. C, N50
B 3" BITUMINOUS CONCRETE BINDER COURSE, HOT MIX ASPHALT, IL19, N50
C 10" CA-6 (GRADE B) COMPACTED GRAVEL SUB BASE
D CONC. CURB & GUTTER, TYPE B-6.12 WITH 4" CA-6 GRAVEL SUB-BASE
E 6" TOP SOIL AND SEEDING W/BLANKET

ASPHALT PAVEMENT SECTION - PARKING PAVEMENT



A 1.5" BITUMINOUS CONCRETE SURFACE COURSE, HOT MIX ASPHALT, MIX. C, N70
B 1.5" BITUMINOUS CONCRETE BINDER COURSE, HOT MIX ASPHALT, IL19, N70
C 9" BITUMINOUS CONCRETE BASE COURSE, HOT MIX ASPHALT, N70
D 4" CA-6 (GRADE B) COMPACTED GRAVEL SUB BASE
E CONC. CURB, TYPE B, 6" WITH 4" CA-6 GRAVEL SUB-BASE
F 6" TOP SOIL AND SEEDING W/BLANKET

ASPHALT PAVEMENT SECTION - PAVEMENT WITHIN ROW

SITE DATA TABLE		
ACREAGE AND/OR SQUARE FOOTAGE OF SUBJECT SITE	335,024	S.F.
	7.69	ACRES
SQUARE FOOTAGE OF COMMERCIAL SPACE	46,885	S.F.
TOTAL SQUARE FOOTAGE COVERED BY STRUCTURES	46,885	S.F.
TOTAL SQUARE FOOTAGE COVERED BY ROADS AND OTHER IMPERVIOUS SURFACES	165,793	S.F.
TOTAL SQUARE FOOTAGE OF COMMONLY OWNED AND MAINTAINED OPEN SPACE	55,629	S.F.
NUMBER OF OFF-STREET PARKING SPACES	321	
TOTAL PARKING BETWEEN FRONT FAÇADE & STREET	138	
PERCENTAGE OF PARKING BETWEEN FRONT FAÇADE & STREET	42.99%	

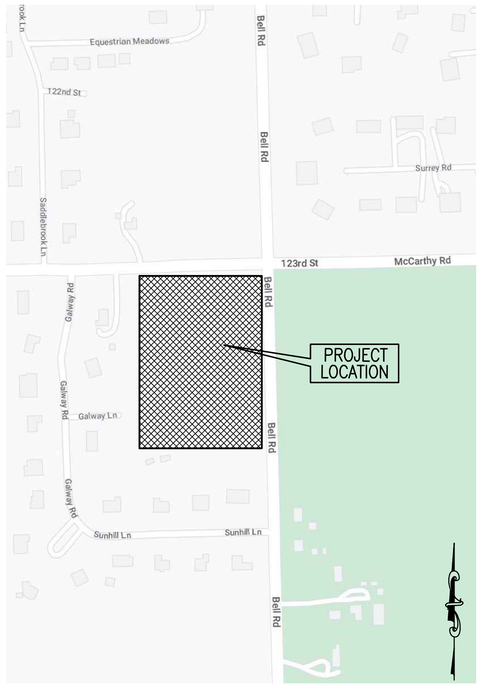
GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS AND STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS AND THE SUBDIVISION ORDINANCES FOR THE VILLAGE OF LEMONT.
2. ALL SANITARY SEWERS SHALL BE PVC PIPE, TYPICALLY ASTM D-3034, SDR 26, 8" DIAMETER, UNLESS NOTED OTHERWISE.
3. ALL STORM SEWERS SHALL BE REINFORCED CONCRETE PIPE ASTM C-76, SIZES TO BE DETERMINED AT TIME OF FINAL ENGINEERING.
4. ALL WATER MAIN TO BE DUCTILE IRON PIPE, CLASS 52. SIZE TO BE 8" DIAMETER UNLESS NOTED OTHERWISE. DEPTH 5'-6" FROM FINISHED SURFACE ELEVATION.
5. A MINIMUM HORIZONTAL DISTANCE OF TEN FEET SHALL BE MAINTAINED BETWEEN ALL WATER MAINS AND STORM/SANITARY SEWERS & STRUCTURES.
6. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND ARE TO BE VERIFIED PRIOR TO FINAL ENGINEERING AND SHOULD BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
7. PROPOSED ELEVATIONS AND GRADING, PROPOSED UTILITY SIZES AND LOCATIONS, AS WELL AS PROPOSED SECTIONS AND DETAILS SHOWN HEREIN ARE SCHEMATIC AND PRELIMINARY IN NATURE AND ARE SUBJECT TO REVISION AT THE TIME OF FINAL ENGINEERING.
8. APPROPRIATE EASEMENTS FOR ALL UTILITIES WILL BE PROVIDED AT THE TIME OF FINAL ENGINEERING AND SHALL BE REFLECTED ON THE PLAT.
9. UTILITY EASEMENTS FOR SEWERS AND WATER MAIN OUTSIDE OF PUBLIC R.O.W. ARE TO BE PROVIDED AS WELL AS STORM WATER MANAGEMENT EASEMENTS FOR STORM WATER MANAGEMENT FACILITIES.
10. ALL SIDEWALKS ARE TO BE CONCRETE AND HAVE RAMPS AT INTERSECTIONS WITH CURBS TO MEET THE MOST RESTRICTIVE ADA CODE REQUIREMENTS.

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	STORM SEWER	
8W	WATER MAIN WITH SIZE	W
	SANITARY SEWER	
	RIGHT-OF-WAY	
42	CONTOUR	701
+43.2	SPOT GRADE	+701.30
	SANITARY MANHOLE	
	STORM MANHOLE	
	STORM INLET	
	STORM CATCH BASIN	
	FIRE HYDRANT	
	BUFFALO BOX	
	GATE VALVE W/VAULT	
	STREET LIGHT	
	STREET LIGHT W/MAST	
	OVERFLOW DIRECTION	
	CURB	
	SILT FENCE	
	FENCE	
	CONSTRUCTION FENCE	
	ROAD SIGN	
E	ELECTRIC	E
G	GAS	G
	UTILITY POLE	
DS	DOWNSPOUT (TO UNDERGROUND)	DS
DS	DOWNSPOUT	DS
	DEPRESSED CURB FOR RAMP/DRIVEWAY	
TF	TOP OF FOUNDATION	
TD	TOP OF CURB, DEPRESSED	
TW, BW	TOP WALL, BOTTOM OF WALL	
R=	RIM FOR STRUCTURES	
R	RISER FOR SANITARY SERVICE	
HWL/NWL	HIGH/NORMAL WATER LEVEL	

LOCATION MAP



N.T.S.

INDEX

SHEET #	SHEET I.D.	SHEET DESCRIPTION
1	C1	COVER SHEET
2	L1	PRELIMINARY SITE PLAN
3	G1	PRELIMINARY GRADING AND DRAINAGE PLAN
4	U1	PRELIMINARY SANITARY AND WATER MAIN PLAN

REVISIONS

ORIGINAL PLAN DATE: MARCH 20, 2023

#	SHEET #	REMARKS	DATE

ENGINEER
WILLIAM J ZALENSKI, P.E.
BILL@ACENG.US

ILLINOIS REGISTRATION NO.: 062-046121
EXPIRATION DATE: 11/30/2023

PROFESSIONAL DESIGN FIRM NO.: 184-007386
EXPIRATION DATE: 4/30/2023

THESE PLANS OR ANY PART THEREOF SHALL BE CONSIDERED VOID WITHOUT THE SIGNATURE , SEAL, AND EXPIRATION DATE OF SEAL OF THE ENGINEER

03/20/2023
DATE

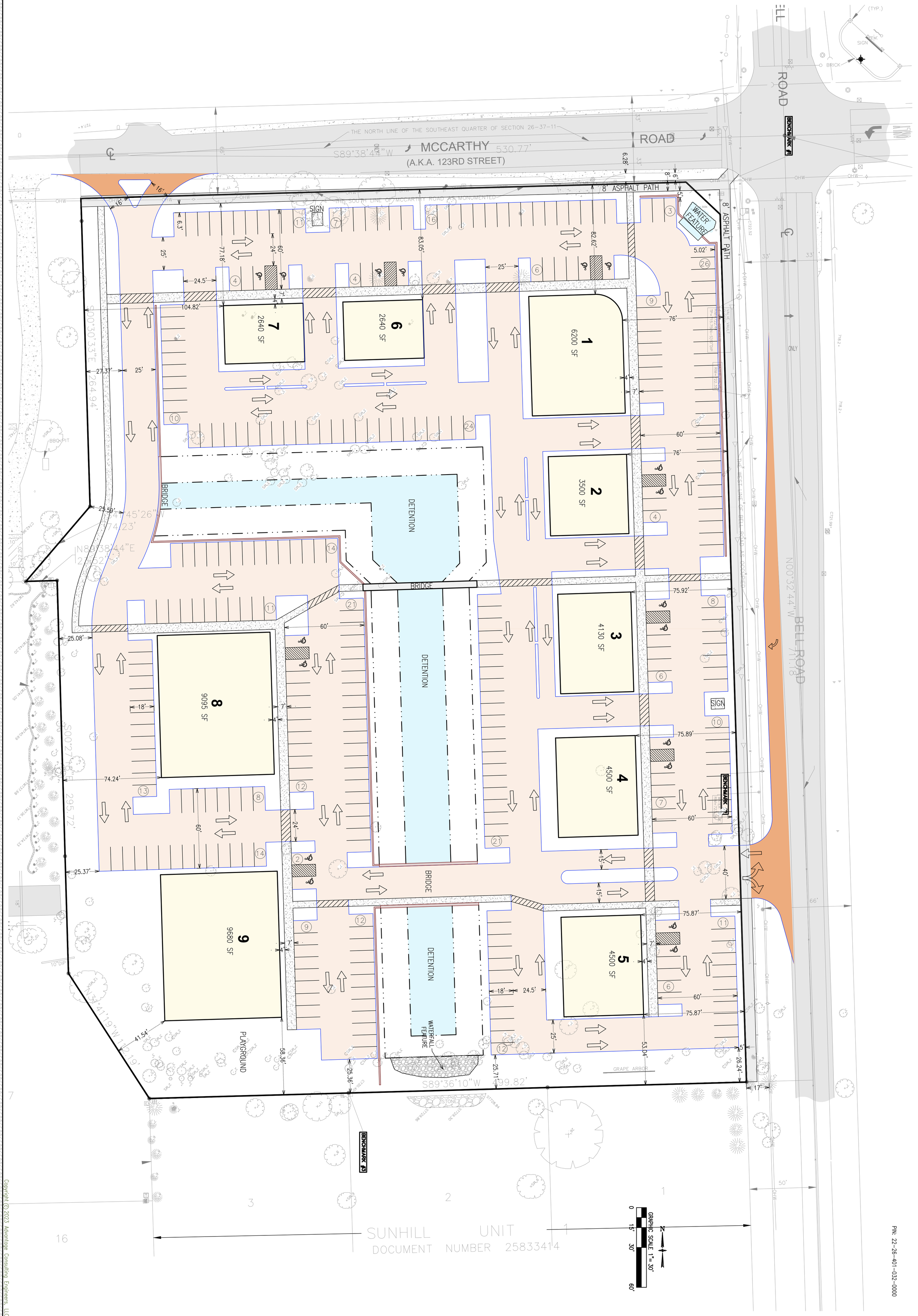
WILLIAM J. ZALENSKI
062-46121
REGISTERED
PROFESSIONAL
ENGINEER OF ILLINOIS

ACE

21-065
SUNHILL
MAR 20, 2023

ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439
847-260-4758 www.aceng.us

Copyright © 2020 Advantage Consulting Engineers, LLC



Copyright © 2023 Advantage Consulting Engineers, LLC

SHEET: L1 2 OF 4	JOB: 21-065	MARCH 20, 2023	R/J RYMEK CO. 16 W 475 FRONTAGE ROAD BURR RIDGE, IL	PRELIMINARY SITE PLAN SUNHILL PLAZA 123RD STREET & BELL ROAD LEMONT, IL	ADVANTAGE CONSULTING ENGINEERS 80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439 630-520-2467 www.aceng.us

NO.	DATE	REMARKS

PIN: 22-26-401-032-0000

BENCHMARK #1

BENCHMARK #2

BENCHMARK #3

1
TF=726.5

2
TF=727.0

3
TF=727.0

4
TF=727.0

5
TF=727.0

6
TF=729.0

7
TF=730.0

8
TF=733.0

9
TF=600.0

GRAPHIC SCALE 1"= 30'
0 15' 30' 60'

NO.	DATE	REMARKS

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439
630-503-2467
www.aceng.us

PRELIMINARY
GRADING AND DRAINAGE PLAN

SUNHILL PLAZA
123RD STREET & BELL ROAD
LEMONT, IL

R/J RYMEK CO.
16 W 475 FRONTAGE ROAD
BURR RIDGE, IL

MARCH 20, 2023
JOB: 21-065

SHEET:
L1
3 OF 4

Copyright © 2023 Advantage Consulting Engineers, LLC

BELL ROAD

N00°32'44"W 711.18'

THE WEST LINE OF BELL ROAD AS OCCUPIED

MCCARTHY ROAD (A.K.A. 123RD STREET)

THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 26-37-11

S89°38'41"W 530.77'

S89°36'10"W 499.82'

S00°30'33"E 264.94'

S00°27'49"E 295.72'

N89°45'26"E 523.23'

N24°41'19"W 112.19'

BENCHMARK #1

BENCHMARK #2

BENCHMARK #3

1	TF=726.5
2	TF=727.0
3	TF=727.0
4	TF=727.0
5	TF=727.0
6	TF=729.0
7	TF=730.0
8	TF=733.0
9	TF=600.0

12W

8W

20' CASING

12"x12" PRESSURE CONNECTION

GRAPHIC SCALE 1"= 30'

0 15' 30' 60'

SUNHILL UNIT 2 DOCUMENT NUMBER 25833414

NO. | DATE | REMARKS

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439
630-503-2467
www.aceilg.us

PRELIMINARY
SANITARY AND WATER MAIN PLAN

SUNHILL PLAZA
123RD STREET & BELL ROAD
LEMONT, IL

R/J RYMEK CO.
16 W 475 FRONTAGE ROAD
BURR RIDGE, IL

MARCH 20, 2023
JOB: 21-065

SHEET:
U1
4 OF 4

Copyright © 2023 Advantage Consulting Engineers, LLC

Attachment 6

Preliminary Landscaping Plans

Preliminary Landscape Plan

SunHill Plaza

12300 Bell Road, Lemont, IL

March 20, 2023

CONSULTANTS:

LANDSCAPE ARCHITECT:

GARY R. WEBER ASSOCIATES, INC
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187

CIVIL ENGINEER:

ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET, SUITE 17
LEMONT, ILLINOIS 60439



LOCATION MAP

SCALE: 1"=200'

INDEX OF SHEETS

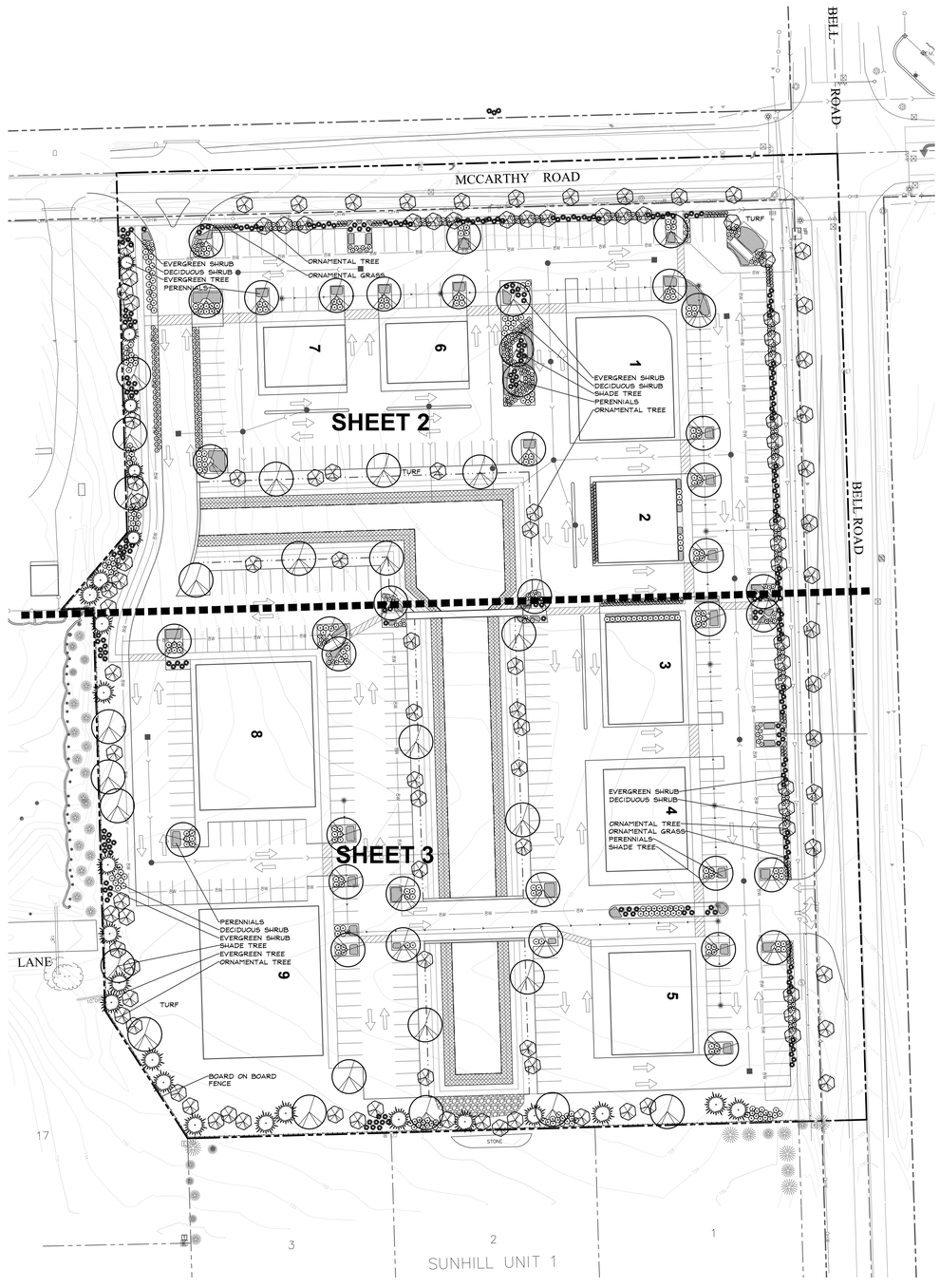
SHEET NO.	DESCRIPTION
0	COVER SHEET
1	PRELIMINARY LANDSCAPE PLAN
2	PRELIMINARY LANDSCAPE PLAN
3	PRELIMINARY LANDSCAPE PLAN
4	LANDSCAPE DETAILS

LANDSCAPE REQUIREMENT TABLE

	REQUIRED	PROVIDED
TRANSITION YARD (TO RES. UNINCORP COOK) = 1177 L.F.		
2 PLANT UNITS/100 FT.	23.54 PLANT UNITS	
95% OPAQUE WOOD FENCE	12 CANOPY	12 CANOPY
	24 EVERGREENS	24 EVERGREENS
	36 ORNAMENTALS	36 ORNAMENTALS
	142 SHRUBS/GRASSES	152 SHRUBS/GRASSES
	SOLID WOOD FENCE	SOLID WOOD FENCE
PARKING LOTS - 330 SPACES = 831 L.F.		
EXTERIOR - 3 PLANT UNITS/100 FT.	24.93 PLANT UNITS	
	13 CANOPY	
	25 EVERGREENS	
	38 ORNAMENTALS	55 ORNMENTALS
	150 SHRUBS/GRASSES	339 SHRUBS/GRASSES
INTERIOR - 1 CANOPY TREE/ISLAND	45 CANOPY TREES	45 CANOPY TREES
BELL ROAD STREET FRONTAGE = 635 L.F.		
ARTERIAL STREET	9.53 PLANT UNITS	
1.5 PLANT UNITS/100 FT.	5 CANOPY	
	10 EVERGREENS	
	15 ORNAMENTALS	15 ORNAMENTALS
	58 SHRUBS/GRASSES	
MCCARTY ROAD STREET FRONTAGE = 414 L.F.		
ARTERIAL STREET	6.21 PLANT UNITS	
1.5 PLANT UNITS/100 FT.	4 CANOPY	
	7 EVERGREENS	
	10 ORNAMENTALS	10 ORNAMENTALS
	38 SHRUBS/GRASSES	

GENERAL LANDSCAPE NOTES

1. Contractor shall verify underground utility lines and is responsible for any damage.
2. Contractor shall verify all existing conditions in the field prior to construction and shall notify landscape architect of any variance.
3. Material quantities shown are for contractors convenience only. The Contractor must verify all material and supply sufficient materials to complete the job per plan.
4. The landscape architect reserves the right to inspect plant materials either at place of growth or at site before planting, for compliance with requirements of variety, size and quality.
5. Work shall conform to American Standard for Nursery Stock, State of Illinois Horticultural Standards, and Local Municipal requirements.
6. Contractor shall secure and pay for all permits, fees, and inspections necessary for the proper execution of this work and comply with all codes applicable to this work.
7. See General Conditions and Specifications for landscape work for additional requirements.



REPRESENTATIVE PLANT LIST

Key	Botanical/Common Name	Size	Remarks
	SHADE TREES		
	Acer x freemanii 'Jeffer's Red' AUTUMN BLAZE MAPLE	2 1/2" Cal.	
	Celtis occidentalis COMMON HACKBERRY	2 1/2" Cal.	
	Gleditsia triacanthos var. inermis 'Skycole' SKYLINE HONEYLOCUST	2 1/2" Cal.	
	Quercus bicolor SWAMP WHITE OAK	2 1/2" Cal.	
	Tilia americana 'Redmond' REDMOND AMERICAN LINDEN	2 1/2" Cal.	
	Tilia cordata 'Greenspire' GREENSPIRE LITTLELEAF LINDEN	2 1/2" Cal.	
	Ulmus carpinifolia 'New Horizon' NEW HORIZON SMOOTHLEAF ELM	2 1/2" Cal.	
	ORNAMENTAL TREES		
	Amelanchier x grandiflora APPLE SERVICEBERRY	6' Ht.	Multi-Stem
	Betula nigra 'Cully' HERITAGE RIVER BIRCH	6' Ht.	Multi-Stem
	Cercis canadensis EASTERN REDBUD	6' Ht.	Multi-Stem
	Malus 'Prairifire' PRAIRIFIRE CRABAPPLE	6' Ht.	Multi-Stem
	Syringa reticulata 'Ivory Silk' IVORY SILK JAPANESE TREE LILAC	6' Ht.	Multi-Stem
	EVERGREEN TREES		
	Abies concolor WHITE FIR	8' Ht.	
	Picea abies NORWAY SPRUCE	8' Ht.	
	Picea glauca var. densata BLACK HILLS SPRUCE	8' Ht.	
	Picea omorika SERBIAN SPRUCE	8' Ht.	
	Pinus strobus EASTERN WHITE PINE	8' Ht.	
	DECIDUOUS SHRUBS		
	Cornus sericea 'Baileyi' BAILEY'S REDTWIG DOGWOOD	36" Tall	5' O.C.
	Hydrangea paniculata 'SMHPLQF' LITTLE QUICK FIRE HYDRANGEA	24" Tall	3' O.C.
	Physocarpus opulifolius 'Seward' SUMMER WINE NINEBARK	30" Tall	4' O.C.
	Rhus aromatica 'Gro-low' GRO-LOW SUMAC	24" Wide	4' O.C.
	Syringa meyeri 'Palabin' DWARF KOREAN LILAC	24" Tall	4' O.C.
	Viburnum x juddii JUDD VIBURNUM	36" Tall	4' O.C.
	Weigela florida 'Bramwell' FINE WINE WEIGELA	24" Tall	3' O.C.
	EVERGREEN SHRUBS		
	Juniperus chinensis 'Kallays Compact' KALLAYS COMPACT PFITZER JUNIPER	24" Wide	4' O.C.
	Juniperus chinensis 'Sea Green' SEA GREEN JUNIPER	30" Wide	5' O.C.
	Taxus x media 'Densiformis' DENSE YEW	24" Wide	4' O.C.
	PERENNIALS AND ORNAMENTAL GRASSES		
	Allium 'Summer Beauty' SUMMER BEAUTY ONION	#1	18" O.C.
	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#1	30" O.C.
	Echinacea 'CBG Cone 2' PIXIE MEADOWBRITE CONEFLOWER	#1	18" O.C.
	Hemerocallis 'Happy Returns' HAPPY RETURNS DAYLILY	#1	18" O.C.
	Nepeta racemosa 'Walker's Low' WALKER'S LOW CATMINT	#1	18" O.C.
	Panicum virgatum 'Heavy Metal' HEAVY METAL SWITCHGRASS	#1	24" O.C.
	Perovskia atriplicifolia RUSSIAN SAGE	#1	24" O.C.
	Schizachyrium scoparium 'Twilight Zone' TWILIGHT LITTLE BLUESTEM	#1	24" O.C.
	Sporobolus heterolepis PRAIRIE DROPSEED	#1	24" O.C.
	GROUNDCOVERS		
	Liriope spicata CREEPING LILYTURF	#SP4	18" O.C.
	Vinca minor 'Dart's Blue' DART'S BLUE PERIWINKLE	#SP4	12" O.C.

LEGEND

Key	Description
	WET MEADOW SEED MIX & EROSION CONTROL BLANKET

GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

ENGINEER
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT, IL 60439

SUNHILL PLAZA

12300 BELL ROAD, LEMONT, ILLINOIS

PRELIMINARY LANDSCAPE PLAN

REVISIONS

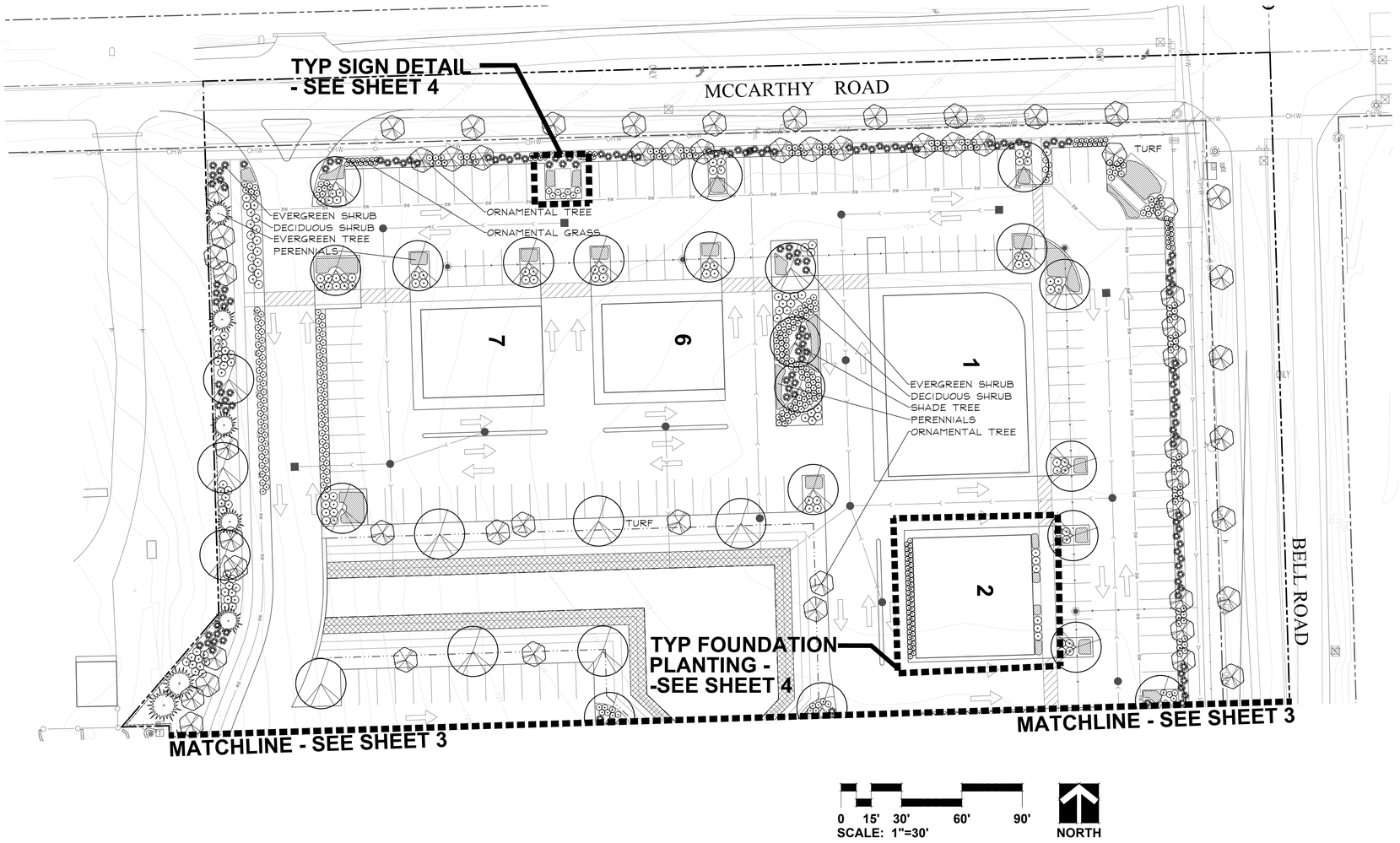
DATE	3.20.2023
PROJECT NO.	AC23121
DRAWN	MNW
CHECKED	DHS
SHEET NO.	

1 OF 4

Know what's below. Call before you dig.

XREFS

PLOT CONFIG



GARY R. WEBER
ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

ENGINEER
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT, IL 60439

SUNHILL PLAZA

12300 BELL ROAD, LEMONT, ILLINOIS

PRELIMINARY LANDSCAPE PLAN

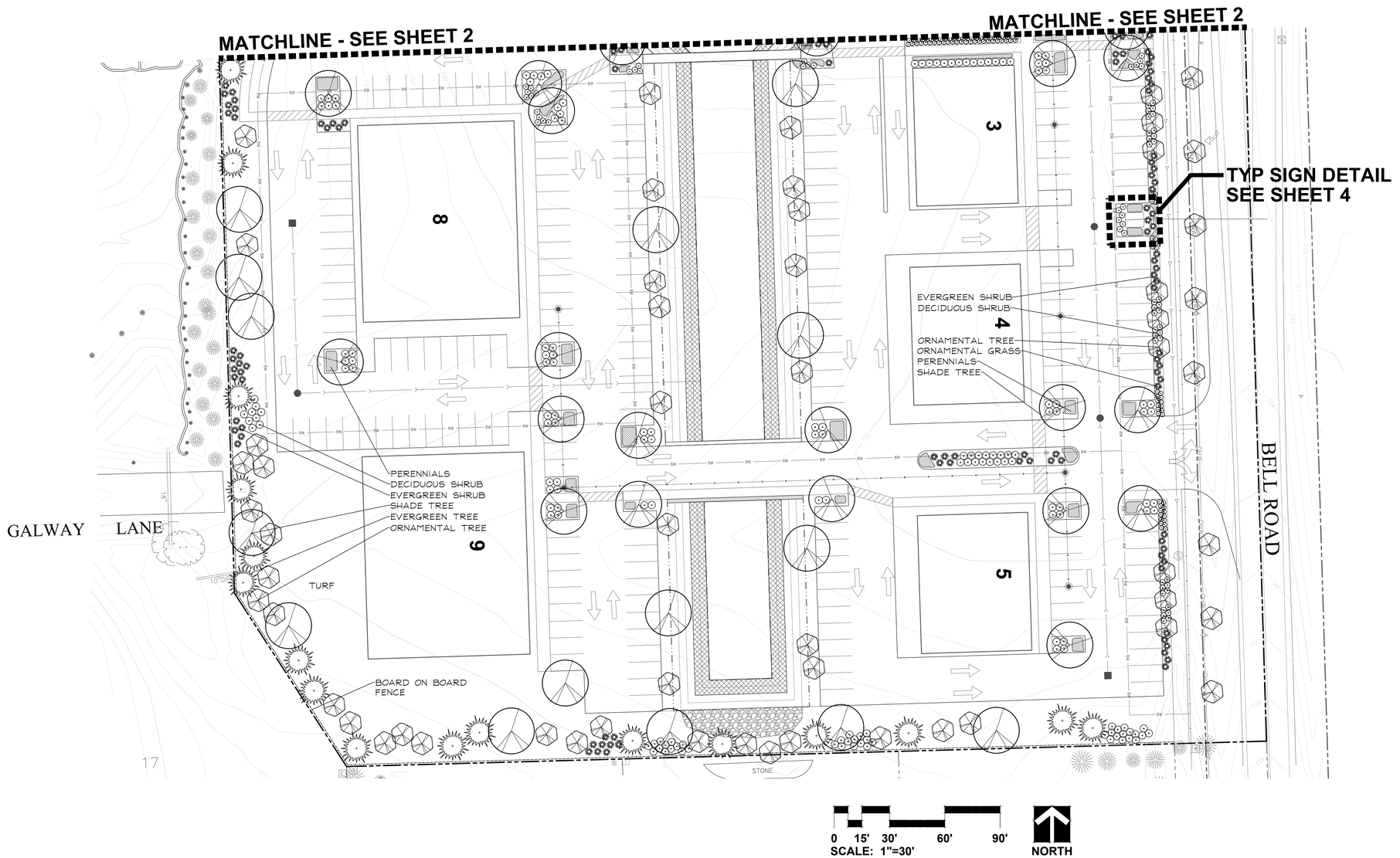
REVISIONS

DATE	3.20.2023
PROJECT NO.	AC23121
DRAWN	MNW
CHECKED	DHS
SHEET NO.	2 OF 4

Know what's below. Call before you dig.

XREFS

PLOT CONFIG



GARY R. WEBER
ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

ENGINEER
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT, IL 60439

SUNHILL PLAZA

12300 BELL ROAD, LEMONT, ILLINOIS

PRELIMINARY LANDSCAPE PLAN

REVISIONS

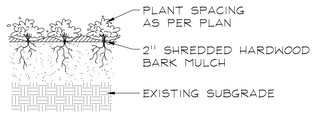
DATE	3.20.2023
PROJECT NO.	AC23121
DRAWN	MNW
CHECKED	DHS
SHEET NO.	**3 OF 4**

Know what's below. Call before you dig.

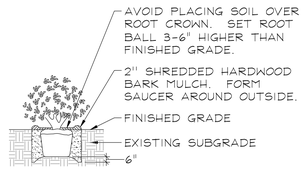
XREFS

PLOT CONFIG

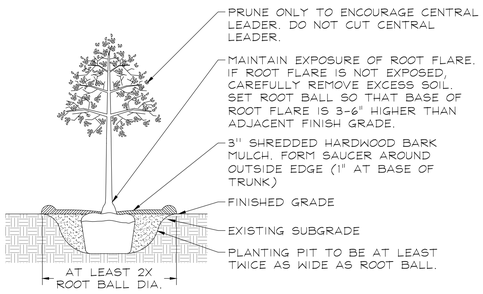
PLANTING DETAILS



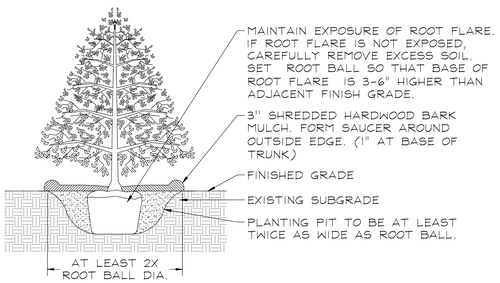
PERENNIALS AND GROUNDCOVERS
NOT TO SCALE



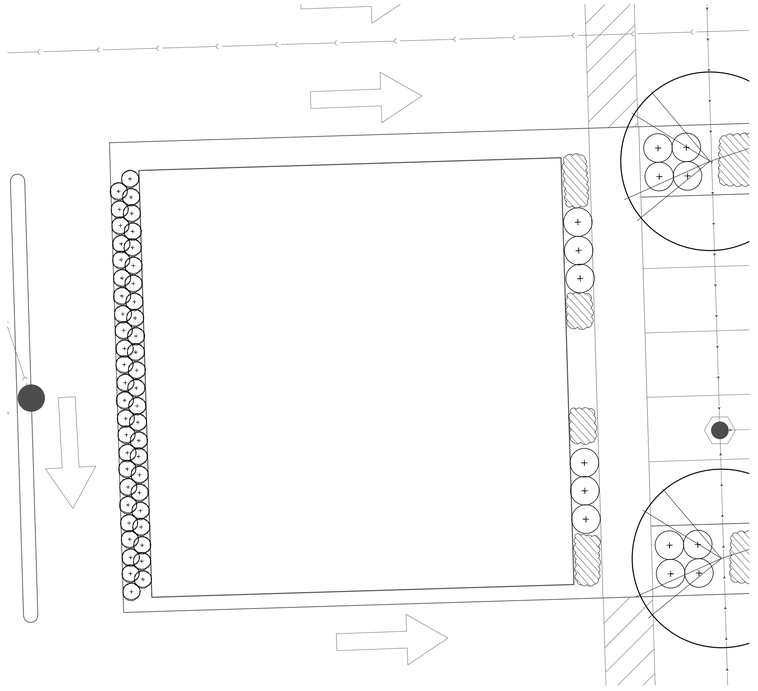
DECIDUOUS AND EVERGREEN SHRUBS
NOT TO SCALE



DECIDUOUS TREES
NOT TO SCALE



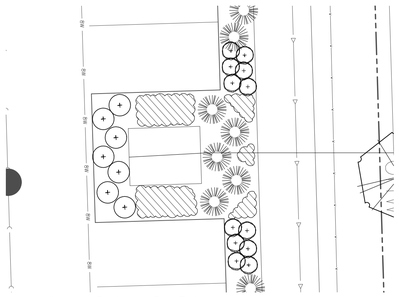
EVERGREEN TREES
NOT TO SCALE



TYPICAL FOUNDATION LANDSCAPE

0 5' 10' 20' 30'
SCALE: 1"=10'

NORTH



TYPICAL SIGN LANDSCAPE DETAIL

0 5' 10' 20' 30'
SCALE: 1"=10'

NORTH

GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING
ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE
402 W. LIBERTY DRIVE
WHEATON, ILLINOIS 60187
PHONE: 630-668-7197
www.grwainc.com

ENGINEER
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET
LEMONT, IL 60439

SUNHILL PLAZA

12300 BELL ROAD, LEMONT, ILLINOIS

LANDSCAPE DETAILS

REVISIONS

DATE	3.20.2023
PROJECT NO.	AC23121
DRAWN	MNW
CHECKED	DHS
SHEET NO.	

4 OF 4

Know what's below. Call before you dig.

XREFS
PLOT CONFIG

Attachment 7

Conceptual Renderings



SUNHILL PLAZA, LEMONT

PERSPECTIVE VIEW #1

LINDENGROUP
ARCHITECTS
10100 ORLAND PARKWAY
STE 110, ORLAND PARK, IL
708-799-4400

RJ RYMEK COMPANY
16W475 SO. FRONTAGE ROAD
BURR RIDGE, IL
630-257-8888

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET
LEMONT
630-520-2467

SUNHILL PLAZA, LEMONT

PERSPECTIVE VIEW #2

LINDENGROUP
ARCHITECTS
10100 ORLAND PARKWAY
STE 110, ORLAND PARK, IL
708-799-4400

RJ RYMEK COMPANY
16W475 SO. FRONTAGE ROAD
BURR RIDGE, IL
630-257-8888

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET
LEMONT
630-520-2467



SUNHILL PLAZA, LEMONT

PERSPECTIVE VIEW #3

LINDENGROUP
ARCHITECTS
10100 ORLAND PARKWAY
STE 110, ORLAND PARK, IL
708-799-4400

RJ RYMEK COMPANY
16W475 SO. FRONTAGE ROAD
BURR RIDGE, IL
630-257-8888

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET
LEMONT
630-520-2467

SUNHILL PLAZA, LEMONT

PERSPECTIVE VIEW #4

LINDENGROUP
ARCHITECTS
10100 ORLAND PARKWAY
STE 110, ORLAND PARK, IL
708-799-4400

RJ RYMEK COMPANY
16W475 SO. FRONTAGE ROAD
BURR RIDGE, IL
630-257-8888

ADVANTAGE
CONSULTING ENGINEERS
80 MAIN STREET
LEMONT
630-520-2467

Attachment 8

Annexation Agreement O-77-10

ORDINANCE NO. O-77-10

AN ORDINANCE AUTHORIZING THE EXECUTION OF AN ANNEXATION AGREEMENT FOR APPROXIMATELY 22.67 ACRES OF LAND AT THE NORTHWEST CORNER OF THE INTERSECTION OF McCARTHY ROAD & BELL ROAD IN LEMONT, IL

(R/J Rymek & Co.)

ADOPTED BY THE
PRESIDENT AND BOARD OF TRUSTEES
OF THE VILLAGE OF LEMONT

THIS 25th DAY OF OCTOBER, 2010

Published in pamphlet form by
authority of the President and
Board of Trustees of the Village
of Lemont, Cook, DuPage, and Will
Counties, Illinois this 25th
day of October, 2010.

ORDINANCE NO. 0-7710

AN ORDINANCE AUTHORIZING THE EXECUTION OF AN ANNEXATION AGREEMENT FOR APPROXIMATELY 22.67 ACRES OF LAND AT THE NORTHWEST CORNER OF THE INTERSECTION OF McCARTHY ROAD & BELL ROAD IN LEMONT, IL

(R/J Rymek & Co.)

WHEREAS, Finnegan Construction Company, as sole beneficiary under Land Trust No. 00-2238 dated November 20, 2000, and Cynthia and Gino Martin, as beneficiaries under Land Trust No. 12402 dated 1-9-1990 (hereinafter referred to as the "Petitioner") are the owners of property covering approximately 22.67 acres located at the northwest corner of the intersection of McCarthy Road and Bell Road (PINs# 22-26-201-006 and 22-26-201-011) hereinafter referred to as "the subject property"; and

WHEREAS, the Petitioner is ready, willing, and able to enter into said agreement and perform the obligations as required therein; and

WHEREAS, a copy of said Annexation Agreement has been attached hereto and included herein; and

WHEREAS, the statutory procedures provided for in the Illinois Municipal Code for the execution of said agreement have been fully complied with.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Lemont, Counties of Cook, DuPage, and Will, State of Illinois, as follows:

Section 1. That the President be and is hereby authorized and directed, and the Village Clerk is directed to attest to a document known as the "NW Corner of McCarthy & Bell Annexation Agreement," a copy of which is attached hereto and made a part hereof.

Section 2. That this ordinance shall be in force and effect from and after its passage, approval, and publication in pamphlet form as provided by law.

PASSED AND APPROVED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF LEMONT, COUNTIES OF COOK, DUPAGE AND WILL, ILLINOIS, ON THIS 25th DAY OF October, 2010.

	AYES	NAYS	ABSENT	ABSTAIN
Debby Blatzer	✓			
Paul Chialdikas	✓			
Clifford Miklos	✓			
Ron Stapleton	✓			
Rick Sniegowski	✓			
Jeanette Virgilio	✓			

Approved by me this 25th day of October, 2010

BRIAN K. REAVES, Village President

Attest:

CHARLENE M. SMOLLEN, Village Clerk

NW CORNER McCARTHY & BELL ANNEXATION AGREEMENT

ARTICLE	TITLE
I	Definitions
II	Annexation
III	Zoning and Land Use Restrictions ▪ Zoning and Development Plans ▪ Zoning & Preliminary Plat Guarantee ▪ Other Standards
IV	Required Improvements ▪ Water Supply ▪ Sanitary and Storm Sewers ▪ Detention Areas ▪ Other Improvements ▪ Utility Extensions
V	Dedication and Construction of Streets ▪ Dedication and Acceptance of Streets ▪ Snow Plowing of Streets before Acceptance ▪ Debris
VI	Construction of Other Improvements
VII	Maintenance of Public Improvements & Common Areas ▪ Owners Guarantee ▪ Maintenance Bond
VIII	Damage to Public Improvements
IX	Contributions
X	Easements and Utilities
XI	Approval of Plans
XII	Binding Effect and Term and Covenants Running with the Land
XIII	Notices

XIV	Security Interests
XV	Warranties and Representations
XVI	Continuity of Obligations
XVII	No Waiver or Relinquishment of Right to Enforce Agreement
XVIII	Village Approval or Direction
XIX	Singular and Plural
XX	Section Headings and Subheadings
XXI	Recording
XXII	Authorization to Execute
XXIII	Amendment
XXIV	Counterparts
XXV	Curing Default
XXVI	Conflicts between the Text and Exhibits
XXVII	Severability
XXVIII	Reimbursement to Village for Legal and Other Fees / Expenses ▪ To Effective Date of Agreement ▪ From and After Effective Date of Agreement
XXIX	Lender Consent
XXX	Execution of Agreement

EXHIBIT	**TITLE**
A	Legal Description
B	Plat of Annexation, prepared by _____ and dated _____

C Bell Road Sanitary Sewer and Water Main Extension Plans

ANNEXATION AGREEMENT

THIS ANNEXATION AGREEMENT, is made and entered into this 25th day of October, 2010, between the Village of Lemont, a municipal corporation of the Counties of Cook, DuPage and Will, in the State of Illinois (hereinafter referred to as "the VILLAGE") and Finnegan Construction Company, as sole beneficiary under Land Trust No. 00-2238 dated November 20, 2000, and Cynthia and Gino Martin, as beneficiaries under Land Trust No. 12402 dated _____ (hereinafter referred to as "OWNER/DEVELOPER"). The Village and OWNER/DEVELOPER are hereinafter sometimes referred to individually as a "Party" and collectively as the "Parties"; and,

WHEREAS, OWNER/DEVELOPER is the owner of record of the real estate (hereinafter referred to as the "TERRITORY "), the legal description of which is attached hereto as Exhibit A and by this reference made a part hereof; and,

WHEREAS, the OWNER/DEVELOPER filed a Petition for Annexation of the TERRITORY to the VILLAGE (hereinafter, the "Petition") that requested annexation of the TERRITORY subject to execution of an annexation agreement acceptable to the OWNER/DEVELOPER and the VILLAGE; and,

WHEREAS, the TERRITORY has not been annexed to any municipality; and,

WHEREAS, the TERRITORY constitutes an area that is contiguous to and may be annexed to the VILLAGE, as provided under the Illinois Municipal Code, 65 ILCS 5/7-1-1, et. seq.; and,

WHEREAS, the OWNER/DEVELOPER and VILLAGE agree that they will be bound by the terms of this Annexation Agreement; and,

WHEREAS, the VILLAGE would extend its zoning, building, health and other municipal regulations and ordinances over the TERRITORY, thereby protecting the VILLAGE from possible undesirable or inharmonious use and development of unincorporated areas surrounding the VILLAGE; and,

WHEREAS, the new boundaries of the VILLAGE, resulting from this Annexation shall extend to the far side of every highway and shall include all of every highway not already annexed; and,

WHEREAS, the parties desire, pursuant to Chapter 65, Article 5, Section 11-15.1 of the Illinois Municipal Code, to enter into an Agreement with respect to Annexation of the TERRITORY and various other matters; and,

WHEREAS, pursuant to the provisions of the Statute, the corporate authority of the VILLAGE has duly fixed a time for and held a hearing upon the Annexation Agreement and has given notice of said hearing; and,

WHEREAS, the corporate authority of the VILLAGE has considered the Annexation of the TERRITORY described in the Petition and has determined that the best interest of the VILLAGE will be met if the TERRITORY is annexed to the VILLAGE and developed in accordance with the provisions of the Agreement.

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants hereinafter contained, the Parties agree as follows:

I

DEFINITIONS

BUILDING CODE The code or codes governing the erection and maintenance of buildings.

COMMON AREA A parcel of land or an area of water, or combination thereof, and any improvements thereon, within a designated development tract (such as a subdivision) which is designed for common use or benefit and not reserved for the exclusive use or benefit of an individual tenant or owner. Examples of common areas include, but are not limited to: green open spaces, parking lots, and pedestrian walkways.

FINAL ENGINEERING PLAN A plan, signed and sealed by a licensed professional engineer registered in the state of Illinois that meets the requirements for a final engineering plan in the Unified Development Ordinance. A final engineering plan depicts all public and private support facilities including, but not limited to: roads, sidewalks, drainage ditches, culverts and water retention areas, sanitary sewers, storm sewers, water supply lines, and illumination.

FINAL LANDSCAPING PLAN A plan, signed and sealed by a registered landscape architect that meets the requirements for a final landscape plan in the Unified Development Ordinance.

FINAL PLAT A plat of all or a portion of a subdivision or site plan that is presented to the Village for final approval.

PLAT A document, prepared by a registered surveyor or engineer that delineates a tract of land, showing the boundaries and locations of individual properties and streets.

PLAT OF ANNEXATION A plat that depicts the property to be annexed.

PROPERTY A lot, parcel, tract or plot of land together with the buildings and structures thereon.

PUBLIC IMPROVEMENT Any improvement, facility, or service together with its associated public site or right-of-way necessary to provide transportation, drainage, public or private utilities, energy, or other essential services, or parking and landscaping as specified on the final approved engineering plans for the TERRITORY.

UNIFIED DEVELOPMENT ORDINANCE Ordinance O-7-08, as amended.

II

ANNEXATION

Subject to the provisions of Chapter 65, Article 5 Section 7 of the Illinois Municipal Code, the parties hereto respectively agree to do all things necessary or appropriate to cause the TERRITORY to be validly annexed to the VILLAGE as promptly as possible after execution of this agreement.

The Plat of Annexation of said TERRITORY is attached hereto as Exhibit "B". Said Plat extends the new boundaries of the VILLAGE to the far side of any adjacent highway not already annexed and includes all of every highway within the TERRITORY so annexed. Upon adoption of an ordinance annexing the TERRITORY to the VILLAGE, the Village Clerk shall cause a copy of said ordinance and said Plat to be duly recorded with the Cook County Recorder, and duly filed with the Cook County Clerk. The Village Clerk shall also send notice of annexation of the TERRITORY to the Cook County Elections Department and the U.S. Post Office branch serving the TERRITORY by certified or registered mail.

III

ZONING AND LAND USE RESTRICTIONS

Zoning & Development Plans. Upon the Annexation of the TERRITORY to the VILLAGE, the parcel(s) shown on the Plat of Annexation attached as Exhibit "B" shall be classified under the existing zoning ordinance, as amended, as R-4 Single-Family Detached Residential District, except for approximately 1.72 acres (250 ft. by 300 ft.) immediately adjacent to the intersection which shall be designated as B-3 Arterial Commercial District. Prior to the date of this Agreement, such public hearings as are necessary to enable the VILLAGE lawfully to grant said zoning classification as to the TERRITORY have been conducted upon proper notice, and no further action need be taken by the OWNER/DEVELOPER to cause the TERRITORY to be rezoned as R- 4 and B-3 once the TERRITORY is annexed to the VILLAGE.

Zoning & Preliminary Plat Guarantee. The VILLAGE agrees that it will not seek to change the zoning of the TERRITORY without the OWNER/DEVELOPER's consent for a period of ten (10) years. Upon VILLAGE approval of a PUD Preliminary Plan/Plat or preliminary plat of subdivision for the TERRITORY, the OWNER/DEVELOPER shall have five years to acquire PUD Final Plan/Plat approval or final plat of subdivision approval.

Other Standards. The Village agrees that the above standards shall govern with respect to the development of the TERRITORY in any case in which the standards of the Unified Development Ordinance now or hereafter shall conflict with the standards listed above. The Village agrees that the above standards shall govern with respect to development of the TERRITORY in any case in which there no applicable standards are provided in the Unified Development Ordinance. In any case in which the Unified Development Ordinance contains applicable standards that do not conflict with the above standards, the standards of the Unified Development Ordinance shall govern with respect to the development of the TERRITORY.

It is understood and agreed, except as otherwise provided for herein, the Unified Development Ordinance, Building Code and all other ordinances including all fees and charges of the VILLAGE, shall not be frozen during the term of this Agreement, and such ordinances, as the same may from time to time be amended and enforced throughout the VILLAGE, shall apply to the TERRITORY. In the case of a comprehensive amendment to the VILLAGE'S Zoning Ordinance, the TERRITORY shall be designated the zoning district most comparable to the R-4 or B-3 zoning district, as applicable.

IV
REQUIRED IMPROVEMENTS

Water Supply. Except as otherwise stated in this Article, the OWNER/DEVELOPER shall construct and install at their expense all necessary water mains to service the TERRITORY. All water mains shall be constructed and installed in accordance with the Unified Development Ordinance of the VILLAGE and final engineering plans approved by the VILLAGE. The VILLAGE agrees to permit connection of the aforementioned water mains to the water facilities of the VILLAGE and to furnish water service on the same basis as said services are furnished to other parts of the VILLAGE.

Sanitary and Storm Sewers. Except as otherwise stated in this article, the OWNER/DEVELOPER shall construct and install at their expense all necessary sanitary and storm sewers to service the TERRITORY in accordance with the Unified Development Ordinance of the VILLAGE and final engineering plans approved by the VILLAGE. The VILLAGE agrees to permit connection of the aforementioned sanitary sewers to the sanitary sewer facilities of the VILLAGE and to furnish sewer service on the same basis as said services are furnished to other parts of the VILLAGE. OWNER/DEVELOPER agrees that no surface water is to be discharged into the sanitary sewerage collection system and will make adequate provisions that this will not occur. Tap-on fees required by the Village shall not be waived. If any sanitary and storm sewers on the TERRITORY are to be owned and maintained by the OWNER/DEVELOPER, the OWNER/DEVELOPER shall provide a right of access by the Village for emergency management purposes.

Detention Areas. Unless otherwise approved as part of this agreement, the OWNER/DEVELOPER agrees to construct and install at their expense detention basin(s) and appurtenant structures such as drains, inlets, and outlets in accordance with the Unified Development Ordinance of the VILLAGE and final engineering plans approved by the

VILLAGE. The residential stormwater detention basin(s) and appurtenant structures is/are to be conveyed to and owned by the VILLAGE or owned and maintained by a homeowners association. The commercial stormwater detention basin(s) and appurtenant structures is/are to be owned and maintained by the OWNER/DEVELOPER or owners association, as applicable.

Other Improvements. Unless otherwise approved as part of this agreement, the OWNER/DEVELOPER agrees to construct and install at their expense all other improvements in accordance with the requirements of the Unified Development Ordinance of the VILLAGE and final engineering plans approved by the VILLAGE.

Utility Extensions. The VILLAGE shall cause the extension of water and sewer facilities to service the TERRITORY with the OWNER/DEVELOPER participating in the funding of such extensions as provided herein:

1. The VILLAGE has prepared the preliminary engineering documents entitled the Bell Road Sanitary Sewer and Water Main Extension plans (hereinafter referred to as the "S&W Plans", attached hereto and incorporated herein as Exhibit "C") which will result in the construction of sanitary sewers and water mains which will be able to serve the projected use of the TERRITORY along with other properties (hereinafter referred to as the "S&W Utilities"). On or before May 1, 2013, the VILLAGE shall commence construction of the S&W Utilities in accordance with the S&W Plans and shall thereafter diligently prosecute such work until completion. It is understood that timely commencement of such work shall be contingent upon securing all needed rights of way, including that controlled by the Cook County Forest Preserve. The OWNER/DEVELOPER shall, for $10.00 consideration, convey to the VILLAGE right of way from the TERRITORY which is determined to be necessary for the construction of the S&W Utilities.

2. It is understood that the current estimated cost for the S&W Utilities is $2,300,00.00, but that this amount may increase or decrease depending upon conditions at the time of contract letting. The OWNER/DEVELOPER agrees to pay the VILLAGE on or before commencement of construction of the S&W Utilities in an amount equal to 32.6% (but not to exceed $750,000.00) of the S&W Utilities contract price as OWNER/DEVELOPER's share of such costs. Such limitation includes any required recapture. At the option of the OWNER/DEVELOPER, such commitment may be satisfied through the establishment, on or before commencement of construction of the S&W Utilities, of one or more special service areas (SSA) over the TERRITORY providing for payment of such amount, plus interest at the then statutory rate over a period of not more than 15 years.

V

DEDICATION AND CONSTRUCTION OF STREETS

Dedication and Acceptance of Streets. The OWNER/DEVELOPER shall design streets within the TERRITORY in compliance with the standards of the VILLAGE Unified

Development Ordinance for local streets. All interior residential streets within the TERRITORY when developed shall be conveyed to the VILLAGE. Any interior commercial streets or traffic circulation area shall be owned and maintained by the OWNER/DEVELOPER or an owners association, as applicable. Said streets shall be constructed in accordance with the final engineering plans approved by the Village.

The OWNER shall provide access to each residential unit. Any street right-of-way not already dedicated at the time of annexation shall be dedicated at the time of final plat, PUD final plan/plat, or other final engineering approval. The Village shall accept the dedication of said street right-of-way and approve or accept the construction of streets and sidewalks upon the completion by the OWNER/DEVELOPER of said improvements in accordance with the Village's construction standards and Unified Development Ordinance, as modified by the Agreement. Acceptance of public streets and sidewalks by the Village shall be evidenced by a corporate resolution. All private streets and walkways shall be approved by the Village Engineer and shall remain the property of the OWNER/DEVELOPER or an owner's association, as applicable.

It is understood that in constructing the streets and sidewalks the OWNER/DEVELOPER shall post a letter of credit after which the OWNER/DEVELOPER may proceed to construct said streets. The final wearing surface shall not be installed until a period of nine (9) months after installation of the base or until construction traffic has generally ceased on any street, whichever is later. Upon installation of the base, the letter of credit may be reduced to an amount sufficient to cover the work yet to be performed (with applicable multiplier), plus the amount of the maintenance bond. Upon completion of all public improvements, and after acceptance by the Village Board, the letter of credit shall be released; however, the OWNER/DEVELOPER shall be responsible for correcting deficiencies in material and equipment for a period of two (2) years after acceptance to secure that obligation. The OWNER/DEVELOPER shall post for a period of two (2) years thereafter, a maintenance bond or other security to cover possible repairs to said streets. After completion of the construction and acceptance of any street, and if construction traffic of the OWNER/DEVELOPER continues to utilize that street, the OWNER/DEVELOPER shall be responsible for keeping the street free from construction debris and for repair of damages to the street caused by the OWNER/DEVELOPER's construction traffic. Except as otherwise provided herein, after dedication of any street right-of-way, the VILLAGE shall enforce traffic and other regulations as to the street right-of-way. Except as otherwise provided herein, after acceptance of the construction of any public street within the TERRITORY, the VILLAGE shall provide for street cleaning, snow removal, refuse collection, and other maintenance thereon. All deliveries of construction supplies or materials shall be restricted to certain streets or temporary haul roads designated by the VILLLAGE.

Snow Plowing of Streets before Acceptance. The OWNER and the VILLAGE acknowledge that until the streets in any platted subdivision of the TERRITORY are accepted by the VILLAGE, the VILLAGE shall have no obligation to keep the streets plowed of ice and snow (snowplowed). It is agreed, however that for any platted subdivision that shall be or is likely to be occupied in whole or in part for a winter season, the VILLAGE, at its option, may keep the streets snowplowed for that season.

If the VILLAGE should desire to provide season-long snowplowing for a development or a part thereof, it shall notify the then owner of the unaccepted streets in writing of such intent by August 1 of the year in question. The notice shall contain an estimate of the cost of snowplowing and unit price or prices used by the VILLAGE in developing such costs. The OWNER shall deposit with the VILLAGE an irrevocable letter of credit from a financial institution in a form provided by the Village Attorney to guarantee payment of the estimated amount by September 15 of the year in question. At the end of the snow season, the VILLAGE will release the amount of the letter of credit providing all payments due to the VILLAGE have been made. During the season, the VILLAGE shall allow the amount of the letter to be reduced provided that the amount in the letter of credit is not reduced below the level anticipated to be expended based on the current best-cost estimate. The OWNER shall be obligated to pay the actual reasonable cost to the VILLAGE of its snowplowing services within the TERRITORY rather than the amount of an estimate. Payment shall be made within ten days from the date of the bill.

Debris. The OWNER/DEVELOPER shall be required to keep all streets within and adjoining the TERRITORY free from mud and debris generated by any new construction activity on the TERRITORY.

VI

CONSTRUCTION OF OTHER IMPROVEMENTS

The construction and installation of the public improvements to be done by OWNER/DEVELOPER may be commenced at any time after the OWNER/DEVELOPER received a site development permit from the VILLAGE and has delivered to the VILLAGE an irrevocable letter of credit, in a form satisfactory to, and from a bank or other financial institution approved by, the VILLAGE in the amount of 115% of the OWNER/DEVELOPER Engineer's estimate of the cost of construction and installation of all such public improvements as approved by the VILLAGE Engineer, including all required lighting, sidewalks, landscaping, street trees, sewer and water lines and storm water management facilities, . At no time shall the Letter of Credit funds be utilized by the OWNER/DEVELOPER for the future payment of contractors, materials, salaries and wages, and the like. The VILLAGE makes no guarantees regarding the timely reduction of said Letter of Credit and therefore should not be used for time-sensitive payment purposes; however, the VILLAGE agrees to release or reduce such Letter of Credit within a reasonable time period following OWNER/DEVELOPER's request. At the OWNER/DEVELOPER's request the VILLAGE shall specify any basis for delay in such release or reduction. The VILLAGE Engineer may, in his/her discretion, recommend the amount of said letter of credit to be reduced, from time to time, as major public improvements are completed, upon approval of the VILLAGE Board.

After the execution of this agreement and prior to final plan and/or final subdivision approval for any phase of development, the OWNER/DEVELOPER, at its option and sole risk,

may commence extension of utilities and mass grading. Prior to any grading of the Property, the OWNER/DEVELOPER shall submit for VILLAGE approval, a mass grading plan and soil erosion and sediment control plan that adhere to the provisions of Article IV (Site Development) of the Unified Development Ordinance. OWNER/DEVELOPER waives any and all claims it may have to assert a "vested rights" claim or lawsuits against the VILLAGE as a result of expenditures made in the performance of grading or other improvements to the Property allowed hereunder prior to final engineering approval in the event final engineering requires revision to work already performed. Any such work and expenditures are done at the risk of the OWNER/DEVELOPER knowing that final plan and/or final plat of subdivision approval may be delayed or change final grading and utility plans. In conjunction with the VILLAGE'S approval of any mass grading, OWNER/DEVELOPER shall file with the VILLAGE a letter of credit to secure seeding and restoration of the site in accordance with the mass grading plan.

The OWNER/DEVELOPER, at the OWNER/DEVELOPER's own cost, agrees to provide the VILLAGE "as built", engineering plans and specifications upon substantial completion of the public improvements or at the request of the VILLAGE Engineer but in no event later than the time required by the Unified Development Ordinance as amended.

Any public improvements contemplated herein shall, upon acceptance thereof by the VILLAGE, become the property of VILLAGE and be integrated with the municipal facilities now in existence or hereinafter constructed and VILLAGE thereafter agrees to maintain said public improvements. Acceptance of said public improvements shall be by resolution of the President and Board of Trustees only after the VILLAGE Engineer or VILLAGE Engineer Consultant has issued his Certificate of Inspection affirming the improvements have been constructed in accordance with approved Engineering Plans and Specifications. OWNER/DEVELOPER agrees to convey by appropriate instrument and VILLAGE agrees to promptly accept, subject to terms hereof, the public improvements constructed in accordance with the Approved Engineering Plans and Specifications.

The OWNER/DEVELOPER agrees not to let debris or excessive construction waste accumulate on the TERRITORY.

VII

MAINTENANCE OF PUBLIC IMPROVEMENTS & COMMON AREAS

Owners Guarantee. The OWNER/DEVELOPER hereby guarantees the prompt and satisfactory correction of all defects and deficiencies in the improvements that occur or become evident within two years after approval and any approval or acceptance of the improvements by the VILLAGE pursuant to this agreement. If any defect or deficiency occurs or becomes evident during the two year period, then the OWNER/DEVELOPER shall, after ten days' prior written notice from the VILLAGE (subject to Force Majeure), correct it or cause it to be corrected. In the event any improvement is repaired or replaced pursuant to the demand of the VILLAGE, the

Guarantee provided in this Section VII shall be extended, as to the repair or replacement, for two full years from the date of the repair or replacement.

If any public improvements or common areas within the TERRITORY are to be privately owned and maintained, then the OWNER/DEVELOPER shall, at its sole cost and expense, maintain the improvements and areas within the TERRITORY without any modification, except as specifically approved by the VILLAGE, in a first-rate condition at all times unless an owners' association is established and assumes responsibility for improvements or areas. In the event the VILLAGE determines, in the VILLAGE'S sole and absolute discretion, that the OWNER/DEVELOPER is not adequately maintaining, or has not adequately maintained, any improvement or area to the standard set by generally applicable VILLAGE ordinances, the VILLAGE shall have the right, but not the obligation, after ten days' prior written notice to the OWNER/DEVELOPER, to enter on any or all of the TERRITORY for the purpose of performing maintenance work on any affected improvement or area. In the event that The VILLAGE shall cause to be performed any work pursuant to this Section VII the VILLAGE shall have the right to draw from the performance securities deposited pursuant to this Section of the agreement, or the right to demand immediate payment directly from the OWNER/DEVELOPER based on costs actually incurred or on the VILLAGE'S reasonable estimates of costs to be incurred, an amount of money sufficient to defray the entire costs of the work, including without limitation legal fees and administrative expenses. The OWNER/DEVELOPER shall, after demand the VILLAGE, pay the required amount to the VILLAGE.

If an owners' association is established and assumes responsibility for any public improvements and/or common areas within the TERRITORY, the owners' association shall, at its sole cost and expense, maintain the improvements and areas without any modification, except as specifically approved by the VILLAGE, in a first-rate condition at all times. In the event the VILLAGE determines, in the VILLAGE'S sole and absolute discretion, that the owners' association is not adequately maintaining, or has not adequately maintained, any improvement or area to the standard set by generally applicable VILLAGE ordinances, the VILLAGE shall have the right, but not the obligation, after ten days' prior written notice to the owners' association, to enter on any or all of the TERRITORY for the purpose of performing maintenance work on any affected improvement or area. In the event that the VILLAGE shall cause to be performed any work pursuant to this Section VII the VILLAGE shall have the right (i) to assess the membership of the owners' association for that work, (ii) to file a lien against the property of the owners' association or the property of any member failing to pay the assessment, and (iii) to enforce the lien in the manner provided by law for mortgage foreclosure proceedings.

Maintenance Bond. At the time or times of approval or acceptance by the VILLAGE of the installation of any part, component, or all of any public improvement in accordance with this Section, or any other section of the Agreement, the OWNER/DEVELOPER shall deposit with the VILLAGE a maintenance bond in the amount of ten percent (10%) of the cost of the installation of the public improvement accepted by VILLAGE. This bond shall be deposited with the VILLAGE and shall be held by the VILLAGE for a period of twenty-four (24) months after completion and acceptance of all improvements. In the event of a defect in material and/or

workmanship within said period, then said security shall not be returned until correction of said defect and acceptance by the VILLAGE of said corrections.

VIII

DAMAGE TO PUBLIC IMPROVEMENTS

The OWNER/DEVELOPER shall replace and repair any damage to public improvements installed within, under or upon the subject realty resulting from construction activities by OWNER/DEVELOPER, their successors or assigns and their employees, agents, contractors or subcontractors during the term of this Agreement. The OWNER/DEVELOPER shall have no obligation hereunder with respect to damage resulting from ordinary usage, wear and tear.

IX

CONTRIBUTIONS

The OWNER/DEVELOPER shall make cash contributions prior to approval of any PUD Final Plan/Plat or final plat of subdivision by the VILLAGE, in accordance with the ordinances of the VILLAGE. In addition to the applicable donations required per the Lemont Unified Development Ordinance for park and school facilities, the OWNER/DEVELOPER shall be required to contribute the following:

- **Lemont Fire Protection District** – OWNER/DEVELOPER shall pay $100 per dwelling unit to the VILLAGE for the benefit of the Lemont Fire Protection District. If the TERRITORY is developed in phases, the donation shall be paid on a pro-rata basis based upon the number of lots in the phase for which the Final Plan/Plat is being recorded.
- **Lemont Library District** – OWNER/DEVELOPER shall pay $45.61 per person to the VILLAGE for the benefit of the Lemont Library District. The number of persons to be added by the development shall be calculated as outlined in the Lemont Unified Development Ordinance. If the TERRITORY is developed in phases, the donation shall be paid on a pro-rata basis based upon the number of lots in the phase for which the Final Plan/Plat is being recorded.
- **Public Safety Impact Fee** – OWNER/DEVELOPER shall pay $1,000 per single-family detached dwelling unit to the VILLAGE for a public safety impact fee. If the TERRITORY is developed in phases, the fee shall be paid on a pro-rata basis based upon the number of lots in the phase for which the Final Plan/Plat is being recorded.
- **Annexation Fee** – OWNER/DEVELOPER shall pay $250 per zoning lot to the VILLAGE for annexation fees. If the TERRITORY is developed in phases, the total fee shall be paid at the time of recording of the initial Final Plan/Plat.

X

EASEMENTS AND UTILITIES

The OWNER/DEVELOPER agrees to grant to the VILLAGE, and/or obtain grants to the VILLAGE of, all necessary easements for the extension of sewer, water, street, or other utilities, including cable television, or for other improvements, subject to the provisions of the Unified Development Ordinance which may serve not only the TERRITORY, but other TERRITORY in the general area, if requested by the VILLAGE in the future.

All such easements to be granted shall name the VILLAGE and/or other appropriate entities designated by the VILLAGE as grantee thereunder. It shall be the responsibility of the OWNER/DEVELOPER to obtain all easements, both on site and off site, necessary to serve the TERRITORY.

The OWNER/DEVELOPER shall provide evidence of easement or right of way necessary for the utility extension to the TERRITORY prior to PUD final plan/plat approval. The OWNER/DEVELOPER shall submit a title commitment from Chicago Title Insurance Company, or any other licensed title company, naming the VILLAGE as party to insured to guarantee an easement for public utilities from the existing point of connection to the TERRITORY.

All electricity, telephone, cable television and gas lines shall be installed underground, the location of which underground utilities shall be at the OWNER/DEVELOPER's option, upon approval of the respective utility company.

XI

APPROVAL OF PLANS

The VILLAGE agrees to expeditiously take action to approve or disapprove all plats, plans, and engineering submitted to VILLAGE by the OWNER/DEVELOPER. If the VILLAGE shall determine that any such submission is not in substantial accordance with this Agreement and applicable ordinances, the VILLAGE shall promptly notify the OWNER/DEVELOPER in writing of the specific objection to any such submission so that the OWNER/DEVELOPER can make any required corrections or revisions.

XII

BINDING EFFECT AND TERM AND COVENANTS RUNNING WITH THE LAND

This Agreement shall be binding upon and insure to the benefit of the parties hereto, successor OWNERS of record of the TERRITORY, assignees, lessees, and upon any successor municipal authorities of said VILLAGE and successor municipalities, for a period of 20 years from the date of execution hereof.

The terms and conditions of this Agreement relative to the payment of monies to the various VILLAGE recapture funds, contributions to the VILLAGE construction and/or dedication of public improvements, granting of easements to the VILLAGE, dedication of rights-of-way to the VILLAGE and the development standards established herein shall constitute covenants which shall run with the land.

It is further agreed that any party to this Agreement, either in law or in equity, by suit, action, mandamus, or other proceeding may enforce or compel the performance of this Agreement, or have other such relief for the breach thereof as may be authorized by law or that by law or in equity is available to them.

XIII

NOTICES

Unless otherwise notified in writing, all notices, requests and demands shall be in writing and shall be personally delivered to or mailed by United States Postal Service certified mail, postage prepaid and return receipt requested, as follows:

For the VILLAGE:

Village President
418 Main Street
Lemont, IL 60439

and

Village Clerk
418 Main Street
Lemont, IL 60439

and

Village Administrator

418 Main Street
Lemont, IL 60439

For OWNER/DEVELOPER:

Finnegan Construction Company
13586 S. Erin Dr.
Homer Glen, IL 60491

Or such other addresses that any party hereto may designate in writing to the other parties pursuant to the provisions of this Section.

XIV

SECURTY INTERESTS

The OWNER/DEVELOPER shall provide the VILLAGE with written approval(s) satisfactory to the VILLAGE of any mortgage, lien holder or holder of any security interest, affecting title to the TERRITORY or any part thereof so that this agreement shall be superior to any such mortgage, lien, or other security interest and the OWNER/DEVELOPER shall provide same to the VILLAGE prior to execution and recording of this agreement; and

If there are no mortgages, liens, or other security interests affecting title to the TERRITORY or any part thereof, then the OWNER/DEVELOPER shall affirmatively state so in said Petition(s) for Annexation.

XV

WARRANTIES AND REPRESENTATIONS

The OWNER/DEVELOPER represents and warrants to the VILLAGE as follows:

That Finnegan Construction Company, as sole beneficiary under Land Trust No. 00-2238 dated November 20, 2000, and Cynthia and Gino Martin, as beneficiaries under Land Trust No. 12402 dated January 9, 1990 identified on page 1 hereof is the OWNER/DEVELOPER as legal title holder; and

That the OWNER/DEVELOPER proposes to develop the TERRITORY in the manner contemplated under this Agreement; and

That other than the OWNER/DEVELOPER, no other entity or person has any interest in the TERRITORY or it development as herein proposed; and

That the OWNER/DEVELOPER has provided the legal description of the TERRITORY set forth in this Agreement and the attached exhibits and that said legal description and exhibits are accurate and correct.

XVI

CONTINUITY OF OBLIGATIONS

Notwithstanding any provisions of this Agreement to the contrary, including but not limited to the sale and/or conveyance of all or any part of the TERRITORY by the OWNER/DEVELOPER, the OWNER/DEVELOPER shall at all times during the term of this Agreement remain liable to VILLAGE for the faithful performance of all obligations imposed upon them by this Agreement until such obligations have been fully performed or until VILLAGE, at its sole option, has otherwise released OWNER/DEVELOPER and from any or all of such obligations.

XVII

NO WAIVER OR RELINQUISHMENT OF RIGHT TO ENFORCE AGREEMENT

Failure of any party to this Agreement to insist upon the strict and prompt performance of the terms covenants, agreements, and conditions herein contained, or any of them, upon any other party imposed, shall not constitute or be construed as a waiver or relinquishment of any party's right thereafter to enforce any such term, covenant, agreement or condition, but the same shall continue in full force and effect.

XVIII

VILLAGE APPROVAL OR DIRECTION

Where VILLAGE approval or direction is required by this Agreement, such approval or direction means the approval or direction of the Corporate Authorities of the VILLAGE unless otherwise expressly provided or required by law, and any such approval may be required to be given only after and if all requirements for granting such approval have been met, unless such requirements are inconsistent with this Agreement.

XIX

SINGULAR AND PLURAL

Wherever appropriate in this Agreement, the singular shall include the plural, and the plural shall include the singular.

XX

SECTION HEADINGS AND SUBHEADINGS

All section headings or other headings in this Agreement are for general aid of the reader and shall not limit the plain meaning or application of any of the provisions thereunder whether covered or relevant to such heading or not.

XXI

RECORDING

A copy of this Agreement and any amendments thereto shall be recorded by the VILLAGE at the expense of the OWNER/DEVELOPER within 30 days after the execution hereof.

XXII

AUTHORIZATION TO EXECUTE

The President and Clerk of the VILLAGE hereby warrant that they have been lawfully authorized by the VILLAGE Board of the VILLAGE to execute this Agreement. The OWNER/DEVELOPER and VILLAGE shall, upon request, deliver to each other at the respective time such entities cause their authorized agents to affix their signatures hereto copies of all bylaws, resolutions, ordinances, partnership agreements, letters of direction or other documents required to legally evidence the authority to so execute this Agreement on behalf of the respective parties.

XXIII

AMENDMENT

This Agreement sets forth all the promises, inducements, agreements, conditions and understandings between the parties hereto relative to the subject matter thereof, and there are no promises, agreements, conditions or understandings, either oral or written, express or implied, between them, other than are herein set forth. Except as herein otherwise provided, no subsequent alteration, amendment, change or addition to this Agreement shall be binding upon the parties hereto unless authorized in accordance with law and reduced in writing and signed by them.

XXIV

COUNTERPARTS

This Agreement may be executed in two or more counterparts, each of which taken together, shall constitute one and the same instrument.

XXV

CURING DEFAULT

It is understood by the parties hereto that time is of the essence of this Agreement. The parties to this Agreement reserve a right to cure any default hereunder within fifteen (15) days from written notice of such default.

XXVI

CONFLICT BETWEEN THE TEXT AND EXHIBITS

In the event of a conflict in the provisions of the text of this Agreement and the Exhibits attached hereto, the text of the Agreement shall control and govern.

XXVII

SEVERABILITY

If any provision of this Agreement is held invalid by a court of competent jurisdiction or in the event such court shall determine that the VILLAGE does not have the power to perform any such provisions, such provision shall be deemed to be excised here from and the invalidity thereof shall not affect any of the other provisions contained herein, and such judgment or decree shall relieve the VILLAGE from performance under such invalidity thereof shall not affect any of the other provisions contained herein, and such judgment or decree shall relieve the VILLAGE from performance under such invalid provision of this Agreement.

XXVIII

REIMBURSEMENT TO VILLAGE FOR LEGAL AND OTHER FEES / EXPENSES

To Effective Date of Agreement. The OWNER/DEVELOPER, concurrently with annexation and zoning of the TERRITORY or so much thereof as required, shall reimburse the VILLAGE for the following expenses incurred in the preparation and review of this Agreement,

and any ordinances, letters of credits, plats, easements or other documents relating to the TERRITORY:

all attorney's fees incurred by the VILLAGE; and

Miscellaneous VILLAGE expenses, such as legal publication costs, recording fees and copying expenses; and

From and After Effective Date of Agreement. Except as provided in the paragraph immediately following this paragraph, upon demand by VILLAGE made by and through its President, the OWNER/DEVELOPER from time to time shall promptly reimburse VILLAGE, for all enumerated reasonable expenses and costs incurred by VILLAGE in the administration of the Agreement, including and limited to engineering fees, cost of any easements, attorney's fees and out of pocket expenses involving various and sundry matters such as, but not limited to, preparation and publication, if any, of all notices, resolutions, ordinances, and other documents required hereunder, and the negotiation and preparation of letters of credit and escrow agreements to be entered into as security for the completion of land improvements.

Such costs and expenses incurred by the VILLAGE in the administration of the Agreement shall be evidence to the OWNER/DEVELOPER upon its request, by a sworn statement of the VILLAGE; and such costs and expenses may be further confirmed by the OWNER/DEVELOPER at its option from additional documents relevant to determining such costs and expenses as designated from time to time by the OWNER/DEVELOPER.

Notwithstanding the immediately preceding paragraph, OWNER/DEVELOPER shall in no event be required to reimburse VILLAGE or pay for any expenses or costs of VILLAGE as aforesaid more than once, whether such are reimbursed or paid through special assessment proceedings, through fees established by VILLAGE ordinances or otherwise.

In the event that any third party or parties institute any legal proceedings against the OWNER/DEVELOPER and/or the VILLAGE, which relate to the validity or any terms of this Agreement, then, in that event, the OWNER/DEVELOPER, upon written notice from VILLAGE, shall assume, fully and vigorously, the entire defense of such lawsuit and the expenses of whatever nature relating thereto, provided, however:

The OWNER/DEVELOPER shall not make any settlement or compromise of the lawsuit, or fail to pursue any available avenue of appeal of any adverse judgment, without the approval of the VILLAGE, which approval shall not be unreasonable withheld; and

If the Village, in its sole discretion, determines there is or may probably be, a conflict of interest between the VILLAGE and the OWNER/DEVELOPER, on an issue of importance to the VILLAGE having a potentially substantial adverse affect on the VILLAGE, then the VILLAGE shall have the option of being represented by its own legal counsel. In the event the VILLAGE exercises such option, then the OWNER/DEVELOPER shall reimburse the VILLAGE from time to time on written demand from the President of the VILLAGE and notice

of the amount due for any expenses, including but not limited to court costs, reasonable attorney's fees and witnesses' fees and other expenses of litigation, incurred by the VILLAGE in connection therewith. The obligation of the OWNER/DEVELOPER to reimburse the VILLAGE under the terms of this subparagraph 2 shall terminate if no such legal proceedings are brought within one (1) year from the date of the annexation of the TERRITORY and, further, such obligation of reimbursement shall not apply if such legal proceedings are based upon alleged errors, omissions or unlawful conduct of the VILLAGE and not the OWNER/DEVELOPER.

In the event the VILLAGE institutes legal proceedings against the OWNER/DEVELOPER for violation of this Agreement, and secured a judgment in its favor, or by settlement, the OWNER/DEVELOPER shall pay all expenses of such legal proceedings incurred by the VILLAGE, including but not limited to, the court costs and reasonable attorney's fees, etc., incurred by the VILLAGE in connection therewith.

XXX

EXECUTION OF AGREEMENT

This Agreement shall be signed last by the VILLAGE and the President of the VILLAGE shall affix the date on which he signs this Agreement on page 1 hereof which date shall be the effective date of this Agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the day and year first above written.

VILLAGE OF LEMONT
an Illinois Municipal Corporation

By: _____
Village President

ATTEST:

By: Charlene Smollen
Village Clerk

OWNER/DEVELOPER:

_____

By: x Gino Martin
(name) Gino Martin

By: x Cynthia Martin
~~(title)~~ Cynthia Martin

Finnegan Construction Corp.

By: x Michael F. Finnegan
(name)

President
(title)

NOTARY CERTIFICATES

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

I, the undersigned, a Notary Public, in and for the County and Sate aforesaid, DO HEREBY CERTIFY that BRIAN K. REAVES, personally known to me to be the President of the Village of Lemont, and CHARLENE M. SMOLLEN, personally known to me to be the Village clerk of said municipal corporation, and personally known to me to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that as such President and Village Clerk, they signed and delivered the said instrument and caused the corporate seal of said municipal corporation to be affixed thereto, pursuant to authority given by the Board of Trustees of said municipal corporation, as their free and voluntary act, and as the free and voluntary act and deed of said municipal corporation, for the uses and purposes therein set forth.

GIVEN under my hand and official seal, this 25th day of October 2010

Rosemay Yates
Notary Public

OFFICIAL SEAL
ROSEMAY YATES
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 8-13-2012

My commission expires on _____, 20____.

STATE OF Illinois
) SS
COUNTY OF Cook)

I, the undersigned, a Notary Public in and for the County and State aforesaid, DO HEREBY CERTIFY that the above-named Gino Martin Cynthia Martin, personally known to me to be the same persons whose names are subscribed to the foregoing instrument appeared before me this day in person and acknowledged that they signed and delivered the said instrument as their own free and voluntary act for the uses and purposes therein set forth.

GIVEN under my hand and official seal, this 15th day of December, 2010

My commission expires on August 2, 2010.

Cheryl L Doody
Notary Public

OFFICIAL SEAL
CHERYL L DOODY
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:08/02/14

STATE OF Illinois

) SS
COUNTY OF Cook)

I, the undersigned, a Notary Public in and for the County and State aforesaid, DO HEREBY CERTIFY that the above-named Michael Finnegan, personally known to me to be the same persons whose names are subscribed to the foregoing instrument appeared before me this day in person and acknowledged that they signed and delivered the said instrument as their own free and voluntary act for the uses and purposes therein set forth.

GIVEN under my hand and official seal, this 15 day of December, 2010

My commission expires on _____.

OFFICIAL SEAL
ROSEMAY YATES
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 8-13-2012

Rosemay Yates
Notary Public

EXHBIT A

LEGAL DESCRIPTION

THE SOUTH 700.00 FEET OF THE EAST ONE HALF OF THE NORTHEAST ONE QUARTER (EXCEPT THE WEST 872.28 FEET) IN SECTION 26, TOWNSHIP 37 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

(PIN 22-26-201-006-0000)

And

THE SOUTH ONE HALF OF THE FOLLOWING DESCRIBED TRACT: THE EAST ONE HALF OF THE NORTHEAST QUARTER (EXCEPT THE SOUTH 700 FEET THEROF, AND ALSO EXCEPT THE NORTH 663 FEET THEREOF) OF SECTION 26, TOWNSHIP 37 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

(PIN 22-26-201-011-0000)

Plat of Annexation to be inserted

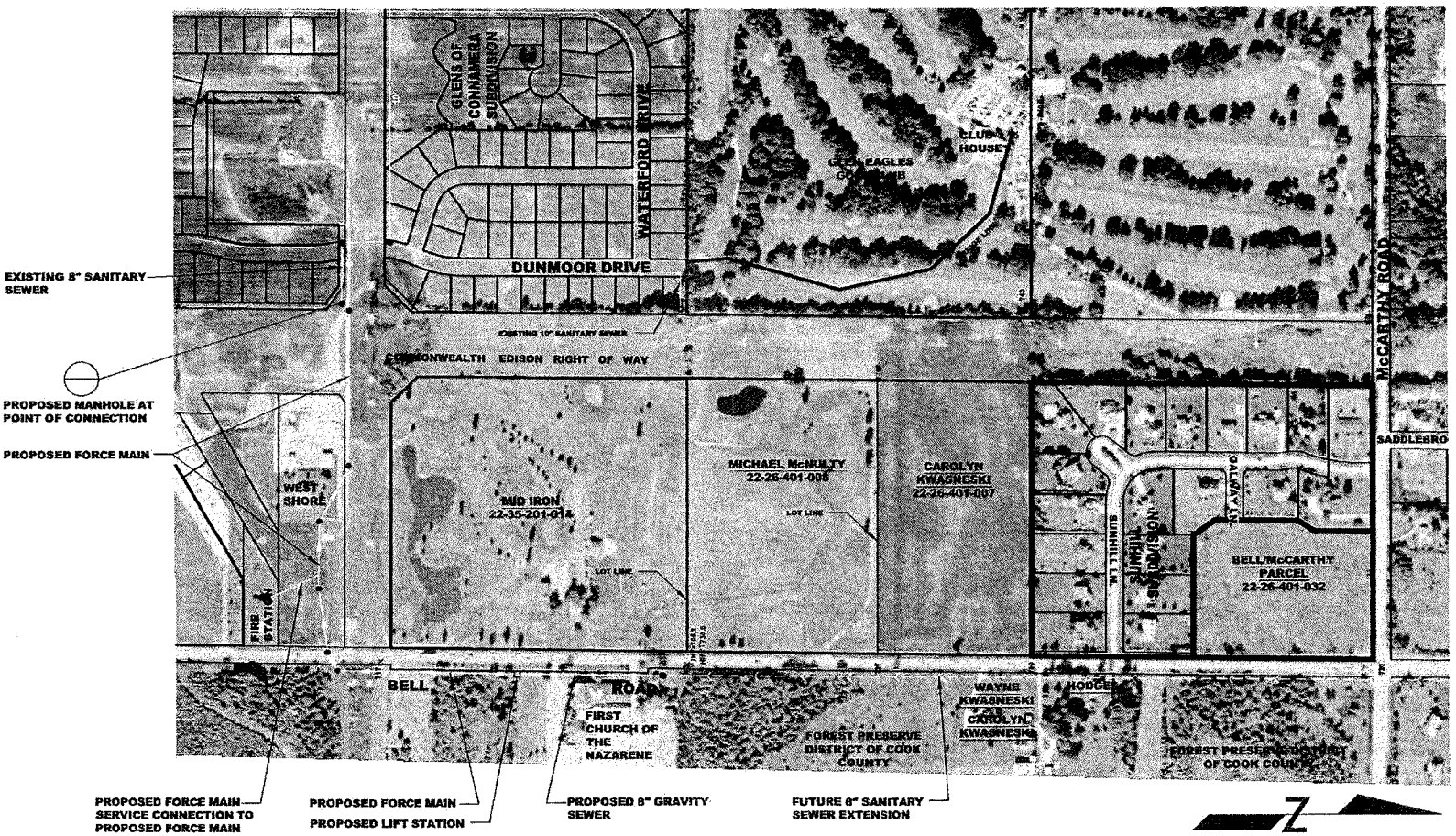


EXHIBIT C

Civil Engineers
Municipal Consultants

Frank Novotny & Associates, Inc.

825 Midway Drive ◆ Willowbrook, IL ◆ 60527 ◆ Telephone: (630) 887-8640 ◆ Fax: (630) 887-0132
Illinois Professional Design Firm No. 184-000928

PROJECT

VILLAGE OF LEMONT, ILLINOIS
BELL ROAD SANITARY SEWER &
WATER MAIN EXTENSION

REVISIONS			
NO.	BY	DATE	DESCRIPTION
1	AC	5-09-08	REVISED LIFT STATION LOCATION

SCHEMATIC UTILITY PLAN

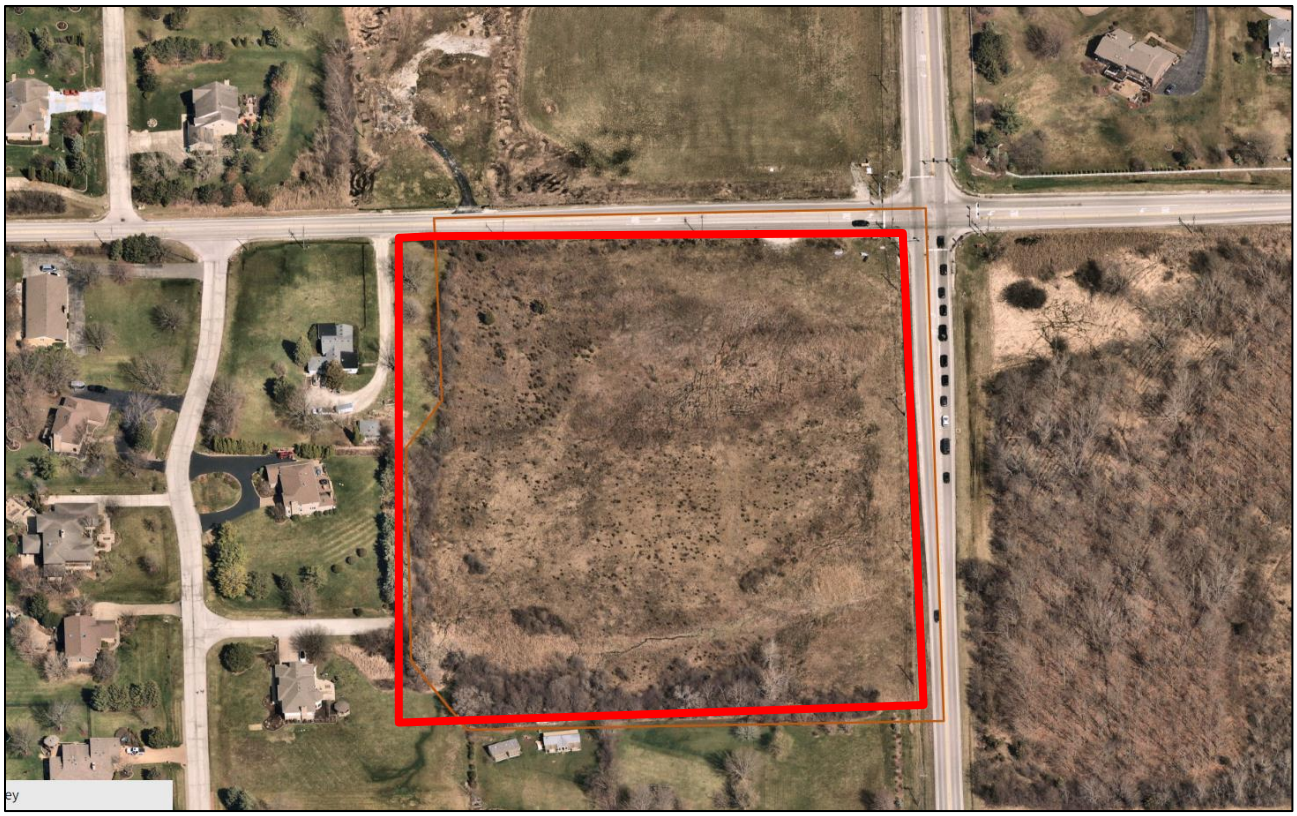
PROJECT NO. 07428	SCALE 1"=200'
DRAWN/DESIGNED JEP/JLC	DATE DEC., 2007
CHECKED/APPROVED JLC	FIELD BOOK NO. FILE

SHEET 1 OF 1 SHEETS

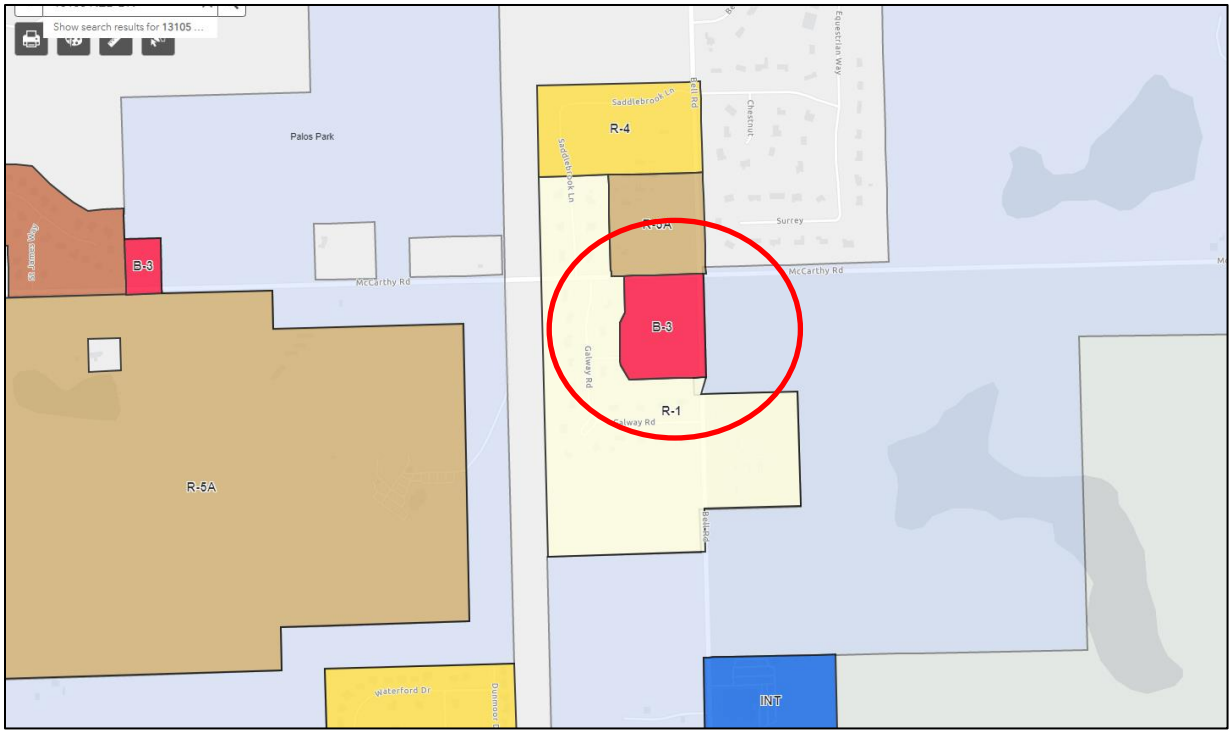
Attachment 9

UDO TRC Planning Comment Letter

Technical Review Committee (TRC)
Project: Commercial Development
Applicant: R/J Rymek Co.
Location: Southwest corner of McCarthy and Bell Road
Meeting Date: Thursday, February 23, 2023
Proposed plan by: Advantage Consulting Engineers Concept Site Plan
Site Size: 8.7-acres
Zoning: B-3, Arterial Commercial District



**Approximate site boundary in RED.



Process:

- TRC Meeting: 2/23/2023 ✓
- Planned Unit Development (PUD) – Development of land including more than on principal building on the lot of record.
- Applications submitted for Public Hearing at PZC. Preliminary PUD with Preliminary Plat
- Meeting of Committee of the Whole Discussion
- Village Board for Preliminary PUD and Plat approval
- Final PUD and Final Plat approval to include Final Engineering and Landscaping (other jurisdictional reviews i.e. MWRD, DOTs)
- Site Development Permit
- Building Permits
- All UDO requirements can be found online: https://library.municode.com/il/lemont/codes/code_of_ordinances?nodeId=TIT17UNDEOR

Planning Comments from the UDO:

1. General Requirements of PUDs that would apply:
    a. *Ownership.* The land intended for the PUD shall be under single ownership and/or unified control at the time of filing the application. B.
    b. *Public Improvements.* All public improvements shall be constructed in accordance with existing ordinances and regulations of the Village. All internal roadways shall be built to

public standards following public procurement procedures and dedicated to the Village as public roadways unless otherwise approved by the Village Board. I.

c. *Development Standards.* PUDs shall adhere to the development standards contained in Article IV of this ordinance.
d. *Additional Conditions.* To meet the unique circumstances presented by each PUD, and to protect the health, safety, and general welfare of existing Village residents and the future residents and users of the proposed development, the Village Board may attach any other condition it deems necessary, but not specifically provided for in this ordinance, to the approval of the PUD. Such conditions may include more stringent requirements for construction, design, materials, phasing, and revocation.

2. Will the development be phased?
3. Stop bars and stop signs shall be placed around the site.
4. There is a lot of movement and circulation throughout the site. Clear signage will be necessary. The side-by-side drive aisle in between Building 1 and Building 6 is strange, confusing, and not ideal.
5. Shared parking and collective parking arrangements are encouraged.
6. An association should be created to maintain stormwater detention, common landscaping, common maintenance, garbage pick up and parking.
7. The sidewalks in front of the buildings should account for vehicle overhang in order to maintain a safe and appropriate width.
8. Clarify how the garbage will be handled for the center. All garbage must be enclosed by a solid structure that is compatible with the primary buildings.
9. How will deliveries be handled? A truck turn exhibit should be provided.
10. The patio between building 1 and 2 seems enclosed. A different arrangement opening the patio up to the corner and detention should be explored. With the water feature at the corner of McCarthy & Bell, there is an opportunity to create a 'center' or gathering area to the development that is inviting and unique. Example:



11. Outdoor dining is a special use in the B-3 Zoning District. The following applies:
    a. Outdoor Dining and Drinking, Special Use. In addition to the requirements of 17.06.120.B, outdoor dining and drinking areas on private property with a seating capacity of ten or more shall require a special use permit if one or more of the following applies:
        i. The outdoor dining and drinking area is to have any music, either live, amplified or alike, or generate noise other than typical sounds generated by dining and/or drinking.
        ii. The outdoor dining and drinking area is located within 50 feet of a residentially zoned lot or residential use, when a barrier exists (fence or significant landscaping), or 100 feet without a barrier, measured from the edge of the outdoor dining and drinking area to the shared property line. This does not apply to locations in the D-D Downtown District.
        iii. The outdoor dining and drinking area is operable outside the hours of 11am—9pm.
12. Transition yards are required. (**Appears to be met**). Where a B zoned lot abuts a residentially zoned lot, a transition yard shall be maintained. Transition yards are intended to ensure an adequate buffer between commercial and residential land uses, and are required in addition to the minimum setback requirements of Table 17-07-02. Transition yards shall meet the following requirements:
    a. *Depth.* Transition yards shall have a minimum depth of 12 feet.
    b. *Screening.* Screening shall be provided in accordance with the landscape standards of § 17.20.060. In instances where a drainage or utility easement is conterminous with the transition yard and make the required screening requirements difficult to fulfill, the width of the transition yard shall be increased so it does not compromise the function of the utility or drainage easement.
    c. *Use.* The transition yard shall not be used for parking, loading, servicing, or storage.
13. The annexation agreement O-11-11 allows for 2 drive-throughs. The special use for any drive through can be incorporated into the PUD. There appears to be more than 2 included on the plan. Provide a vehicle stacking exhibit.
14. One monument sign per zoning lot is allowed. Provide all details on signs including height, location, setbacks, total area, etc. Signage may consist of various elements such as the name of establishment, trademark or logos. The maximum sign area permitted for all these elements is 64 square feet (for one side). Limestone or products simulating limestone shall be used for the base of all monument signs. There are landscaping requirements in §17.11.110.
15. Note, menuboards have signage standards if menuboards will be a part of this development.
16. A traffic study is required.
17. All development requires a sidewalk/pathway along the perimeter of the property with safe access to the building. This appears to be met.
18. Provide an AutoTurn exhibit to demonstrate circulation throughout the site.
19. Provide lighting info and photometrics. The lighting shall be considerate of the neighboring residential properties.

20. Landscaping for off-street parking should be incorporated according to §17.20. The site should meet the landscaping requirements set forth in §17.20. (parkway trees, perimeter parking lot landscaping). See Landscaping below.
21. A sign plan for the development should be provided and incorporated into the PUD. Location and amount of signage should be included (i.e. signs on rear of buildings?).

Urban Design Requirements (Chapter 17.21.030) All new construction in B-1 and B-3.

https://library.municode.com/il/lemont/codes/code_of_ordinances?nodeId=TIT17UNDEOR_ARTIVDEST_CH17.21CODEST_17.21.030URDERE

22. Building walls facing public street shall have a minimum of 75% constructed of face brick of clay, native stone or fiber cement board siding. Building walls not facing the street shall not have less than 50% of the above requirements. Verify the proposed buildings meet these requirements.
23. Exterior Walls Not Facing a Public Street. Building exterior walls not facing a public street shall have a minimum of 50%, excluding glass, of the wall area constructed of one or more of the materials listed in sub-paragraph A B of this section (link above).
24. All rooftop equipment must be screened from public view. Rear of parapets should not be visible from the right-of-way.
25. Provide the length of exterior walls. Walls greater than 100-feet in length shall incorporate recesses and projections a minimum of three feet in depth and a minimum of 20 contiguous feet within each 100 feet of exterior wall height.
26. Verify the following (this may be an exception in the PUD). Parking.
    a. No more than 50% of the off-street parking for the entire development shall be located between the facade of the principal building and the primary abutting street.
    b. No development shall have parking in excess of 140% of the parking spaces required by this ordinance.
27. Verify all proposed Building Entrances have:
    a. All commercial buildings shall have clearly defined, highly visible customer entrance(s) featuring at least three of the following:
        i. Canopies, awnings or porticos; or
        ii. Overhangs of at least three feet from the supporting wall; or
        iii. Articulation of the building exterior wall, either recessed or projected, at the entrance; or
        iv. Corniced parapets over the door; or
        v. Arches or peaked roof forms above entrance; or
        vi. Architectural details such as tile work, brick soldier course, or moldings.
    b. Building entrances may include doors to individual shops or businesses, lobby entrances, or entrances to plazas or courtyards.
28. See §17.21.030 for more requirements including building entrances, sidewalks, drive through facilities, windows, parking, colors.

a. A sidewalk shall be provided along the full length of any exterior wall featuring a customer service entrance and along any exterior wall facing a parking area intended for customers or the general public. There should be a safe and clearly marked (i.e. signage, pavement striping, etc.)
b. Sidewalks shall be provided from the perimeter public sidewalk to the principal customer entrance. This sidewalk must be landscaped at least 50% of the way. The sidewalk connection along Archer to the front of each of the buildings is sufficient to meet this requirement.
c. Sidewalks shall not be placed adjacent to street curbs, but rather should be separated from street curbs by a parkway of at least 5-feet of landscaped or sodded area.

Landscaping

29. A tree survey should be completed. Quality trees should be saved and preserved especially in the transition yards.
30. Landscaping must meet requirements set forth in §17.20.030. (i.e. Provide location and dimensions of all existing and proposed structures, natural features, parking lots & drives, roadways, rights-of-way, sidewalks bicycle paths, bicycle parking areas, ground signs, refuse disposal areas, utilities, equipment, easements, ground lighting, contours.)
31. Foundation Landscaping: A landscaped area a minimum of eight feet in width, except for those areas used for building entrances and pedestrian ways shall be located along the front of the building or the side of each building containing the front entrance. See §17.20.090 for further standards. Many buildings appear to be missing foundation landscaping.
32. Detention and/or retention basins and ponds shall be landscaped along the perimeter of the high water level of the basin or pond. Such landscaping should include canopy and ornamental trees, evergreens, shrubbery, hedges, and/or other plants. In selecting and arranging the plantings, consideration should be given to water conservation. To ensure safety, adequate visibility to the basin or pond area shall be maintained.
33. One and a half plant units per 100 ft of street frontage along both McCarthy Road and Bell Road.
34. Plant Units. A "plant unit" is a measurement used to determine the quantity of plant material required for specific situations. The plant unit requirements establish the total amount of plant material while allowing flexibility in the selection and distribution of plants. One plant unit is comprised of ALL of the following:
    a. 0.5 canopy trees;
    b. 1.0 evergreen trees
    c. 1.5 understory/ornamental trees; and
    d. 6.0 shrubs or 6.0 18-inch containers of ornamental/native grasses.
35. The exterior of parking lots shall be landscaped with at least three plant units per 100 feet of linear distance surrounding the parking area.
36. Interior Parking Lot Landscaping:
    e. Landscaped areas totaling at least 35 square feet per parking stall shall be provided on the interior of the parking lot.

f. The interior parking lot landscaped areas ("landscaped islands") shall generally be dispersed throughout the parking lot and should be designed to delineate vehicular or pedestrian circulation patterns.
g. Each landscaped island shall be a minimum of 9 × 9 feet in size, as measured from back of curb to back of curb. The soil contained within each island shall be mounded to provide additional visual relief and to improve drainage for plants.
h. At least one canopy tree shall be installed in each required landscaped island.

The comments above are preliminary and general in nature and do not constitute a full review of all ordinances and codes in the Village of Lemont. Many comments and suggestions are meant to guide the applicant through the creation of more final documents. Please contact me with questions.

Sincerely,



Jamie Tate, AICP
Consulting Planner
jtate@lemont.il.us
630.640.5860

Attachment 10

Lemont Fire District TRC Comment Letter

LEMONT FIRE DISTRICT

INTEGRITY – HONOR - DEDICATION

15900 New Avenue, Lemont IL 60439

(630) 257-2376

www.lemontfire.com

February 23, 2023

Community Development
Village of Lemont
418 Main Street
Lemont, IL. 60439

Concept Plan
McCarthy and Bell Rd.

Dear Community Development;

This Department is in receipt of the site plans for the above mentioned project. The 2006 edition of the International Fire Code along with local amendments were used for this review. These plans are subject to the following comments:

1. The address for the property shall be permanently displayed, either on a sign or on the building. The type and size of the address a minimum four inches (4") - shall be in compliance with Lemont Fire Protection District Ordinance #16-01, and International Fire Code, 2006 Edition (Section 505).

2. All newly constructed buildings or tenant spaces are required to install an approved key box in an accessible location approved by the code official in accordance with the International Fire Code, 2006 Edition (Section 506).

3. Fire hydrants shall be located along a fire apparatus access road so that no portion of a building or facility will be more than 300 feet from any hydrant. Additional hydrants and mains shall be provided where required by the code official. Lemont Fire Protection District Ordinance #16-01 (Section 507.5).

A. Access: Access to fire hydrants shall be by any approved roadway as specified by this code.
B. Distance to Roadways: Hydrants shall be located approximately ten (10) feet from all-weather roadways.

C. Pumper Outlet Direction: Each hydrant shall have the pumper (steamer) connection facing the primary roadway and shall be accessible so that a connection can be made between the hydrant and the apparatus located in the street with twenty (20) feet of suction hose.
D. Hydrant Outlet Location: Fire hydrant outlets shall be a minimum of eighteen (18) inches and no more than thirty-six (36) inches above the finished grade.
E. Hydrant Type: Fire hydrants used in conjunction with water supplies shall be of a type acceptable to the Lemont Fire Protection District.
F. Cover/Cap: The larger steamer port on the hydrant is to be equipped with a five (5) inch "storz" fitting with a cover/cap. This cover/cap shall be connected to the hydrant with a 0.125" vinyl coated aircraft cable. If this type of connection cannot be used, final determination shall be made by the fire code official. Lemont Fire Protection District Ordinance #16-01 (Section 507.5.3).

4. The fire sprinkler company or fire protection engineer shall submit an Automatic Fire Sprinkler System Technical Submission in accordance to The State of Illinois (225 ILCS 325/3) (from Ch. 111, par 5203) to the Lemont Bureau of Fire Prevention and the Village of Lemont that certifies that the fire sprinkler coverage is adequate for the intended use and /or storage of the building proposed.

5. An approved automatic sprinkler system shall be installed throughout this occupancy. This system shall be designed and installed in accordance with N.F.P.A. Standard #13, 2013 Edition. A complete set of sprinkler shop/working drawings, and the appropriate equipment specification sheets, shall be submitted to the Bureau of Fire Prevention for review and approval prior to installation in accordance with Lemont Fire Protection District Ordinance #16-01 (Section 903), and International Fire Code, 2006 Edition (Section 903).

6. An approved fire alarm system shall be installed throughout this occupancy. The fire alarm system shall be designed and installed in accordance with N.F.P.A. Standard #72, 2013 Edition. A complete set of fire alarm shop/working drawings, and the appropriate equipment specification sheets, shall be submitted to the Village of Lemont for review and approval prior to installation and in accordance with the International Fire Code, 2006 Edition, (Section 907.1.1).

7. Portable Fire Extinguishers shall be installed in all occupancy groups and have a minimum of one fire extinguisher located within 5 feet of each exterior door. All other areas shall have extinguishers installed in accordance with this section, NFPA 10, or where required by the code official. The minimum size fire extinguisher for use in all occupancy groups shall be 4A60BC. All other applications shall be accordance with the provisions of NFPA 10. (Lemont Fire Protection District, Ordinance #16-01. Section 906).

8. Approved exit lighting shall be installed in all means of egress in accordance with International Fire Code, 2006 Edition (Chapter 10) and N.F.P.A. #101 Life Safety Code, 2015 Edition (Section 7 to 7.10).

9. Approved emergency lighting shall be installed in all means of egress in accordance with International Fire Code, 2006 Edition (Section 1008) and N.F.P.A. #101 Life Safety Code, 2015 Edition (Section 7-7.10).

10. Review of the plans show that the required dimensions for the turning radius have met the requirements for the turning radius required to handle our ladder truck. See Attached Information.

The review of these drawings does not relieve the contractor or building owner from designing and installing and completing this project per all code and standard requirements. Fire code and standard requirements not necessarily noted on these plans, in the plan review letter, or noted during inspections are still required to be provided and installed in full compliance with all adopted codes standards and ordinances. Noted requirements of the Codes and Standards for the submitted project is not to be construed as final approval. This can only be granted after construction and occupancy inspections. If you should have any further questions, please don't hesitate to contact me.

Sincerely,



Jennifer Murray
Fire Marshal

Attachment 11

Missing Document Email from PUD submittal

Jamie Tate

From: Jamie Tate
Sent: Tuesday, March 21, 2023 11:00 AM
To: Bill Zalewski; Jason Berry
Cc: Rich Ry
Subject: RE: Retail at SWx of Bell and 123rd
Attachments: McCarthy & Bell Retail UDO Review.pdf

Hi Bill,

Thank you for the digital copies of the plans and I have saved them in the file. Here is a link to the Preliminary PUD/Plat application with checklist to verify a complete submittal:
637225471386370000 (lemont.il.us)

In summary, the following is required (fees are based on size of site):

- Applications form.
- Application fee: $500
- Preliminary Plat fee: $1,000
- Escrow: $2,000
- Proof of Ownership & Application Authorization (the application is specific on what is required).
- Title search
- Traffic study (in digital form so I can send to our consultant for review).
- Preliminary building elevations. (I think at least for the initial office/medical building there needs to be an idea of the architectural intentions. I realize the other stand alone buildings may be more chain based architecture).
- Preliminary Plat.
- Project summary. Provide a written overview of the proposed project. This statement should include how the proposal responds to comment received at the TRC meeting (I've attached these again). I can give a copy of an example if you'd like. This should also include any exception to the UDO you are requesting and how your project meets (or does not) the PUD objectives. This was discussed at the TRC meeting and in the TRC review letter.
- Declaration of Easements.
- Photometric plan. This is important with adjacent residentially zoned and used property.
- Sign plan if applicable. I think this is a good idea with the amount of buildings and businesses proposed with this project. This is also important with all the drive throughs and four sided buildings.
- Sample public notice letter.
- List of all property owners within 250 feet (skipping streets and ROW).

I am unsure if you were submitting for Preliminary PUD/Plat or in response to the TRC review. The list above, although not limited to, is required to be considered a complete PUD submittal. Let me know if you have any questions.

Thank you,
Jamie

Jamie Tate, AICP
Consulting Planner

Village of Lemont | 418 Main Street | Lemont, IL 60439
p 630.640.5860 | f 630.257.1598
jtate@lemont.il.us | www.lemont.il.us

From: Bill Zalewski <BillZ@aceng.us>
Sent: Monday, March 20, 2023 5:16 PM
To: Jason Berry <JBerry@lemont.il.us>; Jamie Tate <JTate@lemont.il.us>
Cc: Rich Rymek <rjrymekco@cs.com>
Subject: [External Sender] Retail at SWx of Bell and 123rd

Jason

The plotting took a little longer than anticipated, I showed up after the doors were locked
The name of the retail is SunHill Plaza

Attached are the PDFs for the Plat of Survey, Landscaping and Preliminary Engineering

I will drop the hard copies off in the morning

Thank You,

Bill

Advantage Consulting Engineers
William J Zalewski, PE
80 Main Street - Suite 17
Lemont, Illinois 60439
www.aceng.us

630-520-2467 Cell

Attachment 12

Traffic Impact Study

Traffic Impact Study

Proposed Commercial Development
12300 Bell Road
Lemont, Illinois

October 12, 2022

Prepared for:
R/J Rymek & Co.

Prepared by:
Dan Brinkman, P.E., PTOE
Assistant Director of Transportation Services

Antonio Maravillas, E.I.T.
Traffic Engineer

GHA



Part I. Introduction and Project Context

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Impact Study for the proposed commercial development at 12300 Bell Road in Lemont, Illinois. The site is located on the southwest quadrant of Bell Road and McCarthy Road and is currently undeveloped. As proposed, the development consists of constructing nine (9) commercial buildings totaling approximately 51,900 square feet. Access to the development will be provided via a full access driveway on McCarthy Road, a right-in/right-out only driveway on Bell Road, and an additional full access driveway on Bell Road.

The following summarizes our findings and provides various recommendations for your consideration. *Appendices* referenced are in the Technical Addendum at the end of this document.

Part II. Background Information

Site Location Map and Roadway Inventory

Exhibit 1 provides a site location map and ***Exhibit 2*** illustrates the existing traffic operations in the site area. ***Appendix A*** provides a photo inventory of the site vicinity. Pertinent comments to the adjacent roadways include:

Area Land Use

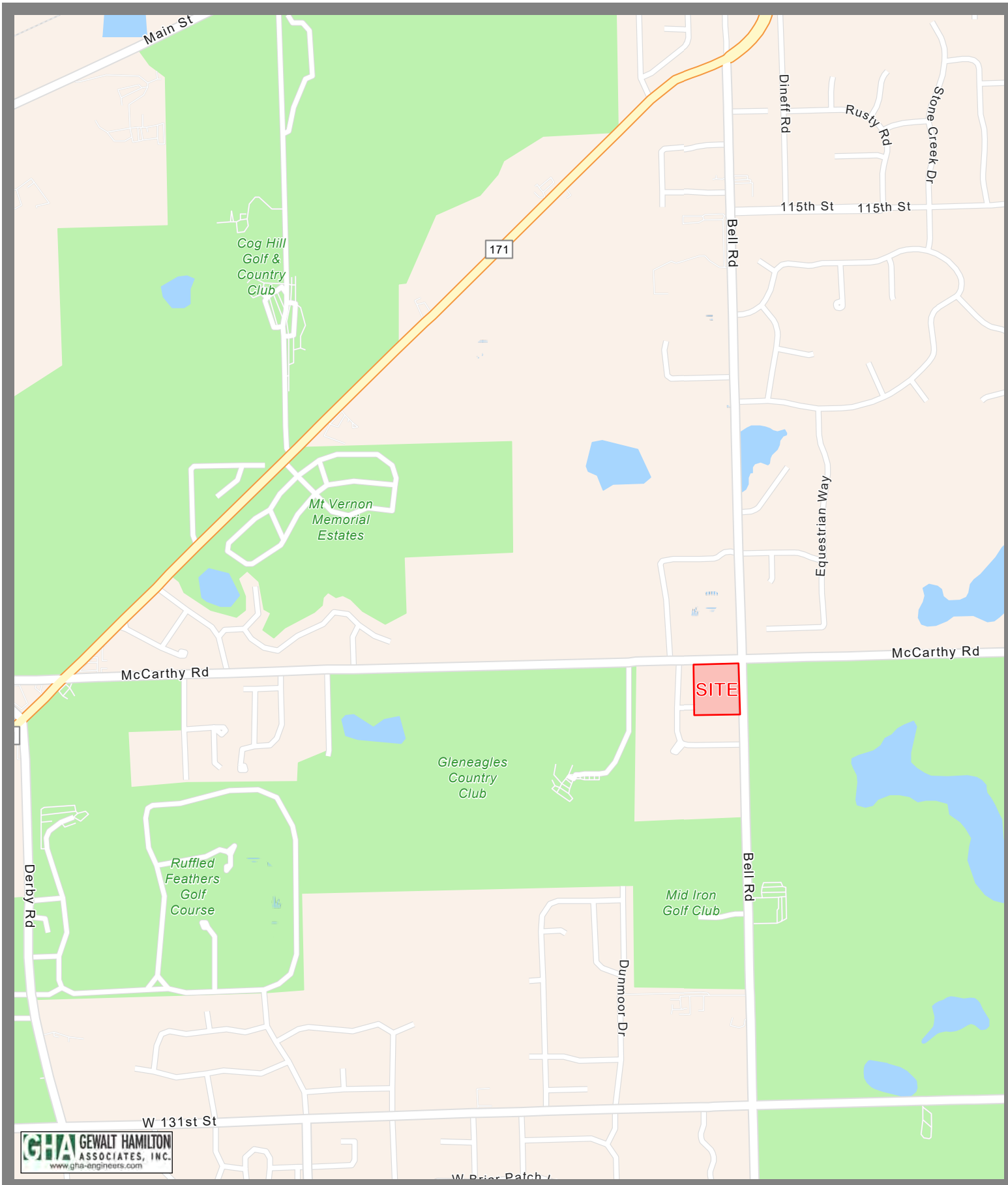
The approximately 9-acre subject site is bordered by residential single-family housing to the west and south. The McGinty Slough Cook County Forest Preserve is located east of the site across Bell Road. The land immediately north of the site across McCarthy Road is currently undeveloped. However, a Village approved 32-unit duplex subdivision is planned to be constructed on the vacant land. Construction for this subdivision has started as of summer 2022.

Bell Road (County Highway W18)

- Bell Road is a north-south Principal Arterial roadway under the jurisdiction of the Cook County Department of Transportation and Highways (CCDOTH) and is designated as County Highway W18.
- Bell Road is designated as a Strategic Regional Arterial (SRA) route. SRA routes are designed to carry higher traffic volumes at higher travel speeds through access control and traffic signal installation / spacing.
- Bell Road provides one travel lane in each direction and has a posted speed limit of 45 miles-per-hour (mph).
- At its signalized intersection with McCarthy Road, Bell Road provides one left-turn lane and one shared through/right-turn lane on both approaches.
- At its unsignalized intersection with Sunhill Lane, northbound left-turns from Bell Road are prohibited on weekends from 6 AM to 9 AM.

McCarthy Road (123rd Street)

- McCarthy Road is an east-west roadway under the jurisdiction of the Illinois Department of Transportation (IDOT). It is classified as a Major Collector west of Bell Road and as a Minor Arterial east of Bell Road.
- McCarthy Road provides one travel lane in each direction and has a posted speed limit of 50 mph.
- At its signalized intersection with Bell Road, McCarthy Road provides one left-turn lane and one shared through/right-turn lane on both approaches.



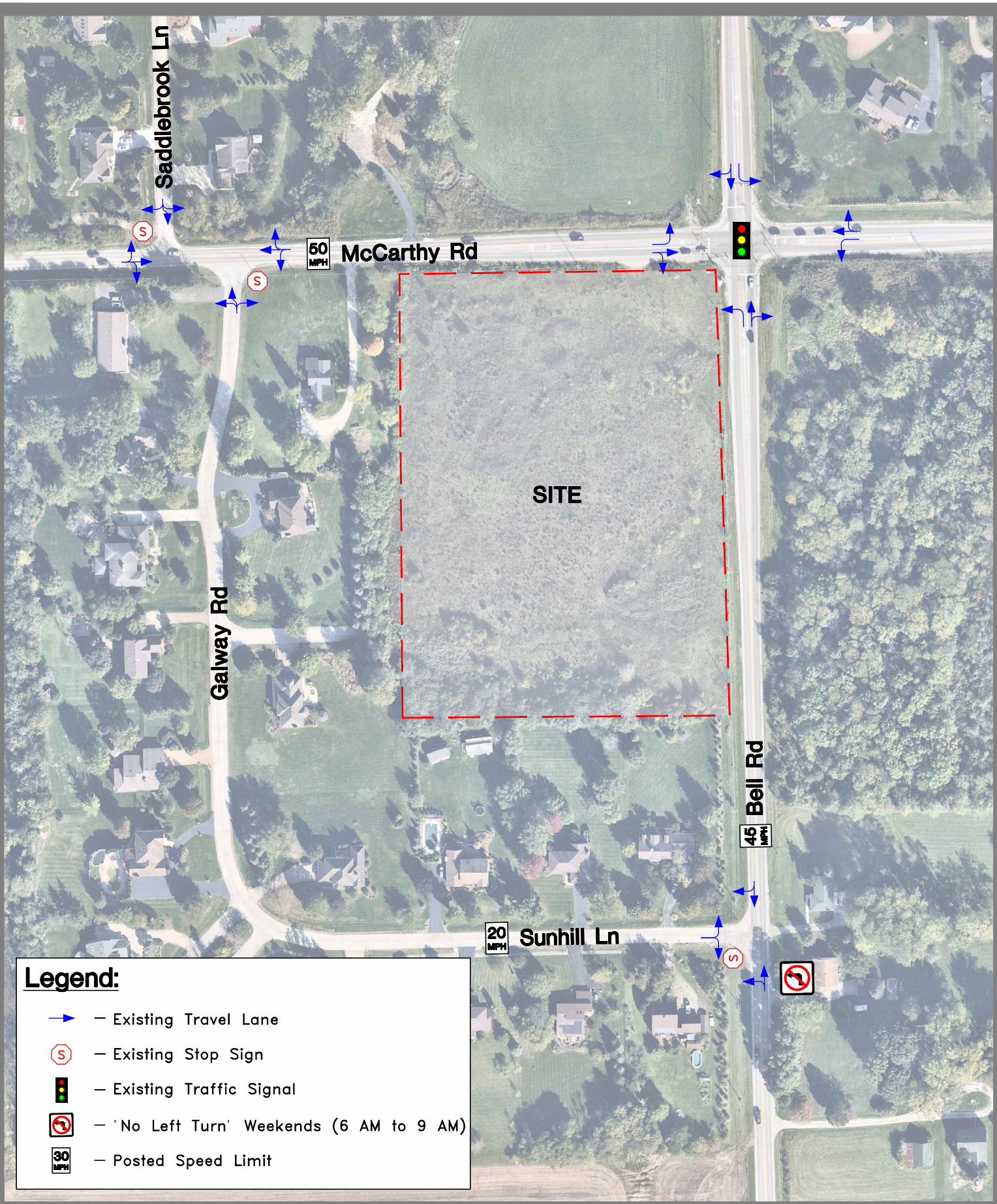
N

1 inch = 2,000 Feet

Exhibit 1 - Location Map

Proposed Commercial Development
12300 Bell Road
Lemont, Illinois

Map Center: 87.94218°W 41.66567°N



GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 2
Existing Traffic Operations

Saddlebrook Lane

- Saddlebrook Lane is a north-south Local roadway, extending northerly from McCarthy Road, and is under the jurisdiction of the Lemont Township Highway Department.
- Saddlebrook Lane provides one travel lane in each direction with no posted speed limit.
- Saddlebrook Lane is stop controlled at its intersection with McCarthy Road

Galway Road

- Galway Road is a north-south Local roadway, extending southerly from McCarthy Road, and is under the jurisdiction of the Lemont Township Highway Department.
- Galway Road provides one travel lane in each direction with no posted speed limit.
- Galway Road is stop controlled at its intersection with McCarthy Road.

Sunhill Lane

- Sunhill Lane is an east-west Local roadway, extending westerly from Bell Road until it connects with Galway Road.
- Sunhill Lane provides one travel lane in each direction and has a posted speed limit of 20 mph.
- Sunhill Lane is stop controlled at its intersection with Bell Road.

Existing Traffic

GHA conducted weekday peak period traffic turning movement counts at the McCarthy Road intersections with Saddlebrook Lane, Galway Road, and Bell Road on Thursday, September 22, 2022, from 6:00 to 9:00 AM and 3:00 to 6:00 PM. A weekday peak period traffic turning movement count was also conducted at the Bell Road and Sunhill Lane intersection on Thursday, April 14th, 2022, during the same timeframes. The observed weekday morning and evening peak hours occurred from 7:00 to 8:00 AM and 4:15 to 5:15 PM, respectively, at the Bell Road and McCarthy Road intersection.

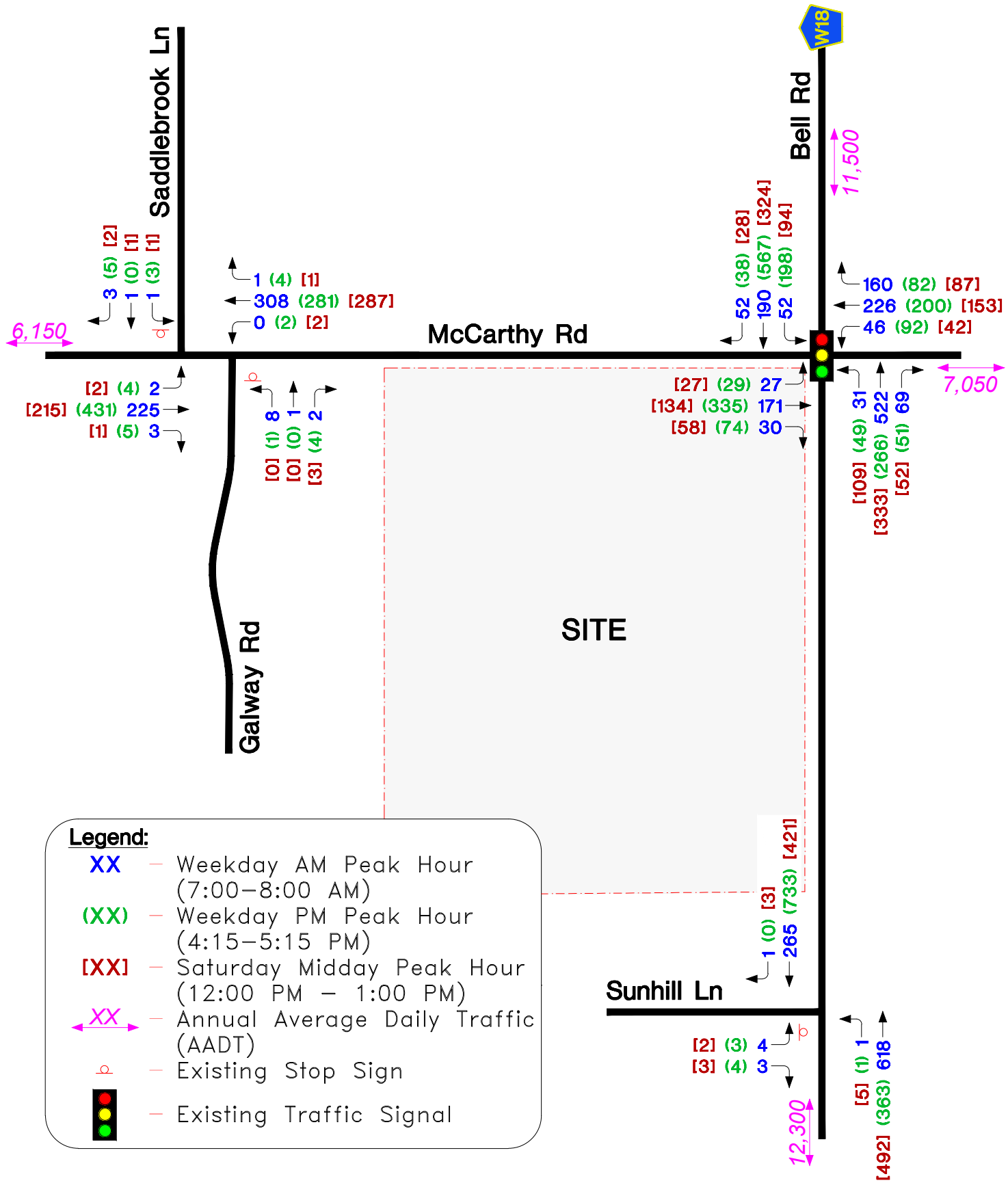
Supplemental Saturday midday counts were conducted at the intersections on Saturday, April 16th, 2022, from 11:00 AM to 1:00 PM. The observed Saturday midday peak hour occurred from 12:00 to 1:00 PM at the Bell Road and McCarthy Road intersection.

Exhibit 3 summarizes the existing weekday morning, weekday evening, and Saturday midday peak hour traffic volumes. *Exhibit 3* also provides the Annual Average Daily Traffic (AADT) volumes along Bell Road and McCarthy Road as published by IDOT on their website: www.gettingaroundillinois.com.

The GHA traffic count summary sheets are included as ***Appendix B***.

No-Build Traffic

Exhibit 4 summarizes the year 2028 no-build peak hour traffic volumes. Traffic growth in the area is a function of expected land development in the region. Future traffic volume conditions were developed for the year 2028, build-out year of the development (year 2023) plus five years. Based on a review of historical traffic volumes and the CMAP 2050 traffic projections (see ***Appendix C)***, traffic volumes along Bell Road and McCarthy Road are assumed to experience an overall annual, compounded growth rate of approximately 0.43 to 0.73 percent per year. To provide a conservative analysis, a 0.50 to 0.73 percent per year compounded growth rate was applied to Bell Road and McCarthy Road. Additionally, estimated traffic volumes from the proposed Equestrian Villas development (see ***Appendix D***) were added to the base volumes.



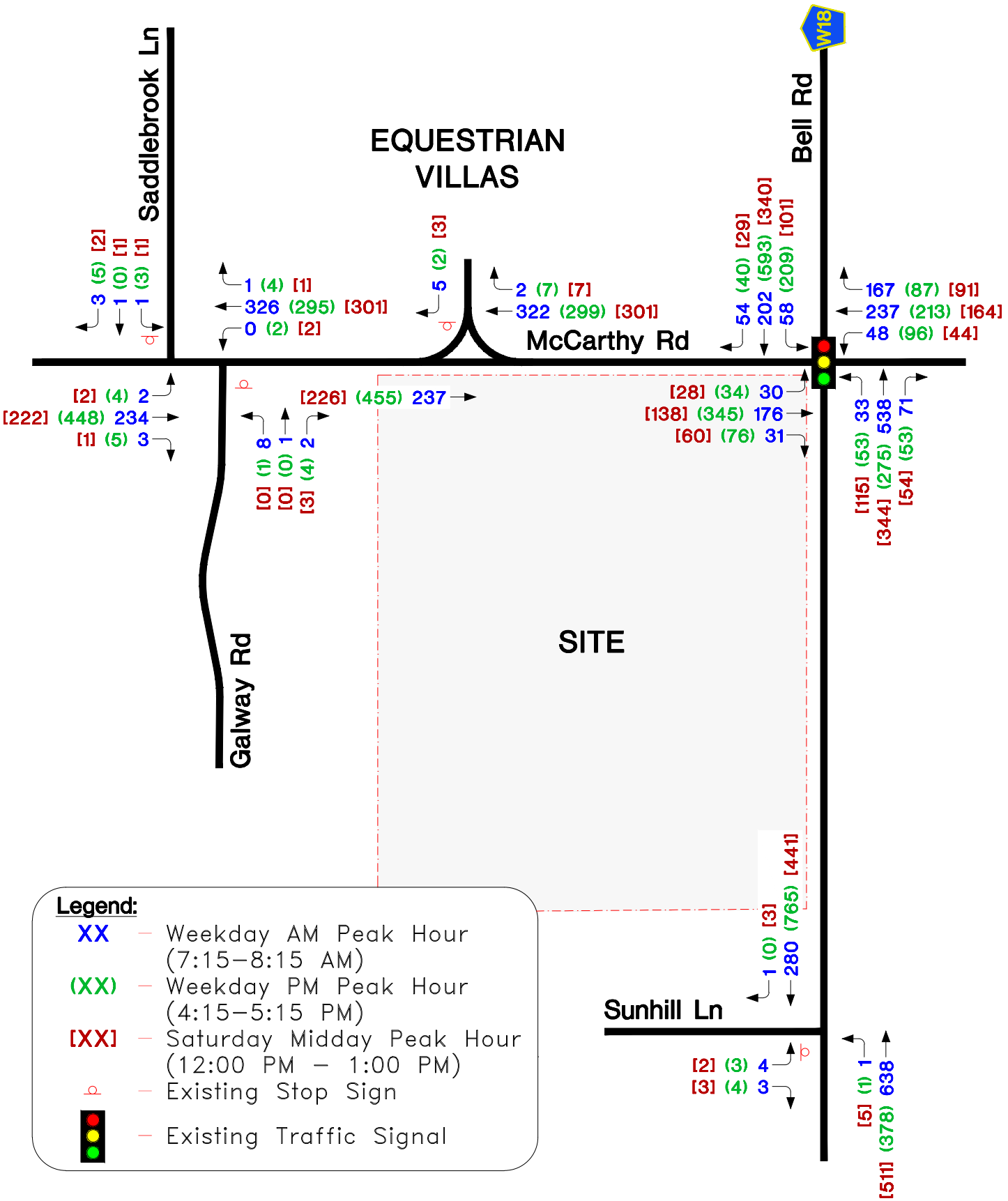
GHA GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 3
Existing Traffic

Sources: 1) GHA April/September 2022 2) IDOT 2018/2021 AADT



GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 4
Year 2028 No-Build Traffic
(Includes Equestrian Villas Development Traffic)

Crash Analysis

Crash data was obtained from the IDOT Division of Transportation and Safety for the last five available calendar years, 2016 through 2020. A summary of the crash data is provided in ***Table 1*** with the locations mapped on the exhibit contained in ***Appendix E***.

Table 1: Crash Summary (2016 – 2020)

Location	No. of Crashes	Severity [B]					Crash Type [D]					Percent During Wet/Icy Conditions
		PD	PI [C]			F	AG	AN	FO	FTR	T	
			A	B	C							
Intersection - Crashes within 200' of intersection												
Bell Road at McCarthy Road	42	32	0	2	8	0	6	1	2	26	7	29%
McCarthy Road at Saddlebrook Lane / Galway Road	1	1	0	0	0	0	0	0	0	1	0	0%
Bell Road at Sunhill Lane	3	1	0	0	2	0	0	0	1	2	0	33%
Segment												
Bell Road between McCarthy Road and Sunhill Lane	6	4	0	0	2	0	0	3	0	3	0	33%
McCarthy Road between Galway Road and Bell Road	0	0	0	0	0	0	0	0	0	0	0	0%
Total (2016-20)	**52**	**38**	**0**	**2**	**12**	**0**	**6**	**4**	**3**	**32**	**7**	**4%**

[A] Source: IDOT Division of Transportation and Safety for the 2016-2020 calendar years

[B] PD = property damage only; PI = personal injury; F = fatality

[C] Type A (incapacitating injury); Type B (non-incapacitating injury); Type C (possible injury)

[D] AG = Angle; AN = Animal; FO = Fixed Object; FTR = Front to Rear; T = Turning

As shown in *Table 1*, 42 reported crashes occurred at the intersection of Bell Road and McCarthy Road during the 5-year study period, which is an average of approximately 8.5 crashes per year. Approximately 76 percent (32 of 42) of the total crashes involved property damage only and approximately 62 percent (26 of 42) were front-to-rear collisions. The high percentage of front-to-rear collisions is an indication of a regional capacity issue at the signalized intersection.

No noticeable crash patterns or trends were observed elsewhere at any of the other intersections studied, or along the segments adjacent to the site.

Part III. Project Traffic Characteristics

Future Site Characteristics

Proposed Development Plan

As proposed, a commercial development will be constructed on the vacant parcel at the southwest quadrant of Bell Road and McCarthy Road. The development will contain a 9,900 square foot day care center, a 4,500 square foot bank facility with a drive-through, two 4,200 square foot fast food restaurants with drive-throughs, and six other commercial buildings totaling 29,100 square feet.

Access to the development is proposed via a full access driveway on McCarthy Road, located approximately 490 feet west of Bell Road. Additional access is also proposed via a right-in/right-out only driveway on Bell Road, located approximately 275 feet south of McCarthy Road, and an additional full access driveway further south along Bell Road located approximately 690 feet from McCarthy Road. The conceptual site plan dated December 6, 2021, and prepared by Advantage Consulting Engineers, is included as ***Appendix F***.

Trip Generation

Trip generation rates published by the Institute of Transportation Engineers (ITE) in the 11th Edition of the Manual *Trip Generation* were used to determine the anticipated traffic generated by the proposed commercial development. Specific land uses for day care center, drive-in bank, and fast-food restaurant with drive-through window were utilized for the known uses. For the unknown uses, the strip retail plaza land use was used, which considers an integrated group of commercial establishments.

The number of vehicle trips anticipated during the weekday morning, weekday evening, and Saturday midday peak hours, as well as on a weekday daily basis are summarized in ***Table 2.***

Table 2: Trip Generation Calculations

Land Use	Size	ITE Code	Weekday Peak Hours						Saturday			Daily		
			Morning 8:00 - 9:00 AM			Evening 4:45-5:45 PM			Midday 11 AM - 12 PM			24-hours		
			In	Out	Sum	In	Out	Sum	In	Out	Sum	In	Out	Sum
Proposed Day Care Center														
Day Care Center	9,900 SF	565	58	51	109	52	58	110	11	6	17	236	236	472
Proposed Bank														
Drive-in Bank	4,500 SF	912	26	19	45	47	48	95	60	59	119	226	226	452
Less Pass By Trips (20%)			-5	-5	-10	-10	-10	-20	-12	-12	-24	-45	-45	-90
Proposed Fast-Food Restaurants														
Fast-Food Restauraunt with	4,200 SF	934	95	92	187	72	67	139	118	114	232	982	982	1,964
Drive-Through Window	4,200 SF	934	95	92	187	72	67	139	118	114	232	982	982	1,964
Less Pass By Trips (20%)			-37	-37	-74	-28	-28	-56	-46	-46	-92	-196	-196	-392
Proposed General Retail														
Strip Retail Plaza (<40k)	29,100 SF	822	35	23	58	83	83	166	97	94	191	729	729	1,458
Less Pass By Trips (20%)			-6	-6	-12	-17	-17	-34	-19	-19	-38	-146	-146	-292
Total Development														
Total Trips			309	277	586	326	323	649	404	387	791	3,155	3,155	6,310
Pass-by Trips			-48	-48	-96	-55	-55	-110	-77	-77	-154	-387	-387	-774
New Trips			**261**	**229**	**490**	**271**	**268**	**539**	**327**	**310**	**637**	**2,768**	**2,768**	**5,536**

Sources: ITE Trip Generation Manual, 11th Edition, ITE Trip Generation Handbook, 3rd Edition

As shown in *Table 2*, not all developmental trips are anticipated to be new trips on the surrounding roadway network. Pass-by trips, which are trips that involve vehicles already present in the adjacent passing stream of traffic, are to be expected for a commercial development. Per the 3rd Edition of the ITE *Trip Generation Handbook*, a drive-in bank facility generates between 26 to 38 percent pass-by trips, a fast-food restaurant with drive-through window generates between 49 to 50 percent pass-by trips, and a shopping center generates between 26 to 34 percent pass-by trips during the weekday morning, weekday evening, and Saturday midday peak hours.

To provide a conservative analysis scenario, and to be consistent with IDOT's general guidelines for the preparation of traffic impact studies on SRA routes, a maximum 20 percent pass-by reduction was applied for the development, excluding the day care center. As shown in *Table 2*, the development will generate 490 new trips (261 in and 229 out) during the weekday morning peak hour, 539 new trips (271 in and 268 out) during the weekday evening peak hour, and 637 new trips (327 in and 310 out) during the Saturday midday peak hour.

Excerpts from the ITE *Trip Generation* Manual and *Trip Generation Handbook* are included as ***Appendix G***.

Trip Distribution

The anticipated trip distribution of new site traffic is summarized in ***Table 3***. This was based on current travel patterns, the operational characteristics of the adjacent street system, and the location of the site access driveways.

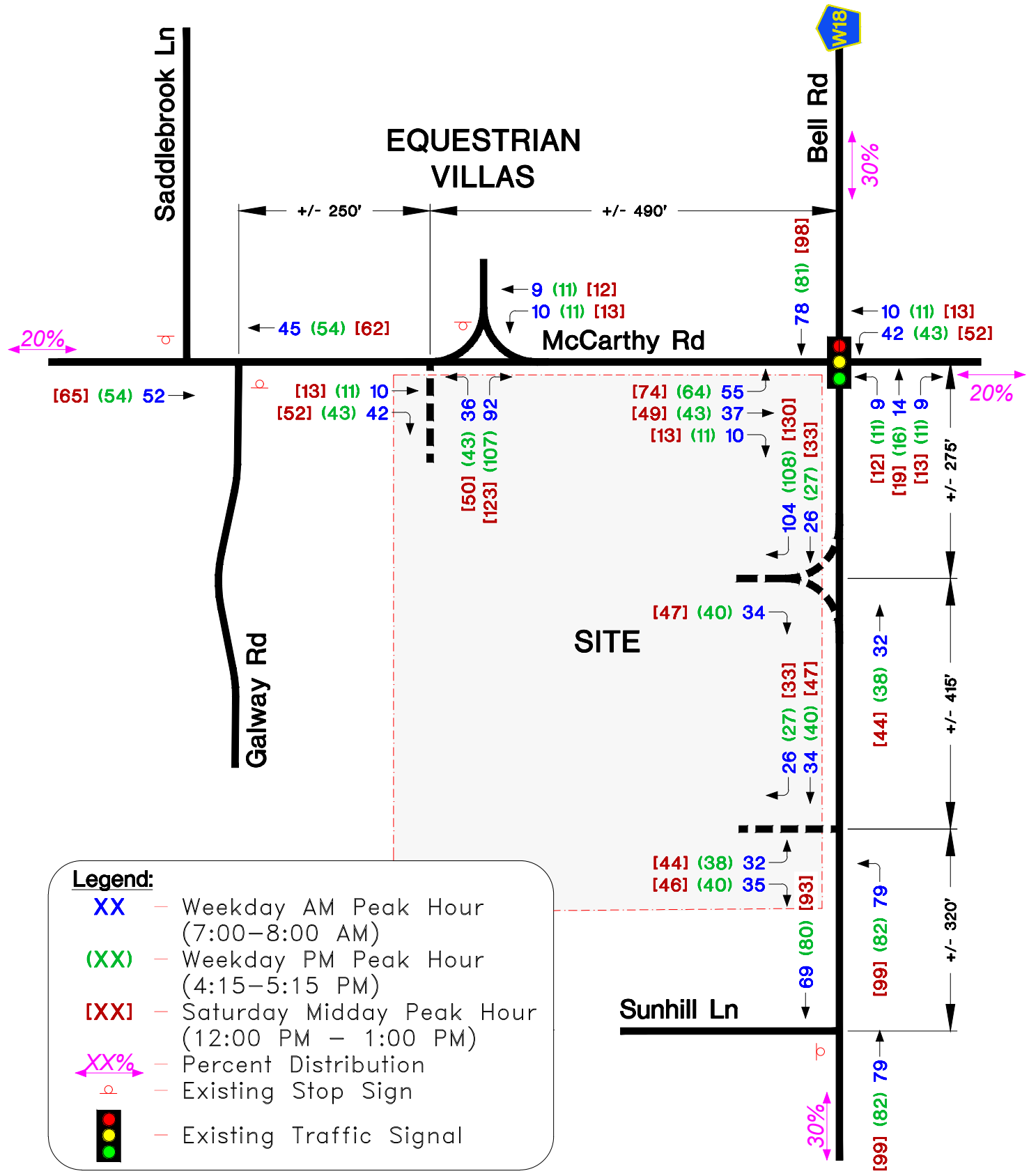
Table 3: Trip Distribution

Route & Direction	Approach Site From	Depart Site To
Bell Road		
North of McCarthy Road	30%	30%
South of Sunhill Lane	30%	30%
McCarthy Road		
East of Bell Road	20%	20%
West of Saddlebrook Lane	20%	20%
Totals =	***100%***	***100%***

Site and Total Traffic Assignments

Exhibits 5A and ***5B*** illustrate the new and pass-by site traffic assignments, respectively, for the development's trips, which are based on the traffic characteristics summarized in *Tables 2* and *3* (trip generation and trip distribution) and assigned to the area roadways.

The site traffic (*Exhibits 5A* and *5B*) and the year 2028 no-build traffic (*Exhibit 4*) were combined to produce the year2028 total traffic, which is illustrated on ***Exhibit 6***.



Legend:

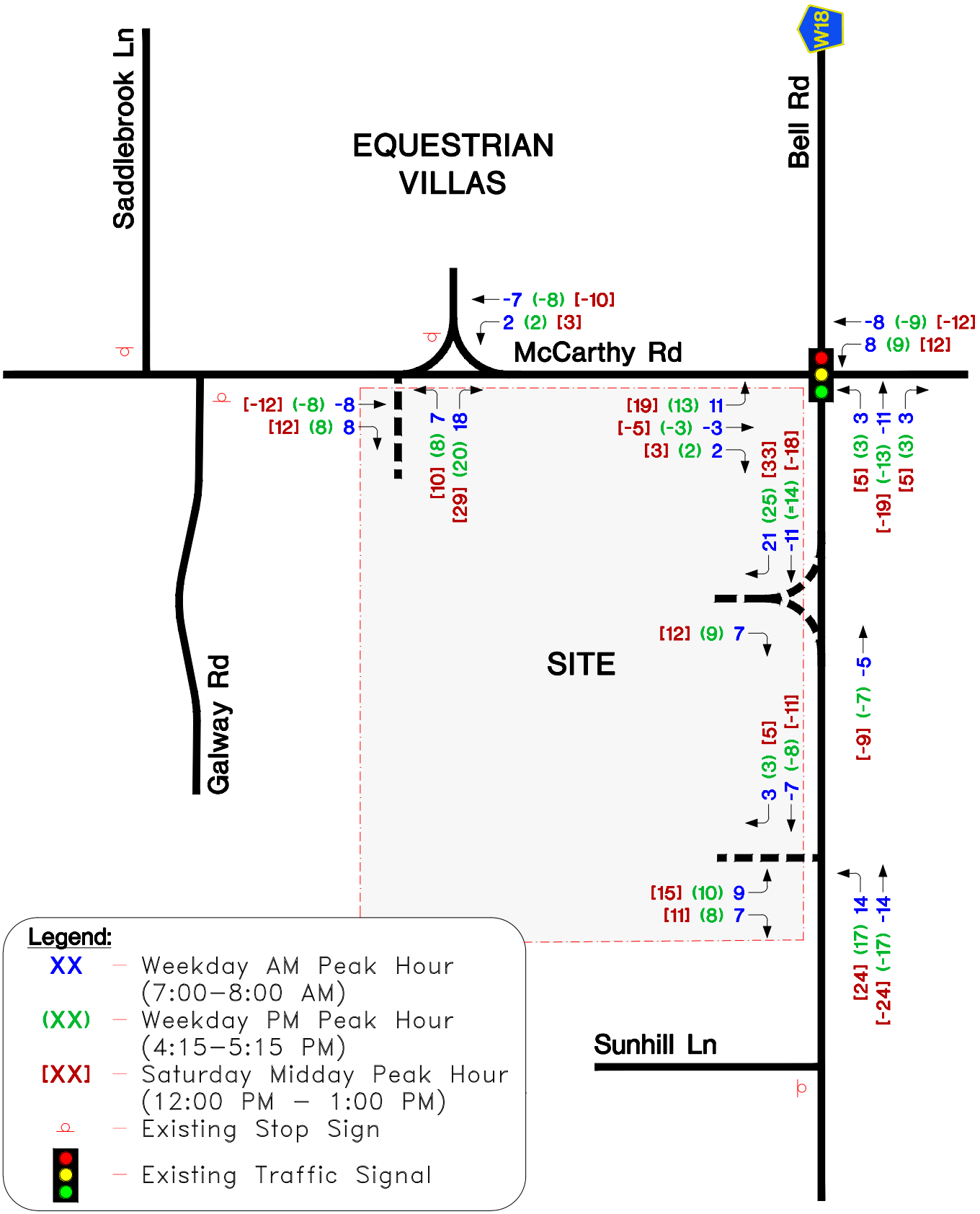
- XX – Weekday AM Peak Hour (7:00–8:00 AM)
- (XX) – Weekday PM Peak Hour (4:15–5:15 PM)
- [XX] – Saturday Midday Peak Hour (12:00 PM – 1:00 PM)
- XX% – Percent Distribution
- – Existing Stop Sign
- – Existing Traffic Signal

GHA GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 5A
Site Traffic
New Trips

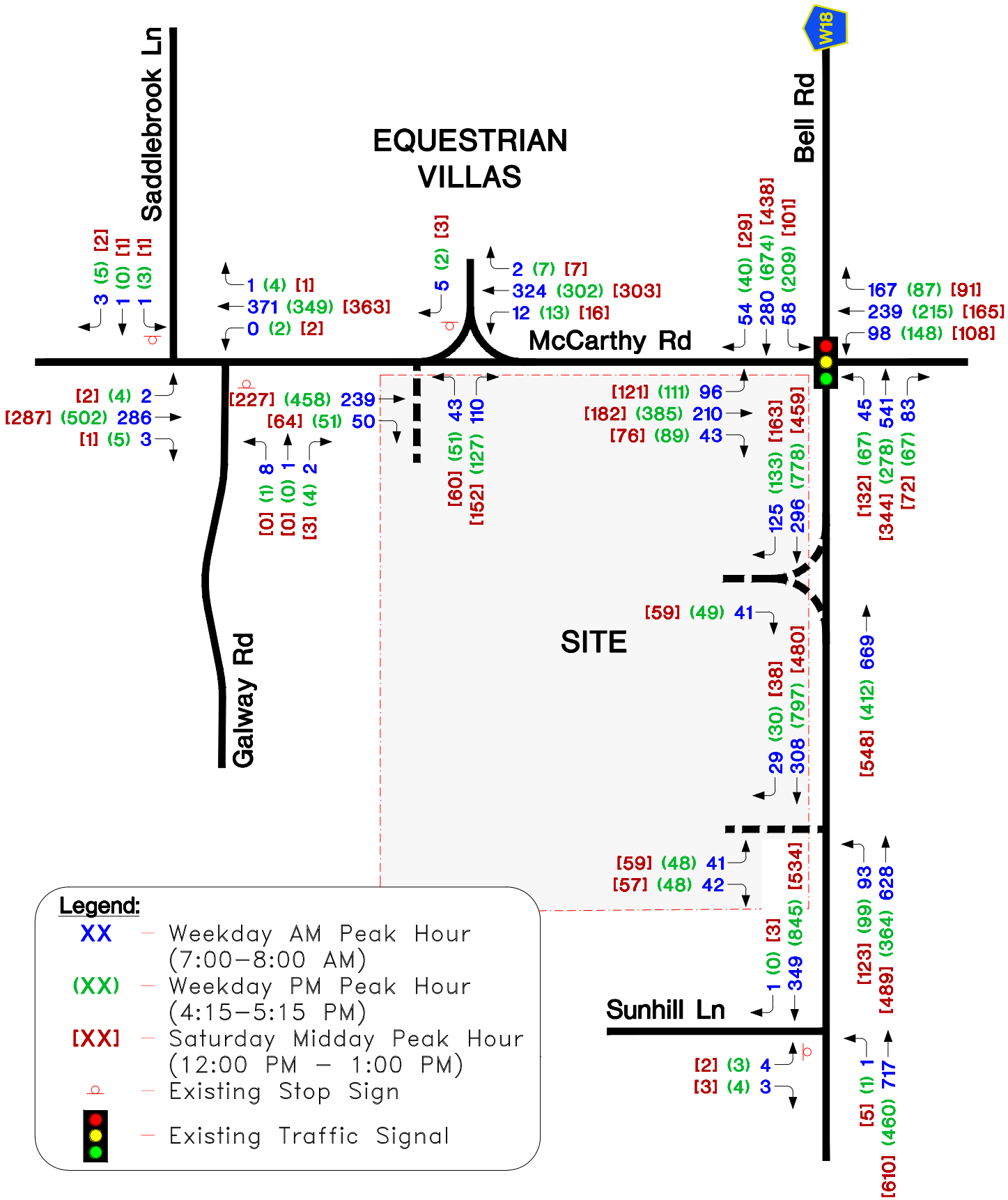


GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 5B
Site Traffic
Pass-by Trips



GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 6
Year 2028 Total Traffic

Part IV. Traffic Evaluation

Turn Lane Analysis

The IDOT *Bureau of Design and Environment* (BDE) Manual was referenced in order to determine if auxiliary turn lanes are warranted at any of the proposed site access driveways. An exclusive right-turn lane shall be considered at any unsignalized intersection on a two-lane highway that satisfies the criteria in Figure 36-3.A. Based on the 2028 total traffic volumes (see *Exhibit 6*), an exclusive right-turn lane is only warranted along southbound Bell Road at the proposed right-in/right-out only driveway.

An exclusive left-turn lane shall be considered at any unsignalized intersection on a two-lane highway that satisfies the criteria in Figures 36-3.C, D, E, F, or G. Based on the posted speed limits, Figure 36-3.D. was used for McCarthy Road and Figure 36-3.E was used for Bell Road. Based on the 2028 total traffic volumes (see *Exhibit 6*), an exclusive left-turn lane is only warranted along northbound Bell Road at the proposed full access driveway.

The BDE figures previously referenced are included as ***Appendix H***, with the respective peak hour volumes charted on each figure.

Capacity Analysis

Capacity analyses are a standard measurement that identifies how an intersection operates. They are measured in terms of Level of Service (LOS). The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six Levels of Service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS C is often considered acceptable for design purposes and LOS D is usually considered as providing the lower threshold of acceptable operations. Since the level of service is a function of the traffic flows placed upon it, the facility may operate at a wide range of levels of service, depending on the time of day, day of week or period of year. A description of the operating condition under each level of service, based on the analysis parameters as published in the Transportation Research Board's (TRB) Highway Capacity Manual (HCM), Sixth Edition, is provided in ***Table 4***.

Table 4: Level of Service (LOS) Summary

LOS	Description	Delay (sec / veh)	
		Traffic Signal	Stop Sign
A	Describes conditions with little to no delay to motorists.	<10	< 10
B	Represents a desirable level with relatively low delay to motorists.	>10 and < 20	>10 and < 15
C	Describes conditions with average delays to motorists.	>20 and < 35	>15 and < 25
D	Describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.	>35 and < 55	>25 and < 35
E	Represents operating conditions with high delay values. This level is often considered within urban settings or for minor streets intersecting major arterial roadways to be the limit of acceptable delay.	>55 and < 80	>35 and < 50
F	Is unacceptable to most drivers with high delay values that often occur, when arrival flow rates exceed the capacity of the intersection.	>80	>50

Table 5 summarizes the intersection capacity and queue analysis results. Year 2028 total traffic conditions assumed the construction of a southbound right-turn only lane along Bell Road at the proposed right-in/right-out only driveway, and a northbound left-turn only lane along Bell Road at the proposed full access driveway. At the signalized intersection of Bell Road and McCarthy Road, the timings used for the analysis were based on field observations. The existing intersection is not part of a signal system and functions as an uncoordinated signal.

The Highway Capacity Software (HCS) summary printouts are provided in ***Appendix I***. The following summarizes the results from the capacity analyses:

Bell Road and McCarthy Road

Under existing and future year 2028 (no-build and total) traffic conditions, this signalized intersection operates at an overall LOS C during the weekday morning and Saturday midday peak hours with all movements operating at LOS D or better.

Under existing traffic conditions, the intersection operates at an overall LOS C during the weekday evening peak hour but is expected to worsen to an overall LOS D by the year 2028. With the addition of site generated traffic, the southbound through/right-turn movement is anticipated to operate at an LOS F; however the intersection is still anticipated to operate at an overall acceptable LOS D.

As previously discussed, Bell Road is classified as a Principal Arterial and is also designated as an SRA route. IDOT previously completed an SRA study, which is intended to serve as a guide for long-range transportation planning purposes along the corridor. The IDOT SRA report dated August 1997 for Bell Road identified the widening of Bell Road near McCarthy Road to accommodate two travel lanes in each direction with a flush or raised curb median. These improvements are currently not funded in IDOT's 5-year (2023-2028) multi-year program.

McCarthy Road at Galway Road / Saddlebrook Lane

Under existing and future year 2028 (no-build and total) traffic conditions, all movements at this unsignalized intersection operate at the design LOS C or better during all three peak hours. The proposed site traffic has minimal impact on the intersection operations.

Bell Road at Sunhill Lane

Under existing and future (no-build and total) traffic conditions, all movements at this unsignalized intersection operate at the design LOS C or better during all three peak hours. The proposed site traffic has minimal impact on the intersection operations.

McCarthy Road at Equestrian Villas Access / Site Access

Under future (no-build and total) traffic conditions, all movements at this unsignalized intersection are anticipated to operate at the design LOS C or better during all three peak hours. No further roadway improvements are needed at this unsignalized intersection.

Bell Road at Site RIRO Access

At the proposed site right-in/right-out access along Bell Road, all movements are anticipated to operate at the design LOS C or better during all three peak hours. No further roadway improvements are needed at this unsignalized intersection.

Table 5: Intersection Capacity and Queue Analysis Summary

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or not Allowed Movement												Overall Intersection
			Eastbound			Westbound			Northbound			Southbound			
1. Bell Road at McCarthy Road		Traffic Signal	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	-
AM Peak	A.Existing (See Exhibit 3)	• LOS	C	C	<	C	D	<	B	C	<	B	B	<	C
		• Delay	31.8	34.3	-	28.5	42.4	-	15.6	28.3	-	19.3	18.5	-	30.5
		• 95th Queue Length (ft)	26	214	-	42	417	-	20	502	-	33	189	-	-
		• Approach LOS (Delay)	C (34.0)			D (40.9)			C (27.6)			B (18.7)			-
	B. 2028 No-Build (See Exhibit 4)	• LOS	C	C	<	C	D	<	B	C	<	C	B	<	C
		• Delay	31.2	33.4	-	27.7	42.4	-	16.5	31.1	-	20.9	19.7	-	31.7
		• 95th Queue Length (ft)	29	217	-	43	433	-	22	542	-	38	204	-	-
		• Approach LOS (Delay)	C (33.1)			D (40.8)			C (30.4)			B (19.9)			-
	C. 2028 Total (See Exhibit 6)	• LOS	C	C	<	C	D	<	B	D	<	C	C	<	C
		• Delay	29.9	34.4	-	27.0	44.6	-	18.9	37.5	-	24.1	24.3	-	34.5
		• 95th Queue Length (ft)	89	260	-	87	446	-	32	607	-	42	283	-	-
		• Approach LOS (Delay)	C (33.1)			D (41.2)			D (36.2)			C (24.3)			-
PM Peak	A.Existing (See Exhibit 3)	• LOS	C	D	<	C	C	<	C	C	<	C	D	<	C
		• Delay	27.9	43.0	-	28.7	31.7	-	26.4	30.5	-	20.4	36.7	-	33.9
		• 95th Queue Length (ft)	27	449	-	83	280	-	41	306	-	152	601	-	-
		• Approach LOS (Delay)	D (42.0)			C (31.0)			C (30.0)			C (32.6)			-
	B. 2028 No-Build (See Exhibit 4)	• LOS	C	D	<	C	C	<	C	C	<	C	D	<	D
		• Delay	27.5	43.2	-	28.5	31.9	-	28.4	32.3	-	21.4	41.5	-	35.8
		• 95th Queue Length (ft)	31	463	-	85	296	-	46	324	-	165	665	-	-
		• Approach LOS (Delay)	D (42.0)			C (31.1)			C (31.8)			D (36.5)			-
	C. 2028 Total (See Exhibit 6)	• LOS	C	D	<	C	C	<	C	D	<	C	F	<	D
		• Delay	26.0	49.9	-	30.9	33.1	-	34.6	37.2	-	24.4	82.5	-	50.7
		• 95th Queue Length (ft)	99	550	-	134	303	-	64	362	-	177	1012	-	-
		• Approach LOS (Delay)	D (45.4)			C (32.4)			D (36.8)			E (69.3)			-
SAT Peak	A.Existing (See Exhibit 3)	• LOS	D	D	<	D	D	<	B	B	<	B	B	<	C
		• Delay	38.0	44.8	-	36.8	46.4	-	11.0	15.7	-	11.5	15.4	-	25.0
		• 95th Queue Length (ft)	30	231	-	45	282	-	54	253	-	47	231	-	-
		• Approach LOS (Delay)	D (44.0)			D (45.0)			B (14.7)			B (14.6)			-
	B. 2028 No-Build (See Exhibit 4)	• LOS	D	D	<	D	D	<	B	B	<	B	B	<	C
		• Delay	37.1	43.7	-	35.8	45.7	-	11.8	17.0	-	12.3	16.7	-	25.5
		• 95th Queue Length (ft)	30	234	-	47	295	-	59	271	-	52	250	-	-
		• Approach LOS (Delay)	D (42.9)			D (44.2)			B (15.8)			B (15.8)			-
	C. 2028 Total (See Exhibit 6)	• LOS	C	D	<	C	D	<	B	C	<	B	C	<	C
		• Delay	33.8	44.4	-	34.3	45.5	-	16.5	22.1	-	16.2	24.0	-	29.6
		• 95th Queue Length (ft)	124	294	-	111	295	-	82	323	-	63	370	-	-
		• Approach LOS (Delay)	D (41.0)			D (42.2)			C (20.7)			C (22.6)			-

Table 5: Intersection Capacity and Queue Analysis Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
2. McCarthy Road at Galway Road / Saddlebrook Lane		**TWSC - NB/SB Stops**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**A.Existing (See Exhibit 3)**	• LOS	>	-	<	>	-	<	>	**B**	<	>	**B**	<
		• Delay	8.0	-	-	7.7	-	-	-	13.4	-	-	11.7	-
		• 95th Queue Length (ft)	0	-	-	0	-	-	-	3	-	-	0	-
		• Approach LOS (Delay)		-			-			**B (13.4)**			**B (11.7)**	
	B. 2028 No-Build (See Exhibit 4)	• LOS	>	-	<	>	-	<	>	**B**	<	>	**B**	<
		• Delay	8.0	-	-	7.8	-	-	-	13.7	-	-	12.0	-
		• 95th Queue Length (ft)	0	-	-	0	-	-	-	3	-	-	0	-
		• Approach LOS (Delay)		-			-			**B (13.7)**			**B (12.0)**	
	C. 2028 Total (See Exhibit 6)	• LOS	>	-	<	>	-	<	>	**C**	<	>	**B**	<
		• Delay	8.1	-	-	7.9	-	-	-	15.3	-	-	12.8	-
		• 95th Queue Length (ft)	0	-	-	0	-	-	-	3	-	-	0	-
		• Approach LOS (Delay)								**C (15.3)**			**B (12.8)**	
PM Peak	**A.Existing (See Exhibit 3)**	• LOS	>	-	<	>	-	<	>	**B**	<	>	**B**	<
		• Delay	7.9	-	-	8.3	-	-	-	12.2	-	-	12.5	-
		• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	-	3	-
		• Approach LOS (Delay)		-			-			**B (12.2)**			**B (12.5)**	
	B. 2028 No-Build (See Exhibit 4)	• LOS	>	-	<	>	-	<	>	**B**	<	>	**B**	<
		• Delay	7.9	-	-	8.3	-	-	-	12.5	-	-	12.9	-
		• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	-	3	-
		• Approach LOS (Delay)		-			-			**B (12.5)**			**B (12.9)**	
	C. 2028 Total (See Exhibit 6)	• LOS	>	-	<	>	-	<	>	**B**	<	>	**B**	<
		• Delay	8.0	-	-	8.5	-	-	-	13.3	-	-	14.1	-
		• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	-	3	-
		• Approach LOS (Delay)		-			-			**B (13.3)**			**B (14.1)**	
SAT Peak	**A.Existing (See Exhibit 3)**	• LOS	>	-	<	>	-	<	>	**A**	<	>	**B**	<
		• Delay	7.9	-	-	7.7	-	-	-	9.6	-	-	12.0	-
		• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	-	0	-
		• Approach LOS (Delay)		-			-			**A (9.6)**			**B (12.0)**	
	B. 2028 No-Build (See Exhibit 4)	• LOS	>	-	<	>	-	<	>	**A**	<	>	**B**	<
		• Delay	8.0	-	-	7.7	-	-	-	9.6	-	-	12.2	-
		• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	-	0	-
		• Approach LOS (Delay)		-			-			**A (9.6)**			**B (12.2)**	
	C. 2028 Total (See Exhibit 6)	• LOS	>	-	<	>	-	<	>	**B**	<	>	**B**	<
		• Delay	8.2	-	-	7.9	-	-	-	10.1	-	-	13.5	-
		• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	-	0	-
		• Approach LOS (Delay)		-			-			**B (10.1)**			**B (13.5)**	

Table 5: Intersection Capacity and Queue Analysis Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach											
			> = Shared Lane - = Non Critical or not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
3. Bell Rd at Sunhill Lane		TWSC - EB Stop	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	A.Existing (See Exhibit 3)	• LOS	>	B	<	-	-	-	>	-	-	-	-	<
		• Delay	-	14.3	-	-	-	-	7.8	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	0	-	-	-	-	-
		• Approach LOS (Delay)		B (14.3)			-			-			-	
	B. 2028 No-Build (See Exhibit 4)	• LOS	>	B	<	-	-	-	>	-	-	-	-	<
		• Delay	-	14.7	-	-	-	-	7.8	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	0	-	-	-	-	-
		• Approach LOS (Delay)		B (14.7)			-			-			-	
	C. 2028 Total (See Exhibit 6)	• LOS	>	C	<	-	-	-	>	-	-	-	-	<
		• Delay	-	16.9	-	-	-	-	8.0	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	0	-	-	-	-	-
		• Approach LOS (Delay)		C (16.9)						-			-	
PM Peak	A.Existing (See Exhibit 3)	• LOS	>	C	<	-	-	-	>	-	-	-	-	<
		• Delay	-	17.6	-	-	-	-	9.3	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	0	-	-	-	--	-
		• Approach LOS (Delay)		C (17.6)			-			-			-	
	B. 2028 No-Build (See Exhibit 4)	• LOS	>	C	<	-	-	-	>	-	-	-	-	<
		• Delay	-	18.4	-	-	-	-	9.4	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	0	-	-	-	-	-
		• Approach LOS (Delay)		C (18.4)			-			-			-	
	C. 2028 Total (See Exhibit 6)	• LOS	>	C	<	-	-	-	>	-	-	-	-	<
		• Delay	-	21.3	-	-	-	-	9.7	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	0	-	-	-	-	-
		• Approach LOS (Delay)		C (21.3)			-			-			-	
SAT Peak	A.Existing (See Exhibit 3)	• LOS	>	B	<	-	-	-	>	-	-	-	-	<
		• Delay	-	13.7	-	-	-	-	8.2	-	-	-	-	-
		• 95th Queue Length (ft)	-	0	-	-	-	-	0	-	-	-	-	-
		• Approach LOS (Delay)		B (13.7)			-			-			-	
	B. 2028 No-Build (See Exhibit 4)	• LOS	>	B	<	-	-	-	>	-	-	-	-	<
		• Delay	-	14.2	-	-	-	-	8.3	-	-	-	-	-
		• 95th Queue Length (ft)	-	0	-	-	-	-	0	-	-	-	-	-
		• Approach LOS (Delay)		B (14.2)			-			-			-	
	C. 2028 Total (See Exhibit 6)	• LOS	>	C	<	-	-	-	>	-	-	-	-	<
		• Delay	-	16.5	-	-	-	-	8.6	-	-	-	-	-
		• 95th Queue Length (ft)	-	3	-	-	-	-	0	-	-	-	-	-
		• Approach LOS (Delay)		C (16.5)			-			-			-	

Table 5: Intersection Capacity and Queue Analysis Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
4. McCarthy Road at Equestrian Villas Access / Site Access		**TWSC - NB/SB Stops**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**B. 2028 No-Build (See Exhibit 4)**	• LOS	**-**	**-**	**-**	**-**	**-**	**<**	**-**	**-**	**-**	**-**	**-**	**B**
		• Delay	-	-	-	-	-	-	-	-	-	-	-	10.2
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	-	-	-	-	0
		• Approach LOS (Delay)		**-**			-			**-**			**B (10.2)**	
	C. 2028 Total (See Exhibit 6)	• LOS	**-**	**-**	**<**	**>**	**-**	**<**	**>**	**B**	**<**	**-**	**-**	**B**
		• Delay	-	-	-	7.9	-	-	-	13.6	-	-	-	10.2
		• 95th Queue Length (ft)	-	-	-	0	-	-	-	30	-	-	-	0
		• Approach LOS (Delay)								**B (13.6)**			**B (10.2)**	
PM Peak	**B. 2028 No-Build (See Exhibit 4)**	• LOS	**-**	**-**	**-**	**-**	**-**	**<**	**-**	**-**	**-**	**-**	**-**	**B**
		• Delay	-	-	-	-	-	-	-	-	-	-	-	10.0
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	-	-	-	-	0
		• Approach LOS (Delay)		**-**			-			**-**			**B (10.0)**	
	C. 2028 Total (See Exhibit 6)	• LOS	**-**	**-**	**<**	**>**	**-**	**<**	**>**	**C**	**<**	**-**	**-**	**B**
		• Delay	-	-	-	8.6	-	-	-	20.6	-	-	-	10.1
		• 95th Queue Length (ft)	-	-	-	0	-	-	-	60	-	-	-	0
		• Approach LOS (Delay)		**-**			**-**			**C (20.6)**			**B (10.1)**	
SAT Peak	**B. 2028 No-Build (See Exhibit 4)**	• LOS	**-**	**-**	**-**	**-**	**-**	**<**	**-**	**-**	**-**	**-**	**-**	**B**
		• Delay	-	-	-	-	-	-	-	-	-	-	-	10.1
		• 95th Queue Length (ft)	-	-	-	-	-	-	-	-	-	-	-	0
		• Approach LOS (Delay)		**-**			**-**			**-**			**B (10.1)**	
	C. 2028 Total (See Exhibit 6)	• LOS	**-**	**-**	**<**	**>**	**-**	**<**	**>**	**B**	**<**	**-**	**-**	**B**
		• Delay	-	-	-	7.9	-	-	-	14.9	-	-	-	10.1
		• 95th Queue Length (ft)	-	-	-	0	-	-	-	45	-	-	-	0
		• Approach LOS (Delay)		**-**			**-**			**B (14.9)**			**B (10.1)**	
5. Bell Road at Site RIRO Access		**TWSC - EB Stop**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**C. 2028 Total (See Exhibit 6)**	• LOS	**-**	**-**	**B**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
		• Delay	-	-	10.3	-	-	-	-	-	-	-	-	-
		• 95th Queue Length (ft)	-	-	5	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (10.3)**			-			**-**			**-**	
PM Peak	**C. 2028 Total (See Exhibit 6)**	• LOS	**-**	**-**	**C**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
		• Delay	-	-	16.5	-	-	-	-	-	-	-	-	-
		• 95th Queue Length (ft)	-	-	13	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**C (16.5)**			-			**-**			**-**	
SAT Peak	**C. 2028 Total (See Exhibit 6)**	• LOS	**-**	**-**	**B**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
		• Delay	-	-	12.0	-	-	-	-	-	-	-	-	-
		• 95th Queue Length (ft)	-	-	10	-	-	-	-	-	-	-	-	-
		• Approach LOS (Delay)		**B (12.0)**			**-**			**-**			**-**	

Table 5: Intersection Capacity and Queue Analysis Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
6. Bell Road at Site Full Access		**TWSC - EB Stop**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**C. 2028 Total (See Exhibit 6)**	• LOS	**>**	**C**	**<**	**-**	**-**	**-**	**A**	**-**	**-**	**-**	**-**	**<**
		• Delay	-	23.1	-	-	-	-	8.3	-	-	-	-	-
		• 95th Queue Length (ft)	-	32.5	-	-	-	-	8	-	-	-	-	-
		• Approach LOS (Delay)		**C (23.1)**			-			**-**			**-**	
	C. 2028 Total (See Exhibit 6) with separate EB LT and RT Lanes	• LOS	**D**	**-**	**B**	**-**	**-**	**-**	**A**	**-**	**-**	**-**	**-**	**<**
		• Delay	31.5	-	10.5	-	-	-	8.3	-	-	-	-	-
		• 95th Queue Length (ft)	23	-	5	-	-	-	8	-	-	-	-	-
		• Approach LOS (Delay)		**C (20.9)**						**-**			**-**	
PM Peak	**C. 2028 Total (See Exhibit 6)**	• LOS	**>**	**F**	**<**	**-**	**-**	**-**	**B**	**-**	**-**	**-**	**-**	**<**
		• Delay	-	51.5	-	-	-	-	10.5	-	-	-	-	-
		• 95th Queue Length (ft)	-	80	-	-	-	-	13	-	-	-	-	-
		• Approach LOS (Delay)		**F (51.5)**			-			**-**			**-**	
	C. 2028 Total (See Exhibit 6) with separate EB LT and RT Lanes	• LOS	**F**	**-**	**C**	**-**	**-**	**-**	**B**	**-**	**-**	**-**	**-**	**<**
		• Delay	57.9	-	17.2	-	-	-	10.5	-	-	-	-	-
		• 95th Queue Length (ft)	48	-	13	-	-	-	13	-	-	-	-	-
		• Approach LOS (Delay)		**E (37.5)**			**-**			**-**			**-**	
SAT Peak	**C. 2028 Total (See Exhibit 6)**	• LOS	**>**	**E**	**<**	**-**	**-**	**-**	**A**	**-**	**-**	**-**	**-**	**<**
		• Delay	-	38.2	-	-	-	-	9.1	-	-	-	-	-
		• 95th Queue Length (ft)	-	75	-	-	-	-	13	-	-	-	-	-
		• Approach LOS (Delay)		**E (38.2)**			**-**			**-**			**-**	
	C. 2028 Total (See Exhibit 6) with separate EB LT and RT Lanes	• LOS	**E**	**-**	**B**	**-**	**-**	**-**	**A**	**-**	**-**	**-**	**-**	**<**
		• Delay	47.0	-	12.5	-	-	-	9.1	-	-	-	-	-
		• 95th Queue Length (ft)	48	-	10	-	-	-	13	-	-	-	-	-
		• Approach LOS (Delay)		**D (30.1)**			**-**			**-**			**-**	

Bell Road at Site Full Access

At the proposed site full access driveway along Bell Road, the eastbound approach is anticipated to operate at LOS C during the weekday morning peak hour, LOS F during the weekday evening peak hour, and LOS E during the Saturday midday peak hour. By including an additional outbound lane to separate left and right-turn movements, the approach delay will improve to LOS E during the weekday evening peak hour and LOS D during the Saturday midday peak hour. Accordingly, it is recommended to provide separate turn-lanes for exiting traffic.

Part V. Recommendations and Conclusions

A traffic analysis was performed for the proposed commercial development to be located on the southwest quadrant of the Bell Road and McCarthy Road intersection in Lemont, Illinois. The analyses indicate, that while there is an existing need for a regional improvement that was planned as part of the SRA study, no specific improvements are needed at the Bell Road and McCarthy Road signalized intersection to accommodate the development.

At the proposed site access along McCarthy Road, one inbound and one outbound lane should be provided at the site driveway with exiting traffic having stop control. The analyses conducted indicate that no auxiliary turn lanes are needed along McCarthy Road for the proposed site access.

At the proposed site right-in/right-out only access along Bell Road, one inbound and one outbound lane should be provided at the site driveway with exiting traffic having stop control. Appropriate signage prohibiting left-turns in and out of the driveway should be posted at the intersection. The analyses conducted indicate that a southbound right-turn lane along Bell Road is warranted for the proposed site access. The right-turn lane should be designed based on the IDOT BDE guidelines for storage and taper lengths.

At the proposed site full access along Bell Road, one inbound and two outbound lanes (separate left and right-turn lanes) should be provided at the site driveway with exiting traffic having stop control. The analyses conducted indicate that a northbound left-turn lane along Bell Road is warranted for the proposed site access. The left-turn lane should be designed based on IDOT BDE guidelines for storage and taper lengths.

If the Village desires, 'No Thru Traffic' signage should be posted on Sunhill Lane at Bell Road to discourage cut-through traffic that may result from the long northbound queues at the Bell Road and McCarthy Road intersection.

Part VI. Technical Addendum

The following Appendices were previously referenced. They provide technical support for our observations, findings and recommendations discussed in the text.

Appendices

A. Photo Inventory
B. GHA Traffic Count Summary Sheets
C. CMAP Correspondence
D. Equestrian Villas TIS Excerpts
E. Crash Map
F. Site Plan
G. ITE Trip Generation Excerpts
H. IDOT BDE Turn Lane Warrant Figures
I. Capacity Analysis Summary Sheets

5904.900_12300 Bell Road_Lemont.docx

Technical Addendum

GHA GEWALT HAMILTON ASSOCIATES, INC.

Appendices

Appendix A
Photo Inventory

GHA GEWALT HAMILTON ASSOCIATES, INC.



Looking North along Bell Road approaching McCarthy Road



Looking South along Bell Road approaching McCarthy Road



Looking East along McCarthy Road approaching Bell Road



Looking West along McCarthy Road approaching Bell Road



Looking North along Galway Road approaching McCarthy Road



Looking South along Saddlebrook Lane approaching McCarthy Road



Looking East along McCarthy Road approaching Saddlebrook Lane



Looking West along McCarthy Road approaching Galway Road



Looking North along Bell Road approaching Sunhill Lane



Looking South along Bell Road approaching Sunhill Lane



Looking East along Sunhill Lane approaching Bell Road



Looking West across Bell Road at Sunhill Lane



Looking North along Bell Road between McCarthy Road and Sunhill Lane



Looking South along Bell Road between McCarthy Road and Sunhill Lane



Looking East along McCarthy Road between Bell Road and Galway Road



Looking West along McCarthy Road between Bell Road and Galway Road

Appendix B
Traffic Count Summary Sheets

GHA GEWALT HAMILTON ASSOCIATES, INC.

McCarthy Road at Bell Road
5904.901 McCarthy Lemont
6:00AM - 9:00AM; 3:00PM - 6:00PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: McCarthy Road at Bell Road
Site Code:
Start Date: 09/22/2022

Turning Movement Data

Start Time	Bell Southbound					McCarthy Westbound					Bell Northbound					McCarthy Eastbound					Int. Total
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	
6:00 AM	0	0	16	1	17	0	2	16	25	43	0	2	119	8	129	0	0	32	2	34	223
6:15 AM	0	7	26	2	35	0	7	32	45	84	0	3	124	4	131	0	2	30	3	35	285
6:30 AM	0	8	43	3	54	0	14	49	34	97	0	7	143	3	153	0	3	39	6	48	352
6:45 AM	0	10	43	8	61	0	12	50	45	107	0	6	144	6	156	0	3	31	7	41	365
Hourly Total	0	25	128	14	167	0	35	147	149	331	0	18	530	21	569	0	8	132	18	158	1225
7:00 AM	0	11	37	8	56	0	13	46	48	107	0	8	149	14	171	0	5	32	4	41	375
7:15 AM	0	7	41	7	55	0	12	52	38	102	0	6	155	20	181	0	5	40	8	53	391
7:30 AM	0	14	42	16	72	0	11	69	39	119	0	10	119	18	147	0	8	48	8	64	402
7:45 AM	0	20	70	21	111	0	10	59	35	104	0	7	99	17	123	0	9	51	10	70	408
Hourly Total	0	52	190	52	294	0	46	226	160	432	0	31	522	69	622	0	27	171	30	228	1576
8:00 AM	0	17	50	12	79	0	13	51	24	88	0	8	88	14	110	0	7	46	0	53	330
8:15 AM	0	21	38	10	69	0	21	53	29	103	0	5	86	15	106	0	7	44	8	59	337
8:30 AM	0	18	40	7	65	0	15	35	28	78	0	8	92	12	112	0	3	33	10	46	301
8:45 AM	0	12	59	13	84	0	13	39	25	77	0	11	96	9	116	0	6	32	19	57	334
Hourly Total	0	68	187	42	297	0	62	178	106	346	0	32	362	50	444	0	23	155	37	215	1302
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	33	141	22	196	0	23	31	25	79	0	8	71	13	92	0	7	49	8	64	431
3:15 PM	0	41	139	9	189	0	25	32	21	78	0	11	66	10	87	0	7	60	8	75	429
3:30 PM	0	42	131	7	180	0	20	34	23	77	0	13	70	14	97	0	6	50	3	59	413
3:45 PM	0	45	137	4	186	0	23	50	17	90	0	11	65	4	80	0	4	75	14	93	449
Hourly Total	0	161	548	42	751	0	91	147	86	324	0	43	272	41	356	0	24	234	33	291	1722
4:00 PM	0	53	140	11	204	0	15	52	16	83	0	8	60	20	88	0	5	51	9	65	440
4:15 PM	0	59	141	13	213	0	23	57	23	103	0	8	62	9	79	0	4	84	13	101	496
4:30 PM	0	49	127	4	180	0	21	37	18	76	0	9	66	15	90	0	9	87	17	113	459
4:45 PM	0	43	156	8	207	0	30	63	24	117	0	13	67	10	90	0	10	86	28	124	538
Hourly Total	0	204	564	36	804	0	89	209	81	379	0	38	255	54	347	0	28	308	67	403	1933
5:00 PM	0	47	143	13	203	0	18	43	17	78	0	19	71	17	107	0	6	78	16	100	488
5:15 PM	0	48	120	5	173	0	14	63	18	95	0	11	63	14	88	0	2	87	16	105	461
5:30 PM	0	37	133	6	176	0	19	42	25	86	0	10	63	19	92	0	7	85	19	111	465
5:45 PM	0	55	125	5	185	0	12	38	22	72	0	10	67	12	89	0	5	102	23	130	476
Hourly Total	0	187	521	29	737	0	63	186	82	331	0	50	264	62	376	0	20	352	74	446	1890
Grand Total	0	697	2138	215	3050	0	386	1093	664	2143	0	212	2205	297	2714	0	130	1352	259	1741	9648
Approach %	0.0	22.9	70.1	7.0	-	0.0	18.0	51.0	31.0	-	0.0	7.8	81.2	10.9	-	0.0	7.5	77.7	14.9	-	-
Total %	0.0	7.2	22.2	2.2	31.6	0.0	4.0	11.3	6.9	22.2	0.0	2.2	22.9	3.1	28.1	0.0	1.3	14.0	2.7	18.0	-
Lights	0	693	2079	203	2975	0	378	1067	659	2104	0	204	2156	294	2654	0	124	1322	252	1698	9431
% Lights	-	99.4	97.2	94.4	97.5	-	97.9	97.6	99.2	98.2	-	96.2	97.8	99.0	97.8	-	95.4	97.8	97.3	97.5	97.8
Mediums	0	3	46	10	59	0	4	14	2	20	0	8	31	3	42	0	5	17	6	28	149
% Mediums	-	0.4	2.2	4.7	1.9	-	1.0	1.3	0.3	0.9	-	3.8	1.4	1.0	1.5	-	3.8	1.3	2.3	1.6	1.5
Articulated Trucks	0	1	13	2	16	0	4	12	3	19	0	0	17	0	17	0	1	13	0	14	66

% Articulated Trucks	-	0.1	0.6	0.9	0.5	-	1.0	1.1	0.5	0.9	-	0.0	0.8	0.0	0.6	-	0.8	1.0	0.0	0.8	0.7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	2
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.4	0.1	0.0

Bell Rd @ McCarthy Rd SAT
5904.900 Rymek Bell & McCarthy
11 AM - 1 PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Bell Rd @ McCarthy Rd SAT
Site Code:
Start Date: 04/16/2022

Turning Movement Data

Start Time	Bell Rd Southbound					McCarthy Rd Westbound					Bell Rd Northbound					McCarthy Rd Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
11:00 AM	0	25	69	9	103	0	14	42	25	81	0	52	77	29	158	0	6	30	25	61	403
11:15 AM	0	24	66	7	97	0	13	44	32	89	0	11	83	12	106	0	5	34	29	68	360
11:30 AM	0	26	60	13	99	1	17	29	22	69	0	17	77	18	112	0	14	37	14	65	345
11:45 AM	0	22	85	10	117	0	17	30	16	63	0	17	78	17	112	0	6	20	12	38	330
Hourly Total	0	97	280	39	416	1	61	145	95	302	0	97	315	76	488	0	31	121	80	232	1438
12:00 PM	0	27	77	11	115	0	4	40	19	63	0	45	75	18	138	0	8	33	13	54	370
12:15 PM	0	28	80	10	118	0	11	33	20	64	0	34	74	12	120	0	9	41	18	68	370
12:30 PM	0	15	82	6	103	0	12	42	31	85	0	14	100	13	127	0	6	32	12	50	365
12:45 PM	0	24	85	1	110	0	15	38	17	70	0	16	84	9	109	0	4	28	15	47	336
Hourly Total	0	94	324	28	446	0	42	153	87	282	0	109	333	52	494	0	27	134	58	219	1441
Grand Total	0	191	604	67	862	1	103	298	182	584	0	206	648	128	982	0	58	255	138	451	2879
Approach %	0.0	22.2	70.1	7.8	-	0.2	17.6	51.0	31.2	-	0.0	21.0	66.0	13.0	-	0.0	12.9	56.5	30.6	-	-
Total %	0.0	6.6	21.0	2.3	29.9	0.0	3.6	10.4	6.3	20.3	0.0	7.2	22.5	4.4	34.1	0.0	2.0	8.9	4.8	15.7	-
Lights	0	189	596	67	852	1	103	292	182	578	0	204	639	127	970	0	58	253	138	449	2849
% Lights	-	99.0	98.7	100.0	98.8	100.0	100.0	98.0	100.0	99.0	-	99.0	98.6	99.2	98.8	-	100.0	99.2	100.0	99.6	99.0
Mediums	0	2	7	0	9	0	0	6	0	6	0	2	5	1	8	0	0	2	0	2	25
% Mediums	-	1.0	1.2	0.0	1.0	0.0	0.0	2.0	0.0	1.0	-	1.0	0.8	0.8	0.8	-	0.0	0.8	0.0	0.4	0.9
Articulated Trucks	0	0	1	0	1	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	5
% Articulated Trucks	-	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-	0.0	0.6	0.0	0.4	-	0.0	0.0	0.0	0.0	0.2

McCarthy Road at Saddlebrook Lane / Galway Road
5904.901 McCarthy Lemont
6:00AM - 9:00AM; 3:00PM - 6:00PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: McCarthy Road at Saddlebrook Lane / Galway Road
Site Code:
Start Date: 09/22/2022

Turning Movement Data

Start Time	Saddlebrook Southbound					McCarthy Westbound					Galway Northbound					McCarthy Eastbound					Int. Total
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	
6:00 AM	0	0	0	1	1	0	0	20	0	20	0	1	0	0	1	0	0	37	0	37	59
6:15 AM	0	0	0	0	0	0	0	38	0	38	0	0	0	0	0	0	0	34	0	34	72
6:30 AM	0	0	0	0	0	0	0	58	0	58	0	0	0	1	1	0	1	47	2	50	109
6:45 AM	0	0	0	0	0	0	1	60	2	63	0	0	0	0	0	0	0	40	0	40	103
Hourly Total	0	0	0	1	1	0	1	176	2	179	0	1	0	1	2	0	1	158	2	161	343
7:00 AM	0	1	0	2	3	0	0	64	1	65	0	1	0	0	1	0	0	45	0	45	114
7:15 AM	0	0	0	2	2	0	0	65	0	65	0	2	0	0	2	0	0	50	1	51	120
7:30 AM	0	0	1	0	1	0	0	95	0	95	0	3	1	1	5	0	1	64	1	66	167
7:45 AM	0	1	0	1	2	0	0	89	0	89	0	2	0	0	2	0	1	70	0	71	164
Hourly Total	0	2	1	5	8	0	0	313	1	314	0	8	1	1	10	0	2	229	2	233	565
8:00 AM	0	0	0	2	2	0	0	68	1	69	0	0	0	1	1	0	0	58	2	60	132
8:15 AM	0	0	0	0	0	0	0	71	0	71	0	3	0	0	3	0	0	53	0	53	127
8:30 AM	0	0	0	0	0	0	0	50	0	50	0	1	0	1	2	0	0	44	0	44	96
8:45 AM	0	2	0	0	2	0	1	61	1	63	0	1	0	0	1	0	0	55	0	55	121
Hourly Total	0	2	0	2	4	0	1	250	2	253	0	5	0	2	7	0	0	210	2	212	476
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	2	0	2	4	0	1	59	0	60	0	0	0	0	0	0	1	69	0	70	134
3:15 PM	0	0	0	2	2	0	1	52	1	54	0	2	0	0	2	0	2	71	0	73	131
3:30 PM	0	0	0	3	3	0	1	51	0	52	0	1	0	0	1	0	0	55	2	57	113
3:45 PM	0	0	1	2	3	0	0	65	2	67	0	0	0	0	0	0	4	94	1	99	169
Hourly Total	0	2	1	9	12	0	3	227	3	233	0	3	0	0	3	0	7	289	3	299	547
4:00 PM	0	0	0	3	3	0	2	72	0	74	0	0	1	1	2	0	0	80	0	80	159
4:15 PM	0	0	0	2	2	0	1	77	0	78	0	0	0	1	1	0	0	91	2	93	174
4:30 PM	0	2	0	0	2	0	0	49	0	49	0	2	0	0	2	0	3	111	1	115	168
4:45 PM	0	0	0	0	0	0	0	81	1	82	0	1	0	2	3	0	2	120	2	124	209
Hourly Total	0	2	0	5	7	0	3	279	1	283	0	3	1	4	8	0	5	402	5	412	710
5:00 PM	0	3	0	1	4	0	1	75	1	77	0	0	0	1	1	0	1	100	1	102	184
5:15 PM	0	0	0	4	4	0	0	84	0	84	0	0	0	0	0	0	0	99	1	100	188
5:30 PM	0	0	0	0	0	0	1	57	2	60	0	0	0	1	1	0	1	132	1	134	195
5:45 PM	0	2	0	2	4	0	0	63	1	64	0	1	0	0	1	0	0	111	0	111	180
Hourly Total	0	5	0	7	12	0	2	279	4	285	0	1	0	2	3	0	2	442	3	447	747
Grand Total	0	13	2	29	44	0	10	1524	13	1547	0	21	2	10	33	0	17	1730	17	1764	3388
Approach %	0.0	29.5	4.5	65.9	-	0.0	0.6	98.5	0.8	-	0.0	63.6	6.1	30.3	-	0.0	1.0	98.1	1.0	-	-
Total %	0.0	0.4	0.1	0.9	1.3	0.0	0.3	45.0	0.4	45.7	0.0	0.6	0.1	0.3	1.0	0.0	0.5	51.1	0.5	52.1	-
Lights	0	12	0	28	40	0	8	1480	11	1499	0	20	0	9	29	0	15	1686	14	1715	3283
% Lights	-	92.3	0.0	96.6	90.9	-	80.0	97.1	84.6	96.9	-	95.2	0.0	90.0	87.9	-	88.2	97.5	82.4	97.2	96.9
Mediums	0	0	2	1	3	0	2	29	2	33	0	1	2	1	4	0	2	30	3	35	75
% Mediums	-	0.0	100.0	3.4	6.8	-	20.0	1.9	15.4	2.1	-	4.8	100.0	10.0	12.1	-	11.8	1.7	17.6	2.0	2.2
Articulated Trucks	0	1	0	0	1	0	0	15	0	15	0	0	0	0	0	0	0	14	0	14	30

% Articulated Trucks	-	7.7	0.0	0.0	2.3	-	0.0	1.0	0.0	1.0	-	0.0	0.0	0.0	0.0	-	0.0	0.8	0.0	0.8	0.9
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

McCarthy Rd @ Galway/Saddlebrook Ln SAT
5904.900 Rymek Bell & McCarthy
11 AM - 1 PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: McCarthy Rd @ Galway/Saddlebrook Ln SAT
Site Code:
Start Date: 04/16/2022

Turning Movement Data

Start Time	Saddlebrook Ln Southbound					McCarthy Rd Westbound					Galway Rd Northbound					McCarthy Rd Eastbound					Int. Total
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	
11:00 AM	0	0	0	1	1	0	1	107	1	109	0	0	0	1	1	0	0	64	1	65	176
11:15 AM	0	1	0	0	1	0	1	64	0	65	0	0	0	1	1	0	2	62	0	64	131
11:30 AM	0	0	0	1	1	0	0	59	0	59	0	0	0	1	1	0	0	63	0	63	124
11:45 AM	0	0	1	0	1	0	0	55	0	55	0	0	0	0	0	0	0	41	0	41	97
Hourly Total	0	1	1	2	4	0	2	285	1	288	0	0	0	3	3	0	2	230	1	233	528
12:00 PM	0	0	0	0	0	0	1	96	1	98	0	0	0	1	1	0	1	51	0	52	151
12:15 PM	0	0	0	0	0	0	1	76	0	77	0	0	0	0	0	0	0	70	0	70	147
12:30 PM	0	0	0	0	0	0	0	65	0	65	0	0	0	2	2	0	0	47	1	48	115
12:45 PM	0	0	0	0	0	0	0	54	0	54	0	1	0	0	1	0	0	47	0	47	102
Hourly Total	0	0	0	0	0	0	2	291	1	294	0	1	0	3	4	0	1	215	1	217	515
Grand Total	0	1	1	2	4	0	4	576	2	582	0	1	0	6	7	0	3	445	2	450	1043
Approach %	0.0	25.0	25.0	50.0	-	0.0	0.7	99.0	0.3	-	0.0	14.3	0.0	85.7	-	0.0	0.7	98.9	0.4	-	-
Total %	0.0	0.1	0.1	0.2	0.4	0.0	0.4	55.2	0.2	55.8	0.0	0.1	0.0	0.6	0.7	0.0	0.3	42.7	0.2	43.1	-
Lights	0	1	1	2	4	0	4	567	2	573	0	1	0	6	7	0	3	444	2	449	1033
% Lights	-	100.0	100.0	100.0	100.0	-	100.0	98.4	100.0	98.5	-	100.0	-	100.0	100.0	-	100.0	99.8	100.0	99.8	99.0
Mediums	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	1	0	1	9
% Mediums	-	0.0	0.0	0.0	0.0	-	0.0	1.4	0.0	1.4	-	0.0	-	0.0	0.0	-	0.0	0.2	0.0	0.2	0.9
Articulated Trucks	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% Articulated Trucks	-	0.0	0.0	0.0	0.0	-	0.0	0.2	0.0	0.2	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.1

Bell Road @ Sunhill Ln
5904.900 Rymek Bell & McCarthy
6 AM - 9 AM, 3 PM - 6 PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Bell Road @ Sunhill Ln
Site Code:
Start Date: 04/14/2022

Turning Movement Data

Start Time	Bell Rd Southbound					Driveway Westbound					Bell Rd Northbound					Sunhill Ln Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
6:00 AM	0	0	25	0	25	0	0	0	1	1	0	0	124	0	124	0	0	0	0	0	150
6:15 AM	0	0	44	2	46	0	0	0	0	0	0	0	147	0	147	0	0	0	0	0	193
6:30 AM	0	0	44	0	44	0	0	0	0	0	0	0	173	0	173	0	1	0	0	1	218
6:45 AM	0	0	45	0	45	0	0	0	0	0	0	0	154	0	154	0	1	0	1	2	201
Hourly Total	0	0	158	2	160	0	0	0	1	1	0	0	598	0	598	0	2	0	1	3	762
7:00 AM	0	0	56	1	57	0	0	0	0	0	0	1	139	0	140	0	1	0	0	1	198
7:15 AM	0	0	74	0	74	0	0	0	0	0	0	1	170	0	171	0	1	0	0	1	246
7:30 AM	0	0	54	0	54	0	0	0	0	0	0	0	171	0	171	0	1	0	1	2	227
7:45 AM	0	0	91	0	91	0	0	0	0	0	1	0	156	0	157	0	0	0	1	1	249
Hourly Total	0	0	275	1	276	0	0	0	0	0	1	2	636	0	639	0	3	0	2	5	920
8:00 AM	0	0	64	1	65	0	0	0	0	0	0	0	132	0	132	0	2	0	1	3	200
8:15 AM	0	0	76	0	76	0	0	0	0	0	0	0	137	0	137	0	2	0	0	2	215
8:30 AM	0	0	74	0	74	0	0	0	0	0	0	0	124	0	124	0	0	0	1	1	199
8:45 AM	0	0	92	0	92	0	0	0	0	0	0	0	131	0	131	0	0	0	0	0	223
Hourly Total	0	0	306	1	307	0	0	0	0	0	0	0	524	0	524	0	4	0	2	6	837
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	0	183	1	184	0	0	0	0	0	0	0	113	0	113	0	0	0	0	0	297
3:15 PM	0	0	180	0	180	0	0	0	0	0	0	0	83	0	83	0	0	0	0	0	263
3:30 PM	0	0	177	1	178	0	0	0	0	0	0	0	97	0	97	0	1	0	2	3	278
3:45 PM	0	0	180	0	180	0	0	0	0	0	0	1	90	0	91	0	0	0	0	0	271
Hourly Total	0	0	720	2	722	0	0	0	0	0	0	1	383	0	384	0	1	0	2	3	1109
4:00 PM	0	1	200	2	203	0	0	0	0	0	0	0	82	0	82	0	1	0	0	1	286
4:15 PM	0	0	180	0	180	0	0	0	0	0	0	1	91	0	92	0	2	0	3	5	277
4:30 PM	0	0	183	0	183	0	0	0	0	0	0	0	92	0	92	0	0	0	0	0	275
4:45 PM	0	0	195	0	195	0	0	0	0	0	0	0	110	0	110	0	1	0	0	1	306
Hourly Total	0	1	758	2	761	0	0	0	0	0	0	1	375	0	376	0	4	0	3	7	1144
5:00 PM	0	0	191	0	191	0	0	0	0	0	0	0	95	0	95	0	0	0	1	1	287
5:15 PM	0	0	170	1	171	0	0	0	0	0	0	0	86	0	86	0	0	0	1	1	258
5:30 PM	0	0	190	3	193	0	0	0	0	0	0	0	89	0	89	0	0	0	2	2	284
5:45 PM	0	0	180	0	180	0	0	0	0	0	0	0	111	0	111	0	0	0	2	2	293
Hourly Total	0	0	731	4	735	0	0	0	0	0	0	0	381	0	381	0	0	0	6	6	1122
Grand Total	0	1	2948	12	2961	0	0	0	1	1	1	4	2897	0	2902	0	14	0	16	30	5894
Approach %	0.0	0.0	99.6	0.4	-	0.0	0.0	0.0	100.0	-	0.0	0.1	99.8	0.0	-	0.0	46.7	0.0	53.3	-	-
Total %	0.0	0.0	50.0	0.2	50.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	49.2	0.0	49.2	0.0	0.2	0.0	0.3	0.5	-
Lights	0	1	2898	10	2909	0	0	0	1	1	1	4	2817	0	2822	0	12	0	11	23	5755
% Lights	-	100.0	98.3	83.3	98.2	-	-	-	100.0	100.0	100.0	100.0	97.2	-	97.2	-	85.7	-	68.8	76.7	97.6
Mediums	0	0	35	2	37	0	0	0	0	0	0	0	53	0	53	0	2	0	5	7	97
% Mediums	-	0.0	1.2	16.7	1.2	-	-	-	0.0	0.0	0.0	0.0	1.8	-	1.8	-	14.3	-	31.3	23.3	1.6
Articulated Trucks	0	0	15	0	15	0	0	0	0	0	0	0	27	0	27	0	0	0	0	0	42

% Articulated Trucks	-	0.0	0.5	0.0	0.5	-	-	-	0.0	0.0	0.0	0.0	0.9	-	0.9	-	0.0	-	0.0	0.0	0.7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0

Bell Rd @ Sunhill Ln SAT
5904.900 Rymek Bell & McCarthy
11 AM - 1 PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Bell Rd @ Sunhill Ln SAT
Site Code:
Start Date: 04/16/2022

Turning Movement Data

Start Time	Bell Rd Southbound					Driveway Westbound					Bell Rd Northbound					Sunhill Ln Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
11:00 AM	0	0	106	0	106	0	0	0	0	0	0	0	158	0	158	0	1	1	1	3	267
11:15 AM	0	0	111	0	111	0	0	0	0	0	0	0	102	0	102	0	0	0	2	2	215
11:30 AM	0	0	90	1	91	0	0	0	0	0	0	0	110	0	110	0	0	0	2	2	203
11:45 AM	0	0	114	1	115	0	0	0	1	1	0	1	118	1	120	0	1	0	0	1	237
Hourly Total	0	0	421	2	423	0	0	0	1	1	0	1	488	1	490	0	2	1	5	8	922
12:00 PM	0	0	98	0	98	0	0	0	0	0	0	2	138	0	140	0	1	0	2	3	241
12:15 PM	0	0	110	1	111	0	0	0	0	0	0	2	108	0	110	0	0	1	1	2	223
12:30 PM	0	0	105	0	105	0	0	0	0	0	0	0	128	0	128	0	1	1	0	2	235
12:45 PM	0	0	115	2	117	0	0	0	0	0	0	1	110	0	111	0	0	0	0	0	228
Hourly Total	0	0	428	3	431	0	0	0	0	0	0	5	484	0	489	0	2	2	3	7	927
Grand Total	0	0	849	5	854	0	0	0	1	1	0	6	972	1	979	0	4	3	8	15	1849
Approach %	0.0	0.0	99.4	0.6	-	0.0	0.0	0.0	100.0	-	0.0	0.6	99.3	0.1	-	0.0	26.7	20.0	53.3	-	-
Total %	0.0	0.0	45.9	0.3	46.2	0.0	0.0	0.0	0.1	0.1	0.0	0.3	52.6	0.1	52.9	0.0	0.2	0.2	0.4	0.8	-
Lights	0	0	842	5	847	0	0	0	1	1	0	6	960	1	967	0	4	3	8	15	1830
% Lights	-	-	99.2	100.0	99.2	-	-	-	100.0	100.0	-	100.0	98.8	100.0	98.8	-	100.0	100.0	100.0	100.0	99.0
Mediums	0	0	6	0	6	0	0	0	0	0	0	0	11	0	11	0	0	0	0	0	17
% Mediums	-	-	0.7	0.0	0.7	-	-	-	0.0	0.0	-	0.0	1.1	0.0	1.1	-	0.0	0.0	0.0	0.0	0.9
Articulated Trucks	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
% Articulated Trucks	-	-	0.1	0.0	0.1	-	-	-	0.0	0.0	-	0.0	0.1	0.0	0.1	-	0.0	0.0	0.0	0.0	0.1

Appendix C
CMAP Correspondence

GHA GEWALT HAMILTON ASSOCIATES, INC.

Chicago Metropolitan Agency for Planning

433 West Van Buren Street
Suite 450
Chicago, IL 60607

312-454-0400
cmap.illinois.gov

May 9, 2022

Antonio Maravillas
Traffic Engineer
Gewalt Hamilton Associates
625 Forest Edge Drive
Vernon Hills, IL 60061

Subject: ***Bell Road @ McCarthy Road***
IDOT

Dear Mr. Maravillas:

In response to a request made on your behalf and dated May 9, 2022, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2050 ADT
McCarthy Rd west of Bell Rd	6,150	7,100
McCarthy Rd east of Bell Rd	7,050	8,900
Bell Rd north of McCarthy Rd	11,500	14,200
Bell Rd south of McCarthy Rd	12,300	14,100

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2021 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806.

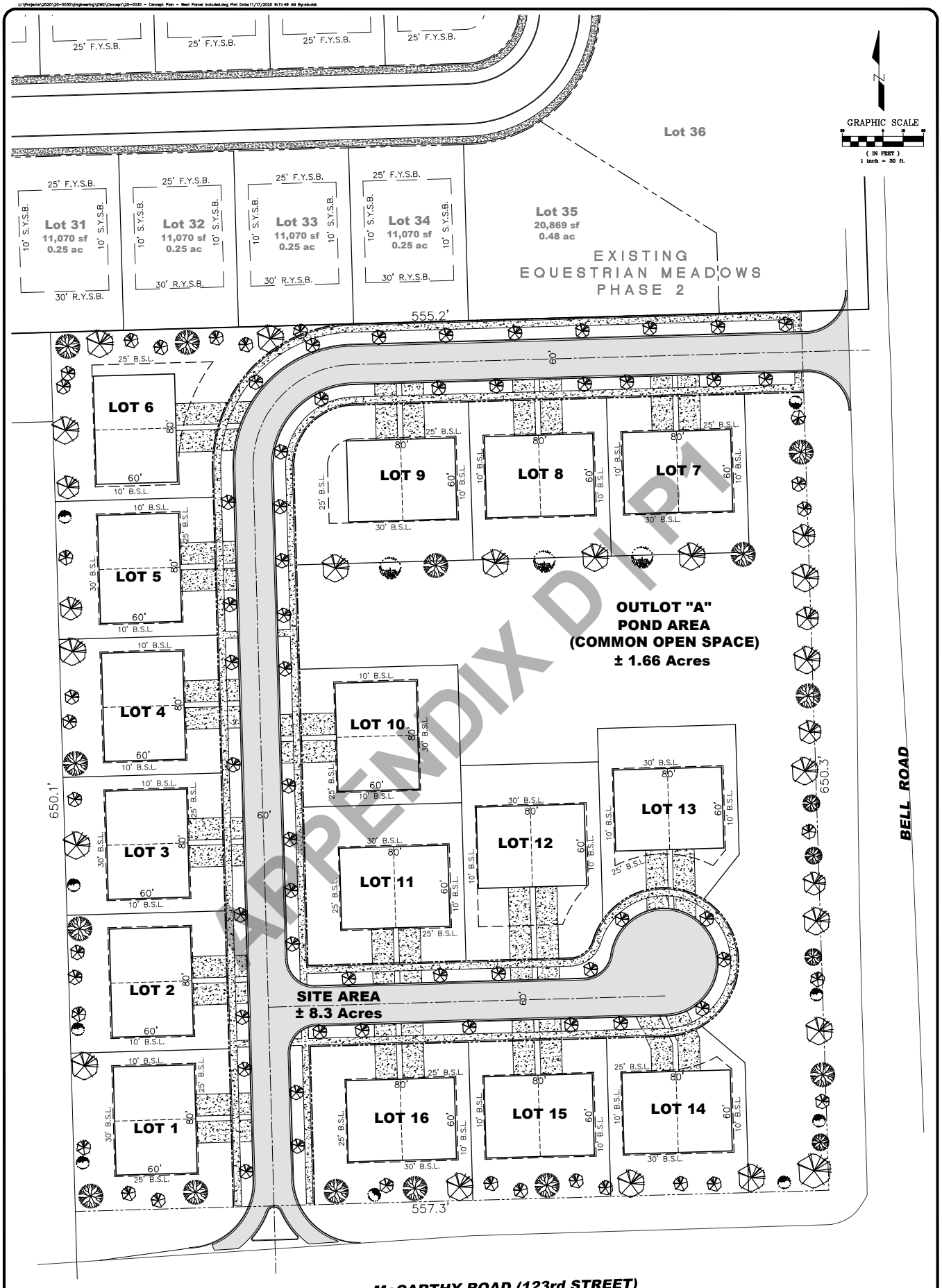
Sincerely,

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Rios (IDOT)
\2022_ForecastTraffic\Lemont\ck-60-22\ck-60-22.docx

Appendix D
Equestrian Villas TIS Excerpts

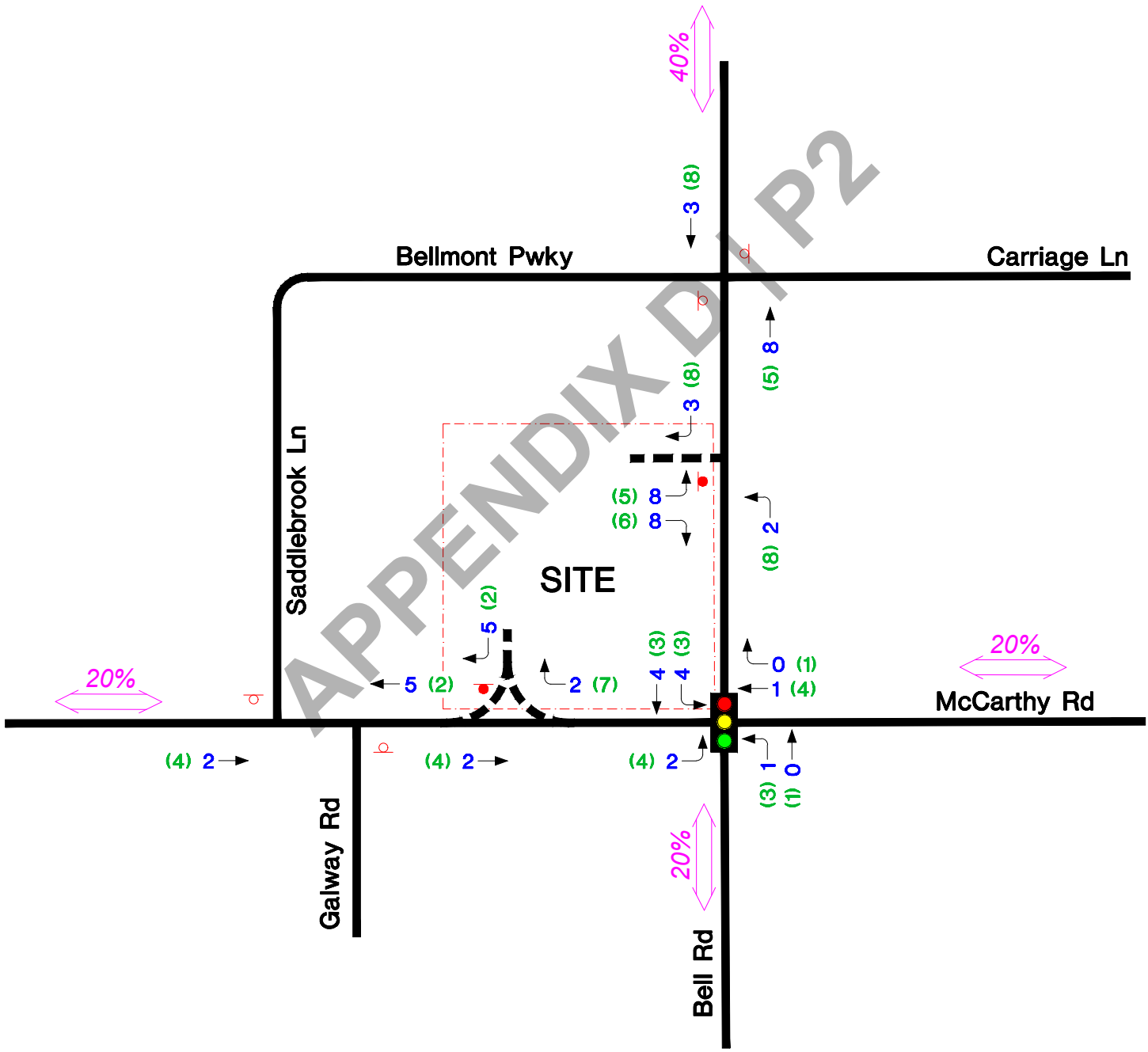
GHA GEWALT HAMILTON ASSOCIATES, INC.



1 OF 1	Project No.: 20-0030 Scale: 1"=30' Date: 11-16-20 Design By: SDD Drawn By: SDD Checked By: SDS	DESIGNTEK ENGINEERING, INC. CONSULTING, CIVIL ENGINEERING & LAND SURVEYING 9930 W. 190TH STREET, SUITE L MOKENA, ILLINOIS 60448 (708) 326-4961 FAX: (708) 326-4962 DEI IL PROF. LIC. NO.: 184-003740	CONCEPT PLAN "G" FOR EQUESTRIAN VILLAS ATTACHED SINGLE FAMILY	CASTLETOWN HOMES 22 W. CONNAUGHT LEMONT, IL 60439 630-257-2600	REVISIONS NO. / DATE / DESCRIPTION / BY

CONCEPT PLAN "G"

Exhibit 5 - Site Plan



GEWALT HAMILTON ASSOCIATES, INC.

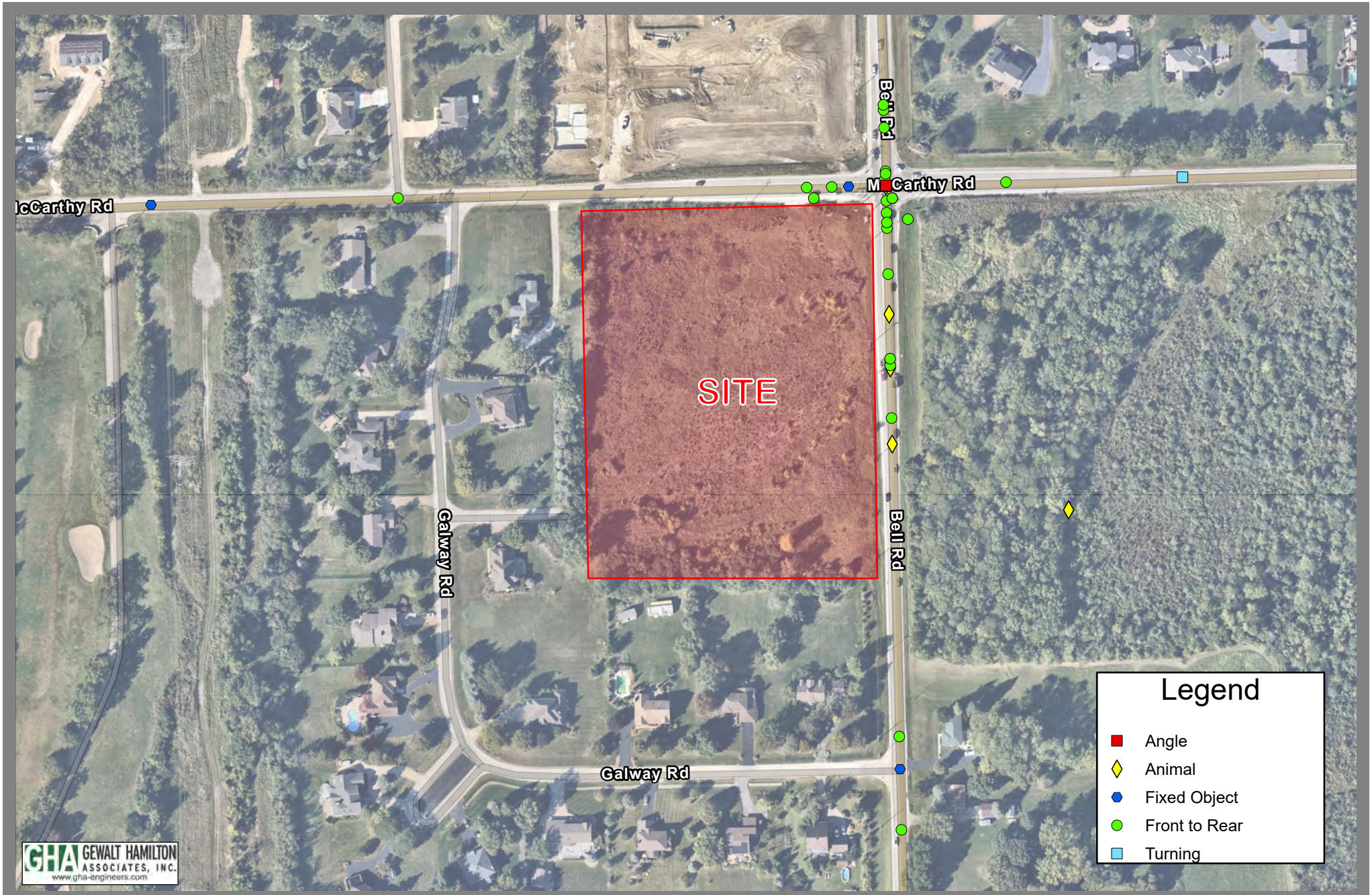
N

Not to Scale

Exhibit 6
Site Traffic

Appendix E
Crash Map

GHA GEWALT HAMILTON ASSOCIATES, INC.



N

1 inch = 300 Feet

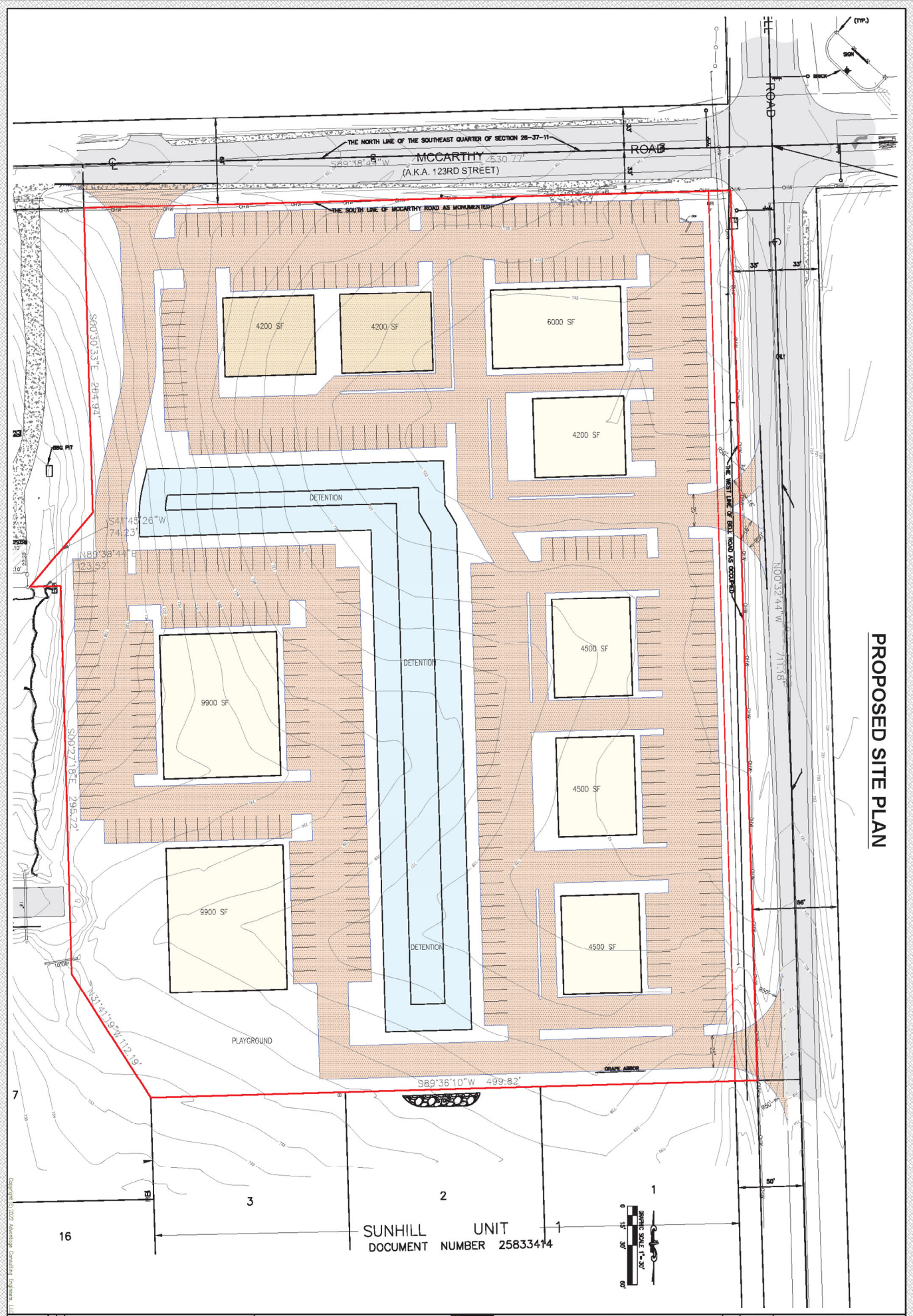
Appendix E - IDOT Crash Data (2016-2020)

Proposed Commercial Development
12300 Bell Road
Lemont, Illinois

Map Center: 87.93332°W 41.66389°N

Appendix F
Site Plan

GHA GEWALT HAMILTON ASSOCIATES, INC.



PROPOSED SITE PLAN

Copyright © 2022 Advantage Consulting Engineers, LLC

SHEET: SP1 1 OF 1	DECEMBER 06, 2021 JOB NO. 21-085	R/J RYMEK CO. 16 W 475 FRONTAGE ROAD BURR RIDGE, IL	CONCEPT SITE PLAN BELL ROAD COMMERCIAL 12300 BELL ROAD LEMONT, IL	ADVANTAGE CONSULTING ENGINEERS 80 MAIN STREET - SUITE 17 - LEMONT, ILLINOIS 60439 630-520-2467 www.aceng.us	NO. DATE REMARKS

Appendix G
ITE Trip Generation Excerpts

GHA GEWALT HAMILTON ASSOCIATES, INC.

Land Use: 565
Day Care Center

Description

A day care center is a facility where care for pre-school age children is provided, normally during daytime hours. A day care facility generally includes classrooms, offices, eating areas, and playgrounds. A center may also provide after-school care for school-age children.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Florida, Georgia, Maryland, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Tennessee, Texas, Virginia, and Wisconsin.

Source Numbers

169, 208, 216, 253, 335, 336, 337, 355, 418, 423, 536, 550, 562, 583, 633, 734, 866, 869, 877, 878, 954, 959, 981

Day Care Center
(565)

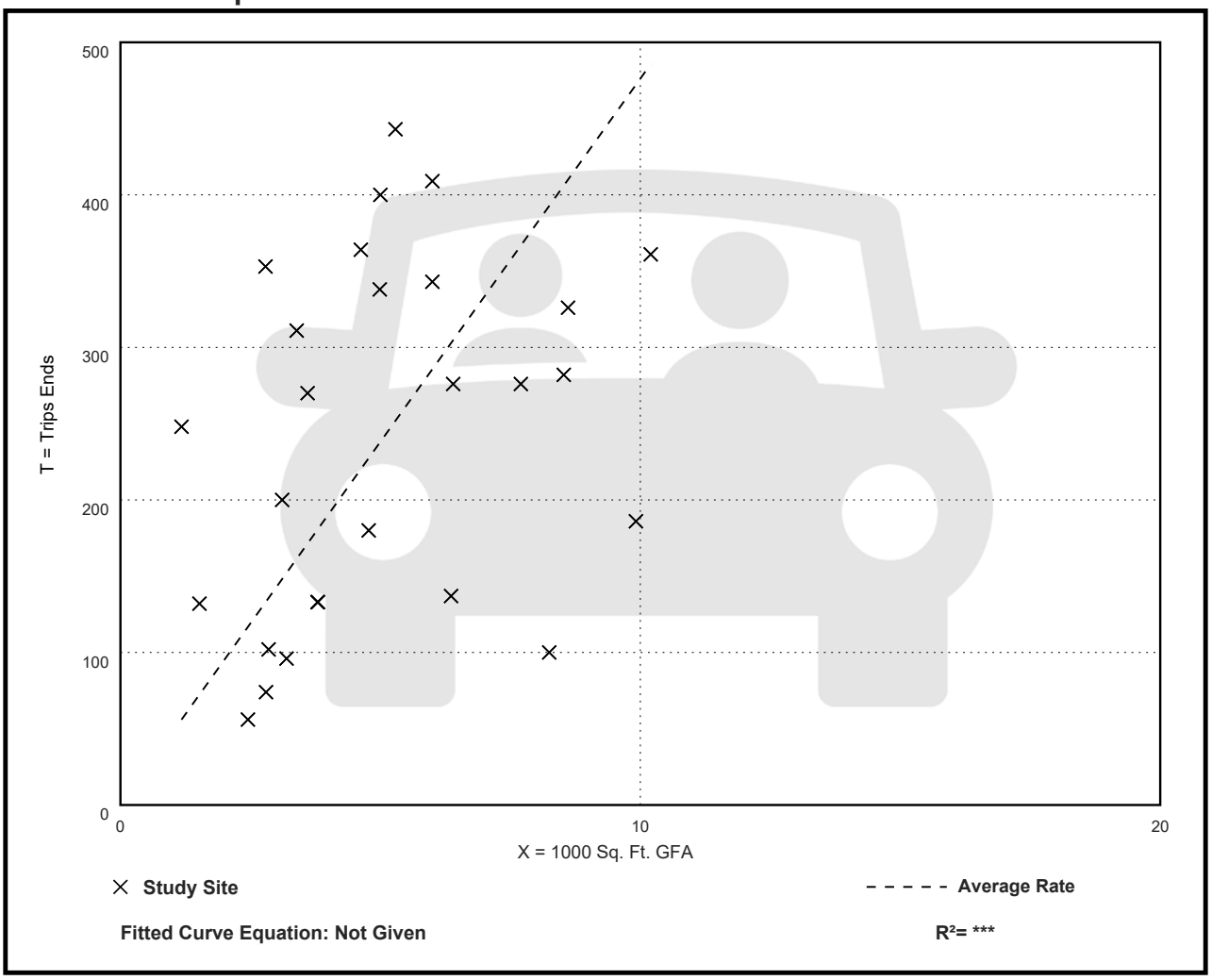
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 27
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
47.62	12.12 - 211.06	29.78

Data Plot and Equation



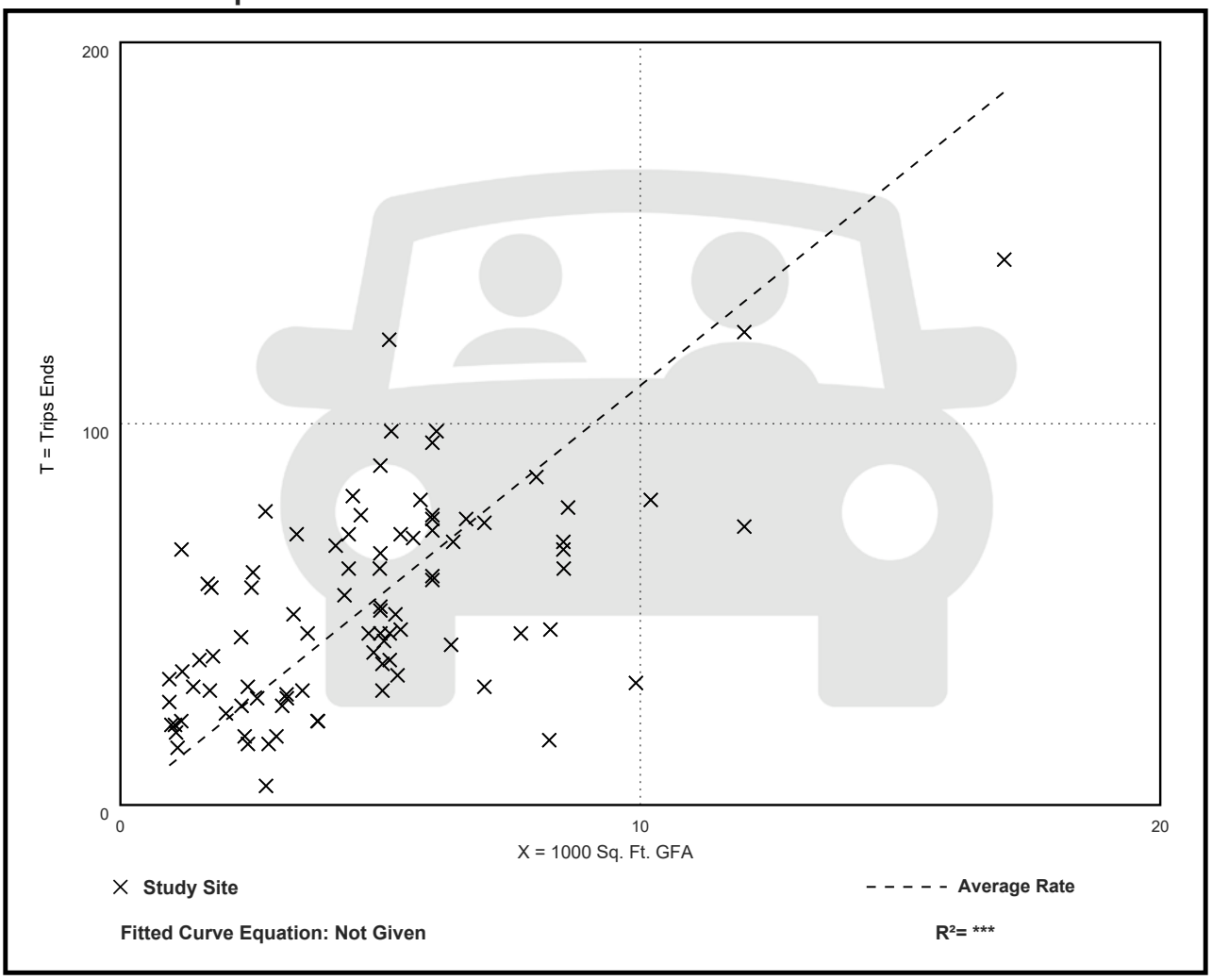
Day Care Center
(565)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 89
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.00	1.79 - 57.02	6.08

Data Plot and Equation



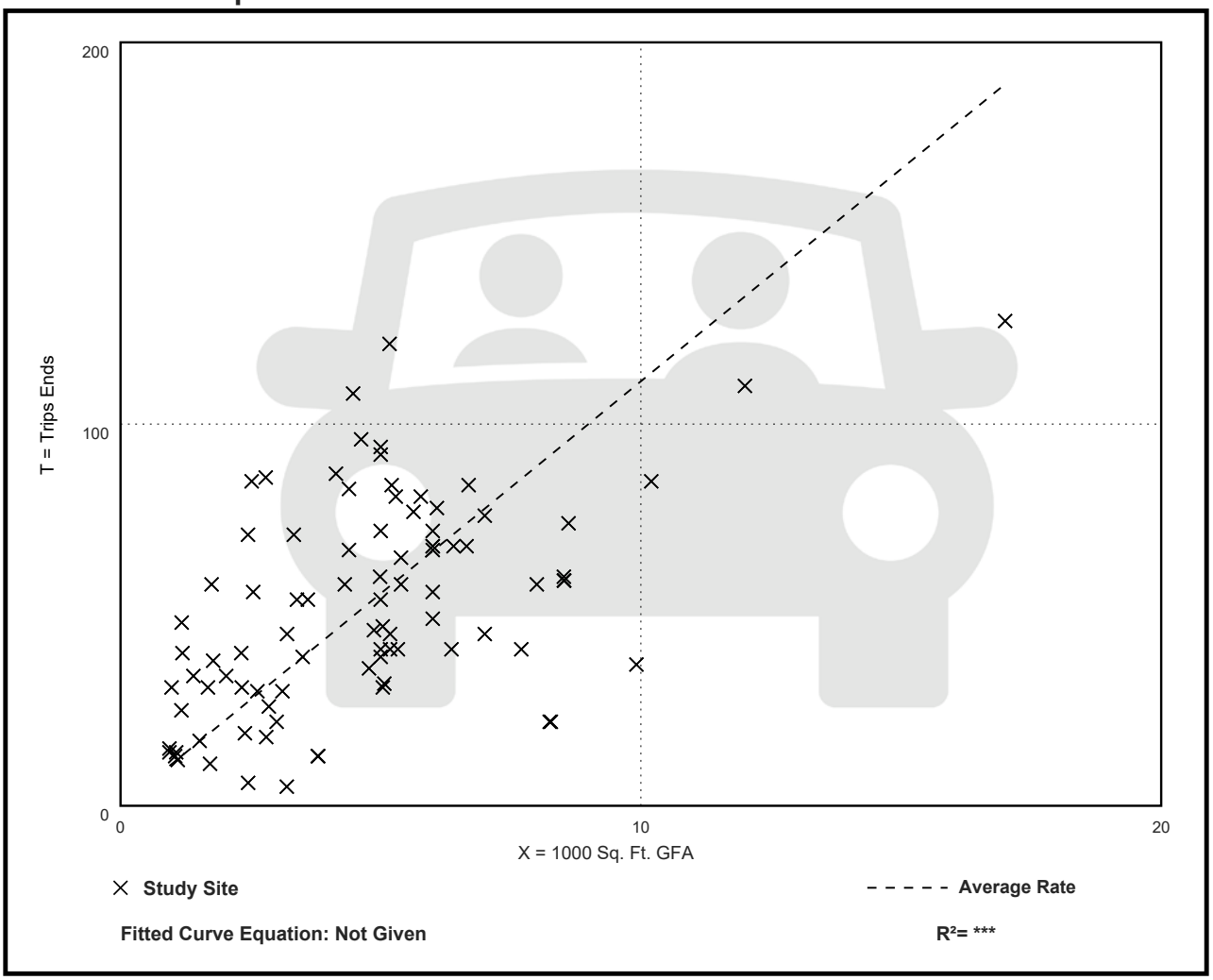
Day Care Center
(565)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 90
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.12	1.56 - 40.85	6.28

Data Plot and Equation



Day Care Center
(565)

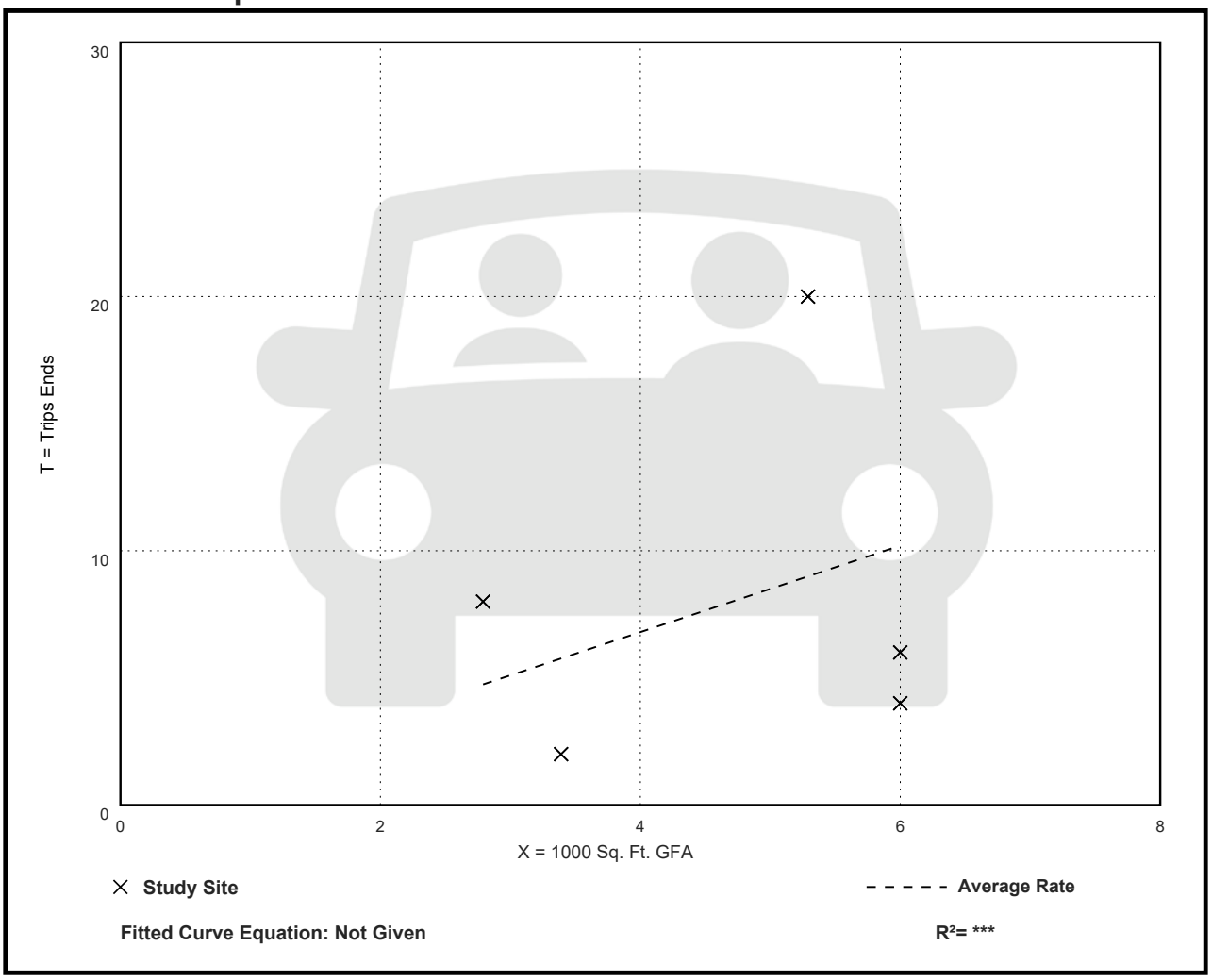
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.70	0.59 - 3.78	1.46

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ***

Land Use: 822
Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

Strip Retail Plaza (<40k)
(822)

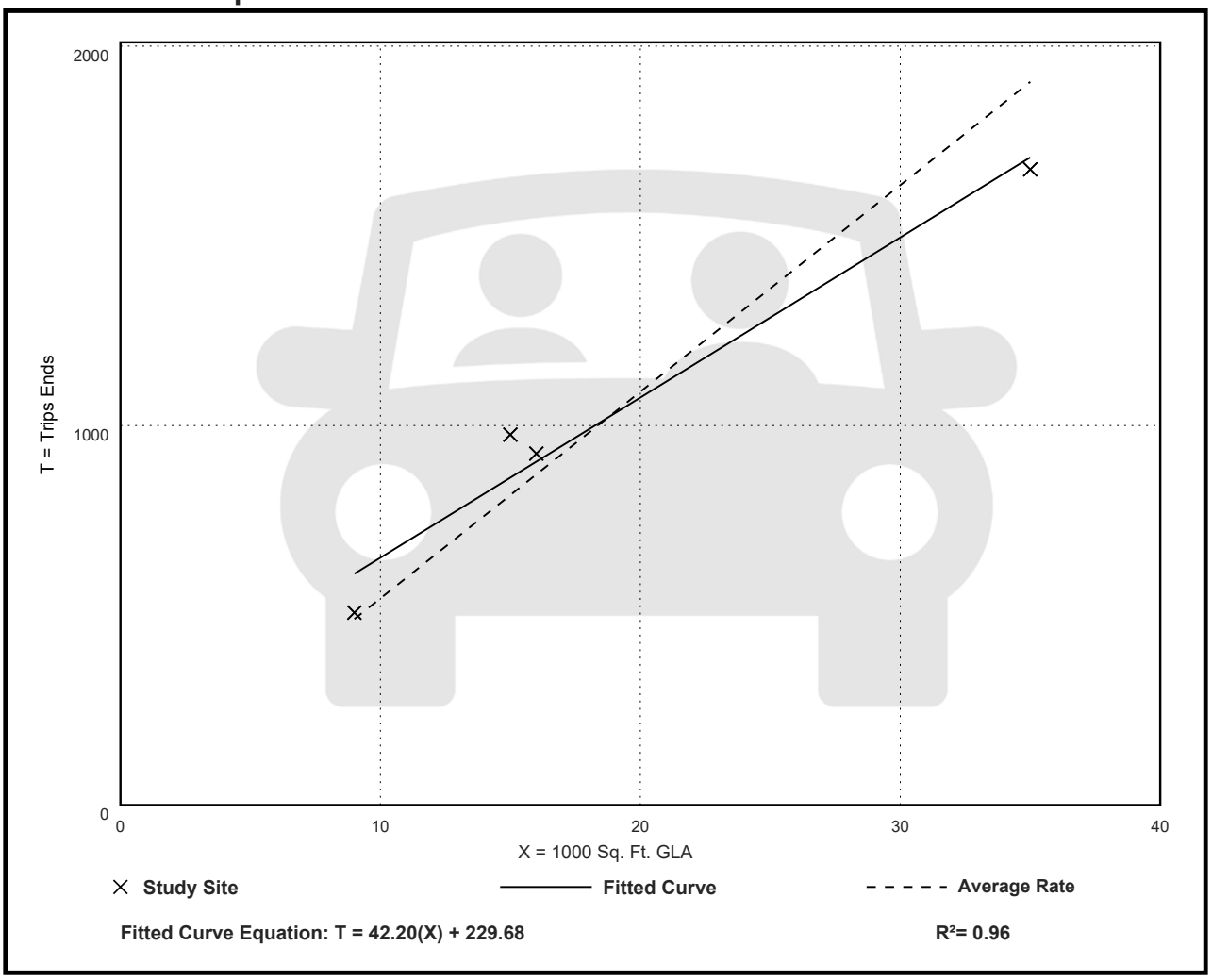
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. 1000 Sq. Ft. GLA: 19
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation



Fitted Curve Equation: T = 42.20(X) + 229.68

R^2= 0.96

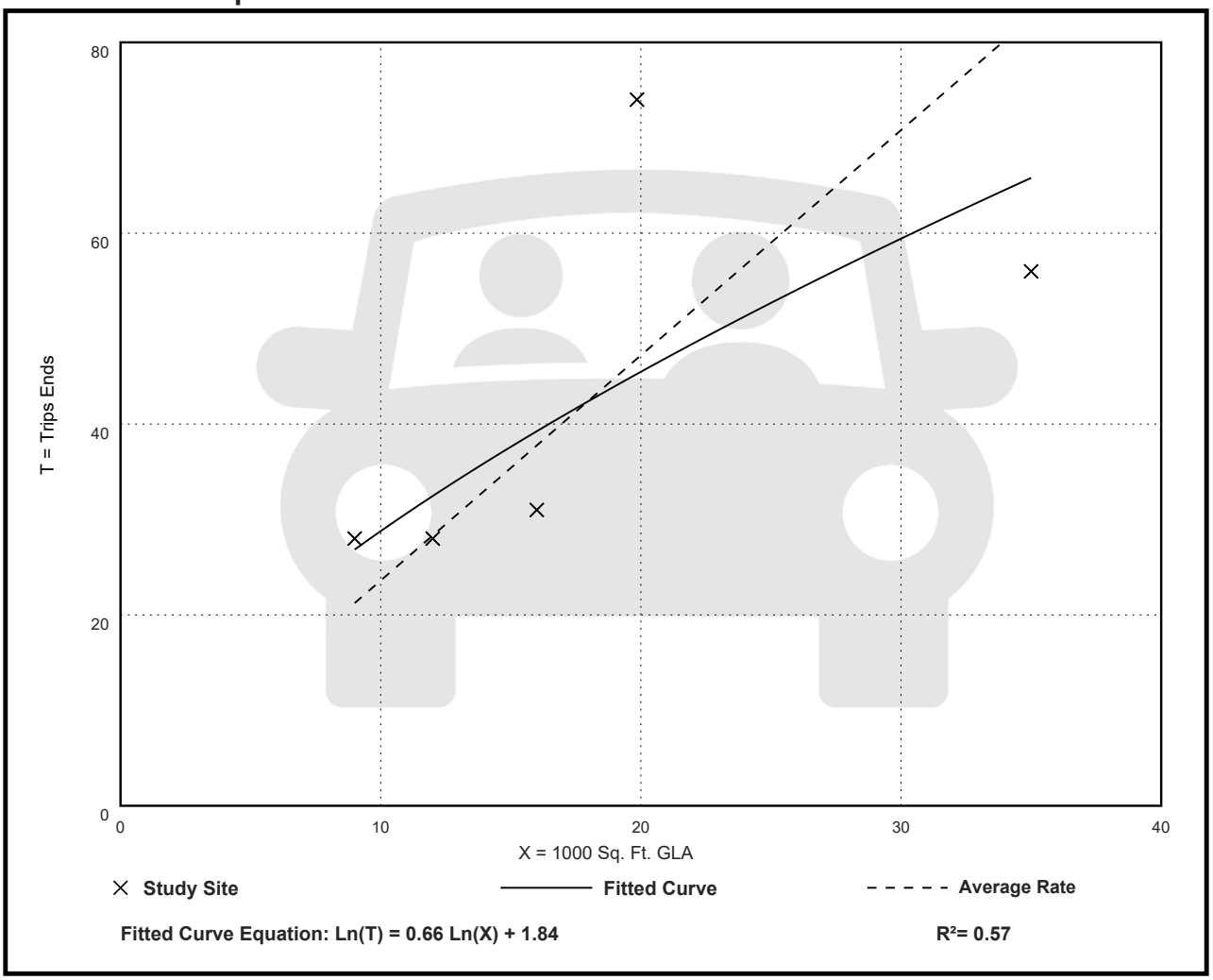
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.66 Ln(X) + 1.84

R^2= 0.57

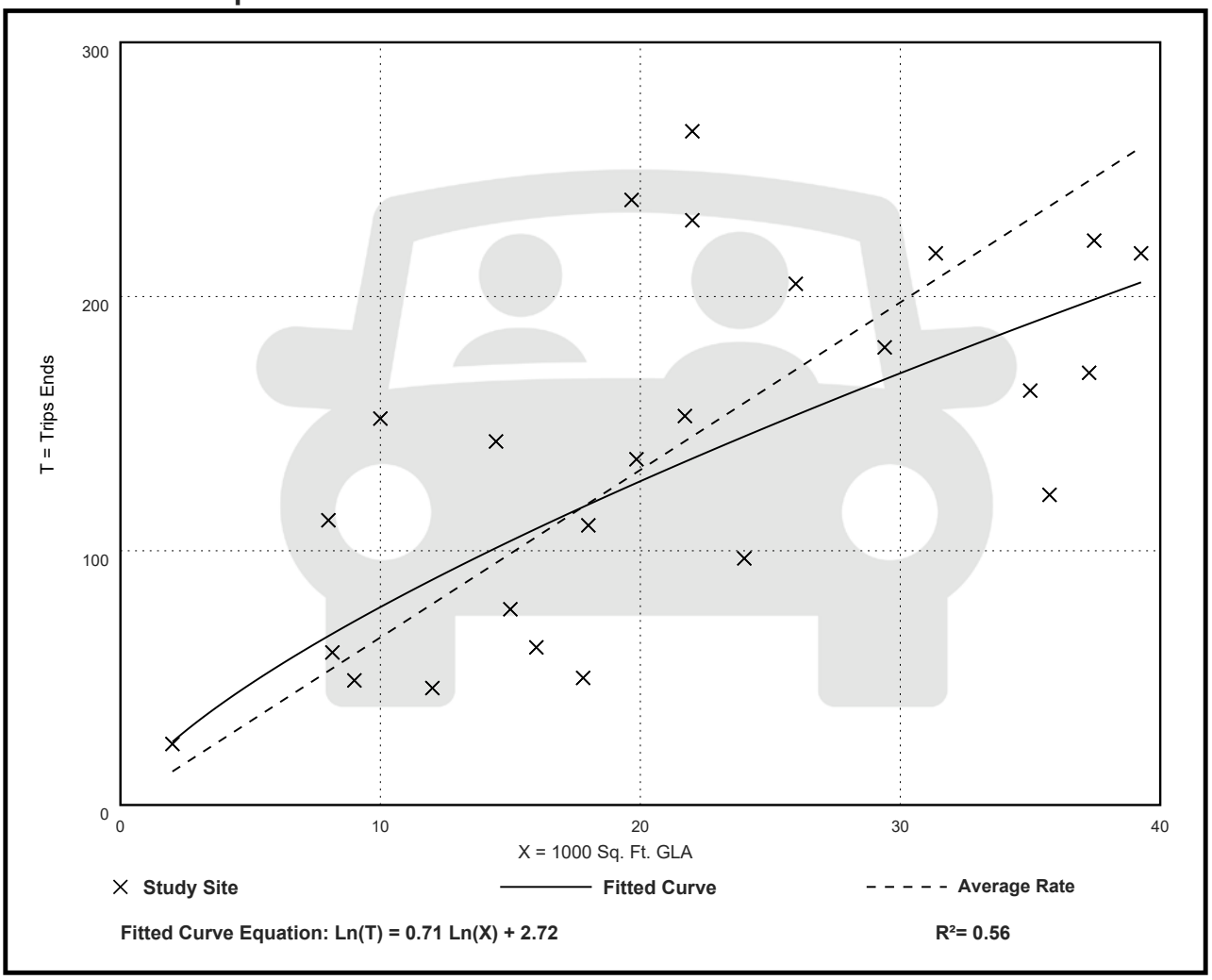
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 25
Avg. 1000 Sq. Ft. GLA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.71 Ln(X) + 2.72

R^2= 0.56

Strip Retail Plaza (<40k)
(822)

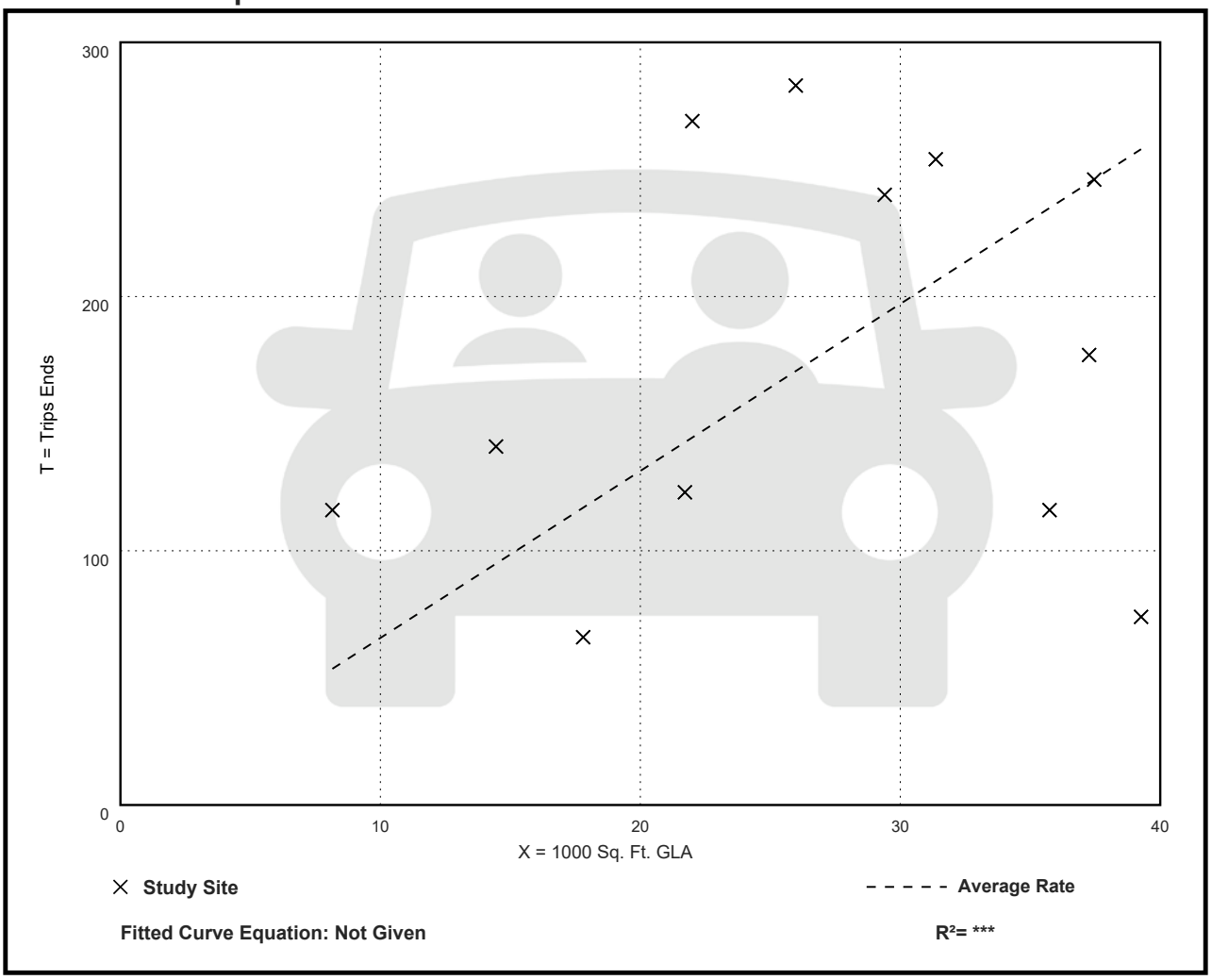
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 12
Avg. 1000 Sq. Ft. GLA: 27
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.57	1.88 - 14.23	3.45

Data Plot and Equation



Land Use: 912
Drive-in Bank

Description

A bank is a financial institution that can offer a wide variety of financial services. A drive-in bank provides banking services for a motorist through a teller station. A drive-in bank may also serve patrons who walk into the building. The drive-in lanes may or may not provide an automatic teller machine (ATM). Walk-in bank (Land Use 911) is a related use.

Additional Data

The independent variable—drive-in lanes—refers to all lanes at a banking facility used for financial transactions, including ATM-only lanes.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 2000s and the 2010s in Colorado, Kentucky, Minnesota, Nebraska, New Jersey, New York, Oregon, Pennsylvania, Texas, Vermont, Virginia, Washington, and Wisconsin.

To assist in the future analysis of this land use, it is important that Friday data be collected and reported separately from weekday data. It is also important to specify the date and month of the data collection period and the number of drive-through lanes that are open at the time of the study.

Source Numbers

535, 539, 553, 555, 573, 577, 600, 624, 626, 629, 630, 637, 656, 657, 710, 724, 728, 866, 869, 883, 884, 927, 935, 961, 1047

Drive-in Bank
(912)

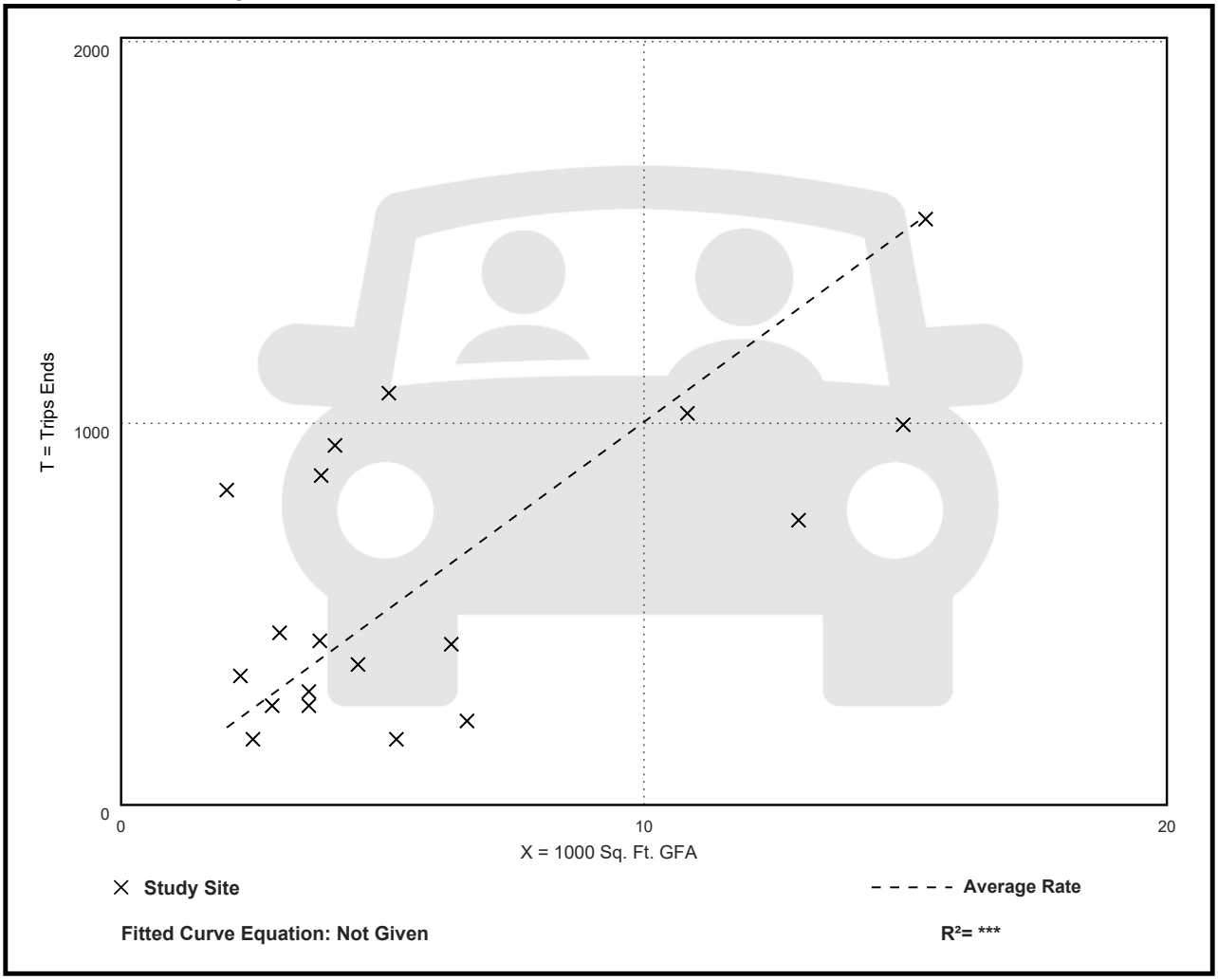
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 19
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
100.35	32.67 - 408.42	68.62

Data Plot and Equation



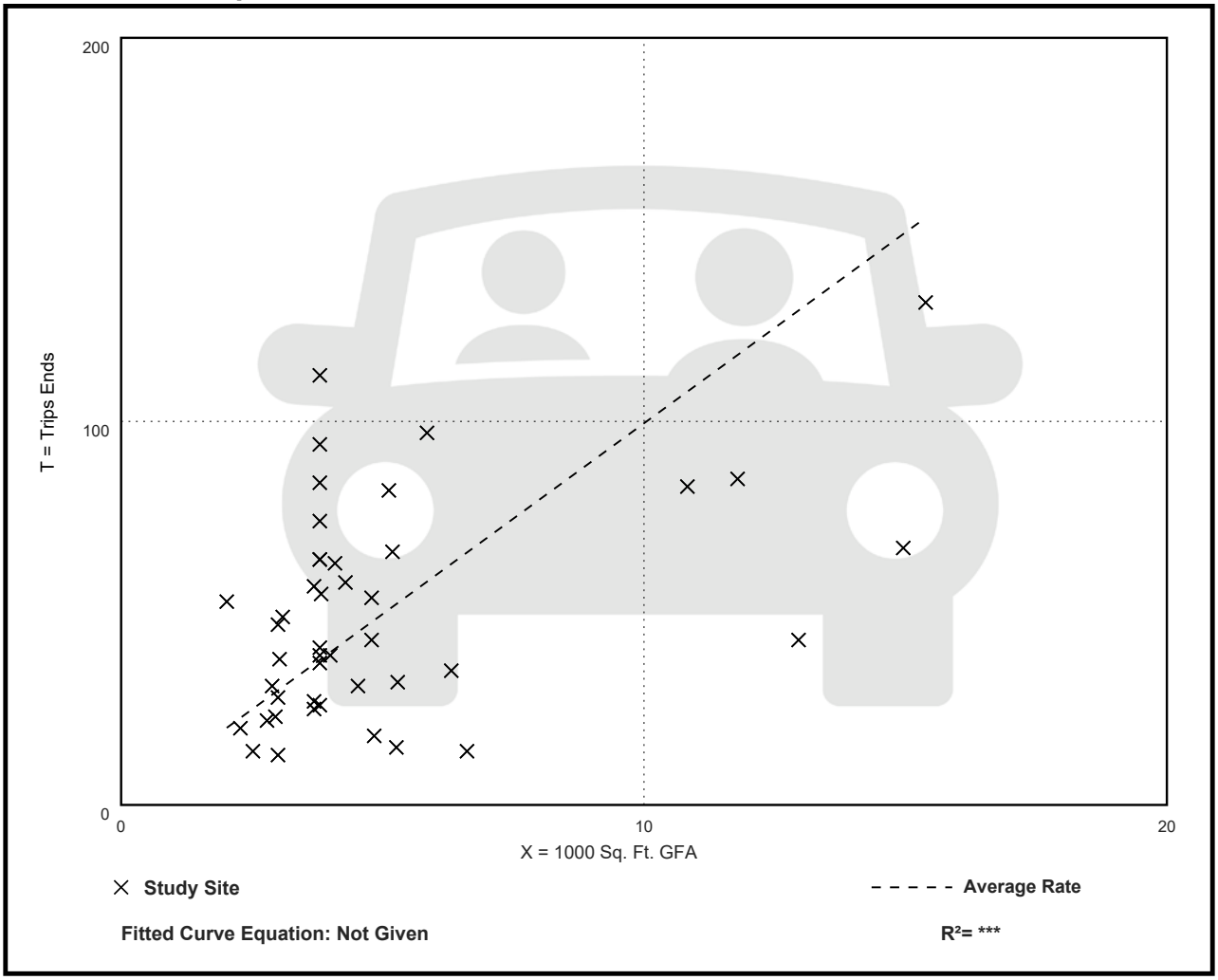
Drive-in Bank
(912)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 44
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.95	2.12 - 29.47	6.00

Data Plot and Equation



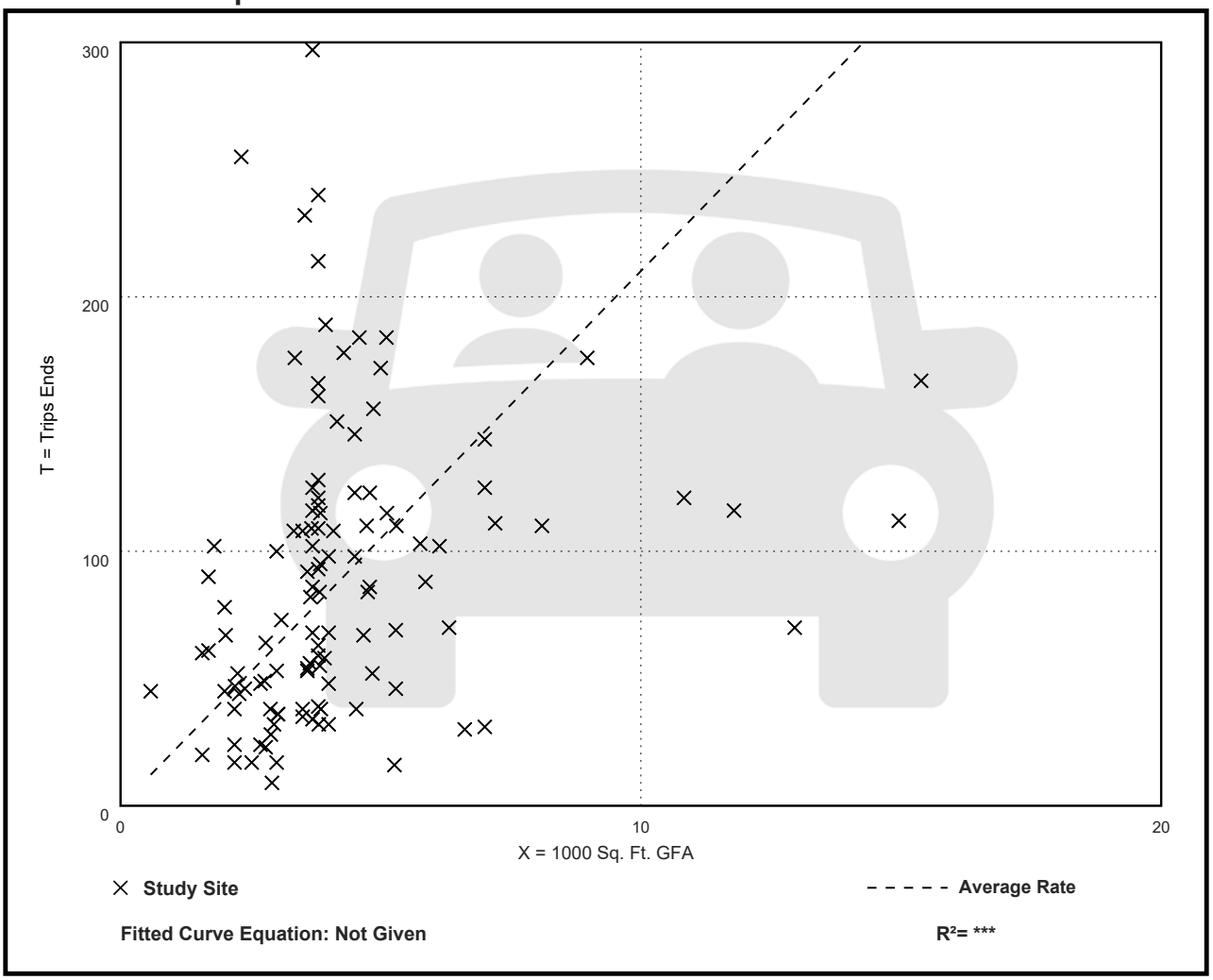
Drive-in Bank
(912)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 114
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
21.01	3.04 - 109.91	15.13

Data Plot and Equation



Drive-in Bank
(912)

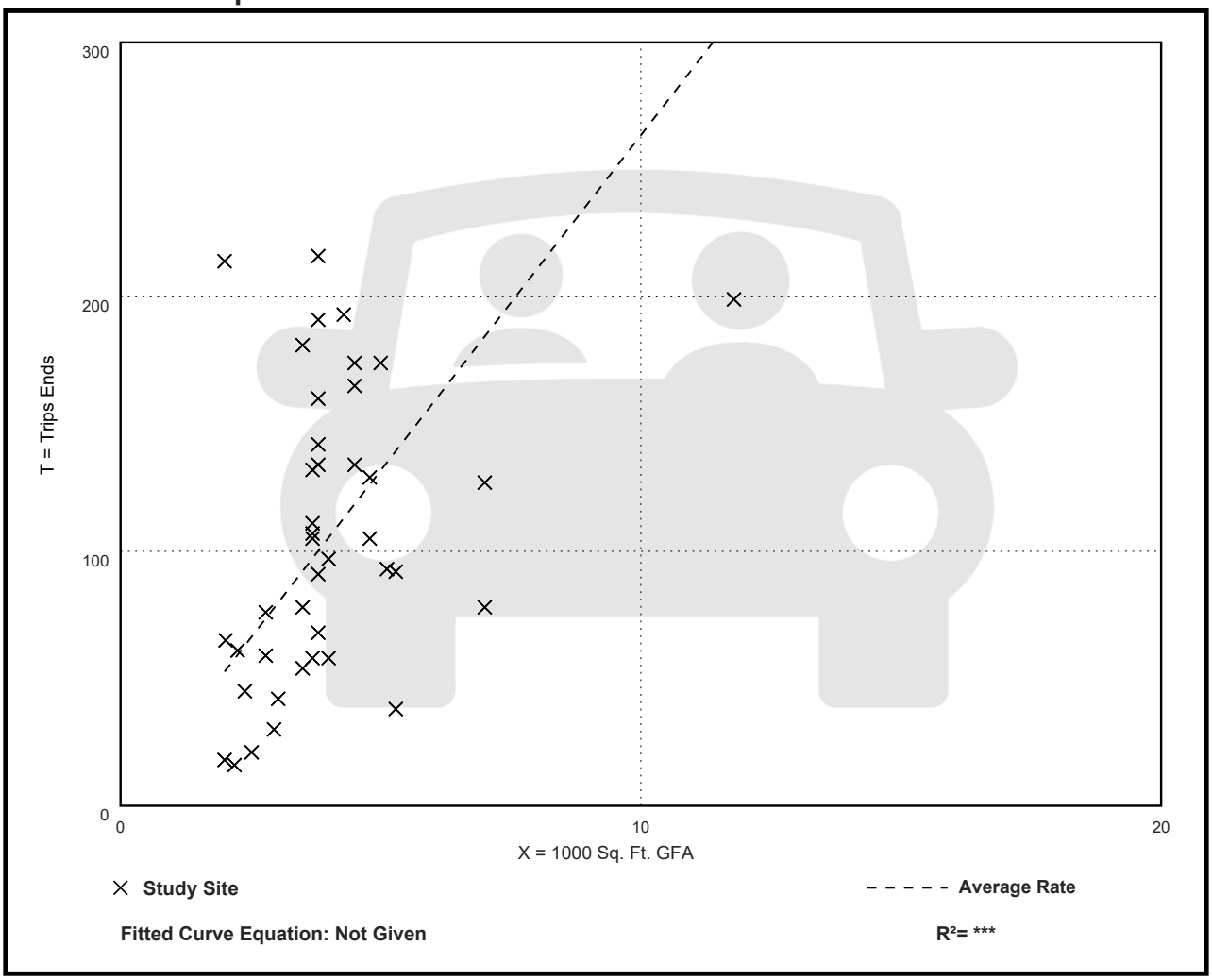
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 41
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
26.35	7.18 - 107.00	15.32

Data Plot and Equation



Land Use: 934
Fast-Food Restaurant with Drive-Through Window

Description

This land use includes any fast-food restaurant with a drive-through window. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. The restaurant does not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alaska, Alberta (CAN), California, Colorado, Florida, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Washington, and Wisconsin.

Source Numbers

163, 164, 168, 180, 181, 241, 245, 278, 294, 300, 301, 319, 338, 340, 342, 358, 389, 438, 502, 552, 577, 583, 584, 617, 640, 641, 704, 715, 728, 810, 866, 867, 869, 885, 886, 927, 935, 962, 977, 1050, 1053, 1054

Fast-Food Restaurant with Drive-Through Window (934)

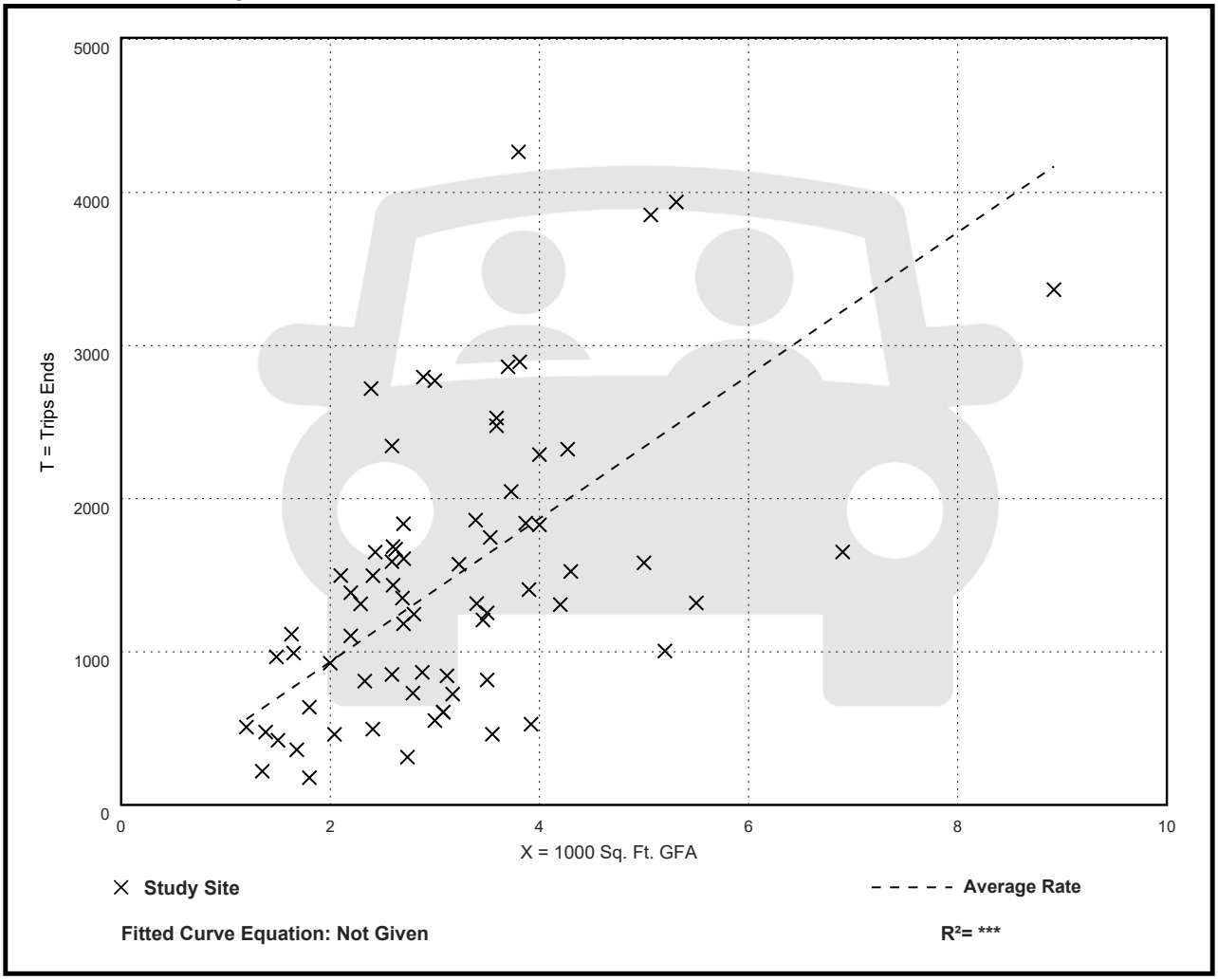
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 71
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
467.48	98.89 - 1137.66	238.62

Data Plot and Equation



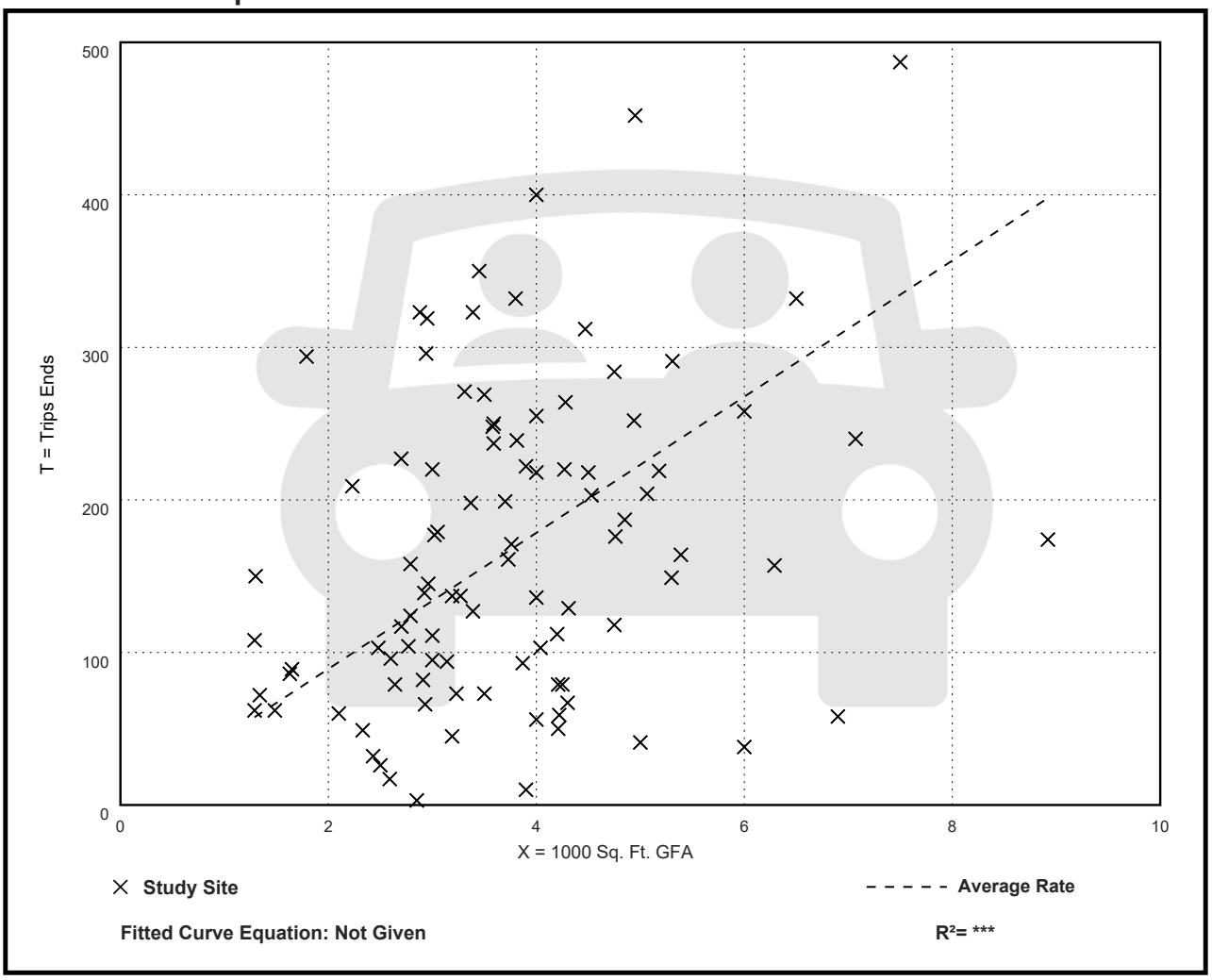
Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 96
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

Data Plot and Equation



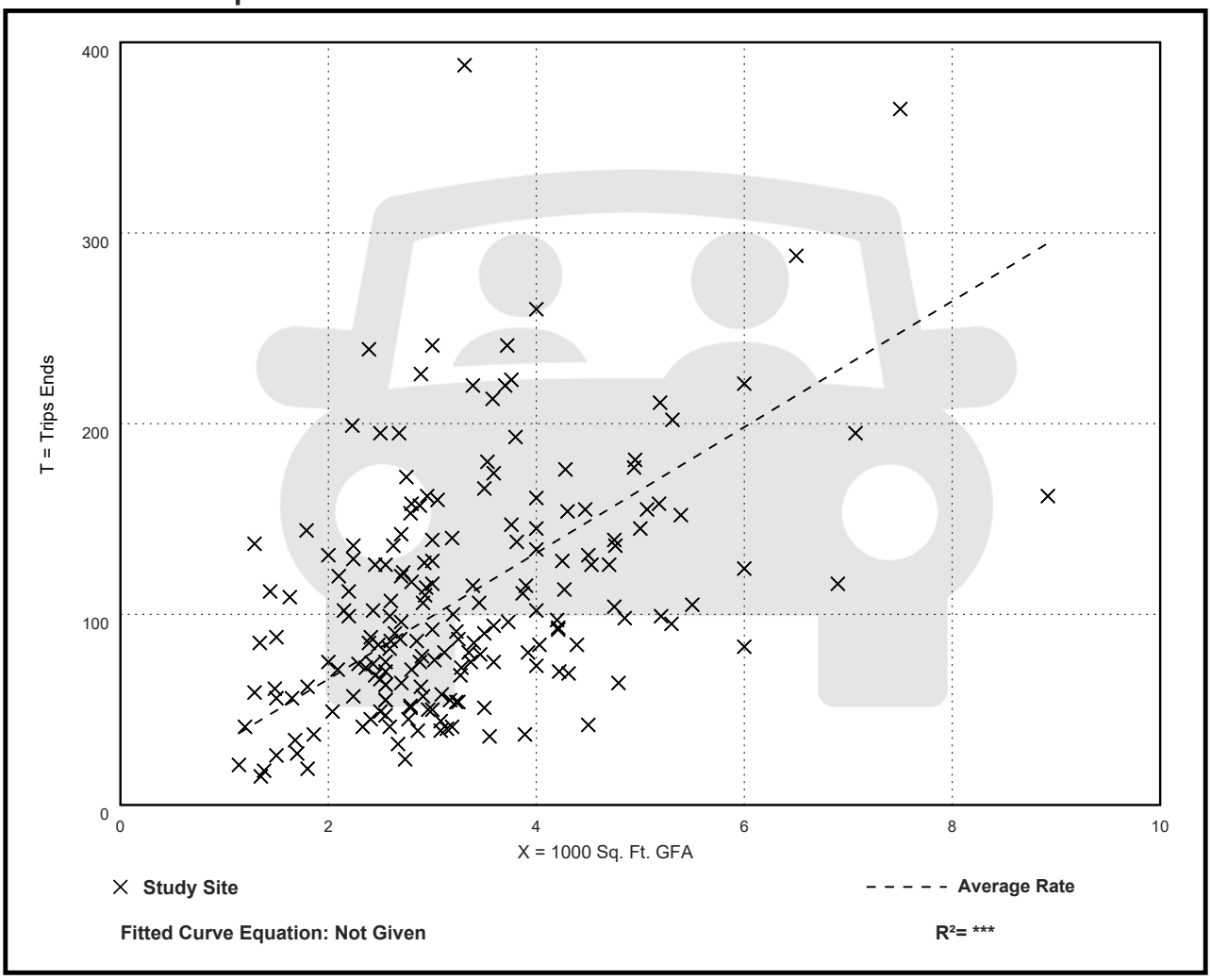
Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 190
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 53
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
55.25	11.25 - 122.92	24.62

Data Plot and Equation

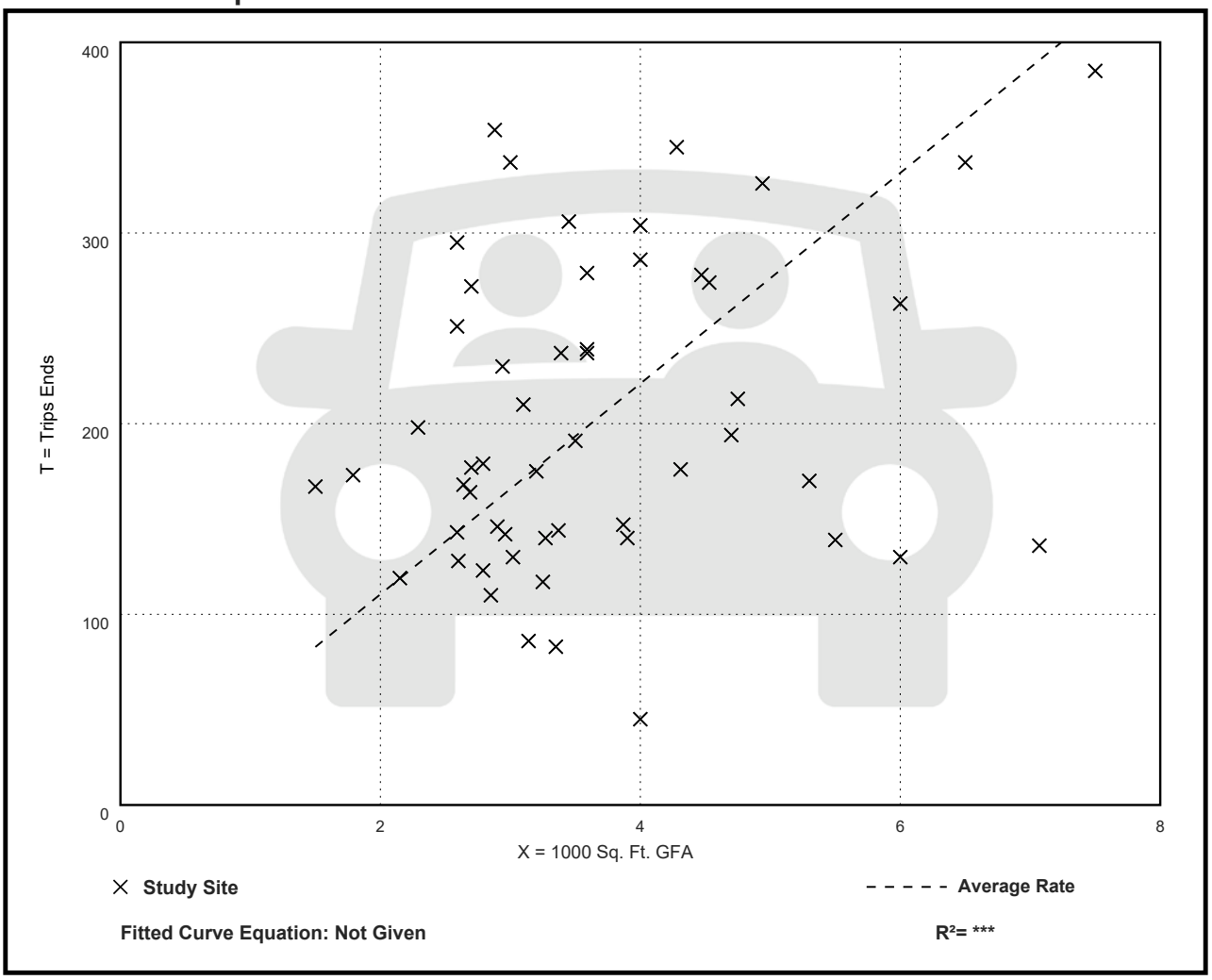


Table E.9 Pass-By and Non-Pass-By Trips Weekday, PM Peak Period
Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
53	Port Orange, FL	1993	162	2:00–6:00 p.m.	59	—	—	41	—	—	TPD Inc.
9	Kissimmee, FL	1994	107	2:00–6:00 p.m.	66	20	14	34	—	—	TPD Inc.
77	Edgewater, FL	1992	365	2:00–6:00 p.m.	46	—	—	54	—	—	TPD Inc.
82	Deltona, FL	1992	336	2:00–6:00 p.m.	34	—	—	66	—	—	TPD Inc.
78	Orlando, FL	1991	702	2:00–6:00 p.m.	55	23	22	45	—	—	TPD Inc.
45	Orlando, FL	1992	844	2:00–6:00 p.m.	56	24	20	44	—	—	TPD Inc.
50	Orlando, FL	1992	555	2:00–6:00 p.m.	41	41	18	59	—	—	TPD Inc.
52	Orlando, FL	1995	665	2:00–6:00 p.m.	42	33	25	58	—	—	TPD Inc.
17	Orlando, FL	1994	196	2:00–6:00 p.m.	66	—	—	34	—	—	TPD Inc.
60	Orlando, FL	1995	1,583	3:00–7:00 p.m.	40	38	22	60	—	—	TPD Inc.
158	Crestwood, KY	June 1993	129	4:00–6:00 p.m.	36	39	25	64	759	—	Barton-Aschman Assoc.
118	Louisville area, KY	June 1993	133	4:00–6:00 p.m.	22	51	27	78	3,555	—	Barton-Aschman Assoc.
74	Louisville, KY	June 1993	187	4:00–6:00 p.m.	30	43	27	70	922	—	Barton-Aschman Assoc.
59	Louisville area, KY	June 1993	247	4:00–6:00 p.m.	31	52	17	69	2,659	—	Barton-Aschman Assoc.
145	Louisville area, KY	June 1993	210	4:00–6:00 p.m.	53	30	17	47	2,636	—	Barton-Aschman Assoc.
104	Louisville area, KY	June 1993	281	4:00–6:00 p.m.	28	50	22	72	2,111	—	Barton-Aschman Assoc.
235	Louisville, KY	June 1993	211	4:00–6:00 p.m.	35	29	36	65	2,593	—	Barton-Aschman Assoc.
71	Louisville, KY	June 1993	109	4:00–6:00 p.m.	25	42	33	75	1,559	—	Barton-Aschman Assoc.
350	Worcester, MA	Apr. 1994	224	4:00–6:00 p.m.	18	45	37	82	2,112	—	ICSC
738	East Brunswick, NJ	Apr. 1994	283	4:00–6:00 p.m.	14	79	7	86	8,059	—	ICSC
294	Philadelphia, PA	Apr. 1994	213	4:00–6:00 p.m.	25	51	24	75	4,055	—	ICSC
256	Hamden, CT	Apr. 1994	208	4:00–6:00 p.m.	27	51	22	73	3,422	—	ICSC
418	Glen Burnie, MD	Apr. 1994	281	4:00–6:00 p.m.	20	51	29	80	5,610	—	ICSC
560	Harrisonburg, VA	Apr. 1994	437	4:00–6:00 p.m.	19	49	32	81	3,051	—	ICSC

Table E.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
361	Glen Allen, VA	Apr. 1994	315	4:00–6:00 p.m.	17	54	29	83	2,034	—	ICSC
375	Shelby, NC	May 1994	214	4:00–6:00 p.m.	30	48	22	70	3,053	—	ICSC
413	Texas City, TX	May 1994	228	4:00–6:00 p.m.	28	52	20	72	589	—	ICSC
488	Texas City, TX	May 1994	257	4:00–6:00 p.m.	12	75	13	88	1,094	—	ICSC
293	Berwyn, IL	May 1994	282	4:00–6:00 p.m.	24	70	6	76	4,606	—	ICSC
667	Bourbonais, IL	May 1994	200	4:00–6:00 p.m.	16	53	31	84	2,770	—	ICSC
225	Bellevue, IL	May 1994	264	4:00–6:00 p.m.	35	32	33	65	1,970	—	ICSC
255	Bettendorf, IA	May 1994	222	4:00–6:00 p.m.	24	37	39	76	3,706	—	ICSC
808	Laguna Hills, CA	June 1994	240	4:00–6:00 p.m.	13	73	14	87	4,035	—	ICSC
450	Hanford, CA	May 1994	321	4:00–6:00 p.m.	23	49	28	77	2,787	—	ICSC
800	San Jose, CA	May 1994	205	4:00–6:00 p.m.	21	51	28	79	7,474	—	ICSC
598	Greeley, CO	May 1994	205	4:00–6:00 p.m.	17	55	28	83	3,840	—	ICSC
581	Pueblo, CO	May 1994	296	4:00–6:00 p.m.	18	53	29	82	2,939	—	ICSC
476	Bellevue, WA	May 1994	234	4:00–6:00 p.m.	26	54	20	74	3,427	—	ICSC
720	Framingham, MA	Dec. 1982	92	3:30–7:00 p.m.	23	39	38	77	—	73,628	Raymond Keyes Assoc.
890	Newark, DE	July 1984	179	3:00–8:00 p.m.	12	49	39	88	—	—	Raymond Keyes Assoc.
402	Manassas, VA	June 1984	87	4:00–6:00 p.m.	48	25	27	52	—	—	Raymond Keyes Assoc.
462	Ross, PA	June 1980	175	5:30–7:00 p.m.	36	—	—	64	—	27,200	Raymond Keyes Assoc.
234	Huntington LI, NY	Nov. 1985	181	4:00–7:00 p.m.	46	21	33	54	—	34,630	Raymond Keyes Assoc.
658	Wayne, NJ	Sept. 1984	243	3:00–6:00 p.m.	27	61	12	73	—	85,600	Raymond Keyes Assoc.
1,200	Washington, DC	1980	364	4:00–6:00 p.m.	25	35	40	75	—	—	Gorove-Slade
800	Southern CA	—	1,000	4:00–6:00 p.m.	12	45	43	88	—	—	Frischer
451	Portland, OR	—	—	5:00–6:00 p.m.	25	—	—	75	—	—	Buttke
113	Portland, OR	—	—	5:00–6:00 p.m.	17	—	—	83	—	—	Buttke

Table E.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
622	Ramsey, MN	Nov. 1985	46	4:00–9:00 p.m.	44	26	30	56	—	36,370	Raymond Keyes Assoc.
736	Pensacola, FL	Oct. 1985	383	3:00–7:00 p.m.	26	35	39	74	—	—	Raymond Keyes Assoc.
84	Dover, DE	July 1985	218	3:30–7:00 p.m.	50	6	44	50	—	—	Raymond Keyes Assoc.
500	Meriden, CT	Apr. 1985	—	4:00–6:00 p.m.	8	—	—	92	—	—	Connecticut DOT
660	Enfield, CT	Apr. 1985	—	4:00–6:00 p.m.	22	—	—	78	—	—	Connecticut DOT
845	Waterford, CT	Apr. 1985	—	4:00–6:00 p.m.	14	—	—	86	—	—	Connecticut DOT
1,060	West Hartford, CT	Apr. 1985	—	4:00–6:00 p.m.	17	—	—	83	—	—	Connecticut DOT
131	Pr. Georges Co., MD	1982/83	88	4:00–6:00 p.m.	74	—	—	26	—	—	JHK
181	Pr. Georges Co., MD	1982/83	105	4:00–6:00 p.m.	36	—	—	64	—	—	JHK
100	Pr. Georges Co., MD	1982/83	93	4:00–6:00 p.m.	36	—	—	64	—	—	JHK
475	Pr. Georges Co., MD	1982/83	130	4:00–6:00 p.m.	20	—	—	80	—	—	JHK
60	Pr. Georges Co., MD	1982/83	72	4:00–6:00 p.m.	72	—	—	28	—	—	JHK
90	Pr. Georges Co., MD	1982/83	91	4:00–6:00 p.m.	58	—	—	42	—	—	JHK
78	Pr. Georges Co., MD	1982/83	113	4:00–6:00 p.m.	59	—	—	41	—	—	JHK
44	Pr. Georges Co., MD	1982/83	97	4:00–6:00 p.m.	51	—	—	49	—	—	JHK
467	Pr. Georges Co., MD	1982/83	99	4:00–6:00 p.m.	56	—	—	44	—	—	JHK
352	W. Orange, NJ	Mar. 1986	149	4:00–6:00 p.m.	38	19	43	62	—	21,520	Raymond Keyes Assoc.
176	Tarpon Springs, FL	May 1986	124	3:00–7:00 p.m.	37	28	35	63	—	34,080	Raymond Keyes Assoc.
762	Orlando, FL	Fall 1985	182	4:00–6:00 p.m.	25	52	23	75	—	—	Kimley-Horn and Assoc. Inc.
166	Orlando, FL	Fall 1985	124	4:00–6:00 p.m.	27	48	25	73	—	—	Kimley-Horn and Assoc. Inc.
129	Orlando, FL	Fall 1985	116	4:00–6:00 p.m.	28	50	22	72	—	—	Kimley-Horn and Assoc. Inc.
71	Orlando, FL	Fall 1985	81	4:00–6:00 p.m.	50	44	6	50	—	—	Kimley-Horn and Assoc. Inc.

Table E.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
921	Albany, NY	July & Aug. 1985	196	4:00–6:00 p.m.	23	42	35	77	—	60,950	Raymond Keyes Assoc.
108	Overland Park, KS	July 1988	111	4:30–5:30 p.m.	26	61	13	74	—	34,000	—
118	Overland Park, KS	Aug. 1988	123	4:30–5:30 p.m.	25	55	20	75	—	—	—
256	Greece, NY	June 1988	120	4:00–6:00 p.m.	38	62	—	62	—	23,410	Sear Brown
160	Greece, NY	June 1988	78	4:00–6:00 p.m.	29	71	—	71	—	57,306	Sear Brown
550	Greece, NY	June 1988	117	4:00–6:00 p.m.	48	52	—	52	—	40,763	Sear Brown
51	Boca Raton, FL	Dec. 1987	110	4:00–6:00 p.m.	33	34	33	67	—	42,225	Kimley-Horn and Assoc. Inc.
1,090	Ross Twp, PA	July 1988	411	2:00–8:00 p.m.	34	56	10	66	—	51,500	Wilbur Smith and Assoc.
97	Upper Dublin Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	41	—	—	59	—	34,000	McMahon Associates
118	Tredyffrin Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	24	—	—	76	—	10,000	Booz Allen & Hamilton
122	Lawnside, NJ	Winter 1988/89	—	4:00–6:00 p.m.	37	—	—	63	—	20,000	Pennoni Associates
126	Boca Raton, FL	Winter 1988/89	—	4:00–6:00 p.m.	43	—	—	57	—	40,000	McMahon Associates
150	Willow Grove, PA	Winter 1988/89	—	4:00–6:00 p.m.	39	—	—	61	—	26,000	Booz Allen & Hamilton
153	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	50	—	—	50	—	85,000	McMahon Associates
153	Arden, DE	Winter 1988/89	—	4:00–6:00 p.m.	30	—	—	70	—	26,000	Orth-Rodgers & Assoc. Inc.
154	Doylestown, PA	Winter 1988/89	—	4:00–6:00 p.m.	32	—	—	68	—	29,000	Orth-Rodgers & Assoc. Inc.
164	Middletown Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	33	—	—	67	—	25,000	Booz Allen & Hamilton
166	Haddon Twp, NJ	Winter 1988/89	—	4:00–6:00 p.m.	20	—	—	80	—	6,000	Pennoni Associates
205	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	55	—	—	45	—	62,000	McMahon Associates

Table E.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
237	W. Windsor Twp, NJ	Winter 1988/89	—	4:00–6:00 p.m.	48	—	—	52	—	46,000	Booz Allen & Hamilton
242	Willow Grove, PA	Winter 1988/89	—	4:00–6:00 p.m.	37	—	—	63	—	26,000	McMahon Associates
297	Whitehall, PA	Winter 1988/89	—	4:00–6:00 p.m.	33	—	—	67	—	26,000	Orth-Rodgers & Assoc. Inc.
360	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	44	—	—	56	—	73,000	McMahon Associates
370	Pittsburgh, PA	Winter 1988/89	—	4:00–6:00 p.m.	19	—	—	81	—	33,000	Wilbur Smith
150	Portland, OR	—	519	4:00–6:00 p.m.	68	6	26	32	—	25,000	Kittelson and Associates
150	Portland, OR	—	655	4:00–6:00 p.m.	65	7	28	35	—	30,000	Kittelson and Associates
760	Calgary, Alberta	Oct.-Dec. 1987	15,436	4:00–6:00 p.m.	20	39	41	80	—	—	City of Calgary DOT
178	Bordentown, NJ	Apr. 1989	154	2:00–6:00 p.m.	35	—	—	65	—	37,980	Raymond Keyes Assoc.
144	Manalapan, NJ	July 1990	176	3:30–6:15 p.m.	32	44	24	68	—	69,347	Raymond Keyes Assoc.
549	Natick, MA	Feb. 1989	—	4:45–5:45 p.m.	33	26	41	67	—	48,782	Raymond Keyes Assoc.

Average Pass-By Trip Percentage: 34
"—" means no data were provided

Figure E.7 Shopping Center (820)

Average Pass-By Trip Percentage vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday, P.M. Peak Period
Number of Studies: 100
Average 1000 Sq. Feet GLA: 329

Data Plot

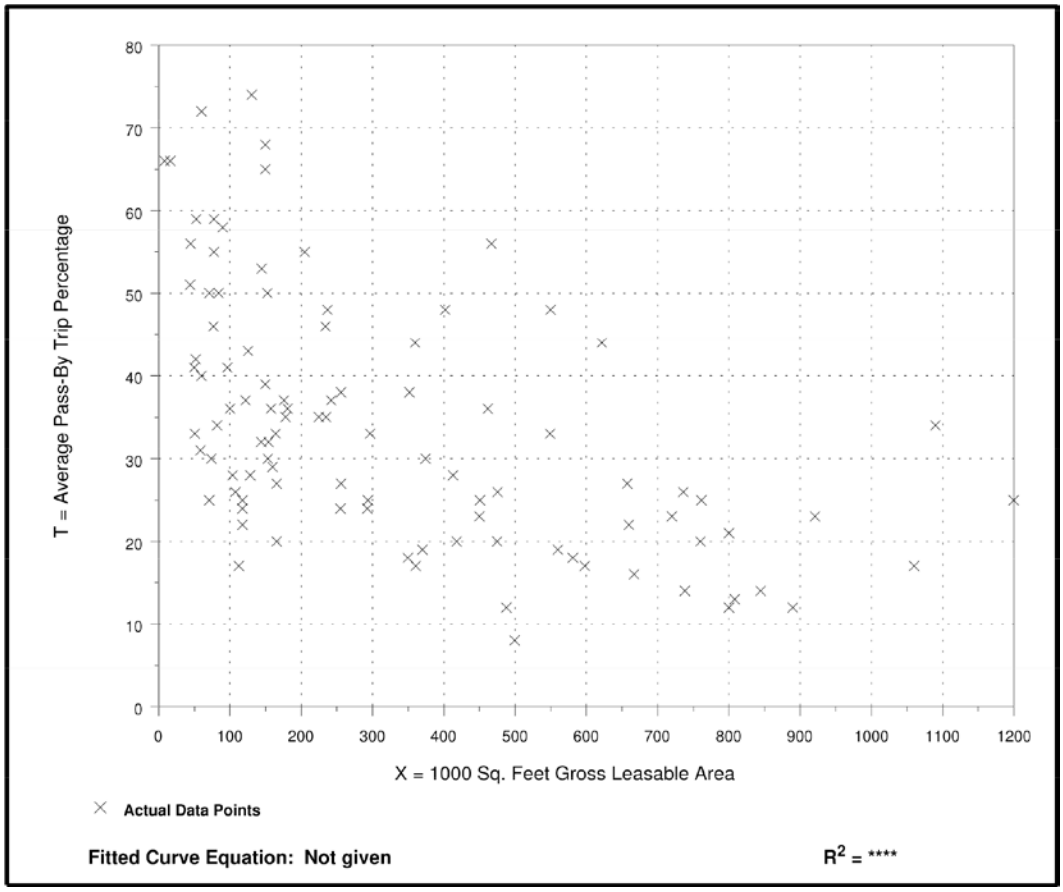


Figure E.8 Shopping Center (820)

Average Pass-By Trip Percentage vs: **PM Peak Hour Traffic on Adjacent Street**
On a: **Weekday, PM Peak Period**
Number of Studies: 28
Average PM Peak Hr. Traf. On Adj. Street: 3,122

Data Plot

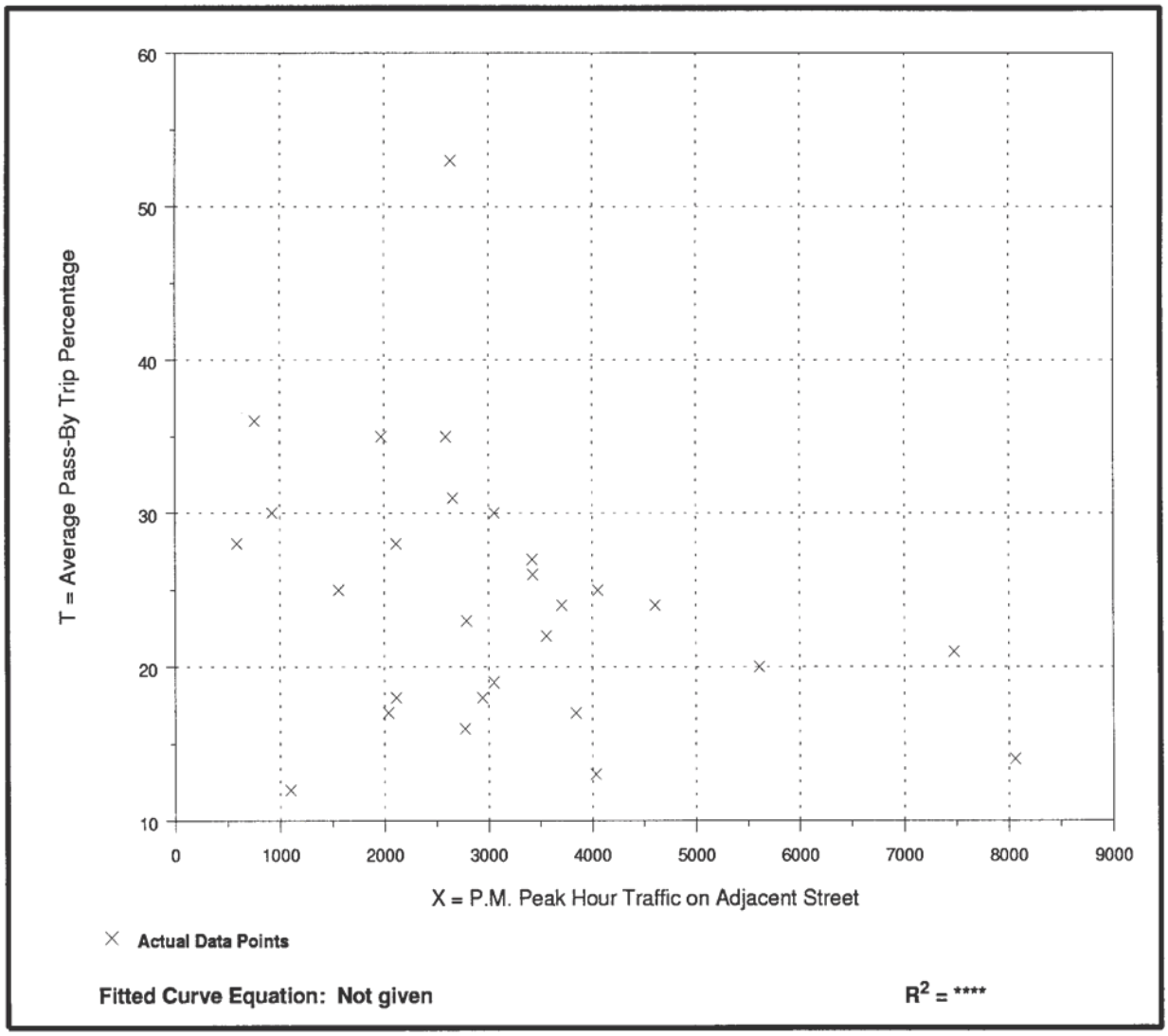


Table E.10 Pass-By and Non-Pass-By Trips Saturday, Mid-Day Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GFA)	LOCATION	SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
						PRIMARY	DIVERTED	TOTAL		
720	Framingham, MA	Feb. 1984	258	11:00 a.m.–4:00 p.m.	23	34	43	77	—	Raymond Keyes Assoc.
600	Brandywine, DE	Apr. 1983	256	10:00 a.m.–3:00 p.m.	17	50	33	83	—	Raymond Keyes Assoc.
880	Christiana, DE	July 1984	198	11:00 a.m.–4:00 p.m.	5	55	40	95	—	Raymond Keyes Assoc.
234	Huntington LI, NY	Nov. 1985	223	11:00 a.m.–3:00 p.m.	39	22	39	61	—	Raymond Keyes Assoc.
658	Wayne, NJ	Sept. 1984	329	11:00 a.m.–4:00 p.m.	46	44	10	54	—	Raymond Keyes Assoc.
622	Ramsey Cnty, MN	Nov. 1985	119	11:00 a.m.–3:00 p.m.	23	21	56	77	—	Raymond Keyes Assoc.
736	Pensacola, FL	Oct. 1985	680	11:00 a.m.–3:00 p.m.	20	31	49	80	—	Raymond Keyes Assoc.
430	Ross, PA	June 1980	425	11:00 a.m.–4:00 p.m.	22	—	—	78	—	Raymond Keyes Assoc.
176	Tampa Springs, FL	May 1986	188	11:00 a.m.–3:00 p.m.	31	42	27	69	—	Raymond Keyes Assoc.
144	Manalapan, NJ	July 1990	264	11:00 a.m.–3:15 p.m.	31	47	22	69	63,362	Raymond Keyes Assoc.
549	Natick, MA	Feb. 1989	—	2:15–3:15 p.m.	28	39	33	72	48,782	Raymond Keyes Assoc.

Average Pass-By Trip Percentage: 26
"—" means no data were provided

Figure E.9 Shopping Center (820)

Average Pass-By Trip Percentage vs: 1000 Sq. Feet Gross Leasable Area
On a: Saturday
Number of Studies: 11
Average 1000 Sq. Feet GLA: 523

Data Plot

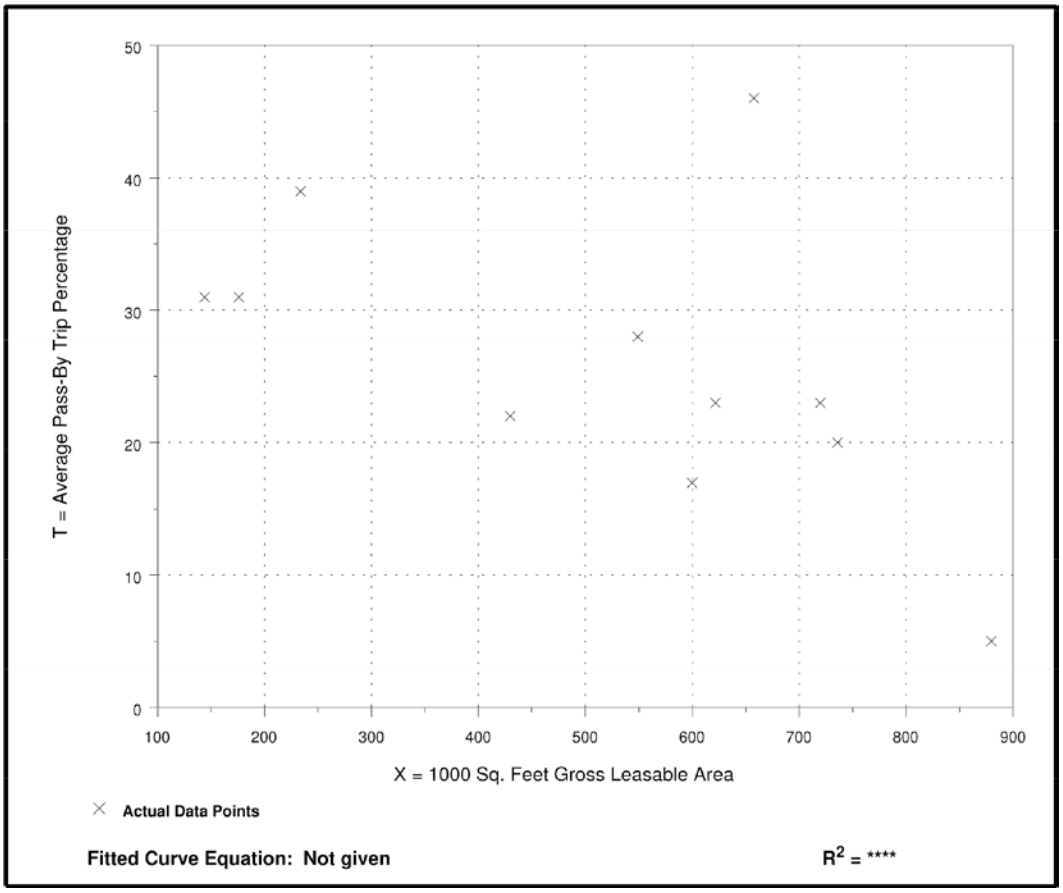


Table E.24 Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 890—Furniture Store

SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
						PRIMARY	DIVERTED	TOTAL		
41	Altamonte Springs, FL	1995	212	2:00–6:00 p.m.	49	20	31	51	—	TPD Inc.
17	Daytona Beach, FL	1994	39	2:00–6:00 p.m.	69	—	—	31	—	TPD Inc.
24	Orlando, FL	1991	103	2:00–6:00 p.m.	42	—	—	58	—	TPD Inc.

Average Pass-By Trip Percentage: 53
"—" means no data were provided

Table E.25 Pass-By and Non-Pass-By Trips Weekday, AM Peak Period Land Use Code 912—Drive-in Bank

SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
						PRIMARY	DIVERTED	TOTAL		
3.8	Camp Hill Mall, PA	March 2005	11	7:45–8:45 a.m.	27	—	—	73	—	McMahon Associates, Inc.
3.8	Exeter Twp, PA	March 2005	9	8:00–9:00 a.m.	24	—	—	76	—	McMahon Associates, Inc.
3.8	York, PA	March 2005	22	7:45–8:45 a.m.	34	—	—	66	—	McMahon Associates, Inc.
3.8	York, PA	March 2005	30	8:00–9:00 a.m.	27	—	—	73	—	McMahon Associates, Inc.
3.8	Mountain Road, PA	March 2005	34	7:30–8:30 a.m.	40	—	—	60	—	McMahon Associates, Inc.
3.8	Muhlenberg, PA	March 2005	7	8:00–9:00 a.m.	27	—	—	73	—	McMahon Associates, Inc.
3.8	York, PA	March 2005	15	8:00–9:00 a.m.	16	—	—	84	—	McMahon Associates, Inc.
3.8	Derry Street, PA	March 2005	27	8:00–9:00 a.m.	36	—	—	64	—	McMahon Associates, Inc.

Average Pass-By Trip Percentage: 29
"—" means no data were provided

Table E.26 Pass-By and Non-Pass-By Trips Weekday, Mid-Day Peak Period Land Use Code 912—Drive-in Bank

SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
						PRIMARY	DIVERTED	TOTAL		
3.6	Arlington, WA	Sept. 2007	—	11:00 a.m.–2:00 p.m.	34	42	24	66	—	657
2.7	Lynnwood, WA	Sept. 2007	—	11:00 a.m.–2:00 p.m.	26	58	16	74	—	657
2.8	Redmond, WA	Sept. 2007	—	11:00 a.m.–2:00 p.m.	30	53	17	70	—	657
3.6	Snohomish, WA	July 2007	—	11:00 a.m.–2:00 p.m.	15	—	—	85	—	657

Average Pass-By Trip Percentage: 26
"—" means no data were provided

Table E.27 Pass-By and Non-Pass-By Trips Weekday, PM Peak Period
Land Use Code 912—Drive-in Bank

SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
						PRIMARY	DIVERTED	TOTAL		
16.0	Overland Park, KS	Dec. 1988	20	4:30–5:30 p.m.	15	55	30	85	—	—
3.3	Louisville area, KY	July 1993	—	4:00–6:00 p.m.	48	22	30	52	2,570	Barton-Aschman Assoc.
3.4	Louisville area, KY	July 1993	—	4:00–6:00 p.m.	64	22	14	36	2,266	Barton-Aschman Assoc.
3.4	Louisville area, KY	July 1993	75	4:00–6:00 p.m.	57	11	32	43	1,955	Barton-Aschman Assoc.
3.5	Louisville area, KY	June 1993	53	4:00–6:00 p.m.	47	32	21	53	2,785	Barton-Aschman Assoc.
6.4	Louisville area, KY	June 1993	66	4:00–6:00 p.m.	53	20	27	47	2,610	Barton-Aschman Assoc.
3.8	Colonial Park, PA	March 2005	56	4:00–5:00 p.m.	43	—	—	57	—	McMahon Associates, Inc.
3.8	Camp Hill Mall, PA	March 2005	38	4:15–5:15 p.m.	41	—	—	59	—	McMahon Associates, Inc.
3.8	Exeter Twp, PA	March 2005	14	4:00–5:00 p.m.	24	—	—	76	—	McMahon Associates, Inc.
3.8	York, PA	March 2005	63	4:00–5:00 p.m.	29	—	—	71	—	McMahon Associates, Inc.
3.8	York, PA	March 2005	70	4:00–5:00 p.m.	29	—	—	71	—	McMahon Associates, Inc.
3.8	Palmyra, PA	March 2005	29	4:15–5:15 p.m.	27	—	—	73	—	McMahon Associates, Inc.
3.8	Mountain Road, PA	March 2005	41	4:00–5:00 p.m.	25	—	—	75	—	McMahon Associates, Inc.
3.8	Hummelstown, PA	March 2005	37	4:00–6:00 p.m.	31	—	—	69	—	McMahon Associates, Inc.
3.8	Muhlenberg, PA	March 2005	19	4:00–6:00 p.m.	29	—	—	71	—	McMahon Associates, Inc.
3.8	York, PA	March 2005	34	4:00–6:00 p.m.	21	—	—	79	—	McMahon Associates, Inc.
3.8	Derry Street, PA	March 2005	36	4:00–6:00 p.m.	29	—	—	71	—	McMahon Associates, Inc.
3.6	Arlington, WA	Sept. 2007	—	4:00–6:00 p.m.	42	50	8	58	—	657
2.7	Lynnwood, WA	Sept. 2007	—	4:00–6:00 p.m.	26	66	8	74	—	657
2.8	Redmond, WA	Sept. 2007	—	4:00–6:00 p.m.	21	55	24	79	—	657
3.6	Snohomish, WA	July 2007	—	4:00–6:00 p.m.	29	—	—	71	—	657

Average Pass-By Trip Percentage: 35
"—" means no data were provided

Figure E.15 Drive-in Bank (912)

Average Pass-By Trip Percentage vs: **1000 Sq. Feet Gross Floor Area**
On a: **Weekday, P.M. Peak Period**
Number of Studies: 21
Average 1000 Sq. Feet GFA: 4

Data Plot

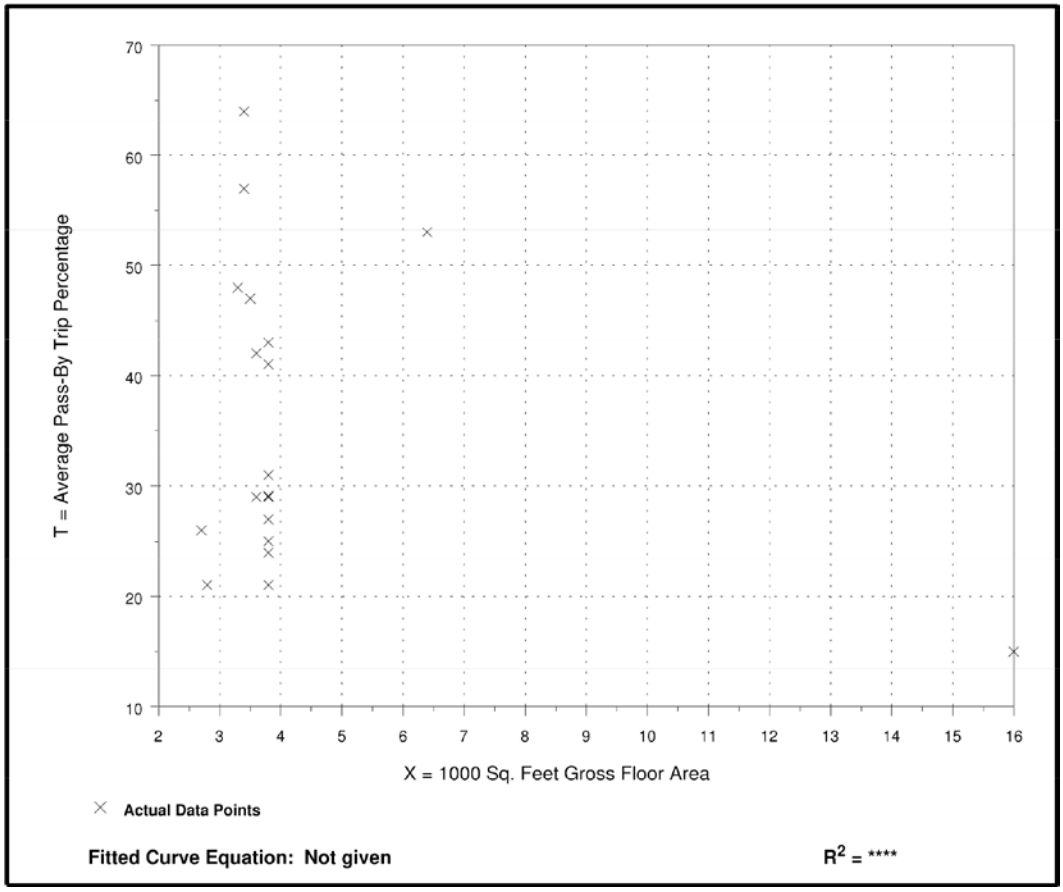


Table E.28 Pass-By and Non-Pass-By Trips Saturday, Mid-Day Peak Period Land Use Code 912—Drive-in Bank

SIZE (1,000 SQ. FT. GFA)	LOCATION	SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
						PRIMARY	DIVERTED	TOTAL		
3.8	Colonial Park, PA	March 2005	63	11:15 a.m.–12:15 p.m.	33	—	—	67	—	McMahon Associates, Inc.
3.8	Camp Hill Mall, PA	March 2005	103	11:00 a.m.–12:00 p.m.	77	—	—	23	—	McMahon Associates, Inc.
3.8	Exeter Twp, PA	March 2005	34	10:30–11:30 a.m.	37	—	—	63	—	McMahon Associates, Inc.
3.8	York, PA	March 2005	53	10:15–11:15 a.m.	33	—	—	67	—	McMahon Associates, Inc.
3.8	York, PA	March 2005	25	10:45–11:45 a.m.	12	—	—	88	—	McMahon Associates, Inc.

Average Pass-By Trip Percentage: 38
"—" means no data were provided

Table E.29 Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 931—Quality Restaurant

SEATS	SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
							PRIMARY	DIVERTED	TOTAL		
240	12	Louisville area, KY	July 1993	38	4:00–6:00 p.m.	26	36	38	74	4,145	Barton-Aschman Assoc.
—	8	Orlando, FL	1992	168	4:00–8:00 p.m.	45	—	—	55	—	TPD Inc.
—	8.8	Orlando, FL	1992	84	2:00–6:00 p.m.	44	40	16	56	—	TPD Inc.
—	6.5	Orlando, FL	1995	173	2:00–6:00 p.m.	62	—	—	38	—	TPD Inc.

Average Pass-By Trip Percentage: 44
"—" means no data were provided

Table E.31 Pass-By and Non-Pass-By Trips Weekday, AM Peak Period
Land Use Code 934—Fast-Food Restaurant with Drive-Through Window

SEATS	SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
							PRIMARY	DIVERTED	TOTAL		
—	<5	Chicago suburbs, IL	1987	84	7:00–9:00 a.m.	44	—	—	56	—	Kenig, O'Hara, Humes, Flock
88	1.4	Louisville area, KY	1993	—	7:00–9:00 a.m.	62	22	16	38	1,407	Barton-Aschman Assoc.
100	3.6	Louisville, KY	1993	—	7:00–9:00 a.m.	32	47	21	68	437	Barton-Aschman Assoc.
87	4.2	New Albany, IN	1993	—	7:00–9:00 a.m.	46	23	31	54	1,049	Barton-Aschman Assoc.
150	3.0	Louisville area, KY	1993	—	7:00–9:00 a.m.	43	14	43	57	2,903	Barton-Aschman Assoc.
—	3.3	varies	1996	—	6:00–9:00 a.m.	68	—	—	32	—	Oracle Engineering

Average Pass-By Trip Percentage: 49
"—" means no data were provided

Table E.32 Pass-By and Non-Pass-By Trips Weekday, PM Peak Period
Land Use Code 934—Fast-Food Restaurant with Drive-Through Window

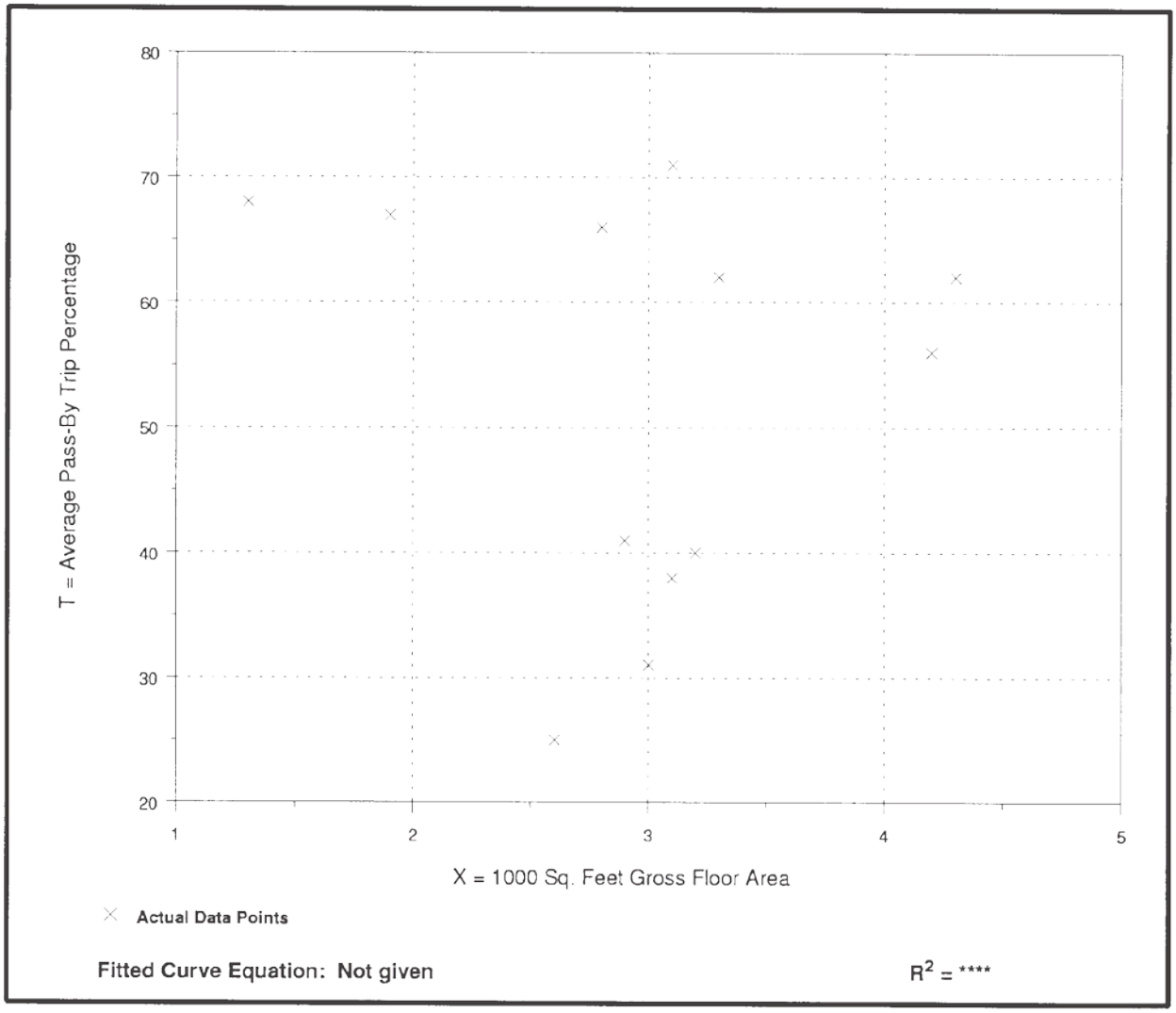
SEATS	SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
							PRIMARY	DIVERTED	TOTAL		
—	~2.6	Minn-St. Paul, MN	1987	50	3:00–7:00 p.m.	25	27	48	75	—	—
—	<5.0	Chicago suburbs, IL	1987	80	3:00–6:00 p.m.	38	—	—	62	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	100	3:00–6:00 p.m.	55	—	—	45	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	159	3:00–6:00 p.m.	56	—	—	44	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	225	3:00–6:00 p.m.	48	—	—	52	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	88	3:00–6:00 p.m.	35	—	—	65	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	84	3:00–6:00 p.m.	44	—	—	56	—	Kenig, O'Hara, Humes, Flock
88	1.3	Louisville area, KY	1993	—	4:00–6:00 p.m.	68	22	10	32	2,055	Barton-Aschman Assoc.
120	1.9	Louisville area, KY	1993	33	4:00–6:00 p.m.	67	24	9	33	2,447	Barton-Aschman Assoc.
87	4.2	New Albany, IN	1993	—	4:00–6:00 p.m.	56	25	19	44	1,632	Barton-Aschman Assoc.
150	3.0	Louisville area, KY	1993	—	4:00–6:00 p.m.	31	31	38	69	4,250	Barton-Aschman Assoc.
—	3.1	Kissimmee, FL	1995	28	2:00–6:00 p.m.	71	—	—	29	—	TPD Inc.
—	3.1	Apopka, FL	1996	29	2:00–6:00 p.m.	38	—	—	62	—	TPD Inc.
—	2.8	Winter Springs, FL	1995	47	2:00–6:00 p.m.	66	—	—	34	—	TPD Inc.
—	4.3	Longwood, FL	1994	304	2:00–6:00 p.m.	62	—	—	38	—	TPD Inc.
—	3.2	Altamonte Springs, FL	1996	202	2:00–6:00 p.m.	40	39	21	60	—	TPD Inc.
—	2.9	Winter Park, FL	1996	271	2:00–6:00 p.m.	41	41	18	59	—	TPD Inc.
—	3.3*	several	1996	varies	4:00–6:00 p.m.	62	—	—	38	—	Oracle Engineering

*Average of several combined studies.
Average Pass-By Trip Percentage: 50
"—" means no data were provided

Figure E.17 Fast-Food Restaurant with Drive-Through Window (934)

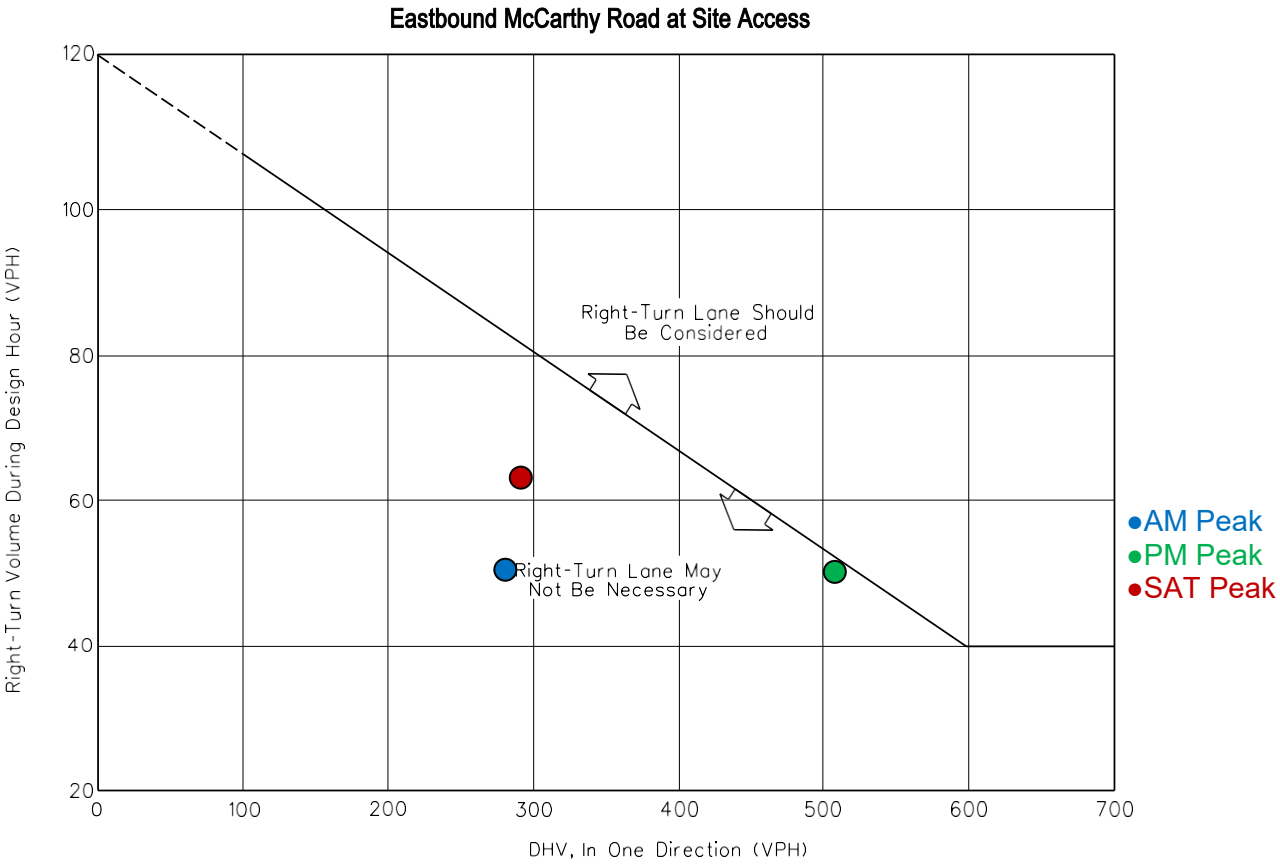
Average Pass-ByTrip Percentage vs: **1,000 Sq. Ft. Gross Floor Area**
On a: **Weekday, PM Peak Period**
Number of Studies: 12
Average 1,000 Sq. Ft. GFA: 3.0

Data Plot



Appendix H
IDOT BDE Turn Lane Warrant Figures

GHA GEWALT HAMILTON ASSOCIATES, INC.



Note: For highways with a design speed below 50 mph (80 km/hr), with a DHV in one direction of less than 300, and where right turns are greater than 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Example

Given:	Design Speed	=	35 mph (60 km/hr)
	DHV (in one direction)	=	250 vph
	Right Turns	=	100 vph

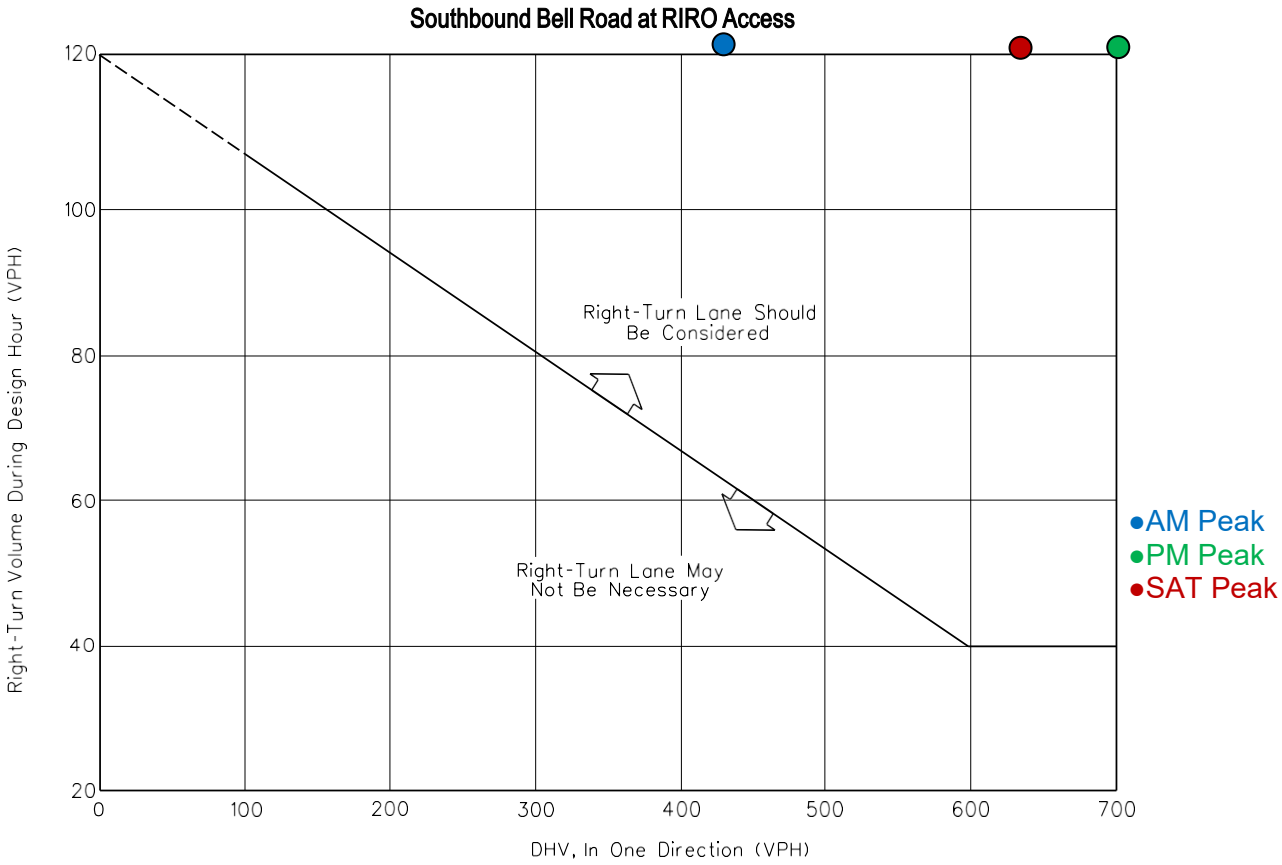
Problem: Determine if a right-turn lane is warranted.

Solution: To read the vertical axis, use 100 - 20 = 80 vph. The figure indicates that right- turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

Figure 36-3.A

HARD COPIES UNCONTROLLED



Note: For highways with a design speed below 50 mph (80 km/hr), with a DHV in one direction of less than 300, and where right turns are greater than 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Example

Given:	Design Speed	=	35 mph (60 km/hr)
	DHV (in one direction)	=	250 vph
	Right Turns	=	100 vph

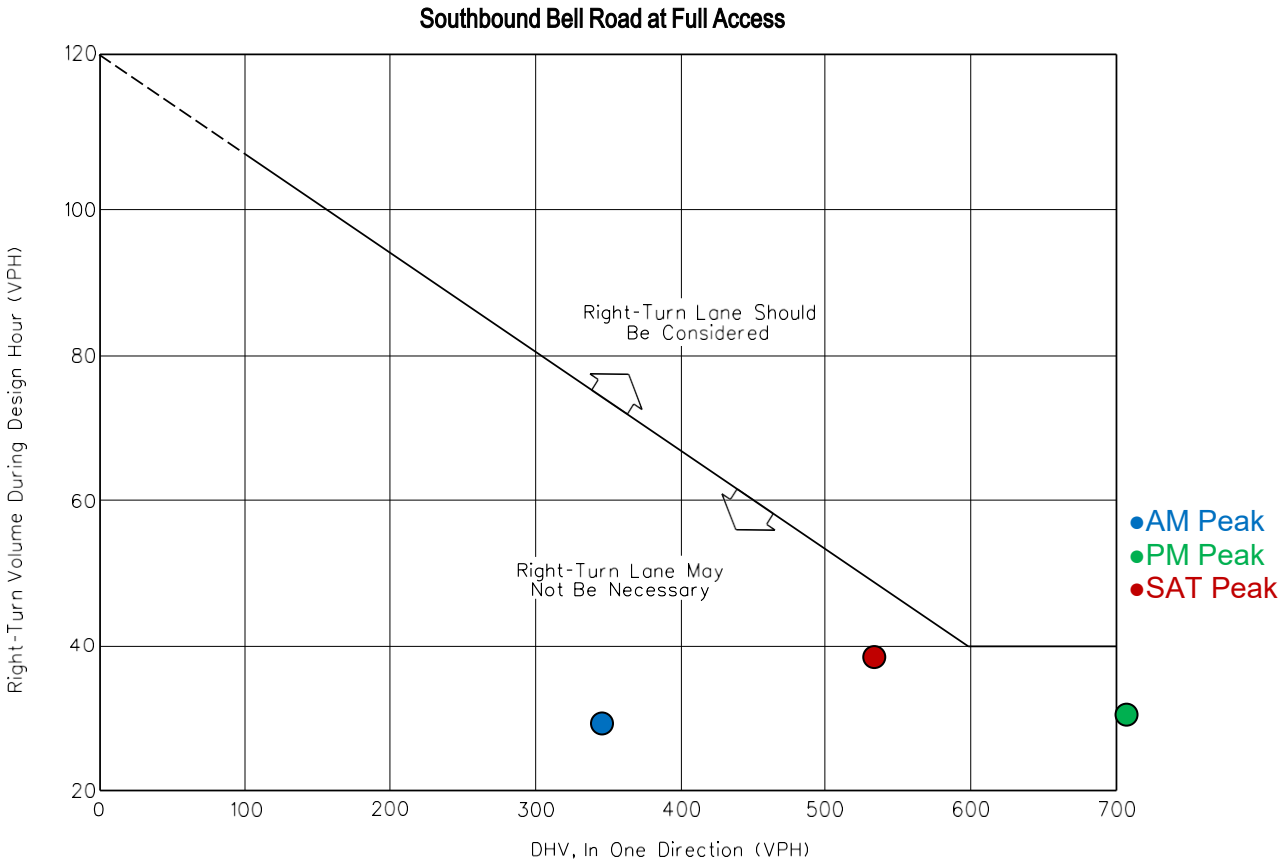
Problem: Determine if a right-turn lane is warranted.

Solution: To read the vertical axis, use 100 - 20 = 80 vph. The figure indicates that right- turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

Figure 36-3.A

HARD COPIES UNCONTROLLED



Note: For highways with a design speed below 50 mph (80 km/hr), with a DHV in one direction of less than 300, and where right turns are greater than 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Example

Given:	Design Speed	=	35 mph (60 km/hr)
	DHV (in one direction)	=	250 vph
	Right Turns	=	100 vph

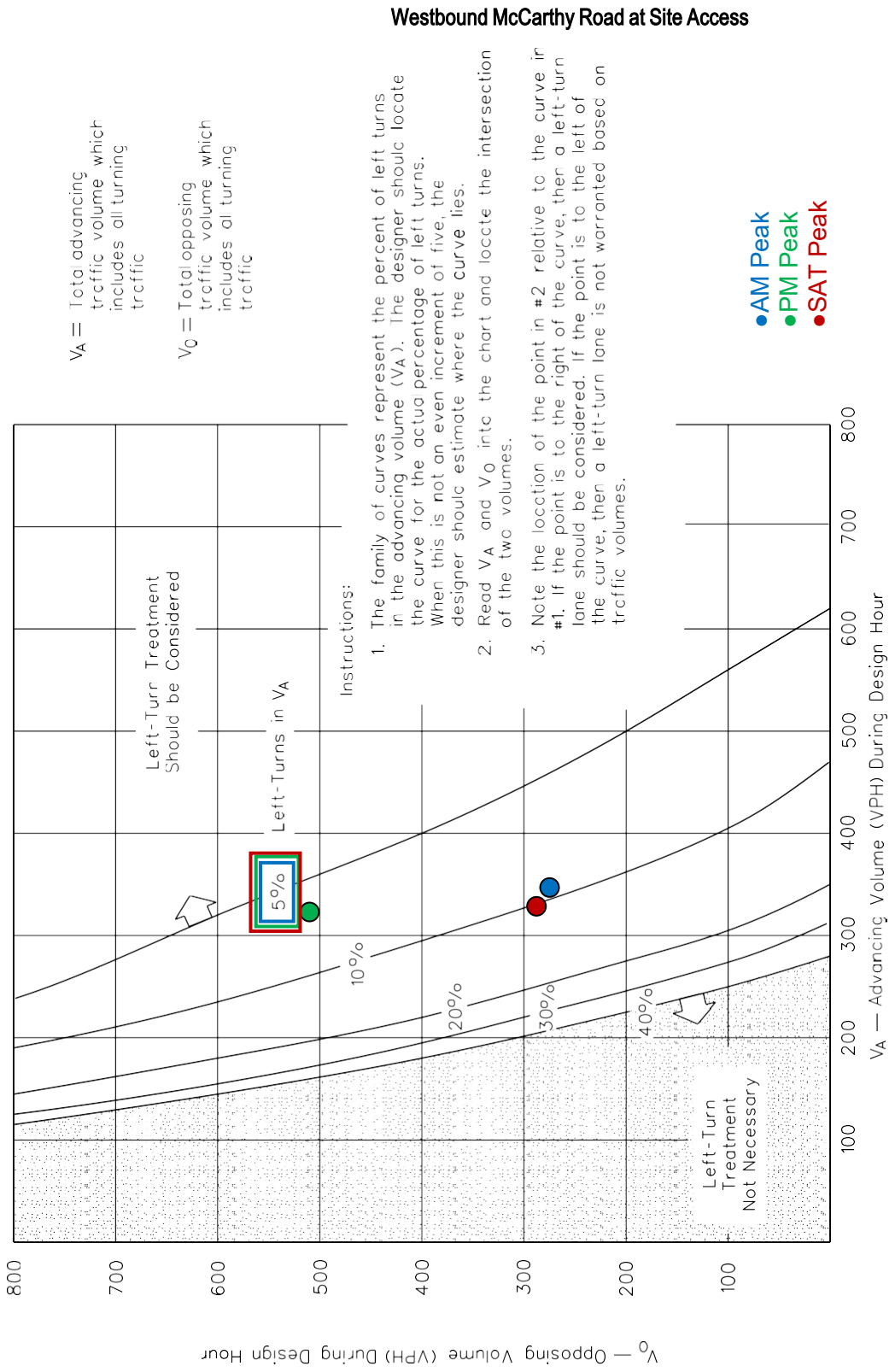
Problem: Determine if a right-turn lane is warranted.

Solution: To read the vertical axis, use 100 - 20 = 80 vph. The figure indicates that right- turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

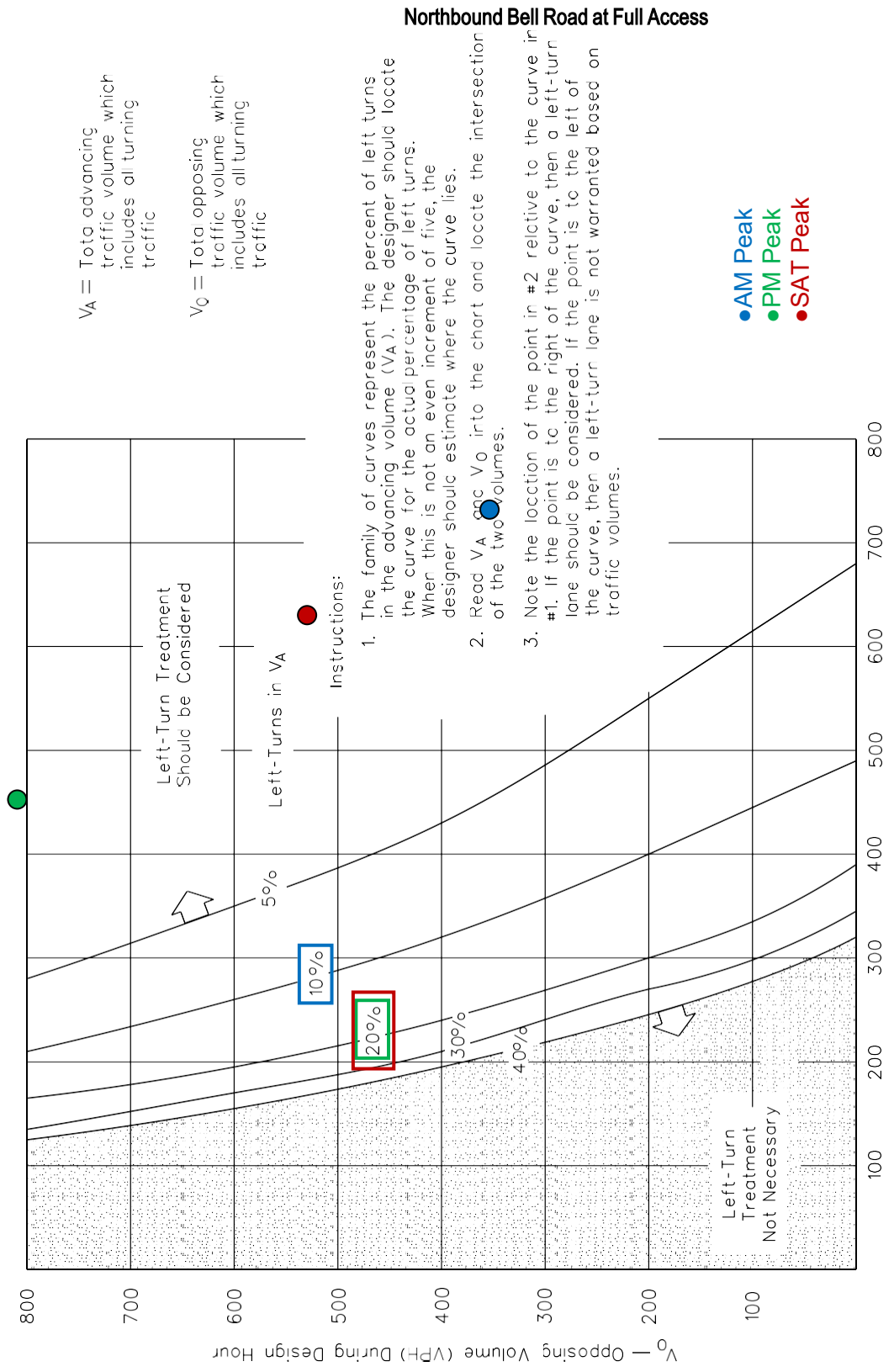
Figure 36-3.A

HARD COPIES UNCONTROLLED



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS
(55 mph Design Speed)

Figure 36-3.D



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (50 mph Design Speed)

Figure 36-3.E

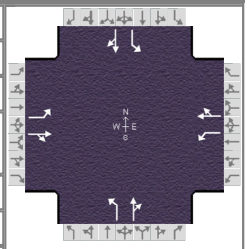
HARD COPIES UNCONTROLLED

Appendix I
Capacity Analysis Summary Sheets

GHA GEWALT HAMILTON ASSOCIATES, INC.

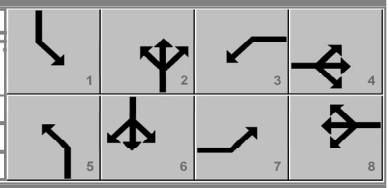
HCS7 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM Existing Bell at McCarthy.xus		
Project Description	EXISTING				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	171	30	46	226	160	31	522	69	52	190	52

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	2.1	1.2	58.3	2.1	1.4	35.9						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	171	30	46	226	160	31	522	69	52	190	52
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	4	2		0	2		0	1		0	2	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	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 Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	270	0		210	0		150	0		200	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	45	45	45

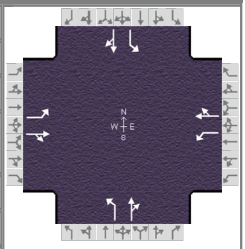
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	18.5	41.5	18.5	41.5	18.5	41.5	18.5	41.5
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	No	No	No	No	No	No	No	No
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM Existing Bell at McCarthy.xus		
Project Description	EXISTING				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	171	30	46	226	160	31	522	69	52	190	52

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.1	1.2	58.3	2.1	1.4	35.9	1	2	3	4		
Yellow	3.5	0.0	4.5	3.5	0.0	4.5	5	6	7	8		
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	5.6	41.9	6.9	43.3	5.6	64.3	6.8	65.5
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	3.9	9.2	3.9	9.2	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	3.4	13.0	4.2	27.2	3.1		3.8	
Green Extension Time (g_e), s	0.0	13.1	0.1	10.1	0.1	0.0	0.1	0.0
Phase Call Probability	0.61	1.00	0.80	1.00	0.66		0.84	
Max Out Probability	0.00	0.23	0.00	0.49	0.00		0.00	

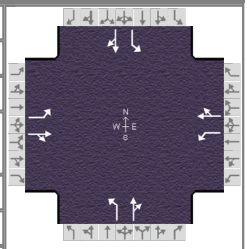
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	28	212		48	406		33	622		55	255	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1821		1810	1740		1810	1846		1810	1801	
Queue Service Time (g_s), s	1.4	11.0		2.2	25.2		1.1	31.3		1.8	10.0	
Cycle Queue Clearance Time (g_c), s	1.4	11.0		2.2	25.2		1.1	31.3		1.8	10.0	
Green Ratio (*g/C*)	0.32	0.30		0.33	0.31		0.50	0.49		0.51	0.50	
Capacity (*c*), veh/h	171	546		358	541		545	898		293	894	
Volume-to-Capacity Ratio (*X*)	0.166	0.388		0.135	0.751		0.060	0.693		0.187	0.285	
Back of Queue (*Q*), ft/ln (95 th percentile)	26.4	214.2		42.3	416.6		19.7	502.2		33.2	188.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	8.4		1.7	16.4		0.8	19.9		1.3	7.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.10	0.00		0.20	0.00		0.13	0.00		0.17	0.00	
Uniform Delay (d_1), s/veh	31.3	33.3		28.4	37.2		15.6	23.9		19.0	17.7	
Incremental Delay (d_2), s/veh	0.5	1.0		0.2	5.2		0.0	4.4		0.3	0.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	31.8	34.3		28.5	42.4		15.6	28.3		19.3	18.5	
Level of Service (LOS)	C	C		C	D		B	C		B	B	
Approach Delay, s/veh / LOS	34.0	C		40.9	D		27.6	C		18.7	B	
Intersection Delay, s/veh / LOS	30.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.91	B	1.91	B
Bicycle LOS Score / LOS	0.88	A	1.24	A	1.57	B	1.00	A

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Intermediate Values

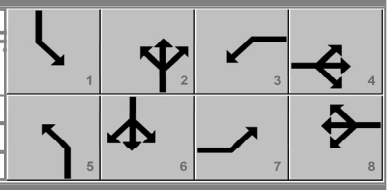
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM Existing Bell at McCarthy.xus		
Project Description	EXISTING				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	171	30	46	226	160	31	522	69	52	190	52

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.1	1.2	58.3	2.1	1.4	35.9						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.969	0.984	1.000	1.000	0.984	1.000	1.000	0.992	1.000	1.000	0.984	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.974	0.974		0.931	0.931		0.979	0.979		0.963	0.963
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1753	1550	272	1810	1019	721	1810	1631	216	1810	1414	387
Proportion of Vehicles Arriving on Green (P)	0.02	0.30	0.30	0.03	0.31	0.31	0.02	0.49	0.49	0.03	0.50	0.50
Incremental Delay Factor (k)	0.11	0.23		0.11	0.27		0.11	0.50		0.11	0.50	

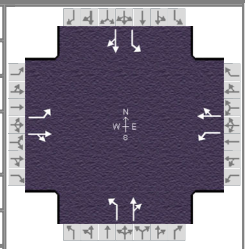
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.32	0.30	0.33	0.31	0.50	0.49	0.51	0.50
Permitted Saturation Flow Rate (s_p), veh/h/ln	964	0	1189	0	1143	0	815	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	35.9	0.0	35.9	0.0	58.3	0.0	58.3	0.0
Permitted Service Time (g_u), s	10.1	0.0	24.9	0.0	47.6	0.0	27.0	0.0
Permitted Queue Service Time (g_{ps}), s	0.8		0.5		0.3		2.3	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.198	0.000	1.198	0.000	1.198	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.136	0.000	0.134	0.000	0.111	0.000	0.109
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	599.04	29.44	621.61	28.50	972.31	15.84	992.48	15.23
Bicycle F_w / F_v	-3.64	0.40	-3.64	0.75	-3.64	1.08	-3.64	0.51

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Results Graphical Summary

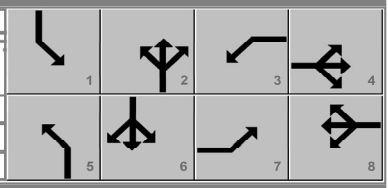
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM Existing Bell at McCarthy.xus		
Project Description	EXISTING				



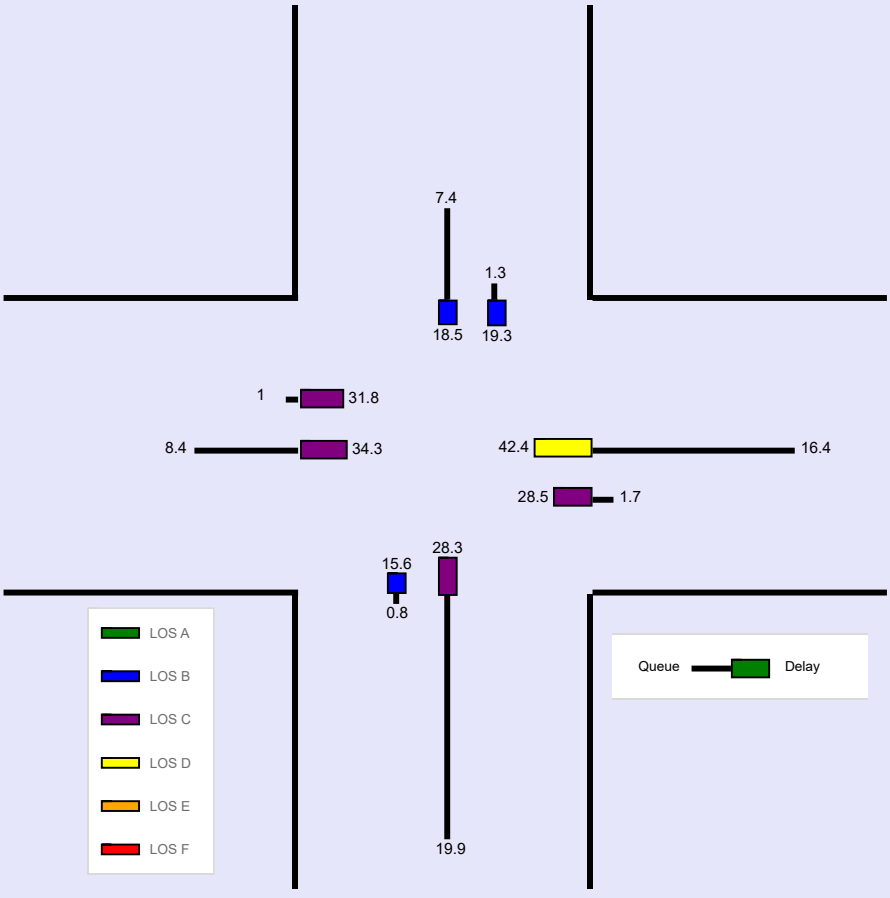
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	171	30	46	226	160	31	522	69	52	190	52

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.1	1.2	58.3	2.1	1.4	35.9	
Yellow	3.5	0.0	4.5	3.5	0.0	4.5	
Red	0.0	0.0	1.5	0.0	0.0	1.5	



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	26.4	214.2		42.3	416.6		19.7	502.2		33.2	188.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	8.4		1.7	16.4		0.8	19.9		1.3	7.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.10	0.00		0.20	0.00		0.13	0.00		0.17	0.00	
Control Delay (*d*), s/veh	31.8	34.3		28.5	42.4		15.6	28.3		19.3	18.5	
Level of Service (LOS)	C	C		C	D		B	C		B	B	
Approach Delay, s/veh / LOS	34.0	C		40.9	D		27.6	C		18.7	B	
Intersection Delay, s/veh / LOS	30.5						C					



--- Messages ---

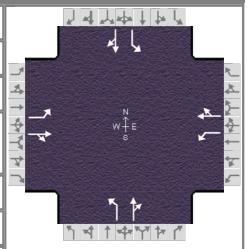
No errors or warnings exist.

--- Comments ---

Copyright © 2022 University of Florida, All Rights Reserved.

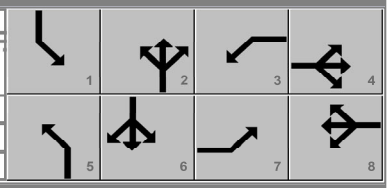
HCS7 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	176	31	48	237	167	33	538	71	58	202	54

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB			SB		
Green	2.2	1.4		56.6	2.3	1.2	37.2					
Yellow	3.5	0.0		4.5	3.5	0.0	4.5					
Red	0.0	0.0		1.5	0.0	0.0	1.5					

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	176	31	48	237	167	33	538	71	58	202	54
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	4	2		0	2		0	1		0	2	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	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 Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	270	0		210	0		150	0		200	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	45	45	45

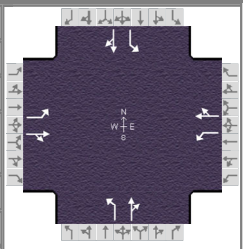
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	18.5	41.5	18.5	41.5	18.5	41.5	18.5	41.5
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	No	No	No	No	No	No	No	No
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

Copyright © 2022 University of Florida, All Rights Reserved.

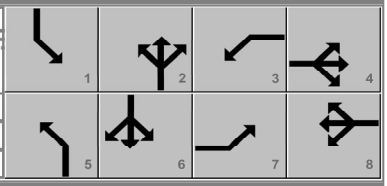
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	176	31	48	237	167	33	538	71	58	202	54

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	2.2	1.4	56.6	2.3	1.2	37.2
Yellow	3.5	0.0	4.5	3.5	0.0	4.5
Red	0.0	0.0	1.5	0.0	0.0	1.5

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	5.8	43.2	7.0	44.4	5.7	62.6	7.2	64.1
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	3.9	9.2	3.9	9.2	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	3.5	13.3	4.3	28.4	3.2		4.1	
Green Extension Time (g_e), s	0.0	13.7	0.1	10.1	0.1	0.0	0.1	0.0
Phase Call Probability	0.65	1.00	0.81	1.00	0.69		0.87	
Max Out Probability	0.00	0.26	0.00	0.56	0.00		0.00	

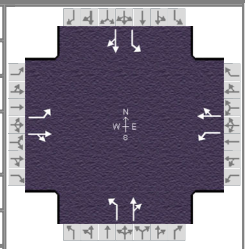
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	32	218		51	425		35	641		61	269	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1821		1810	1741		1810	1846		1810	1802	
Queue Service Time (g_s), s	1.5	11.3		2.3	26.4		1.2	33.7		2.1	10.9	
Cycle Queue Clearance Time (g_c), s	1.5	11.3		2.3	26.4		1.2	33.7		2.1	10.9	
Green Ratio (*g/C*)	0.33	0.31		0.34	0.32		0.49	0.47		0.50	0.48	
Capacity (*c*), veh/h	173	564		369	558		518	871		268	872	
Volume-to-Capacity Ratio (*X*)	0.183	0.386		0.137	0.763		0.067	0.736		0.228	0.309	
Back of Queue (*Q*), ft/ln (95 th percentile)	28.9	217		43.3	433.4		21.7	542.1		38.4	204.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.1	8.5		1.7	17.1		0.9	21.5		1.5	8.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.11	0.00		0.21	0.00		0.14	0.00		0.19	0.00	
Uniform Delay (d_1), s/veh	30.7	32.5		27.5	36.7		16.4	25.6		20.5	18.8	
Incremental Delay (d_2), s/veh	0.5	0.9		0.2	5.7		0.1	5.5		0.4	0.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	31.2	33.4		27.7	42.4		16.5	31.1		20.9	19.7	
Level of Service (LOS)	C	C		C	D		B	C		C	B	
Approach Delay, s/veh / LOS	33.1	C		40.8	D		30.4	C		19.9	B	
Intersection Delay, s/veh / LOS	31.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.91	B	1.91	B
Bicycle LOS Score / LOS	0.90	A	1.27	A	1.60	B	1.03	A

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Intermediate Values

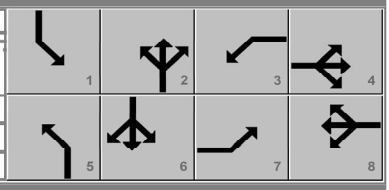
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	176	31	48	237	167	33	538	71	58	202	54

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.2	1.4	56.6	2.3	1.2	37.2						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.969	0.984	1.000	1.000	0.984	1.000	1.000	0.992	1.000	1.000	0.984	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.974	0.974		0.931	0.931		0.979	0.979		0.963	0.963
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1753	1549	273	1810	1021	720	1810	1631	215	1810	1422	380
Proportion of Vehicles Arriving on Green (P)	0.02	0.31	0.31	0.03	0.32	0.32	0.02	0.47	0.47	0.03	0.48	0.48
Incremental Delay Factor (k)	0.11	0.23		0.11	0.29		0.11	0.50		0.11	0.50	

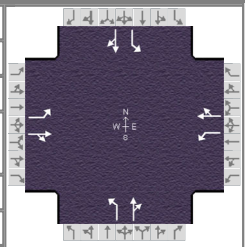
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.33	0.31	0.34	0.32	0.49	0.47	0.50	0.48
Permitted Saturation Flow Rate (s_p), veh/h/ln	947	0	1182	0	1127	0	801	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	37.2	0.0	37.2	0.0	56.6	0.0	56.6	0.0
Permitted Service Time (g_u), s	10.1	0.0	25.9	0.0	45.2	0.0	22.9	0.0
Permitted Queue Service Time (g_{ps}), s	0.9		0.5		0.4		2.8	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.198	0.000	1.198	0.000	1.198	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.134	0.000	0.133	0.000	0.113	0.000	0.111
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	619.74	28.58	640.54	27.72	943.75	16.73	967.55	15.99
Bicycle F_w / F_v	-3.64	0.41	-3.64	0.79	-3.64	1.12	-3.64	0.55

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM NB Bell at McCarthy.xus		
Project Description	NO-BUILD				

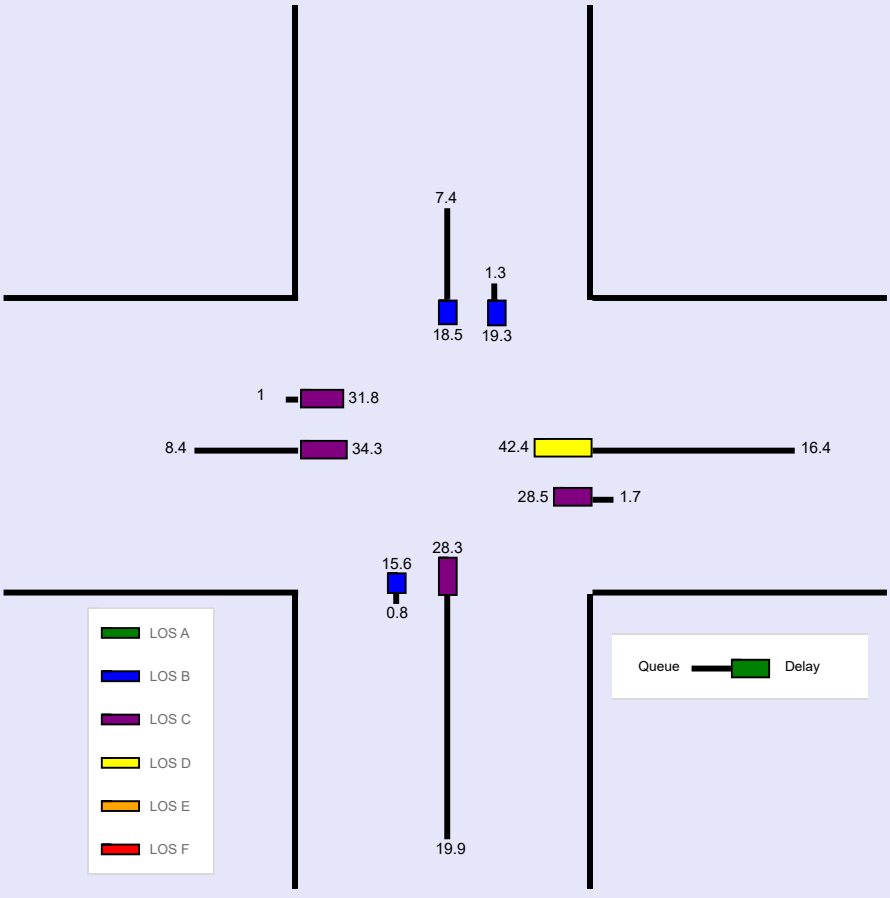


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	176	31	48	237	167	33	538	71	58	202	54

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.2	1.4	56.6	2.3	1.2	37.2	1	2	3	4		
Yellow	3.5	0.0	4.5	3.5	0.0	4.5	5	6	7	8		
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	28.9	217		43.3	433.4		21.7	542.1		38.4	204.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.1	8.5		1.7	17.1		0.9	21.5		1.5	8.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.11	0.00		0.21	0.00		0.14	0.00		0.19	0.00	
Control Delay (*d*), s/veh	31.2	33.4		27.7	42.4		16.5	31.1		20.9	19.7	
Level of Service (LOS)	C	C		C	D		B	C		C	B	
Approach Delay, s/veh / LOS	33.1	C		40.8	D		30.4	C		19.9	B	
Intersection Delay, s/veh / LOS	31.7						C					



--- Messages ---

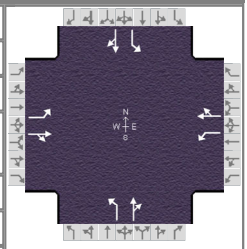
No errors or warnings exist.

--- Comments ---

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Input Data

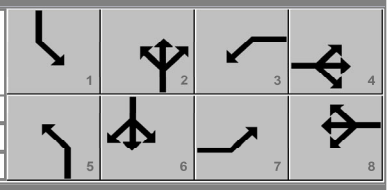
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM Total Bell at McCarthy.xus		
Project Description	TOTAL				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	96	210	43	98	239	167	45	541	83	58	280	54

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	0.7	53.1	6.5	37.7	0.0						
Yellow	3.5	0.0	4.5	3.5	4.5	0.0						
Red	0.0	0.0	1.5	0.0	1.5	0.0						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	96	210	43	98	239	167	45	541	83	58	280	54
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	4	2		0	2		0	1		0	2	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	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 Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	270	0		210	0		150	0		200	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	45	45	45

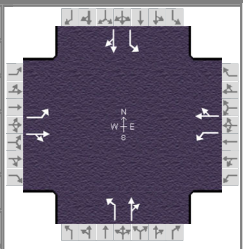
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	18.5	41.5	18.5	41.5	18.5	41.5	18.5	41.5
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	No	No	No	No	No	No	No	No
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Results Summary

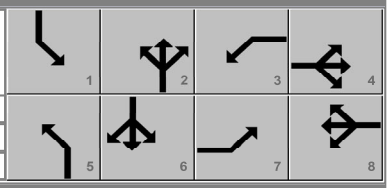
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM Total Bell at McCarthy.xus		
Project Description	TOTAL				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	96	210	43	98	239	167	45	541	83	58	280	54

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	0.7	53.1	6.5	37.7	0.0
Yellow	3.5	0.0	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	43.7	10.0	43.6	6.5	59.1	7.3	59.8
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	3.9	9.2	3.9	9.2	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	6.6	16.2	6.6	28.8	3.7		4.2	
Green Extension Time (g_e), s	0.1	13.4	0.1	8.9	0.1	0.0	0.1	0.0
Phase Call Probability	0.97	1.00	0.97	1.00	0.79		0.87	
Max Out Probability	0.01	0.41	0.01	0.75	0.00		0.00	

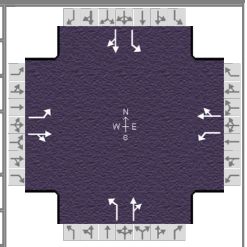
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	101	266		103	427		47	657		61	352	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1815		1810	1741		1810	1841		1810	1817	
Queue Service Time (g_s), s	4.6	14.2		4.6	26.8		1.7	37.1		2.2	15.9	
Cycle Queue Clearance Time (g_c), s	4.6	14.2		4.6	26.8		1.7	37.1		2.2	15.9	
Green Ratio (*g/C*)	0.37	0.31		0.37	0.31		0.47	0.44		0.47	0.45	
Capacity (*c*), veh/h	241	570		361	546		418	814		221	815	
Volume-to-Capacity Ratio (*X*)	0.419	0.467		0.286	0.782		0.113	0.807		0.276	0.432	
Back of Queue (*Q*), ft/ln (95 th percentile)	89.4	260		86.8	445.8		31.6	606.9		41.5	283.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.5	10.2		3.5	17.6		1.3	24.1		1.7	11.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.33	0.00		0.41	0.00		0.21	0.00		0.21	0.00	
Uniform Delay (d_1), s/veh	28.8	33.1		26.6	37.4		18.8	29.0		23.4	22.6	
Incremental Delay (d_2), s/veh	1.2	1.3		0.4	7.1		0.1	8.4		0.7	1.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	29.9	34.4		27.0	44.6		18.9	37.5		24.1	24.3	
Level of Service (LOS)	C	C		C	D		B	D		C	C	
Approach Delay, s/veh / LOS	33.1	C		41.2	D		36.2	D		24.3	C	
Intersection Delay, s/veh / LOS	34.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.91	B	1.91	B
Bicycle LOS Score / LOS	1.09	A	1.36	A	1.65	B	1.17	A

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Intermediate Values

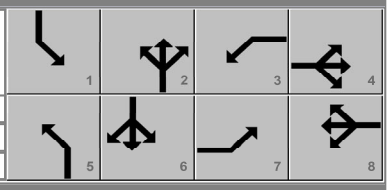
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM Total Bell at McCarthy.xus		
Project Description	TOTAL				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	96	210	43	98	239	167	45	541	83	58	280	54

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	0.7	53.1	6.5	37.7	0.0						
Yellow	3.5	0.0	4.5	3.5	4.5	0.0						
Red	0.0	0.0	1.5	0.0	1.5	0.0						



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.969	0.984	1.000	1.000	0.984	1.000	1.000	0.992	1.000	1.000	0.984	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.970	0.970		0.931	0.931		0.977	0.977		0.972	0.972
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1753	1506	308	1810	1025	716	1810	1596	245	1810	1524	294
Proportion of Vehicles Arriving on Green (P)	0.05	0.31	0.31	0.05	0.31	0.31	0.03	0.44	0.44	0.03	0.45	0.45
Incremental Delay Factor (k)	0.11	0.23		0.11	0.32		0.11	0.50		0.11	0.50	

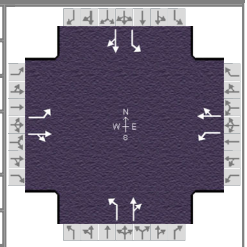
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.37	0.31	0.37	0.31	0.47	0.44	0.47	0.45
Permitted Saturation Flow Rate (s_p), veh/h/ln	945	0	1131	0	1046	0	789	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	37.6	0.0	37.6	0.0	53.1	0.0	53.1	0.0
Permitted Service Time (g_u), s	10.9	0.0	21.5	0.0	35.9	0.0	15.9	0.0
Permitted Queue Service Time (g_{ps}), s	3.2		1.6		0.8		3.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.198	0.000	1.198	0.000	1.198	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.134	0.000	0.134	0.000	0.117	0.000	0.116
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	627.99	28.24	627.49	28.26	884.28	18.67	896.60	18.26
Bicycle F_w / F_v	-3.64	0.61	-3.64	0.88	-3.64	1.16	-3.64	0.68

Copyright © 2022 University of Florida, All Rights Reserved.

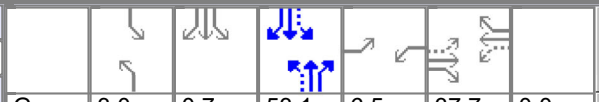
HCS7 Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY AM Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1AM Total Bell at McCarthy.xus		
Project Description	TOTAL				

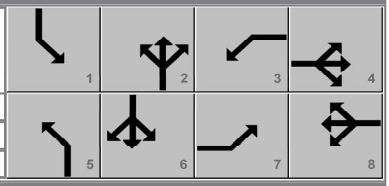


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	96	210	43	98	239	167	45	541	83	58	280	54

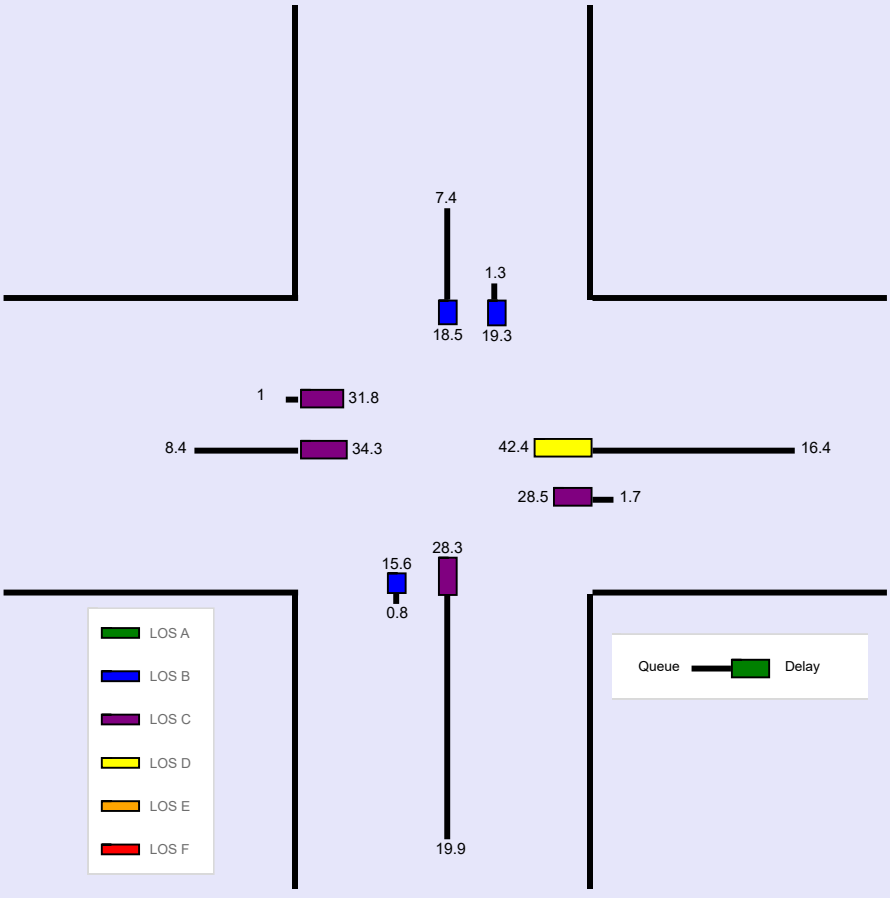
Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.0	0.7	53.1	6.5	37.7	0.0						
Yellow	3.5	0.0	4.5	3.5	4.5	0.0						
Red	0.0	0.0	1.5	0.0	1.5	0.0						



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	89.4	260		86.8	445.8		31.6	606.9		41.5	283.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.5	10.2		3.5	17.6		1.3	24.1		1.7	11.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.33	0.00		0.41	0.00		0.21	0.00		0.21	0.00	
Control Delay (*d*), s/veh	29.9	34.4		27.0	44.6		18.9	37.5		24.1	24.3	
Level of Service (LOS)	C	C		C	D		B	D		C	C	
Approach Delay, s/veh / LOS	33.1	C		41.2	D		36.2	D		24.3	C	
Intersection Delay, s/veh / LOS	34.5						C					



--- Messages ---

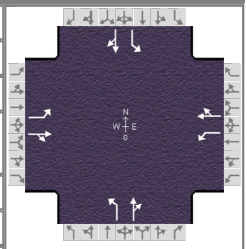
No errors or warnings exist.

--- Comments ---

Copyright © 2022 University of Florida, All Rights Reserved.

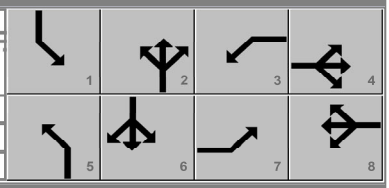
HCS7 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM Existing Bell at McCarthy.xus		
Project Description	EXISTING				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	335	74	92	200	82	49	266	51	198	567	38

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.5	3.7	45.9	2.2	0.5	38.1						
Yellow	3.5	3.5	4.5	3.5	3.5	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	335	74	92	200	82	49	266	51	198	567	38
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	1		0	1		0	0		0	1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	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 Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	270	0		210	0		150	0		200	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	45	45	45

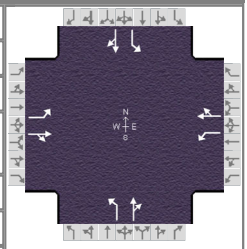
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	18.5	41.5	18.5	41.5	18.5	41.5	18.5	41.5
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	No	No	No	No	No	No	No	No
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

Copyright © 2022 University of Florida, All Rights Reserved.

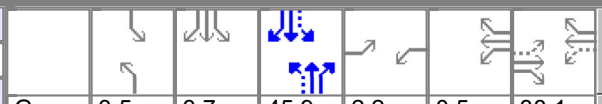
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM Existing Bell at McCarthy.xus		
Project Description	EXISTING				

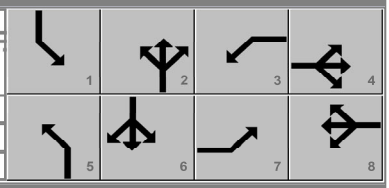


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	335	74	92	200	82	49	266	51	198	567	38

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.5	3.7	45.9	2.2	0.5	38.1						
Yellow	3.5	3.5	4.5	3.5	3.5	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	5.7	44.1	9.7	48.1	7.0	51.9	14.2	59.1
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	3.9	9.2	3.9	9.2	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	3.4	28.3	6.3	18.1	4.1		10.3	
Green Extension Time (g_e), s	0.0	9.8	0.1	15.1	0.1	0.0	0.5	0.0
Phase Call Probability	0.65	1.00	0.96	1.00	0.83		1.00	
Max Out Probability	0.00	0.75	0.01	0.41	0.00		0.01	

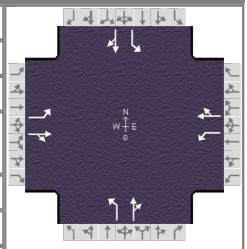
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	32	445		100	307		53	345		215	658	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1826		1810	1791		1810	1847		1810	1864	
Queue Service Time (g_s), s	1.4	26.3		4.3	16.1		2.1	17.0		8.3	36.4	
Cycle Queue Clearance Time (g_c), s	1.4	26.3		4.3	16.1		2.1	17.0		8.3	36.4	
Green Ratio (*g/C*)	0.34	0.32		0.39	0.35		0.41	0.38		0.49	0.44	
Capacity (*c*), veh/h	312	580		248	629		209	706		476	825	
Volume-to-Capacity Ratio (*X*)	0.101	0.766		0.403	0.488		0.254	0.488		0.453	0.797	
Back of Queue (*Q*), ft/ln (95 th percentile)	26.9	449.3		82.5	279.7		41.2	305.9		152	600.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.1	17.8		3.3	11.1		1.6	12.2		6.1	23.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.10	0.00		0.39	0.00		0.27	0.00		0.76	0.00	
Uniform Delay (d_1), s/veh	27.7	36.9		27.7	30.5		25.7	28.1		19.7	28.8	
Incremental Delay (d_2), s/veh	0.1	6.1		1.1	1.3		0.6	2.4		0.7	7.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	27.9	43.0		28.7	31.7		26.4	30.5		20.4	36.7	
Level of Service (LOS)	C	D		C	C		C	C		C	D	
Approach Delay, s/veh / LOS	42.0	D		31.0	C		30.0	C		32.6	C	
Intersection Delay, s/veh / LOS	33.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.92	B	1.91	B
Bicycle LOS Score / LOS	1.27	A	1.16	A	1.14	A	1.93	B

Copyright © 2022 University of Florida, All Rights Reserved.

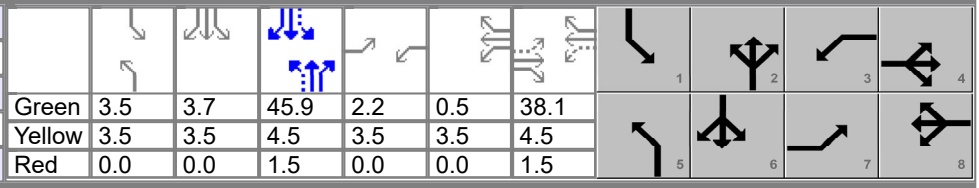
HCS7 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM Existing Bell at McCarthy.xus		
Project Description	EXISTING				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	335	74	92	200	82	49	266	51	198	567	38

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.5	3.7		45.9	2.2		0.5		38.1			
Yellow	3.5	3.5		4.5	3.5		3.5		4.5			
Red	0.0	0.0		1.5	0.0		0.0		1.5			

Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.992	1.000	1.000	0.992	1.000	1.000	1.000	1.000	1.000	0.992	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.968	0.968		0.950	0.950		0.972	0.972		0.989	0.989
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1810	1495	330	1810	1271	521	1810	1549	297	1810	1747	117
Proportion of Vehicles Arriving on Green (P)	0.02	0.32	0.32	0.05	0.35	0.35	0.03	0.38	0.38	0.09	0.44	0.44
Incremental Delay Factor (k)	0.11	0.32		0.11	0.23		0.11	0.50		0.11	0.50	

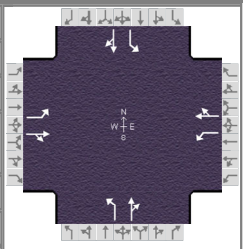
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.34	0.32	0.39	0.35	0.41	0.38	0.49	0.44
Permitted Saturation Flow Rate (s_p), veh/h/ln	1090	0	960	0	788	0	1053	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	38.1	0.0	40.1	0.0	45.9	0.0	47.9	0.0
Permitted Service Time (g_u), s	24.0	0.0	11.8	0.0	14.7	0.0	28.9	0.0
Permitted Queue Service Time (g_{ps}), s	0.4		3.3		2.3		4.9	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.198	0.000	1.198	0.000	1.198	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.134	0.000	0.130	0.000	0.126	0.000	0.117
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	635.66	27.92	701.97	25.27	764.91	22.88	885.50	18.63
Bicycle F_w / F_v	-3.64	0.79	-3.64	0.67	-3.64	0.66	-3.64	1.44

Copyright © 2022 University of Florida, All Rights Reserved.

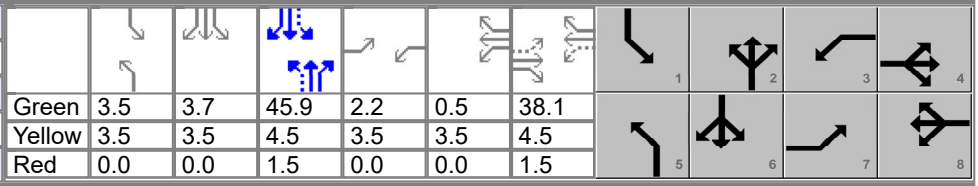
HCS7 Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM Existing Bell at McCarthy.xus		
Project Description	EXISTING				



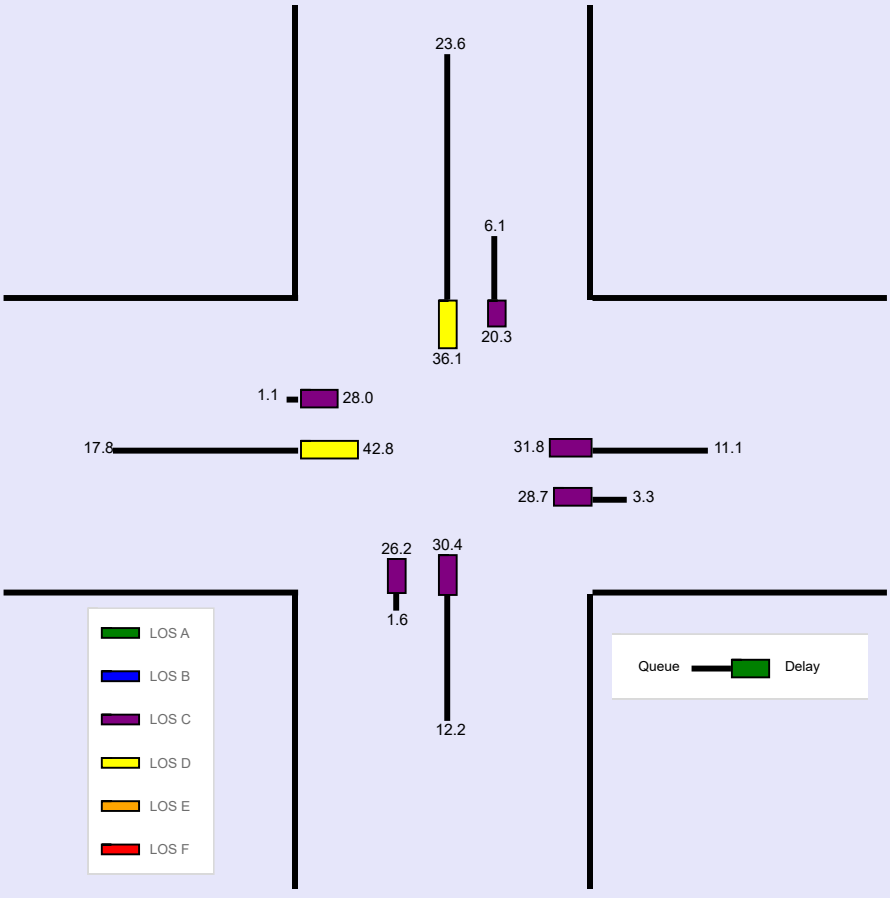
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	335	74	92	200	82	49	266	51	198	567	38

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB		
Green	3.5	3.7		45.9	2.2	0.5	38.1		
Yellow	3.5	3.5		4.5	3.5	3.5	4.5		
Red	0.0	0.0		1.5	0.0	0.0	1.5		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	26.9	449.3		82.5	279.7		41.2	305.9		152	600.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.1	17.8		3.3	11.1		1.6	12.2		6.1	23.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.10	0.00		0.39	0.00		0.27	0.00		0.76	0.00	
Control Delay (*d*), s/veh	27.9	43.0		28.7	31.7		26.4	30.5		20.4	36.7	
Level of Service (LOS)	C	D		C	C		C	C		C	D	
Approach Delay, s/veh / LOS	42.0	D		31.0	C		30.0	C		32.6	C	
Intersection Delay, s/veh / LOS	33.9						C					



Copyright © 2022 University of Florida, All Rights Reserved.

--- Messages ---

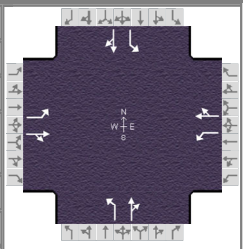
No errors or warnings exist.

--- Comments ---

Copyright © 2022 University of Florida, All Rights Reserved.

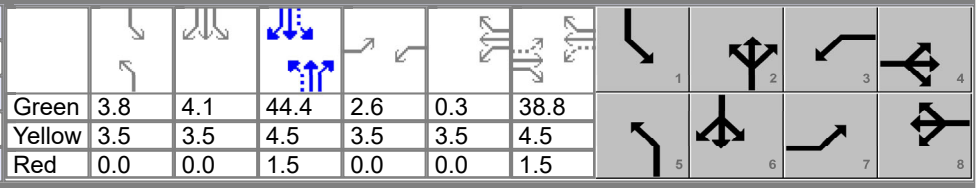
HCS7 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	34	345	76	96	213	87	53	275	53	209	593	40

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.8	4.1	44.4	2.6	0.3	38.8						
Yellow	3.5	3.5	4.5	3.5	3.5	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	34	345	76	96	213	87	53	275	53	209	593	40
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	1		0	1		0	0		0	1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	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 Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	270	0		210	0		150	0		200	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	45	45	45

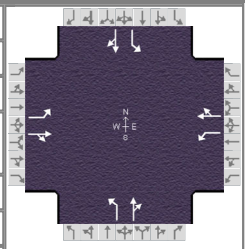
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	18.5	41.5	18.5	41.5	18.5	41.5	18.5	41.5
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	No	No	No	No	No	No	No	No
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	34	345	76	96	213	87	53	275	53	209	593	40

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.8	4.1	44.4	2.6	0.3	38.8	1	2	3	4		
Yellow	3.5	3.5	4.5	3.5	3.5	4.5	5	6	7	8		
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	6.1	44.8	9.9	48.6	7.3	50.4	14.9	58.0
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	3.9	9.2	3.9	9.2	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	3.6	29.2	6.5	19.2	4.4		10.9	
Green Extension Time (g_e), s	0.0	9.6	0.1	15.3	0.1	0.0	0.5	0.0
Phase Call Probability	0.71	1.00	0.97	1.00	0.85		1.00	
Max Out Probability	0.00	0.80	0.01	0.47	0.00		0.02	

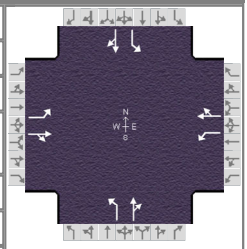
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	37	458		104	326		58	357		227	688	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1826		1810	1792		1810	1846		1810	1864	
Queue Service Time (g_s), s	1.6	27.2		4.5	17.2		2.4	18.1		8.9	39.8	
Cycle Queue Clearance Time (g_c), s	1.6	27.2		4.5	17.2		2.4	18.1		8.9	39.8	
Green Ratio (*g/C*)	0.35	0.32		0.39	0.35		0.40	0.37		0.48	0.43	
Capacity (*c*), veh/h	308	590		248	636		183	683		460	808	
Volume-to-Capacity Ratio (*X*)	0.120	0.775		0.420	0.513		0.316	0.522		0.494	0.852	
Back of Queue (*Q*), ft/ln (95 th percentile)	31.2	462.5		85.4	296.2		45.9	323.8		164.6	665.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	18.4		3.4	11.8		1.8	13.0		6.6	26.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.12	0.00		0.41	0.00		0.31	0.00		0.82	0.00	
Uniform Delay (d_1), s/veh	27.3	36.7		27.4	30.5		27.4	29.5		20.6	30.5	
Incremental Delay (d_2), s/veh	0.2	6.5		1.1	1.4		1.0	2.8		0.8	11.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	27.5	43.2		28.5	31.9		28.4	32.3		21.4	41.5	
Level of Service (LOS)	C	D		C	C		C	C		C	D	
Approach Delay, s/veh / LOS	42.0	D		31.1	C		31.8	C		36.5	D	
Intersection Delay, s/veh / LOS	35.8						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.92	B	1.92	B
Bicycle LOS Score / LOS	1.30	A	1.20	A	1.17	A	2.00	B

Copyright © 2022 University of Florida, All Rights Reserved.

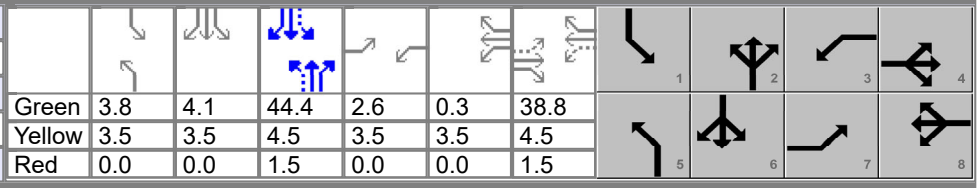
HCS7 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	34	345	76	96	213	87	53	275	53	209	593	40

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.8	4.1	44.4	2.6	0.3	38.8						
Yellow	3.5	3.5	4.5	3.5	3.5	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.992	1.000	1.000	0.992	1.000	1.000	1.000	1.000	1.000	0.992	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.969	0.969		0.950	0.950		0.972	0.972		0.989	0.989
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1810	1496	330	1810	1272	520	1810	1548	298	1810	1746	118
Proportion of Vehicles Arriving on Green (P)	0.02	0.32	0.32	0.05	0.35	0.35	0.03	0.37	0.37	0.09	0.43	0.43
Incremental Delay Factor (k)	0.11	0.33		0.11	0.23		0.11	0.50		0.11	0.50	

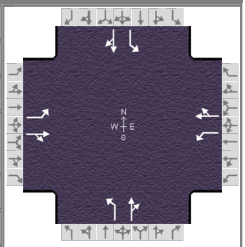
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.35	0.32	0.39	0.35	0.40	0.37	0.48	0.43
Permitted Saturation Flow Rate (s_p), veh/h/ln	1070	0	949	0	766	0	1041	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	38.8	0.0	40.8	0.0	44.4	0.0	46.4	0.0
Permitted Service Time (g_u), s	23.4	0.0	11.6	0.0	10.2	0.0	26.3	0.0
Permitted Queue Service Time (g_{ps}), s	0.6		3.6		2.8		5.6	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.198	0.000	1.198	0.000	1.198	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.133	0.000	0.129	0.000	0.127	0.000	0.119
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	646.68	27.47	709.90	24.97	740.16	23.81	866.63	19.27
Bicycle F_w / F_v	-3.64	0.82	-3.64	0.71	-3.64	0.68	-3.64	1.51

Copyright © 2022 University of Florida, All Rights Reserved.

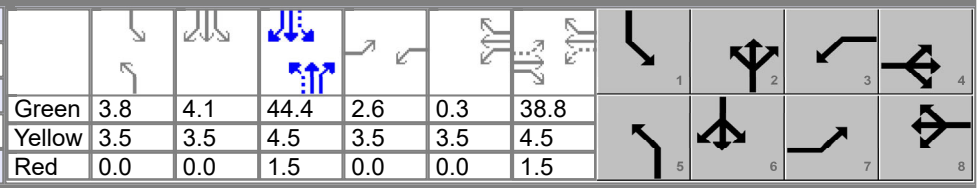
HCS7 Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



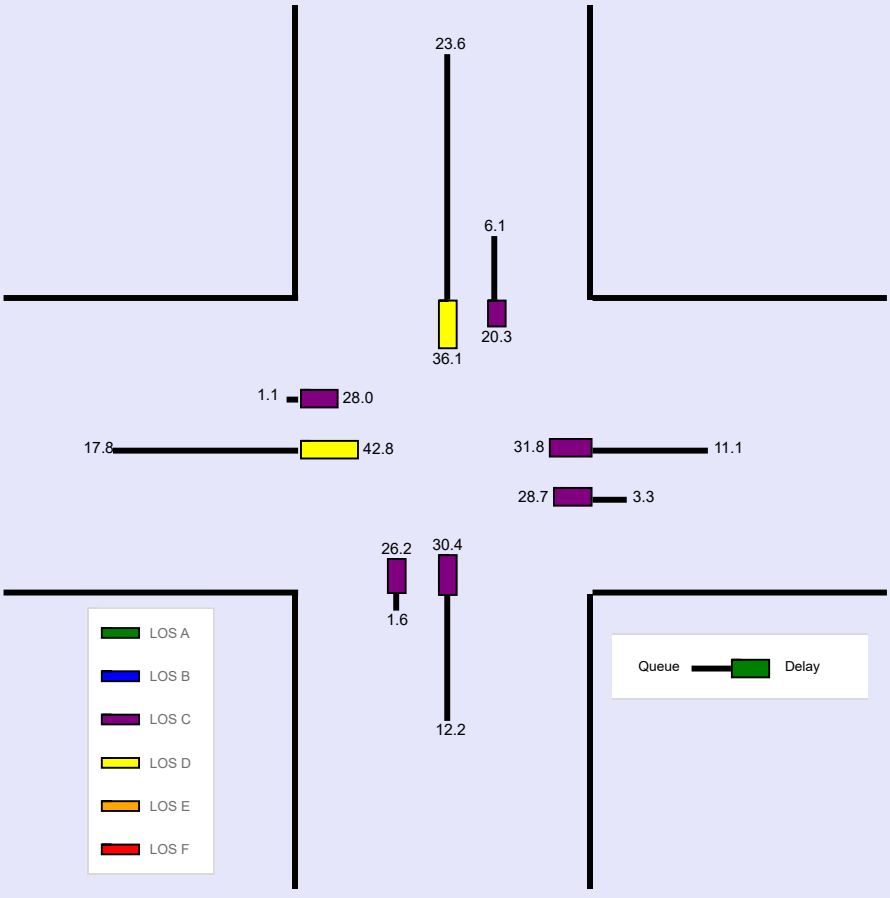
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	34	345	76	96	213	87	53	275	53	209	593	40

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.8	4.1	44.4	2.6	0.3	38.8						
Yellow	3.5	3.5	4.5	3.5	3.5	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	31.2	462.5		85.4	296.2		45.9	323.8		164.6	665.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	18.4		3.4	11.8		1.8	13.0		6.6	26.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.12	0.00		0.41	0.00		0.31	0.00		0.82	0.00	
Control Delay (*d*), s/veh	27.5	43.2		28.5	31.9		28.4	32.3		21.4	41.5	
Level of Service (LOS)	C	D		C	C		C	C		C	D	
Approach Delay, s/veh / LOS	42.0	D		31.1	C		31.8	C		36.5	D	
Intersection Delay, s/veh / LOS	35.8						D					



--- Messages ---

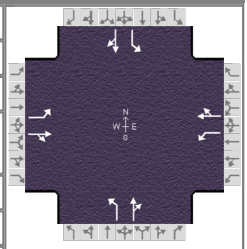
No errors or warnings exist.

--- Comments ---

Copyright © 2022 University of Florida, All Rights Reserved.

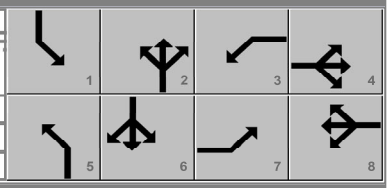
HCS7 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM Total Bell at McCarthy.xus		
Project Description	TOTAL				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	111	385	89	148	215	87	67	278	67	209	674	40

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB			SB		
Green	4.8	3.5		40.7	7.3	1.8	39.5					
Yellow	3.5	3.5		4.5	3.5	0.0	4.5					
Red	0.0	0.0		1.5	0.0	0.0	1.5					

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	111	385	89	148	215	87	67	278	67	209	674	40
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	1		0	1		0	0		0	1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	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 Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	270	0		210	0		150	0		200	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	45	45	45

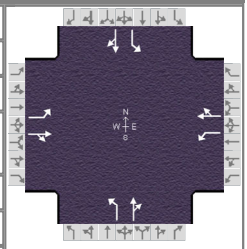
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	18.5	41.5	18.5	41.5	18.5	41.5	18.5	41.5
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	No	No	No	No	No	No	No	No
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

Copyright © 2022 University of Florida, All Rights Reserved.

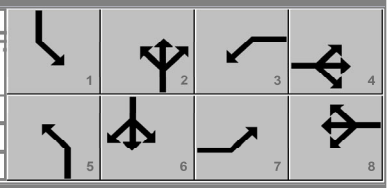
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM Total Bell at McCarthy.xus		
Project Description	TOTAL				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	111	385	89	148	215	87	67	278	67	209	674	40

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.8	3.5	40.7	7.3	1.8	39.5			
Yellow	3.5	3.5	4.5	3.5	0.0	4.5			
Red	0.0	0.0	1.5	0.0	0.0	1.5			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.8	45.5	12.6	47.3	8.3	46.7	15.2	53.6
Change Period, (*Y+R c*), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	3.9	9.2	3.9	9.2	4.0	0.0	4.0	0.0
Queue Clearance Time (*g s*), s	7.2	33.7	8.9	19.6	5.1		11.4	
Green Extension Time (*g e*), s	0.2	5.8	0.2	14.5	0.1	0.0	0.3	0.0
Phase Call Probability	0.98	1.00	1.00	1.00	0.91		1.00	
Max Out Probability	0.03	1.00	0.17	0.62	0.00		0.35	

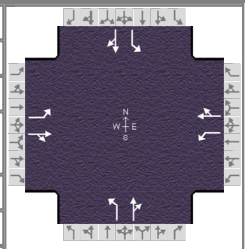
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	121	515		161	328		73	375		227	776	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1824		1810	1792		1810	1836		1810	1866	
Queue Service Time (*g s*), s	5.2	31.7		6.9	17.6		3.1	20.4		9.4	47.6	
Cycle Queue Clearance Time (*g c*), s	5.2	31.7		6.9	17.6		3.1	20.4		9.4	47.6	
Green Ratio (*g/C*)	0.39	0.33		0.41	0.34		0.38	0.34		0.45	0.40	
Capacity (*c*), veh/h	363	600		256	617		132	622		410	741	
Volume-to-Capacity Ratio (*X*)	0.333	0.858		0.629	0.532		0.552	0.603		0.554	1.048	
Back of Queue (*Q*), ft/ln (95 th percentile)	98.6	550.3		134.4	303		64.3	362.3		176.9	1012.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.9	21.8		5.4	12.0		2.6	14.5		7.1	40.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.37	0.00		0.64	0.00		0.43	0.00		0.88	0.00	
Uniform Delay (*d 1*), s/veh	25.4	37.6		28.3	31.6		31.0	33.0		23.2	36.2	
Incremental Delay (*d 2*), s/veh	0.5	12.3		2.5	1.5		3.6	4.3		1.2	46.3	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	26.0	49.9		30.9	33.1		34.6	37.2		24.4	82.5	
Level of Service (LOS)	C	D		C	C		C	D		C	F	
Approach Delay, s/veh / LOS	45.4	D		32.4	C		36.8	D		69.3	E	
Intersection Delay, s/veh / LOS	50.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.93	B	1.92	B
Bicycle LOS Score / LOS	1.54	B	1.29	A	1.23	A	2.14	B

Copyright © 2022 University of Florida, All Rights Reserved.

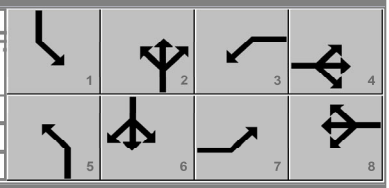
HCS7 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM Total Bell at McCarthy.xus		
Project Description	TOTAL				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	111	385	89	148	215	87	67	278	67	209	674	40

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.8	3.5		40.7	7.3		1.8		39.5			
Yellow	3.5	3.5		4.5	3.5		0.0		4.5			
Red	0.0	0.0		1.5	0.0		0.0		1.5			

Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.992	1.000	1.000	0.992	1.000	1.000	1.000	1.000	1.000	0.992	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.967	0.967		0.951	0.951		0.966	0.966		0.990	0.990
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1810	1481	342	1810	1276	516	1810	1479	357	1810	1762	105
Proportion of Vehicles Arriving on Green (P)	0.06	0.33	0.33	0.08	0.34	0.34	0.04	0.34	0.34	0.10	0.40	0.40
Incremental Delay Factor (k)	0.11	0.40		0.11	0.24		0.11	0.50		0.11	0.50	

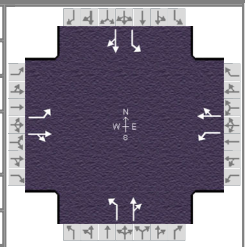
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.39	0.33	0.41	0.34	0.38	0.34	0.45	0.40
Permitted Saturation Flow Rate (s_p), veh/h/ln	1068	0	900	0	706	0	1024	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	39.5	0.0	39.8	0.0	40.7	0.0	42.7	0.0
Permitted Service Time (g_u), s	21.7	0.0	7.8	0.0	0.0	0.0	20.3	0.0
Permitted Queue Service Time (g_{ps}), s	2.3		7.0		0.0		6.4	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.198	0.000	1.198	0.000	1.198	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.132	0.000	0.130	0.000	0.131	0.000	0.124
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	658.31	27.00	688.91	25.78	677.66	26.23	793.72	21.83
Bicycle F_w / F_v	-3.64	1.05	-3.64	0.81	-3.64	0.74	-3.64	1.66

Copyright © 2022 University of Florida, All Rights Reserved.

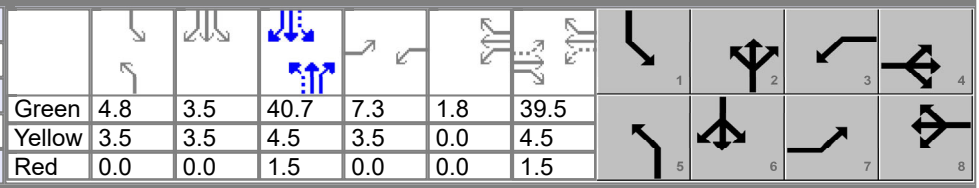
HCS7 Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	WEEKDAY PM Peak	PHF	0.92
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1PM Total Bell at McCarthy.xus		
Project Description	TOTAL				



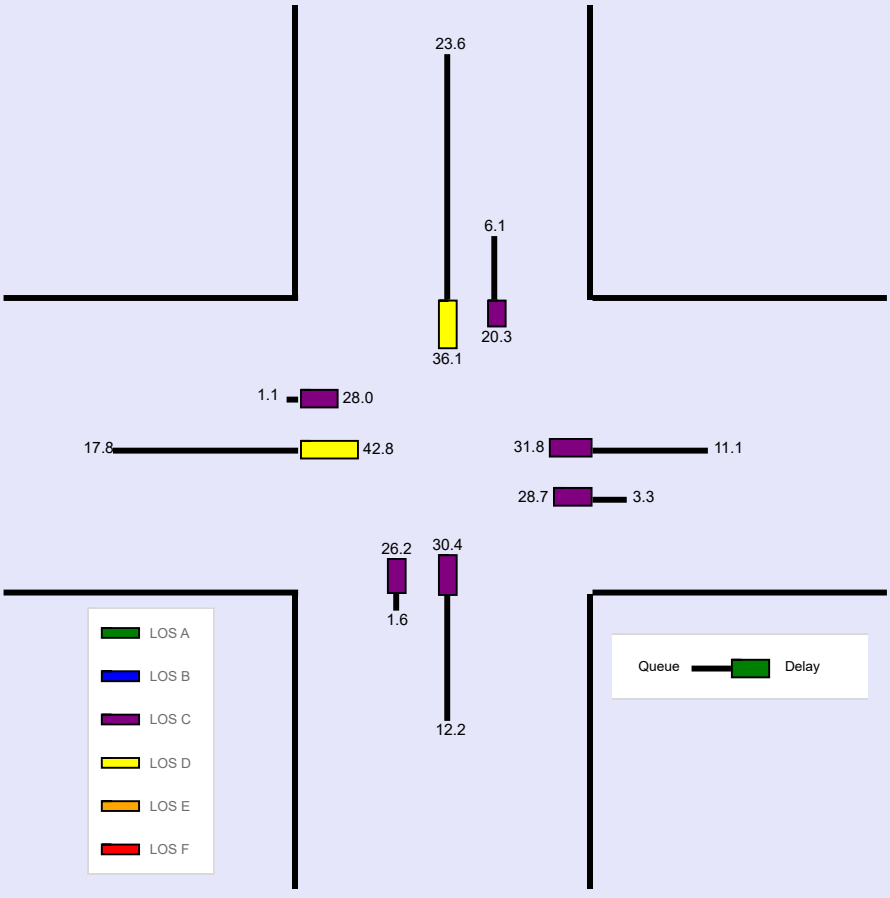
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	111	385	89	148	215	87	67	278	67	209	674	40

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB		
Green	4.8	3.5		40.7	7.3	1.8	39.5		
Yellow	3.5	3.5		4.5	3.5	0.0	4.5		
Red	0.0	0.0		1.5	0.0	0.0	1.5		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	98.6	550.3		134.4	303		64.3	362.3		176.9	1012.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.9	21.8		5.4	12.0		2.6	14.5		7.1	40.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.37	0.00		0.64	0.00		0.43	0.00		0.88	0.00	
Control Delay (*d*), s/veh	26.0	49.9		30.9	33.1		34.6	37.2		24.4	82.5	
Level of Service (LOS)	C	D		C	C		C	D		C	F	
Approach Delay, s/veh / LOS	45.4	D		32.4	C		36.8	D		69.3	E	
Intersection Delay, s/veh / LOS	50.7						D					



--- Messages ---

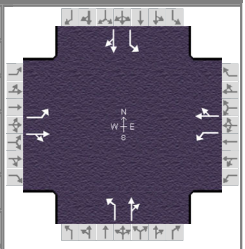
No errors or warnings exist.

--- Comments ---

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Input Data

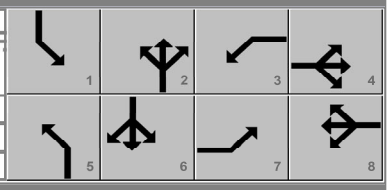
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT Existing Bell at McCarthy.xus		
Project Description	EXISTING				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	134	58	42	153	87	109	333	52	94	324	28

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.9	0.6	67.1	2.1	1.2	25.1						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	134	58	42	153	87	109	333	52	94	324	28
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	0		0	0		0	1		0	0	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	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 Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	270	0		210	0		150	0		200	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	45	45	45

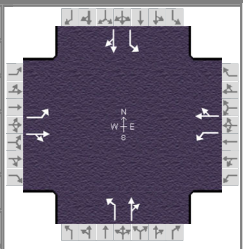
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	18.5	41.5	18.5	41.5	18.5	41.5	18.5	41.5
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	No	No	No	No	No	No	No	No
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

Copyright © 2022 University of Florida, All Rights Reserved.

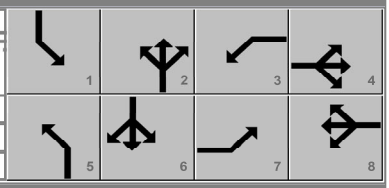
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT Existing Bell at McCarthy.xus		
Project Description	EXISTING				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	134	58	42	153	87	109	333	52	94	324	28

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.9	0.6	67.1	2.1	1.2	25.1
Yellow	3.5	0.0	4.5	3.5	0.0	4.5
Red	0.0	0.0	1.5	0.0	0.0	1.5

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	5.6	31.1	6.8	32.3	8.9	73.7	8.4	73.1
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	3.9	9.2	3.9	9.2	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	3.5	14.0	4.3	17.5	5.2		4.8	
Green Extension Time (g_e), s	0.0	9.1	0.0	8.8	0.3	0.0	0.3	0.0
Phase Call Probability	0.61	1.00	0.77	1.00	0.98		0.96	
Max Out Probability	0.00	0.11	0.00	0.14	0.00		0.00	

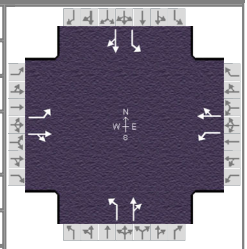
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	28	202		44	253		115	405		99	371	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1802		1810	1784		1810	1840		1810	1873	
Queue Service Time (g_s), s	1.5	12.0		2.3	15.5		3.2	14.8		2.8	13.0	
Cycle Queue Clearance Time (g_c), s	1.5	12.0		2.3	15.5		3.2	14.8		2.8	13.0	
Green Ratio (*g/C*)	0.23	0.21		0.24	0.22		0.60	0.56		0.60	0.56	
Capacity (*c*), veh/h	177	377		241	391		605	1038		556	1048	
Volume-to-Capacity Ratio (*X*)	0.161	0.536		0.183	0.647		0.190	0.390		0.178	0.354	
Back of Queue (*Q*), ft/ln (95 th percentile)	29.5	230.5		45.2	282.4		53.9	253.3		46.9	230.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	9.2		1.8	11.3		2.2	10.1		1.9	9.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.11	0.00		0.22	0.00		0.36	0.00		0.23	0.00	
Uniform Delay (d_1), s/veh	37.6	42.3		36.4	42.6		10.8	14.6		11.4	14.5	
Incremental Delay (d_2), s/veh	0.4	2.5		0.4	3.8		0.2	1.1		0.2	0.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	38.0	44.8		36.8	46.4		11.0	15.7		11.5	15.4	
Level of Service (LOS)	D	D		D	D		B	B		B	B	
Approach Delay, s/veh / LOS	44.0	D		45.0	D		14.7	B		14.6	B	
Intersection Delay, s/veh / LOS	25.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.90	B	1.90	B
Bicycle LOS Score / LOS	0.87	A	0.98	A	1.35	A	1.26	A

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Signalized Intersection Intermediate Values

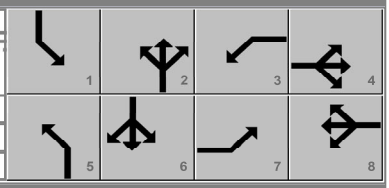
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT Existing Bell at McCarthy.xus		
Project Description	EXISTING				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	134	58	42	153	87	109	333	52	94	324	28

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.9	0.6	67.1	2.1	1.2	25.1						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.992	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.948	0.948		0.939	0.939		0.976	0.976		0.986	0.986
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1810	1258	544	1810	1137	647	1810	1592	249	1810	1724	149
Proportion of Vehicles Arriving on Green (P)	0.02	0.21	0.21	0.03	0.22	0.22	0.05	0.56	0.56	0.04	0.56	0.56
Incremental Delay Factor (k)	0.11	0.23		0.11	0.23		0.11	0.50		0.11	0.50	

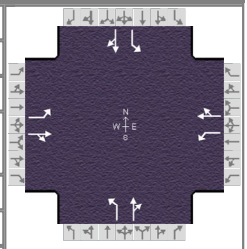
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.23	0.21	0.24	0.22	0.60	0.56	0.60	0.56
Permitted Saturation Flow Rate (s_p), veh/h/ln	1145	0	1199	0	1028	0	995	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	25.1	0.0	25.1	0.0	67.1	0.0	67.1	0.0
Permitted Service Time (g_u), s	8.8	0.0	13.1	0.0	54.1	0.0	50.9	0.0
Permitted Queue Service Time (g_{ps}), s	0.4		0.5		1.6		1.8	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.198	0.000	1.198	0.000	1.198	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.145	0.000	0.144	0.000	0.098	0.000	0.098
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	418.12	37.53	438.12	36.59	1128.28	11.40	1119.04	11.64
Bicycle F_w / F_v	-3.64	0.38	-3.64	0.49	-3.64	0.86	-3.64	0.77

Copyright © 2022 University of Florida, All Rights Reserved.

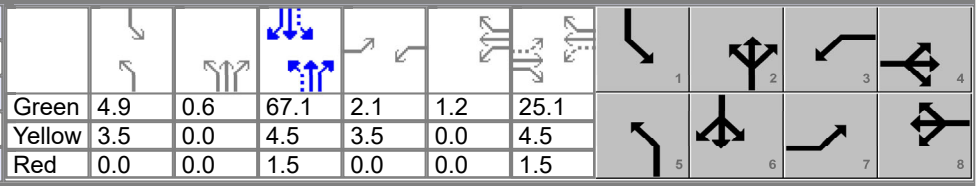
HCS7 Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT Existing Bell at McCarthy.xus		
Project Description	EXISTING				



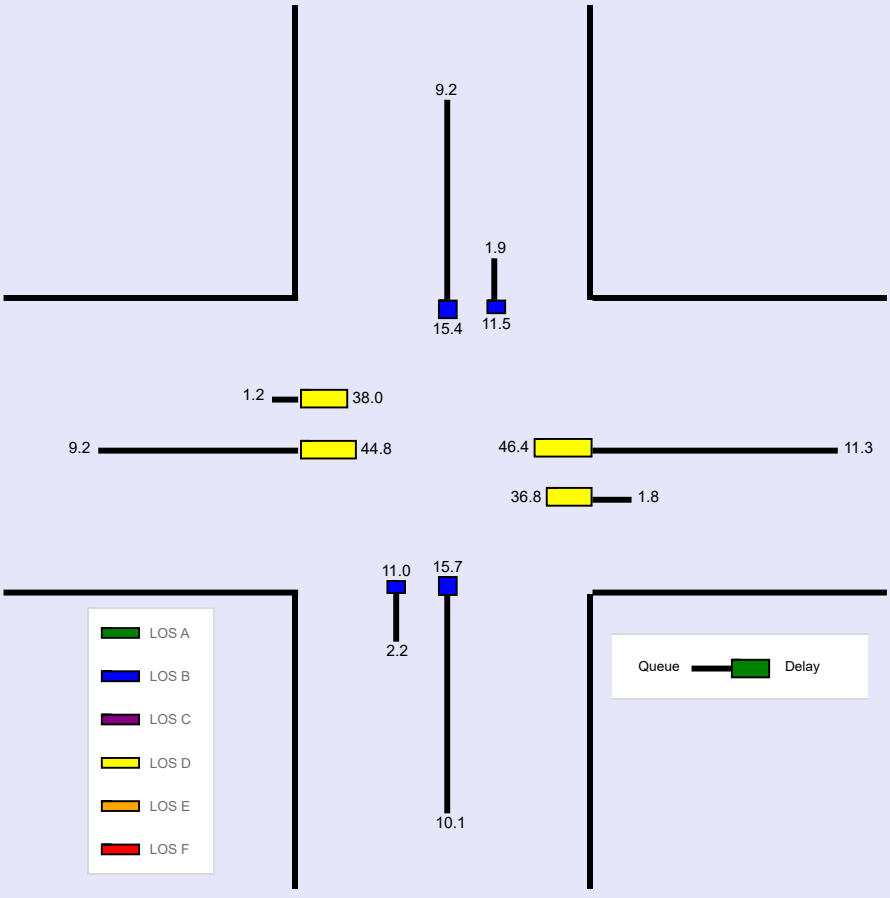
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	27	134	58	42	153	87	109	333	52	94	324	28

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.9	0.6	67.1	2.1	1.2	25.1						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	29.5	230.5		45.2	282.4		53.9	253.3		46.9	230.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	9.2		1.8	11.3		2.2	10.1		1.9	9.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.11	0.00		0.22	0.00		0.36	0.00		0.23	0.00	
Control Delay (*d*), s/veh	38.0	44.8		36.8	46.4		11.0	15.7		11.5	15.4	
Level of Service (LOS)	D	D		D	D		B	B		B	B	
Approach Delay, s/veh / LOS	44.0	D		45.0	D		14.7	B		14.6	B	
Intersection Delay, s/veh / LOS	25.0						C					



--- Messages ---

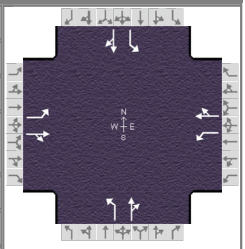
No errors or warnings exist.

--- Comments ---

Copyright © 2022 University of Florida, All Rights Reserved.

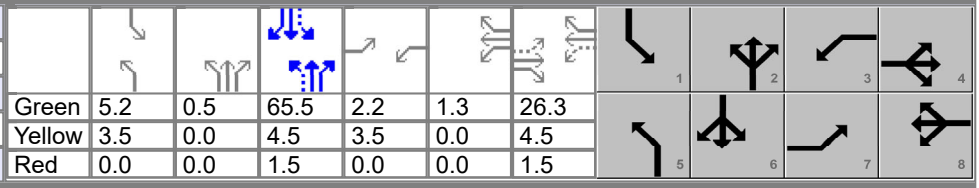
HCS7 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	28	138	60	44	164	91	115	344	54	101	340	29

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.2	0.5	65.5	2.2	1.3	26.3						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	28	138	60	44	164	91	115	344	54	101	340	29
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	0		0	0		0	1		0	0	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	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 Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	270	0		210	0		150	0		200	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	45	45	45

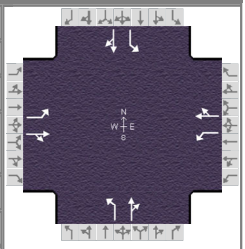
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	18.5	41.5	18.5	41.5	18.5	41.5	18.5	41.5
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	No	No	No	No	No	No	No	No
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

Copyright © 2022 University of Florida, All Rights Reserved.

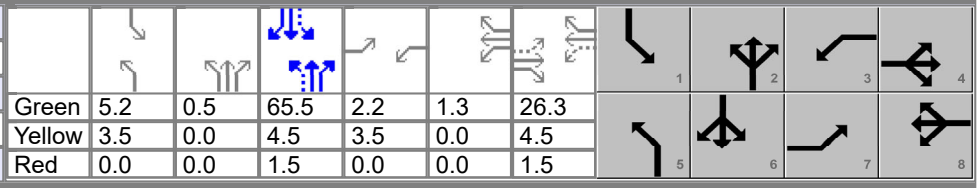
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	28	138	60	44	164	91	115	344	54	101	340	29

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.2	0.5	65.5	2.2	1.3	26.3
Yellow	3.5	0.0	4.5	3.5	0.0	4.5
Red	0.0	0.0	1.5	0.0	0.0	1.5

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	5.7	32.3	7.0	33.5	9.2	72.0	8.7	71.5
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	3.9	9.2	3.9	9.2	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	3.5	14.3	4.4	18.4	5.5		5.1	
Green Extension Time (g_e), s	0.0	9.5	0.1	9.2	0.4	0.0	0.3	0.0
Phase Call Probability	0.63	1.00	0.79	1.00	0.98		0.97	
Max Out Probability	0.00	0.13	0.00	0.17	0.00		0.00	

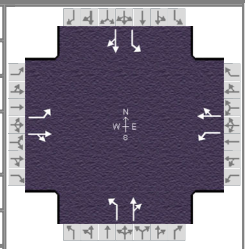
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	29	208		46	268		121	419		106	388	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1802		1810	1785		1810	1840		1810	1873	
Queue Service Time (g_s), s	1.5	12.3		2.4	16.4		3.5	15.9		3.1	14.3	
Cycle Queue Clearance Time (g_c), s	1.5	12.3		2.4	16.4		3.5	15.9		3.1	14.3	
Green Ratio (*g/C*)	0.24	0.22		0.25	0.23		0.59	0.55		0.59	0.55	
Capacity (*c*), veh/h	180	395		252	410		578	1012		533	1023	
Volume-to-Capacity Ratio (*X*)	0.164	0.528		0.184	0.655		0.209	0.414		0.200	0.380	
Back of Queue (*Q*), ft/ln (95 th percentile)	30.1	233.7		46.6	294.8		59.2	271		52.4	249.8	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	9.3		1.9	11.8		2.4	10.8		2.1	10.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.11	0.00		0.22	0.00		0.39	0.00		0.26	0.00	
Uniform Delay (d_1), s/veh	36.7	41.4		35.5	41.9		11.6	15.7		12.2	15.6	
Incremental Delay (d_2), s/veh	0.4	2.3		0.3	3.8		0.2	1.2		0.2	1.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	37.1	43.7		35.8	45.7		11.8	17.0		12.3	16.7	
Level of Service (LOS)	D	D		D	D		B	B		B	B	
Approach Delay, s/veh / LOS	42.9	D		44.2	D		15.8	B		15.8	B	
Intersection Delay, s/veh / LOS	25.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.90	B	1.90	B
Bicycle LOS Score / LOS	0.88	A	1.01	A	1.38	A	1.30	A

Copyright © 2022 University of Florida, All Rights Reserved.

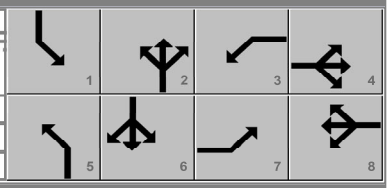
HCS7 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	28	138	60	44	164	91	115	344	54	101	340	29

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.2	0.5		65.5	2.2	1.3	26.3					
Yellow	3.5	0.0		4.5	3.5	0.0	4.5					
Red	0.0	0.0		1.5	0.0	0.0	1.5					

Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.992	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.948	0.948		0.940	0.940		0.976	0.976		0.986	0.986
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1810	1256	546	1810	1148	637	1810	1591	250	1810	1726	147
Proportion of Vehicles Arriving on Green (P)	0.02	0.22	0.22	0.03	0.23	0.23	0.05	0.55	0.55	0.04	0.55	0.55
Incremental Delay Factor (k)	0.11	0.23		0.11	0.23		0.11	0.50		0.11	0.50	

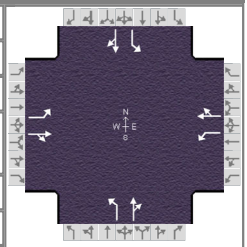
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.24	0.22	0.25	0.23	0.59	0.55	0.59	0.55
Permitted Saturation Flow Rate (s_p), veh/h/ln	1128	0	1192	0	1011	0	983	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	26.3	0.0	26.3	0.0	65.5	0.0	65.5	0.0
Permitted Service Time (g_u), s	9.2	0.0	14.0	0.0	51.2	0.0	48.1	0.0
Permitted Queue Service Time (g_{ps}), s	0.5		0.5		1.9		2.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.198	0.000	1.198	0.000	1.198	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.144	0.000	0.143	0.000	0.100	0.000	0.101
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	437.96	36.60	458.98	35.62	1100.39	12.14	1091.71	12.37
Bicycle F_w / F_v	-3.64	0.39	-3.64	0.52	-3.64	0.89	-3.64	0.82

Copyright © 2022 University of Florida, All Rights Reserved.

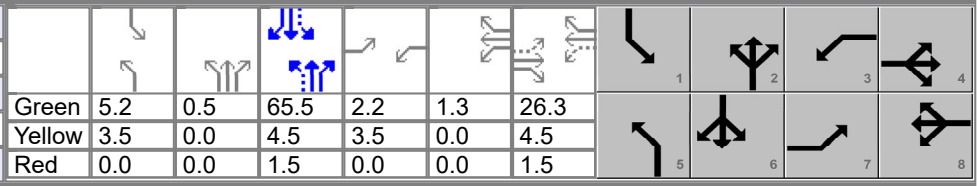
HCS7 Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT NB Bell at McCarthy.xus		
Project Description	NO-BUILD				



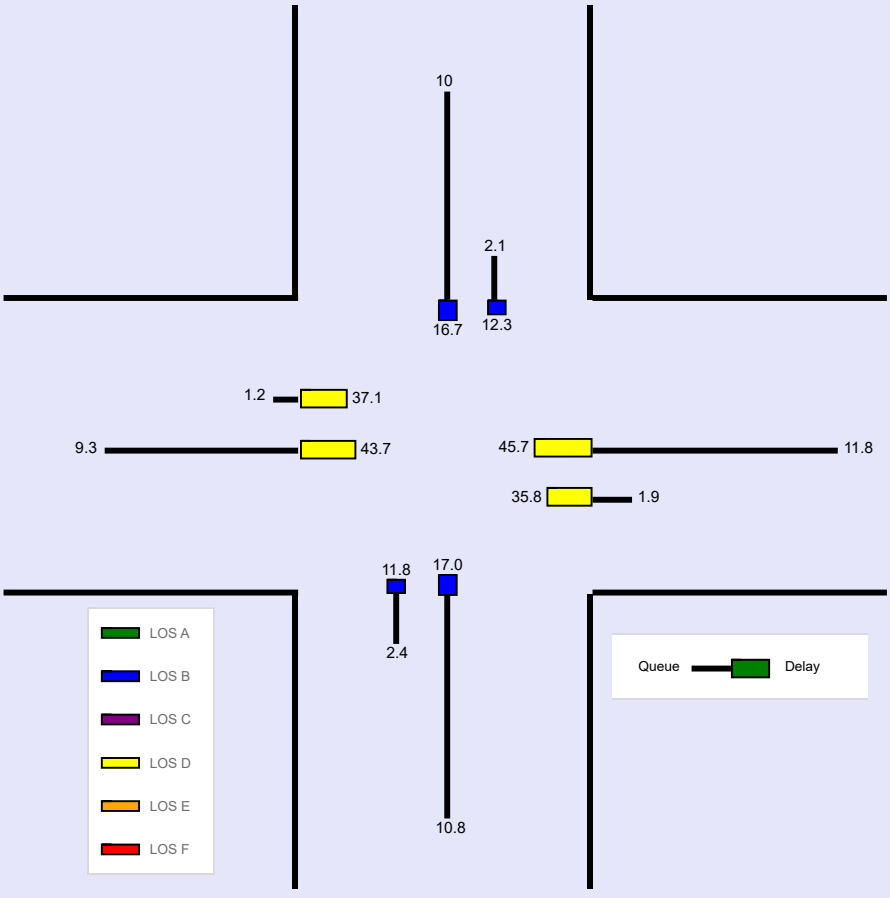
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	28	138	60	44	164	91	115	344	54	101	340	29

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.2	0.5	65.5	2.2	1.3	26.3						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	30.1	233.7		46.6	294.8		59.2	271		52.4	249.8	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	9.3		1.9	11.8		2.4	10.8		2.1	10.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.11	0.00		0.22	0.00		0.39	0.00		0.26	0.00	
Control Delay (*d*), s/veh	37.1	43.7		35.8	45.7		11.8	17.0		12.3	16.7	
Level of Service (LOS)	D	D		D	D		B	B		B	B	
Approach Delay, s/veh / LOS	42.9	D		44.2	D		15.8	B		15.8	B	
Intersection Delay, s/veh / LOS	25.5						C					



--- Messages ---

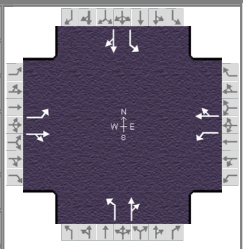
No errors or warnings exist.

--- Comments ---

Copyright © 2022 University of Florida, All Rights Reserved.

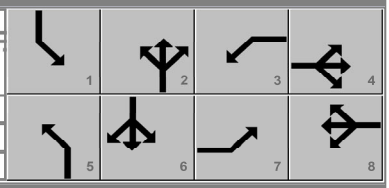
HCS7 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT Total Bell at McCarthy.xus		
Project Description	TOTAL				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	121	182	76	108	165	91	132	344	72	101	438	29

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.6	1.3	58.0	7.6	0.7	27.7						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	121	182	76	108	165	91	132	344	72	101	438	29
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	0		0	0		0	1		0	0	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	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 Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	270	0		210	0		150	0		200	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	50	50	50	50	50	50	45	45	45	45	45	45

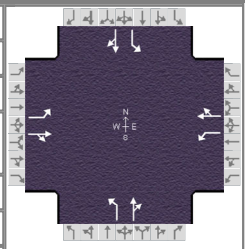
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	18.5	41.5	18.5	41.5	18.5	41.5	18.5	41.5
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Off	Off	Off	Off	Off	Off	Off
Dual Entry	No	No	No	No	No	No	No	No
Walk (*Walk*), s		0.0		0.0		0.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		0.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

Copyright © 2022 University of Florida, All Rights Reserved.

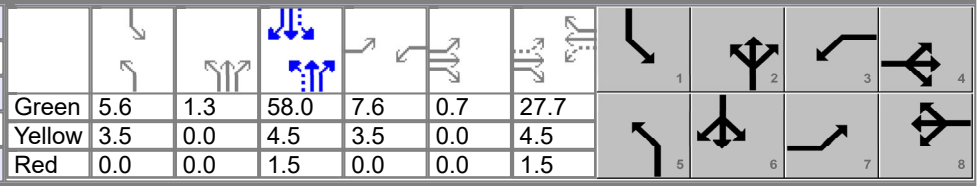
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT Total Bell at McCarthy.xus		
Project Description	TOTAL				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	121	182	76	108	165	91	132	344	72	101	438	29

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.6	1.3	58.0	7.6	0.7	27.7		
Yellow	3.5	0.0	4.5	3.5	0.0	4.5		
Red	0.0	0.0	1.5	0.0	0.0	1.5		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.9	34.5	11.1	33.7	10.4	65.2	9.1	64.0
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	3.9	9.2	3.9	9.2	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	8.4	18.2	7.7	18.4	6.6		5.5	
Green Extension Time (g_e), s	0.2	9.5	0.1	9.3	0.4	0.0	0.3	0.0
Phase Call Probability	0.99	1.00	0.98	1.00	0.99		0.97	
Max Out Probability	0.08	0.32	0.04	0.35	0.00		0.00	

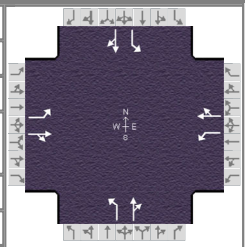
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	127	272		114	269		139	438		106	492	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1804		1810	1786		1810	1828		1810	1879	
Queue Service Time (g_s), s	6.4	16.2		5.7	16.4		4.6	19.1		3.5	22.0	
Cycle Queue Clearance Time (g_c), s	6.4	16.2		5.7	16.4		4.6	19.1		3.5	22.0	
Green Ratio (*g/C*)	0.30	0.24		0.29	0.23		0.54	0.49		0.53	0.48	
Capacity (*c*), veh/h	293	428		271	413		440	903		452	908	
Volume-to-Capacity Ratio (*X*)	0.435	0.634		0.419	0.653		0.316	0.485		0.235	0.541	
Back of Queue (*Q*), ft/ln (95 th percentile)	123.9	293.9		110.9	295.1		81.8	323.1		62.9	369.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	5.0	11.8		4.4	11.8		3.3	12.8		2.5	14.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.46	0.00		0.53	0.00		0.55	0.00		0.31	0.00	
Uniform Delay (d_1), s/veh	32.8	41.1		33.3	41.8		16.1	20.2		15.9	21.7	
Incremental Delay (d_2), s/veh	1.0	3.3		1.0	3.7		0.4	1.9		0.3	2.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	33.8	44.4		34.3	45.5		16.5	22.1		16.2	24.0	
Level of Service (LOS)	C	D		C	D		B	C		B	C	
Approach Delay, s/veh / LOS	41.0	D		42.2	D		20.7	C		22.6	C	
Intersection Delay, s/veh / LOS	29.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.91	B	1.91	B
Bicycle LOS Score / LOS	1.15	A	1.12	A	1.44	A	1.47	A

Copyright © 2022 University of Florida, All Rights Reserved.

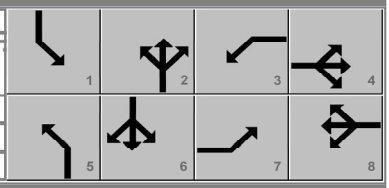
HCS7 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT Total Bell at McCarthy.xus		
Project Description	TOTAL				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	121	182	76	108	165	91	132	344	72	101	438	29

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.6	1.3	58.0	7.6	0.7	27.7						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.992	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.950	0.950		0.940	0.940		0.970	0.970		0.989	0.989
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1810	1273	532	1810	1151	635	1810	1512	316	1810	1762	117
Proportion of Vehicles Arriving on Green (P)	0.07	0.24	0.24	0.06	0.23	0.23	0.06	0.49	0.49	0.05	0.48	0.48
Incremental Delay Factor (k)	0.11	0.23		0.11	0.23		0.11	0.50		0.11	0.50	

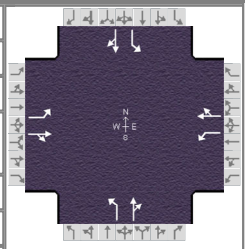
Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.30	0.24	0.29	0.23	0.54	0.49	0.53	0.48
Permitted Saturation Flow Rate (s_p), veh/h/ln	1127	0	1125	0	919	0	966	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	27.7	0.0	27.7	0.0	58.0	0.0	58.0	0.0
Permitted Service Time (g_u), s	11.3	0.0	10.3	0.0	36.0	0.0	38.1	0.0
Permitted Queue Service Time (g_{ps}), s	2.1		2.0		3.9		2.5	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.198	0.000	1.198	0.000	1.198	0.000	1.198	0.000
Pedestrian F_s / F_{delay}	0.000	0.142	0.000	0.143	0.000	0.110	0.000	0.111
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	474.65	34.90	462.20	35.47	987.47	15.38	966.35	16.03
Bicycle F_w / F_v	-3.64	0.66	-3.64	0.63	-3.64	0.95	-3.64	0.99

Copyright © 2022 University of Florida, All Rights Reserved.

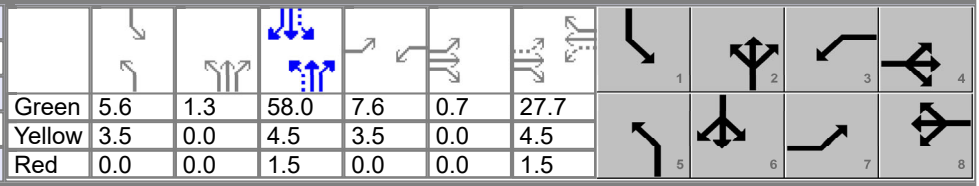
HCS7 Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	TM	Analysis Date	Oct 11, 2022	Area Type	Other
Jurisdiction	IDOT	Time Period	SATURDAY MIDDAY Peak	PHF	0.95
Urban Street	Bell Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bell at McCarthy	File Name	1SAT Total Bell at McCarthy.xus		
Project Description	TOTAL				



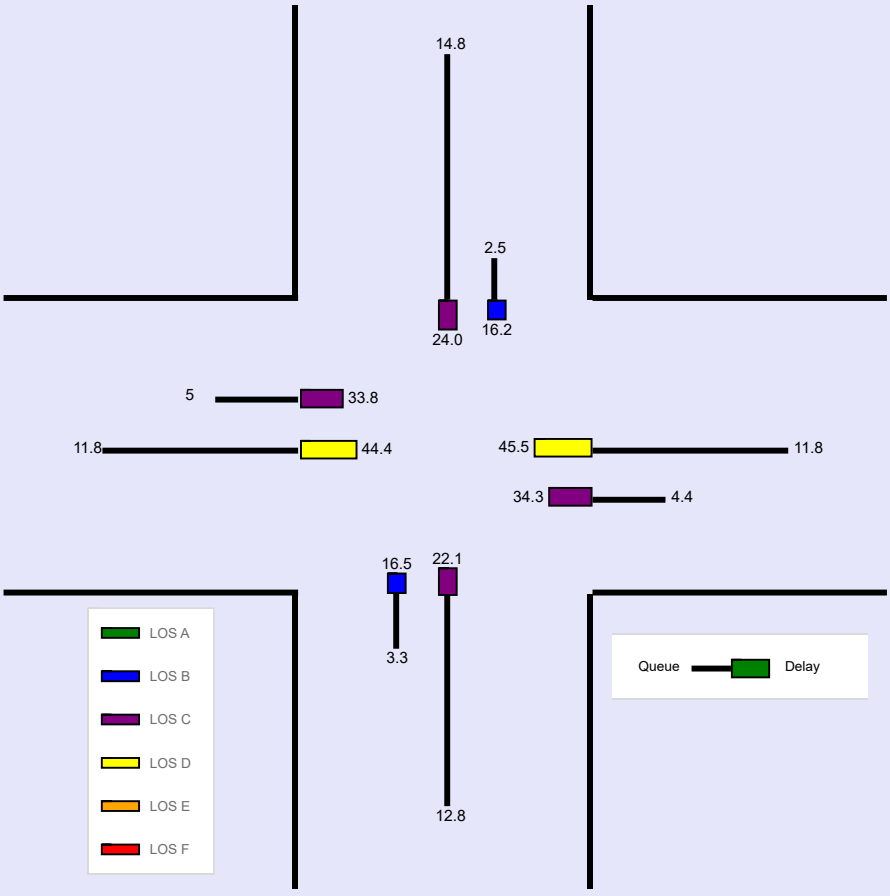
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	121	182	76	108	165	91	132	344	72	101	438	29

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.6	1.3		58.0	7.6	0.7		27.7				
Yellow	3.5	0.0		4.5	3.5	0.0		4.5				
Red	0.0	0.0		1.5	0.0	0.0		1.5				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	123.9	293.9		110.9	295.1		81.8	323.1		62.9	369.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	5.0	11.8		4.4	11.8		3.3	12.8		2.5	14.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.46	0.00		0.53	0.00		0.55	0.00		0.31	0.00	
Control Delay (*d*), s/veh	33.8	44.4		34.3	45.5		16.5	22.1		16.2	24.0	
Level of Service (LOS)	C	D		C	D		B	C		B	C	
Approach Delay, s/veh / LOS	41.0	D		42.2	D		20.7	C		22.6	C	
Intersection Delay, s/veh / LOS	29.6						C					



--- Messages ---

No errors or warnings exist.

--- Comments ---

Copyright © 2022 University of Florida, All Rights Reserved.

HCS7 Two-Way Stop-Control Report

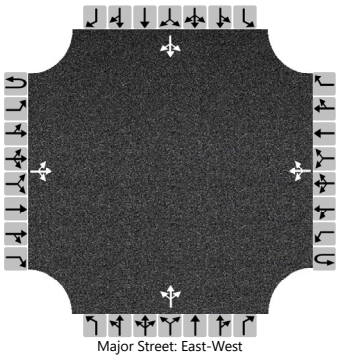
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2022
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	East-West
Project Description	EXISTING

Site Information

Intersection	McCarthy at Saddle/Galway
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Saddlebrook Ln/Galway Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	225	3		0	308	1		8	1	2		1	1	3
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2				0					13				6	
Capacity, c (veh/h)		1219				1317					443				542	
v/c Ratio		0.00				0.00					0.03				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.0				7.7					13.4				11.7	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.1				0.0				13.4				11.7			
Approach LOS									B				B			

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

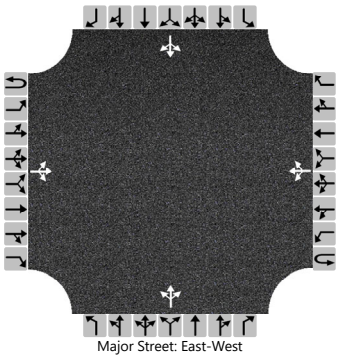
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	East-West
Project Description	NO-BUILD

Site Information

Intersection	McCarthy at Saddle/Galway
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Saddlebrook Ln/Galway Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	234	3		0	326	1		8	1	2		1	1	3
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2				0					13				6	
Capacity, c (veh/h)		1198				1306					424				523	
v/c Ratio		0.00				0.00					0.03				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.0				7.8					13.7				12.0	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.1				0.0				13.7				12.0			
Approach LOS									B				B			

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

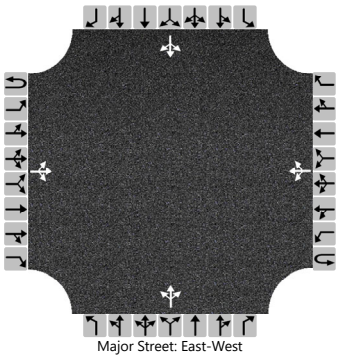
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	East-West
Project Description	TOTAL

Site Information

Intersection	McCarthy at Saddle/Galway
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Saddlebrook Ln/Galway Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	286	3		0	371	1		8	1	2		1	1	3
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2				0					13				6	
Capacity, c (veh/h)		1147				1242					362				465	
v/c Ratio		0.00				0.00					0.03				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.1				7.9					15.3				12.8	
Level of Service (LOS)		A				A					C				B	
Approach Delay (s/veh)	0.1				0.0				15.3				12.8			
Approach LOS									C				B			

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

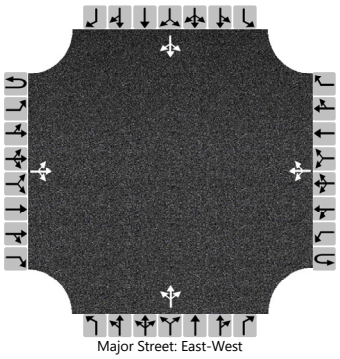
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2022
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	East-West
Project Description	EXISTING

Site Information

Intersection	McCarthy at Saddle/Galway
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Saddlebrook Ln/Galway Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	431	5		2	281	4		1	0	4		3	0	5
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

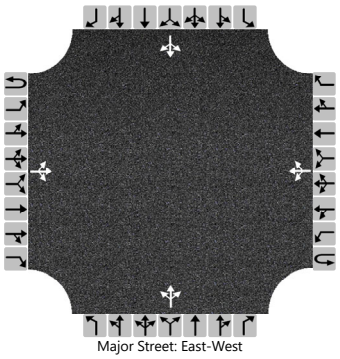
Flow Rate, v (veh/h)		4				2					5				9	
Capacity, c (veh/h)		1266				1103					505				486	
v/c Ratio		0.00				0.00					0.01				0.02	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.1	
Control Delay (s/veh)		7.9				8.3					12.2				12.5	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.1				0.1				12.2				12.5		
Approach LOS										B				B		

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	TM	Intersection	McCarthy at Saddle/Galway
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	10/11/2022	East/West Street	McCarthy Road
Analysis Year	2028	North/South Street	Saddlebrook Ln/Galway Rd
Time Analyzed	WEEKDAY PM PEAK	Peak Hour Factor	0.93
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	NO-BUILD		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	448	5		2	295	4		1	0	4		3	0	5
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				2					5				9	
Capacity, c (veh/h)		1250				1086					488				467	
v/c Ratio		0.00				0.00					0.01				0.02	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.1	
Control Delay (s/veh)		7.9				8.3					12.5				12.9	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.1				0.1				12.5				12.9		
Approach LOS										B				B		

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

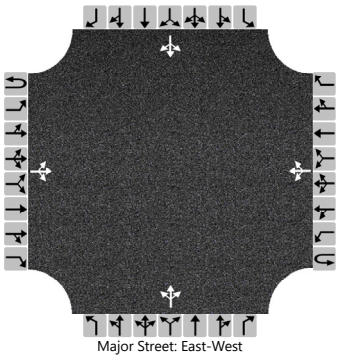
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	East-West
Project Description	TOTAL

Site Information

Intersection	McCarthy at Saddle/Galway
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Saddlebrook Ln/Galway Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	502	5		2	349	4		1	0	4		3	0	5
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				2					5				9	
Capacity, c (veh/h)		1190				1034					437				406	
v/c Ratio		0.00				0.00					0.01				0.02	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.1	
Control Delay (s/veh)		8.0				8.5					13.3				14.1	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.1				0.1				13.3				14.1		
Approach LOS										B				B		

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

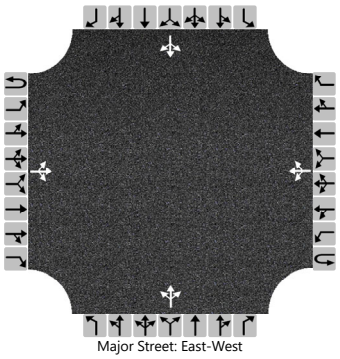
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2022
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	East-West
Project Description	EXISTING

Site Information

Intersection	McCarthy at Saddle/Galway
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Saddlebrook Ln/Galway Rd
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	215	1		2	287	1		0	0	3		1	1	2
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2				2					4				5	
Capacity, c (veh/h)		1232				1323					790				522	
v/c Ratio		0.00				0.00					0.00				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		7.9				7.7					9.6				12.0	
Level of Service (LOS)		A				A					A				B	
Approach Delay (s/veh)	0.1				0.1				9.6				12.0			
Approach LOS									A				B			

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

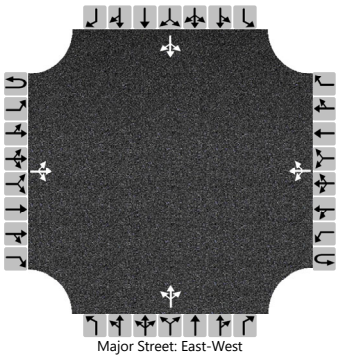
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	East-West
Project Description	NO-BUILD

Site Information

Intersection	McCarthy at Saddle/Galway
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Saddlebrook Ln/Galway Rd
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	222	1		2	301	1		0	0	3		1	1	2
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

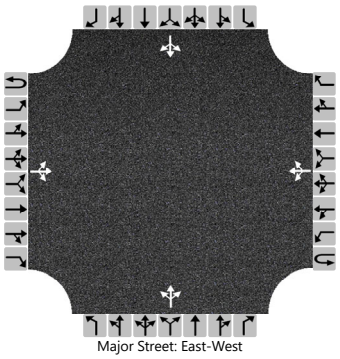
Flow Rate, v (veh/h)		2				2					4				5	
Capacity, c (veh/h)		1215				1314					782				506	
v/c Ratio		0.00				0.00					0.00				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.0				7.7					9.6				12.2	
Level of Service (LOS)		A				A					A				B	
Approach Delay (s/veh)	0.1				0.1				9.6				12.2			
Approach LOS									A				B			

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	TM	Intersection	McCarthy at Saddle/Galway
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	10/11/2022	East/West Street	McCarthy Road
Analysis Year	2028	North/South Street	Saddlebrook Ln/Galway Rd
Time Analyzed	SATURDAY MIDDAY PEAK	Peak Hour Factor	0.85
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TOTAL		

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	287	1		2	363	1		0	0	3		1	1	2
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2				2					4				5	
Capacity, c (veh/h)		1142				1232					709				426	
v/c Ratio		0.00				0.00					0.00				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.2				7.9					10.1				13.5	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		0.1				0.1				10.1				13.5		
Approach LOS										B				B		

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

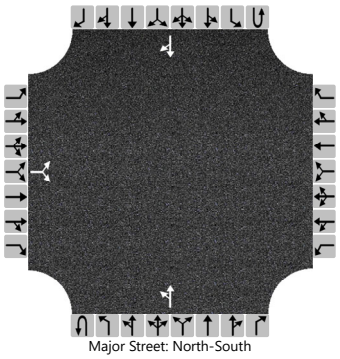
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2022
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	North-South
Project Description	EXISTING

Site Information

Intersection	Bell Rd at Sunhill Ln
Jurisdiction	CCDOTH
East/West Street	Sunhill Lane
North/South Street	Bell Road
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		4		3						1	618				265	1
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			8							1						
Capacity, c (veh/h)			394							1288						
v/c Ratio			0.02							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			14.3							7.8						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		14.3								0.0						
Approach LOS		B														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

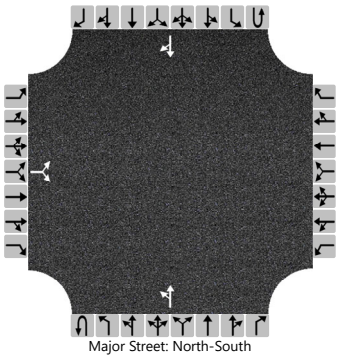
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	North-South
Project Description	NO-BUILD

Site Information

Intersection	Bell Rd at Sunhill Ln
Jurisdiction	CCDOTH
East/West Street	Sunhill Lane
North/South Street	Bell Road
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		4		3						1	638				280	1
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			8							1						
Capacity, c (veh/h)			377							1270						
v/c Ratio			0.02							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			14.7							7.8						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		14.7								0.0						
Approach LOS		B														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

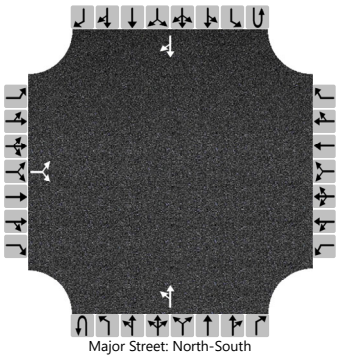
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Sunhill Ln
Jurisdiction	CCDOTH
East/West Street	Sunhill Lane
North/South Street	Bell Road
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		4		3						1	717				349	1
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			8							1						
Capacity, c (veh/h)			311							1193						
v/c Ratio			0.02							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			16.9							8.0						
Level of Service (LOS)			C							A						
Approach Delay (s/veh)		16.9								0.0						
Approach LOS		C														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

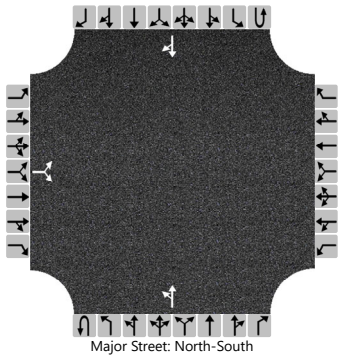
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2022
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	North-South
Project Description	EXISTING

Site Information

Intersection	Bell Rd at Sunhill Ln
Jurisdiction	CCDOTH
East/West Street	Sunhill Lane
North/South Street	Bell Road
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		3		4						1	363				733	0
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			7							1						
Capacity, c (veh/h)			292							846						
v/c Ratio			0.03							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			17.6							9.3						
Level of Service (LOS)			C							A						
Approach Delay (s/veh)		17.6								0.0						
Approach LOS		C														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

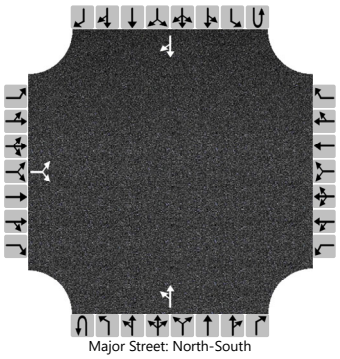
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	North-South
Project Description	NO-BUILD

Site Information

Intersection	Bell Rd at Sunhill Ln
Jurisdiction	CCDOTH
East/West Street	Sunhill Lane
North/South Street	Bell Road
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		3		4						1	378				765	0
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			7							1						
Capacity, c (veh/h)			275							822						
v/c Ratio			0.03							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			18.4							9.4						
Level of Service (LOS)			C							A						
Approach Delay (s/veh)		18.4								0.0						
Approach LOS		C														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

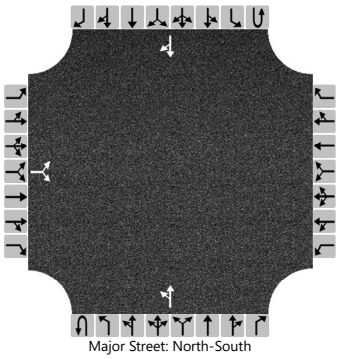
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Sunhill Ln
Jurisdiction	CCDOTH
East/West Street	Sunhill Lane
North/South Street	Bell Road
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		3		4						1	460				845	0
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			7							1						
Capacity, c (veh/h)			228							764						
v/c Ratio			0.03							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			21.3							9.7						
Level of Service (LOS)			C							A						
Approach Delay (s/veh)		21.3								0.0						
Approach LOS		C														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

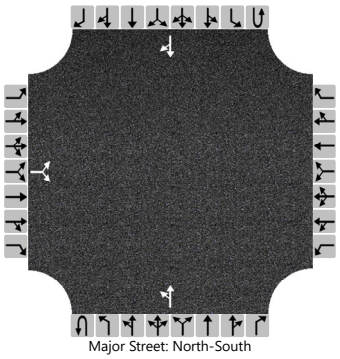
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2022
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	North-South
Project Description	EXISTING

Site Information

Intersection	Bell Rd at Sunhill Ln
Jurisdiction	CCDOTH
East/West Street	Sunhill Lane
North/South Street	Bell Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		2		3						5	492				421	3
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5							5						
Capacity, c (veh/h)			417							1125						
v/c Ratio			0.01							0.00						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			13.7							8.2						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		13.7								0.1						
Approach LOS		B														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

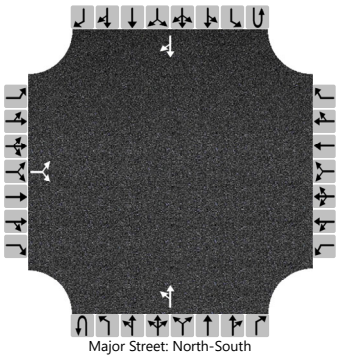
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	North-South
Project Description	NO-BUILD

Site Information

Intersection	Bell Rd at Sunhill Ln
Jurisdiction	CCDOTH
East/West Street	Sunhill Lane
North/South Street	Bell Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		2		3						5	511				441	3
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5							5						
Capacity, c (veh/h)			399							1105						
v/c Ratio			0.01							0.00						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			14.2							8.3						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		14.2								0.1						
Approach LOS		B														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

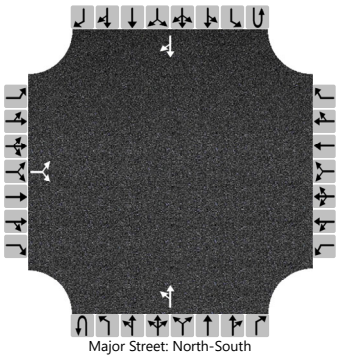
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Sunhill Ln
Jurisdiction	CCDOTH
East/West Street	Sunhill Lane
North/South Street	Bell Road
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		2		3						5	610				534	3
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			5							5						
Capacity, c (veh/h)			319							1017						
v/c Ratio			0.02							0.01						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			16.5							8.6						
Level of Service (LOS)			C							A						
Approach Delay (s/veh)		16.5								0.1						
Approach LOS		C														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

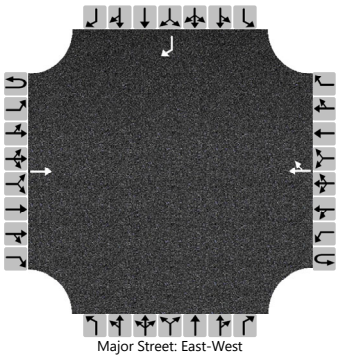
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	East-West
Project Description	NO-BUILD

Site Information

Intersection	McCarthy Rd at Equestrian
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Equestrian Villas Access
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	1
Configuration			T					TR								R
Volume (veh/h)			237				322	2								5
Percent Heavy Vehicles (%)																0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																6.2
Critical Headway (sec)																6.20
Base Follow-Up Headway (sec)																3.3
Follow-Up Headway (sec)																3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)																5
Capacity, c (veh/h)																697
v/c Ratio																0.01
95% Queue Length, Q_{95} (veh)																0.0
Control Delay (s/veh)																10.2
Level of Service (LOS)																B
Approach Delay (s/veh)													10.2			
Approach LOS													B			

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

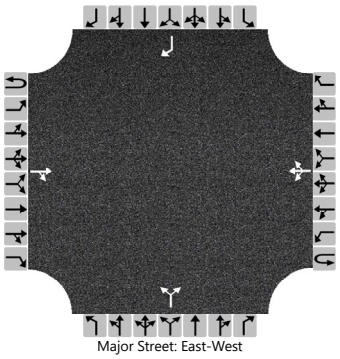
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	East-West
Project Description	TOTAL

Site Information

Intersection	McCarthy Rd at Equestrian
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Equestrian Villas Access
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	1
Configuration				TR			LTR				LR					R
Volume (veh/h)			239	50		12	324	2		43		110				5
Percent Heavy Vehicles (%)						0				0		0				0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized														No		
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				6.2
Critical Headway (sec)						4.10				7.10		6.20				6.20
Base Follow-Up Headway (sec)						2.2				3.5		3.3				3.3
Follow-Up Headway (sec)						2.20				3.50		3.30				3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						13					166					5
Capacity, c (veh/h)						1258					583					695
v/c Ratio						0.01					0.29					0.01
95% Queue Length, Q_{95} (veh)						0.0					1.2					0.0
Control Delay (s/veh)						7.9					13.6					10.2
Level of Service (LOS)						A					B					B
Approach Delay (s/veh)						0.4				13.6				10.2		
Approach LOS										B				B		

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

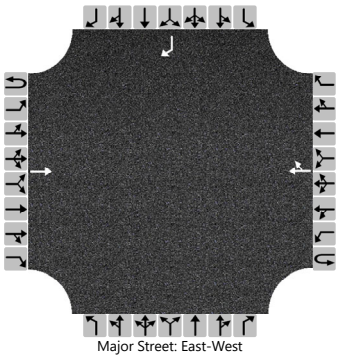
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	East-West
Project Description	NO-BUILD

Site Information

Intersection	McCarthy Rd at Equestrian
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Equestrian Villas Access
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	1
Configuration			T					TR								R
Volume (veh/h)			455				299	7								2
Percent Heavy Vehicles (%)																0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																6.2
Critical Headway (sec)																6.20
Base Follow-Up Headway (sec)																3.3
Follow-Up Headway (sec)																3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)																2
Capacity, c (veh/h)																717
v/c Ratio																0.00
95% Queue Length, Q_{95} (veh)																0.0
Control Delay (s/veh)																10.0
Level of Service (LOS)																B
Approach Delay (s/veh)													10.0			
Approach LOS													B			

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

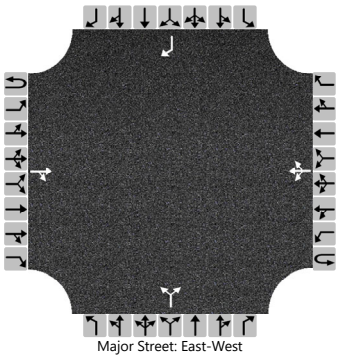
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	East-West
Project Description	TOTAL

Site Information

Intersection	McCarthy Rd at Equestrian
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Equestrian Villas Access
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	1
Configuration				TR			LTR				LR					R
Volume (veh/h)			458	51		13	302	7		51		127				2
Percent Heavy Vehicles (%)						0				0		0				0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized														No		
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				6.2
Critical Headway (sec)						4.10				7.10		6.20				6.20
Base Follow-Up Headway (sec)						2.2				3.5		3.3				3.3
Follow-Up Headway (sec)						2.20				3.50		3.30				3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						14					193					2
Capacity, c (veh/h)						1027					421					714
v/c Ratio						0.01					0.46					0.00
95% Queue Length, Q_{95} (veh)						0.0					2.4					0.0
Control Delay (s/veh)						8.6					20.6					10.1
Level of Service (LOS)						A					C					B
Approach Delay (s/veh)						0.5				20.6				10.1		
Approach LOS										C				B		

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

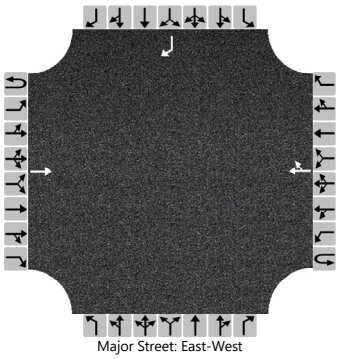
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	East-West
Project Description	NO-BUILD

Site Information

Intersection	McCarthy Rd at Equestrian
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Equestrian Villas Access
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	1
Configuration			T					TR								R
Volume (veh/h)			226				301	7								3
Percent Heavy Vehicles (%)																0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																6.2
Critical Headway (sec)																6.20
Base Follow-Up Headway (sec)																3.3
Follow-Up Headway (sec)																3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)																3
Capacity, c (veh/h)																715
v/c Ratio																0.00
95% Queue Length, Q_{95} (veh)																0.0
Control Delay (s/veh)																10.1
Level of Service (LOS)																B
Approach Delay (s/veh)													10.1			
Approach LOS													B			

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

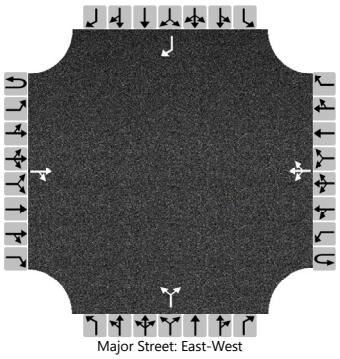
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	East-West
Project Description	TOTAL

Site Information

Intersection	McCarthy Rd at Equestrian
Jurisdiction	IDOT
East/West Street	McCarthy Road
North/South Street	Equestrian Villas Access
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	1
Configuration				TR			LTR				LR					R
Volume (veh/h)			227	64		16	303	7		60		152				3
Percent Heavy Vehicles (%)						0				0		0				0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized														No		
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				6.2
Critical Headway (sec)						4.10				7.10		6.20				6.20
Base Follow-Up Headway (sec)						2.2				3.5		3.3				3.3
Follow-Up Headway (sec)						2.20				3.50		3.30				3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						17					230					3
Capacity, c (veh/h)						1255					592					713
v/c Ratio						0.01					0.39					0.00
95% Queue Length, Q_{95} (veh)						0.0					1.8					0.0
Control Delay (s/veh)						7.9					14.9					10.1
Level of Service (LOS)						A					B					B
Approach Delay (s/veh)						0.5				14.9				10.1		
Approach LOS										B				B		

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

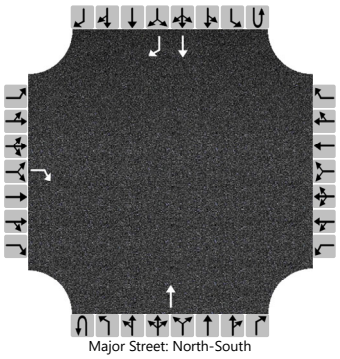
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Site RIRO
Jurisdiction	CCDOTH
East/West Street	Site RIRO Access
North/South Street	Bell Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	1	0	0	0	1	1
Configuration				R							T				T	R
Volume (veh/h)				41							669				296	125
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No												No		
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)				45												
Capacity, c (veh/h)				724												
v/c Ratio				0.06												
95% Queue Length, Q_{95} (veh)				0.2												
Control Delay (s/veh)				10.3												
Level of Service (LOS)				B												
Approach Delay (s/veh)		10.3														
Approach LOS		B														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

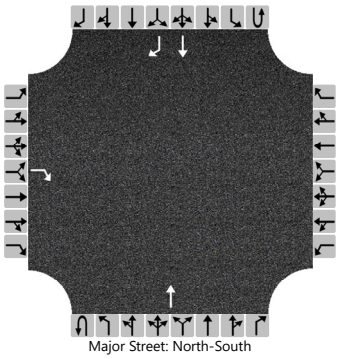
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Site RIRO
Jurisdiction	CCDOTH
East/West Street	Site RIRO Access
North/South Street	Bell Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	1	0	0	0	1	1
Configuration				R							T				T	R
Volume (veh/h)				49							412				778	133
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No												No		
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)				53												
Capacity, c (veh/h)				365												
v/c Ratio				0.15												
95% Queue Length, Q_{95} (veh)				0.5												
Control Delay (s/veh)				16.5												
Level of Service (LOS)				C												
Approach Delay (s/veh)		16.5														
Approach LOS		C														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

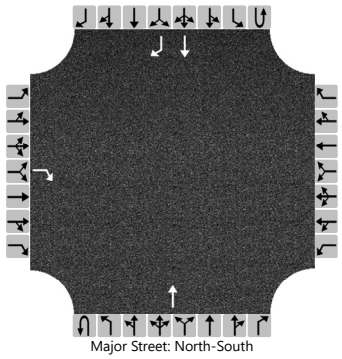
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Site RIRO
Jurisdiction	CCDOTH
East/West Street	Site RIRO Access
North/South Street	Bell Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	1	0	0	0	1	1
Configuration				R							T				T	R
Volume (veh/h)				59							548				459	163
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No												No		
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)				64												
Capacity, c (veh/h)				576												
v/c Ratio				0.11												
95% Queue Length, Q_{95} (veh)				0.4												
Control Delay (s/veh)				12.0												
Level of Service (LOS)				B												
Approach Delay (s/veh)		12.0														
Approach LOS		B														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

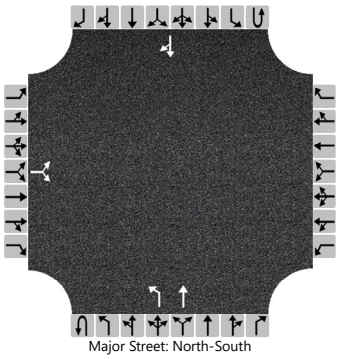
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Site Full
Jurisdiction	CCDOTH
East/West Street	Site Full Access
North/South Street	Bell Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		41		42						93	628				308	29
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			90							101						
Capacity, c (veh/h)			288							1203						
v/c Ratio			0.31							0.08						
95% Queue Length, Q_{95} (veh)			1.3							0.3						
Control Delay (s/veh)			23.1							8.3						
Level of Service (LOS)			C							A						
Approach Delay (s/veh)		23.1								1.1						
Approach LOS		C														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

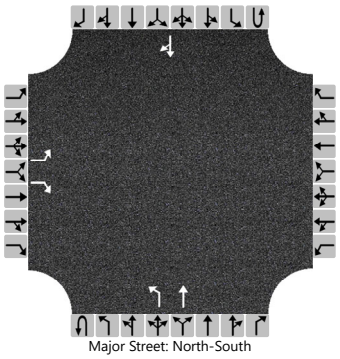
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY AM PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Site Full
Jurisdiction	CCDOTH
East/West Street	Site Full Access
North/South Street	Bell Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume (veh/h)		41		42						93	628				308	29
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		45		46						101						
Capacity, c (veh/h)		180		697						1203						
v/c Ratio		0.25		0.07						0.08						
95% Queue Length, Q_{95} (veh)		0.9		0.2						0.3						
Control Delay (s/veh)		31.5		10.5						8.3						
Level of Service (LOS)		D		B						A						
Approach Delay (s/veh)		20.9								1.1						
Approach LOS		C														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

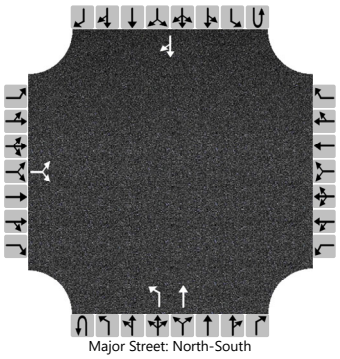
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Site Full
Jurisdiction	CCDOTH
East/West Street	Site Full Access
North/South Street	Bell Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		48		48						99	364				797	30
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			104							108						
Capacity, c (veh/h)			176							764						
v/c Ratio			0.59							0.14						
95% Queue Length, Q_{95} (veh)			3.2							0.5						
Control Delay (s/veh)			51.5							10.5						
Level of Service (LOS)			F							B						
Approach Delay (s/veh)		51.5								2.2						
Approach LOS		F														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

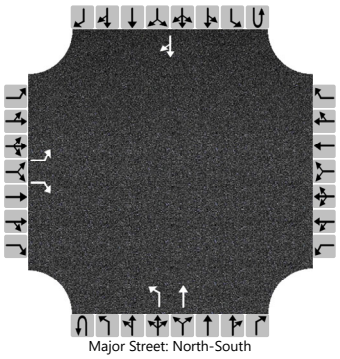
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	WEEKDAY PM PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Site Full
Jurisdiction	CCDOTH
East/West Street	Site Full Access
North/South Street	Bell Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume (veh/h)		48		48						99	364				797	30
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		52		52						108						
Capacity, c (veh/h)		118		348						764						
v/c Ratio		0.44		0.15						0.14						
95% Queue Length, Q_{95} (veh)		1.9		0.5						0.5						
Control Delay (s/veh)		57.9		17.2						10.5						
Level of Service (LOS)		F		C						B						
Approach Delay (s/veh)		37.5								2.2						
Approach LOS		E														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

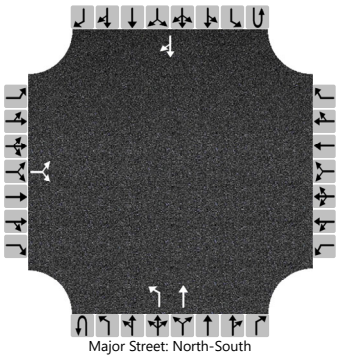
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Site Full
Jurisdiction	CCDOTH
East/West Street	Site Full Access
North/South Street	Bell Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		59		57						123	489				480	38
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			126							134						
Capacity, c (veh/h)			230							1019						
v/c Ratio			0.55							0.13						
95% Queue Length, Q_{95} (veh)			3.0							0.5						
Control Delay (s/veh)			38.2							9.1						
Level of Service (LOS)			E							A						
Approach Delay (s/veh)		38.2								1.8						
Approach LOS		E														

Copyright © 2022 University of Florida. All Rights Reserved.

HCS7 Two-Way Stop-Control Report

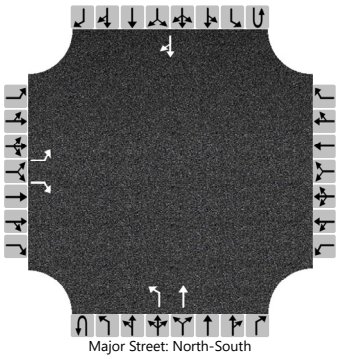
General Information

Analyst	TM
Agency/Co.	GHA
Date Performed	10/11/2022
Analysis Year	2028
Time Analyzed	SATURDAY MIDDAY PEAK
Intersection Orientation	North-South
Project Description	TOTAL

Site Information

Intersection	Bell Rd at Site Full
Jurisdiction	CCDOTH
East/West Street	Site Full Access
North/South Street	Bell Road
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume (veh/h)		59		57						123	489				480	38
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		64		62						134						
Capacity, c (veh/h)		147		544						1019						
v/c Ratio		0.44		0.11						0.13						
95% Queue Length, Q_{95} (veh)		1.9		0.4						0.5						
Control Delay (s/veh)		47.0		12.5						9.1						
Level of Service (LOS)		E		B						A						
Approach Delay (s/veh)		30.1								1.8						
Approach LOS		D														

Copyright © 2022 University of Florida. All Rights Reserved.

Attachment 13

Village Consultant Review of Traffic Impact Study

Sunhill Plaza Development
TRAFFIC IMPACT STUDY - REVIEW COMMENTS AND DISPOSITION

Project # :
Project Information : Sunhill Plaza Development
Agency: Village of Lemont, Illinois

Review Date : 5/30/2023
Document Reviewed : Traffic Impact Study

RESPONSES FOR ACTION REQ'D
A: AGREE FULLY WILL COMPLY.
B: AGREE PARTLY, EXCEPTIONS NOTED.
C: DISAGREE FULLY. REASONS NOTED.
D: COMMENT HAS BEEN SUPERSEDED BY DESIGN DEVELOPMENT.
E: QUESTION ONLY. ANSWER PROVIDED.

NO.	DWG NO./ SPEC NO./ SECTION NO., ETC.	REVIEWED BY (Name & Company)	COMMENTS	RESPONSE BY (Name & Company)	ACTION REQ'D A,B,C,D,E	RESPONSES	CURRENT STATUS (Open/ Closed)
1	Traffic Impact Study	TRANSYSTEMS - MNB	McCarthy Road/123rd Street (IDOT jurisdiction) is identified in the Village's Bicycle Improvement Plan as a 'near-term' improvement and SCM corridor. The proposed site plan should be reviewed to avoid conflicts with future/planned bicycle accommodations along McCarthy Road.				
2	Traffic Impact Study	TRANSYSTEMS - MNB	TranSystems has reviewed the provided traffic study and we are in agreement with the approach, methodology, and calculations, except for the additional considerations noted in the following comments.				
3	Traffic Impact Study	TRANSYSTEMS - MNB	TranSystems agrees with the locations, configurations, and improvements at the proposed site entrances along Bell Road. In particular, we support the inclusion of separate outbound lanes for the full access along Bell Road to avoid a LOS F and facilitate the anticipated traffic.				
4	Traffic Impact Study	TRANSYSTEMS - MNB	The eastbound PM peak right turn volume for the McCarthy Road entrance may be understated, as 10 trips are shown bypassing the McCarthy Road entrance and entering the McCarthy/Bell intersection to utilize an entrance on Bell Road. If those trips enter the McCarthy entrance, an eastbound right turn lane would be warranted in IDOT BDE Figure 36-3.A. The eastbound queue lengths in the PM peak hour along McCarthy Road extend beyond the proposed entrance location and may block the entrance at times. Additional coordination with IDOT is recommended to determine if a right turn lane is desired on McCarthy Road at the proposed site entrance.				
5	Traffic Impact Study	TRANSYSTEMS - MNB	The westbound left turning volumes for the McCarthy Road entrance appear to be understated. Given the location of the proposed fast food site with a drive through, and the percent traffic distributions in the study, it should be anticipated that 10-20% of the site traffic would make a westbound left turn into the site from McCarthy Road opposed to the ~5% shown now. If 10% of the westbound traffic makes a left turn into the site, then a left turn lane would be warranted based on IDOT BDE Figure 36-3.D. Additionally, the eastbound queue lengths in the PM peak hour along McCarthy Road extend beyond the proposed entrance location. Providing a westbound left turn lane would reduce the likelihood of rear end crashes at the proposed site entrance. Additional coordination with IDOT is recommended to determine if a left turn lane is desired on McCarthy Road at the proposed site entrance.				

Action Required Codes

A Agree fully, will comply.
B Agree partly, exceptions noted.
C Disagree fully, reasons noted.
D Comment has been superseded by design development.
E Question only, answer provided.

RESPONSES FOR ACTION REQ'D
A: AGREE FULLY WILL COMPLY.
B: AGREE PARTLY, EXCEPTIONS NOTED.
C: DISAGREE FULLY. REASONS NOTED.
D: COMMENT HAS BEEN SUPERSEDED BY DESIGN DEVELOPMENT.
E: QUESTION ONLY. ANSWER PROVIDED.

File:

418 Main Street | Lemont, IL 60439

TO: Planning and Zoning Commission
FROM: Jamie Tate, Community Development
THROUGH:
SUBJECT: Case 2023-10 UDO Amendments
DATE: September 6, 2023

SUMMARY/BACKGROUND

ANALYSIS

Consistency with Village Policy

STAFF RECOMMENDATION

BOARD ACTION REQUESTED

ATTACHMENTS
Case 2023-10 PZC Memo with Analysis UDO Amendments

STAFF REPORT
TO: Planning & Zoning Commission
FROM: Jamie Tate, AICP, Consulting Planner
THRU: Jason Berry, CEcD, AICP, Community & Economic Development Director

CASE NUMBER & NAME	**APPLICANT**
2023-10 UDO Amendments	Village of Lemont
DATE	**PROPERTY ADDRESS/LOCATION**
September 6, 2023	N/A

BRIEF SUMMARY OF REQUEST

It is appropriate to review the Unified Development Ordinance (UDO) from time to time due to modernization, trends in land development, a change in policy direction or to update any noted errors in text language. The Lemont 2030 Comprehensive Plan also designates the Community Development Department Staff and the Planning and Zoning Commission (PZC) to review the UDO for updates and changes at least once a year.

The proposed modifications to the UDO have been either repetitive requests, discussions with PZC Commissioners at past meetings, brought forward to Staff by elected officials, errors and language omissions noticed by Staff or clarifications that are necessary due to changes in materials, offerings or law. The following are proposed updates to the UDO to discuss:

- Adding 'short-term rental' and 'barn' to the Definitions section; and
- Modifying Home Occupations section to address them in the D-D, Downtown District; and
- Modifying the Illuminations Standards section to address lighting for sports fields and events for public entities.

.

EXISTING ZONING	EXISTING LAND USE	SURROUNDING ZONING & LAND USE	REQUESTED ACTIONS	SIZE OF PROPERTY
N/A	N/A	N/A	Discussion & Recommendation to approve UDO Amendments	N/A

COMPATIBILITY with the COMPREHENSIVE PLAN	**COMPATIBILITY** with the UNIFIED DEVELOPMENT ORDINANCE
The proposed amendments to the UDO are compatible with the Lemont 2030 Comprehensive Plan. The Comprehensive Plan encourages staff and the Planning and Zoning Commission to review and propose amendments to the UDO at least once a year.	The proposal is compatible with all aspects of the UDO as proposed to be modified.

STAFF RECOMMENDATION: These items are being presented for discussion.

ATTACHMENTS

1. Staff Analysis

Attachment 1 – Staff Analysis – UDO Amendments

Discrepancies in the Definitions section of the UDO have been noted during times of researching for public inquiries. The use table lists "short term rentals" as a special use in the D-D District but a definition was never added to the UDO. The discussion is not to include whether or not they should or should not be allowed, but rather what is a short term rental.

Also, an accessory building to house animals such as horses and livestock, is allowed in a residential district if it meets certain parameters:

17.06.030. – Accessory Uses.

C. Keeping of Animals. Except as permitted in this ordinance, accessory structures shall not be used for the keeping of livestock, horses, poultry, rabbits, exotic animals and/or the breeding of animals whether or not for profit unless:

1. The lot area is at least one acre; and
2. The structure is located at least 150 feet from the side and rear lot lines; and
3. The structure is located at least 200 feet from any residence on another lot; and
4. The number of livestock is limited to one per 20,000 square feet of lot area.

While this code language exists, there is no definition of a 'barn' or accessory structure that would house these animals to limit size and bulk. Staff recently had an inquiry about a property in the Village that would allow for a structure for horses and would like to add more parameters to define the building.

Below are draft definitions to discuss.

Barn

Barn. A building for the housing of farm animals and storage of farm-related products for the animals such as hay and feed. (Source: Brevard County, FL)

Barn. A building used exclusively for the housing and care of horses or other permitted livestock, and for the storage of feed, hay, or other farm crops and farm equipment. (Source: Jefferson County, CO)

Barn. An accessory structure for the purpose of keeping livestock and horses that meets the parameters of 17.06.030 C. (Original sourcing)

Following adding a definition, a #5 should be considered to add to 17.06.030 C to regulate the size and bulk of a barn. The underlined language is proposed.

C. Keeping of Animals. Except as permitted in this ordinance, accessory structures shall not be used for the keeping of livestock, horses, poultry, rabbits, exotic animals and/or the breeding of animals whether for profit unless:

1. The lot area is at least one acre; and
2. The structure is located at least 150 feet from the side and rear lot lines; and
3. The structure is located at least 200 feet from any residence on another lot; and
4. The number of livestock is limited to one per 20,000 square feet of lot area.
5. <u>The structure is no greater than 1,200 square-feet in area and a maximum of 15-feet in height to the top of the peak.</u>

Staff researched typical sizes of 'barns' for the housing of horses. A 4-stall barn for horses is typically 30-feet by 36-feet allowing for 4 stalls, a tack room and washroom. The tack room and washroom allows for flexibility to use the space as storage or for another stall if not needed. The proposed parameters are open for discussion.

<u>Short Term Rental.</u>

"Short-term rental" means a residential dwelling unit, or a portion of a residential dwelling unit, that is rented, or offered for rent, for compensation or consideration, for a period of thirty consecutive days or less. (Source: Contra Costa County, CA)

Short-term rental means a lodging use, that is not a hotel or motel or bed and breakfast, in which a dwelling unit, or portion thereof, that is offered or provided to a guest by a short-term retinal operator for a fee for fewer than thirty consecutive nights. (Source: Law Insider Dictionary)

Short-term rental of property means renting, or offer to make available, (by way of rental agreement, lease, license or any other means, whether oral or written) for compensation or consideration, of residential property, a dwelling unit, or a portion thereof, for a period of 30 consecutive days or less to a transient. (Source: Law Insider Dictionary)

Short-term rental means any dwelling or portion thereof that is available for use or is used for accommodations or lodging of guests, paying a fee o rother compensation for a period of less than thirty consecutive days. (Source: Law Insider Dictionary)

Short-term rental: A single room, dwelling unit or portion thereof located within the primary structure in a residential zoning district and offered for rent for a period of thirty (30) consecutive days or less to any person other than a member of the owner's immediate family. (Source: Schaumburg, IL)

SHORT-TERM RENTAL. Part or all of a dwelling or dwelling unit that is rented for transient occupancy by guests for a period shorter than 30 consecutive days. The term "short-term rental" does not include either (i) hotels or motels as defined in this Section or (ii) a dwelling or dwelling unit rented for a limited period of time prior to transfer of possession pursuant to the terms of a rental agreement executed in conjunction with a contract to sell the dwelling or dwelling unit. (Source: Northbrook, IL)

A short-term rental is considered a dwelling unit which is shared, in whole or in part, for temporary occupancy for periods of up to 30 consecutive days. This definition applies to all units (a whole home or just a room) listed on Airbnb, VRBO, and other platforms. (Source: Temecula, CA)

The above sample definitions are meant for discussion to formulate the most appropriate draft for UDO.

17.06.0810. – Home Occupations

Staff is looking to define home occupations more clearly as they relate to the D-D, Downtown District. The D-D is a mix of residential, commercial, institutional, governmental and service uses in a pedestrian orientated compact manner with its own set of regulations and codes. The following language is from the UDO for Home Occupations and the underlined text is proposed to be modified/added (in F. Prohibited Activities).

17.06.080. – Home Occupations.

The standards for home occupations are intended to ensure compatibility with other ~~the~~ permitted uses in the zoning district where they are found, maintain the residential character of surrounding areas, and limit adverse impacts on surrounding residents.

A. Location. The location of home occupations shall be limited to any dwelling unit or any building or structure that is accessory to the dwelling unit in any zoning district in which dwelling units are permitted. Outside storage, display, or use of land is prohibited. The building in which the home occupation is located shall be subject to the regulations of the zoning district in which it is located.
B. Operation. Home occupations shall be conducted only by residents of the subject property.
C. Nuisance. The home occupation shall not generate noise, vibration, glare, fumes, odors, electrical interference, or garbage beyond which normally occurs in the zoning district or planned unit development in which the home occupation is located.
D. Signage. Signage or other external indication of the home occupation shall be limited to one nameplate, not more than 72 square inches and containing only the name of the occupant of the dwelling and the home occupation. Such a nameplate shall be

attached to the dwelling unit and illumination shall be limited to one incandescent light bulb.

E. Traffic, Deliveries, and Parking.
   1. The home occupation shall not generate traffic beyond what is normally expected in the zoning district or planned unit development in which it is located. In no case shall traffic volume created by the home occupation exceed 20 vehicle trips per day, including deliveries. State-licensed day care homes and day care facilities are exempt from this provision.
   2. Deliveries to home occupations shall not exceed two per day. This does not include US Postal Service mail delivery.
   3. The presence of a home occupation and the resident's and/or property owner's attendant parking space desires for the home occupation shall not be grounds for granting a variation to deviate from impervious surface, lot coverage, or driveway width requirements.

F. Prohibited Activities. The following activities are expressly prohibited as home occupations:
   1. Animal hospitals (animal grooming services are permitted);
   2. Kennels;
   3. Medical and dental clinics;
   4. Eating and drinking establishments;
   5. Jobbing, wholesale, or retail business, unless it is conducted entirely by mail, parcel post service, or telephone and does not involve the receipt, sale, shipment, delivery or storage of merchandise on or from the premises, provided, however, that articles produced by members of the family residing on the premises may be sold from and stored upon the premises;
   6. Undertaking establishments and funeral parlors;
   7. Repair or maintenance of motor vehicles, to include trucks and motorcycles.
   8. <u>In the D-D, Downtown District, any business or place where members of the public have access as invitees or licensees, including or not limited to, barber/beauty shop, animal grooming service, day cares, and music/dance/arts instruction.</u>

G. Permitted Home Occupations. This ordinance does not attempt to define or list all permitted home occupations. However, the following activities and uses are expressly permitted, provided that the other provisions of this section are met:
   1. Barber/beauty shop;
   2. Animal grooming service;
   3. Baby-sitting services and day care activities that do not met state law thresholds for licensing and regulation.
   4. State-licensed day care homes;
   5. Instruction in music, dance, home crafts and arts, provided that the total class size does not exceed four students at any time;
   6. Offices of architects, brokers, engineers, insurance agents, lawyers, real estate agents, urban planners, landscape architects, accountants, and secretarial services;

7. Offices of ministers, priests, rabbis, or other leaders of religious congregations;
8. Workrooms of dressmakers, seamstresses, and tailors;
9. Workrooms for home crafts, such as model making, rug weaving, or cabinet making providing noise levels and other nuisances are not above what normally occurs in the neighborhood.

Through discussions with staff and the Lemont Park District, it was discovered that lighting for sports fields and other special events was not listed as exempt in the UDO. It is typical in zoning codes to allow for sports field lighting on park district property to be at a height and brightness level that is appropriate for the safety and security of users as determined by the park district. Staff is proposing the following amendment to the UDO in regard to illumination of park district property. The Lemont Park District is proposing to modify its own General Use Ordinance with the following language in conjunction with the proposed modifications to the Village's UDO regarding lighting:

a) Hours of Use

> All parks, shall be closed from dusk until dawn or 10:00pm to 5:00am, whichever comes first, <u>except for the approved lighted recreation facilities or when activities at such area are supervised by the Park District or by Affiliate organizations, at which outdoor areas persons may remain until the lights are turned off or until conclusion of such supervised activity, as the case may be, at which time persons shall promptly leave such park premise.</u> No person, animal, or property of any kind shall remain on District Property after closing time, unless a permit is granted in advance by the district for later hours. Security lighting shall not be considered operational, artificial lighting.

Below are proposed changes to the Village of Lemont's UDO:

17.14.020.- Illumination Standards.

A. *Plan Required.* A photometric plan will be required as part of a non-residential development plan or redevelopment plan and for all projects or plans that utilize parking lots. The plan must show the location, size (wattage), mounting height, orientation, type, design, and shielding for all outdoor lighting and signs including wall mounted lighting. The plan must show the levels of illumination in footcandles (fc) at ground level (minimum 10' x 10' grid). A catalog sheet showing the proposed lighting fixtures should be included.
B. *Light Spillage.* Illumination of parking lots or other areas shall limit light spillage onto adjacent property to a maximum horizontal footcandle value at the perimeter of the property in accordance with Table 17-14-03 of this chapter. <u>Lighting for special events, sporting events and sports fields is exempt from this requirement for governmental entities.</u>

C. *Glare*. All open off-street parking lots shall be illuminated. Table 17-14-02 of this chapter specifies minimum footcandle requirements. To reduce glare, only "fully shielded" or "full cutoff" light fixtures are allowed. Fully shielded means that no light is emitted above the horizontal plane passing through the lowest point of the light-emitting element, so that direct light emitted above the horizontal plane is eliminated to prevent a nuisance on an adjacent property.

D. Except as otherwise allowed in this ordinance, luminaries shall not be mounted in excess of thirty (30) feet above grade, or the height of the primary structure, whichever is less; provided however, luminaries located within two hundred (200) feet of a single-family residential zoning district shall not be mounted in excess of twenty (20) feet above grade or the height of the primary structure, whichever is less. <u>Luminaires for public event space and athletic fields are exempt from height restrictions for governmental entities.</u>

E. Service-station canopy lighting shall be accomplished using flat-lens full-cutoff downlighting fixtures, shielded in such a manner that the edge of the fixture shielded be level with or below the light source envelope.

F. All other under-canopy lights must be fully recessed into the canopy.

G. All non-residential lighting is required to be turned off no later than 60 minutes after business hours, only leaving lighting necessary for site security.

CONCLUSIONS & RECOMMENDATION

The proposed Unified Development Ordinance Amendments are meant for discussion and can be recommended as proposed, modified or denied.

B. Light Spillage. Illumination of parking lots or other areas shall limit light spillage onto adjacent property to a maximum horizontal footcandle value at the perimeter of the property in accordance with Table 17-14-03 of this chapter.

TABLE 17-14-01. Maximum Permissible Sound Levels

Sound Source Zoning District	Receiving Zoning District		
	R	B, DD, INT	M
R Districts	55	57	60
B, DD, and INT Districts	57	60	65
M Districts	60	65	70

TABLE 17-14-02. Parking Area Interior Minimum Footcandle

Land Use of Property	Maximum Footcandle
Single-family residential	None
Multi-family residential	0.05-0.2
Commercial	0.15-0.6
Institutional, including parks	0.10-0.4

TABLE 17-14-03. Maximum Footcandle at Property Line

Zoning District of Adjacent Property	Maximum Footcandle
R Districts	0.1
B, DD Districts	2.0
M Districts	5.0