City of Ramsey
Agenda
Revised
Regular City Council
Tuesday, October 24, 2023
7:00 pm
Council Chambers, 7550 Sunwood Drive NW

Remote Attendance available at www.cityoframsey.com/meetings.
Those joining remotely and requesting to speak are asked to use a webcam when speaking.

1. Call to Order

2. Presentation

3. Citizen Input

4. Approve Agenda

5. Consent Agenda

1. Approve the Following Meeting Minutes:

~~1. City Council Work Session dated 10/10/2023~~ - Pulled from consent agenda to be discussed and put on the 11/14/23 agenda for approval.
2. City Council Regular Session dated 10/10/2023

2. Approve Business Licenses

3. Approve Rental Licenses

4. Approve Contract for Civil Legal Services with the Firm of Holstad & Knaak, PLC.

5. Authorization to Hire a Full-time Parks Administrative Assistant

6. Adopt Resolution #23-270 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of October 5, 2023 through October 18, 2023.

7. Adopt Resolution #23-244 Approving Final Payment to Douglas-Kerr Underground, LLC for IP #20-05, Riverdale Drive Extension, Llama Street to Bowers Drive.

8. Adopt Resolution #23-255 Approving Partial Payment to Veit & Company, Inc. for Improvement Project #23-02, Central Park Parking Lot Reconstruction.

9. Adopt Resolution #23-256 Approving Partial Payment to North Valley, Inc. for Improvement Project #23-06, 2023 MSA Pavement Overlay Improvements.

10. Adopt Resolution #23-257 Approving Partial Payment to Douglas-Kerr Underground, LLC for Improvement Project #23-05, Barthel's Rum River Acres 2nd Street Reconstruction.

11. Adopt Resolution #23-258 Approving Partial Payment to Landall Services, LLC for Improvement Project #23-10; Whispering Pines Estates Plat 3 Street Reconstructions.

12. Adopt Resolution #23-260 Approving Partial Payment to Meyer Contracting, Inc. for Improvement Project #23-11; Lift Station 10 improvements.

13. Adopt Resolution #23-261 Approving Partial Payment to Enebak Construction Company for Improvement Project #23-20; COR Mass Grading.

14. Adopt Resolution #23-262 Approving Partial Payment to Diversified Paving, Inc. for Pavement Maintenance Project #23-21; 2023 Deep Pothole Patching Contracted Services.

15. Adopt Resolution #23-263 Approving Partial Payment to Northern Lines Contracting for Improvement Project #23-01; 161st Avenue Reconstruction.

16. Adopt Resolution #23-264 Approving Partial Payment to Asphalt Surface Technologies Corp. for Improvement Project #23-04, 167th Avenue Reconstruction.

17. Adopt Resolution #23-265 Approving Partial Payment to Douglas-Kerr Underground, LLC. for IP #23-12; HY-10 Ramsey Improvements.

18. Adopt Resolution #23-267 Authorizing Partial Payment No. 4 to Magney Construction, Inc. for Improvement Project #21-09; Centralized Water Treatment Plant.

19. Adopt Resolution #23-269 to Authorize an Adjustment to the Pay Scale for Temporary On-call Snow Plow Drivers

6. Public Hearing

7. Council Business

1. Adopt Resolution # 23-268 Providing for the Issuance and Sale of $8,315,000 General Obligation (GO) Bonds, Series 2023A and Levying a Tax for the Payment Thereof

2. Adopt Resolution #23-223 approving the Haviland Fields EAW, Findings of Fact, and Record of Decision

3. Adopt Ordinance #23-15, Amending Chapter 34 Regarding Tobacco and Cannabis Use of Public Property

8. Mayor/Council/Staff Input

9. Adjournment

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Enhance City's communication through transparency and accountability.

Information

Title

Approve the Following Meeting Minutes:

~~1. City Council Work Session dated 10/10/2023~~ - Pulled from consent agenda to be discussed and put on the 11/14/23 agenda for approval.
2. City Council Regular Session dated 10/10/2023

Purpose/Background:

Purpose: The purpose of this case is for Council review and approval of meeting minutes.

Background: Attached are the meeting minutes referenced above.

Recommendation:

Approve the meeting minutes.

Action:

Motion to approve the following Council meeting minutes:

~~1. City Council Work Session dated 10/10/2023~~ - Pulled from consent agenda to be discussed and put on the 11/14/23 agenda for approval.
2. City Council Regular Session dated 10/10/2023

Attachments

10-10-23 CCWS

10-10-23 Meeting

Form Review

Inbox	Reviewed By	Date
Brian Hagen	Brian Hagen	10/19/2023 07:25 AM
Form Started By: Katie Schmidt		Started On: 10/13/2023 11:23 AM
Final Approval Date: 10/19/2023		

CITY COUNCIL WORK SESSION
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA

The Ramsey City Council conducted a City Council Work Session on Tuesday, October 10, 2023, at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present: Mayor Mark Kuzma
Councilmember Chelsee Howell
Councilmember Debra Musgrove
Councilmember Michael Olson
Councilmember Chris Riley
Councilmember Dan Specht
Councilmember Matt Woestehoff

Also Present: City Administrator Brian Hagen
Parks and Assistant Public Works Director Mark Riverblood
Administrative Services Director Colleen Lasher
Planning Manager Todd Larson
City Attorney Fritz Knaak
Community Development Director Stephanie Hanson
IT Manager Jason Fredrickson

1. CALL TO ORDER

Mayor Kuzma called the City Council Work Session to order at 5:32 p.m.

2. TOPICS FOR DISCUSSION

2.01: Update Regarding Recruitment Timelines for 2024 City Positions

Administrative Services Director Lasher reviewed the Staff report concerning the timelines for recruitment for the eight open positions for 2024 that have passed the preliminary budget.

Councilmember Woestehoff asked if the start date for these positions will be within two weeks of when the Council authorizes the hire.

Administrative Services Director Lasher explained that is how it generally works unless the applicant is not working and could start earlier.

Councilmember Riley stated that during the budget discussion they had agreed to all of the positions with staggered start times. He noted that this timeline seems to hire everyone all at once. He asked for clarification on this.

Administrator Services Director Lasher explained that the start times would be staggered. She reviewed the beginning of recruitment dates versus the start dates for these positions. She stated that they are all staggered through the first few months of the year.

Councilmember Riley asked if this timeline works with the budget and spreading out the staff coming on board.

City Administrator Hagen explained that originally all of the Public Works positions were to start January 1; however, they shifted the positions to start anywhere from January 1 to March 1 to save one full year of salary across all of the positions.

Councilmember Specht asked if benefits start right away for these positions.

Administrative Services Director Lasher shared that it has been the City's practice since 2005 that City benefits start on day one of being hired. She noted that if the individual comes on board after the 15th of a month then they are not charged for the benefits for the first month.

Councilmember Musgrove stated that she does not support the early hiring. She noted that they have a lot of State funds in the budget that are going to cushion them this year; however, they will not be there next year. She stated that she tried to present some alternatives to the Staff hiring but it was not accepted. She added that next year they are likely going to have a more difficult time with this. She stated that she would rather wait until after the budget starts to approve this if the budget passes.

There was a consensus of the Council.

2.02: Contract for Civil Municipal Legal Services

City Administrator Hagen reviewed the Staff report in regard to the contract for City Attorney Knaak's services. He reviewed the draft agreement and shared that this contract is the same as the two year contract that is currently in place, with a new effective date and a 2% increase to the monthly rate.

Councilmember Specht stated that he has been very happy with City Attorney Knaak's work on the issues that have been worked through. He shared support for continuing the contract.

Councilmember Woestehoff agreed. He asked if there is room in the budget for the 2% rate increase.

City Administrator Hagen said yes.

Mayor Kuzma shared that he has also been pleased with City Attorney Knaak's services and he will support continuing the contract.

City Administrator Hagen noted that they have not given formal feedback from the Council to City Attorney Knaak. He stated that in the next few weeks they can discuss this to give City Attorney Knaak some feedback.

The consensus of the Council was to move forward with the contract.

2.03: City of Ramsey 50th Anniversary

City Administrator Hagen reviewed the Staff report concerning the City of Ramsey 50th Anniversary. He noted that there have been residents asking if anything special will be done. He asked the Council for ideas and direction on ways to celebrate this milestone.

Councilmember Musgrove shared her thoughts on seeing what the EDA may come up with as far as a way to promote businesses in the City along with the 50th anniversary celebration and make this more of a day where it is acknowledged publicly but have it come mainly from the businesses in the City.

Mayor Kuzma suggested putting flags down Center Street.

City Administrator Hagen asked if this would be a unique Ramsey 50th Anniversary flag.

Mayor Kuzma said yes.

Councilmember Olson asked about the actual date of the anniversary.

City Administrator Hagen stated that he does not know the date.

Councilmember Olson noted that it would be nice to do something special on the actual anniversary date.

Councilmember Specht suggested a medallion hunt. He noted that other groups within Ramsey could also do something.

Councilmember Riley shared that this should be tied in with Happy Days, which could be the feature of the anniversary. He noted that they could do a series in the *Ramsey Resident*. He shared that they could do a display similar to the one that is currently outside of the Police Department. He added that they could also have the theme of every City event be around the 50th anniversary. He stated that none of these ideas would cost any extra money to the City. He noted that he would also be interested in a medallion hunt.

Councilmember Specht asked if there would be a way to make Ramsey 50th Anniversary items to sell on the City website. He noted that he is not sure of the interest in this.

Mayor Kuzma suggested a sub-committee for this.

Councilmember Specht stated that if Staff feels confident with this then he does not see a need for a committee.

City Administrator Hagen shared that Staff can work through some of these ideas and come back to the Council to discuss and consider a sub-committee.

Parks and Assistant Public Works Director Riverblood added that in September, the Ramsey Foundation had expressed an interest in supporting the 50th anniversary.

There was a consensus of the Council.

2.04: Zoning Code Update Discussion

Planning Manager Larson reviewed the Staff report in regard to the zoning code updates, including updates for home occupation permits.

Councilmember Musgrove noted that there was a bit of redundancy that she shared with Planning Manager Larson.

Planning Manager Larson shared the updates that were made to make it less redundant.

Councilmember Howell asked to revisit the changes on the prohibited list.

Planning Manager Larson shared the home occupations that are not allowed have to do with internal combustion engines and dispatch and transportation centers.

Councilmember Specht asked if there are any restrictions on weapons.

Planning Manager Larson stated that ammunition manufacturing is not allowed by the fire code due to the explosive nature.

Councilmember Howell asked if retail sales were prohibited before and how this would affect someone who sells something out of their home. She gave an example of a resident selling eyeglasses out of their home.

Planning Manager Larson explained that his interpretation of this is that if they are selling something that is a product where the seller is working with the client on creating it for the client then he would not consider it retail sales. He stated that if someone was just selling off-the-rack items out of their homes then this would be an issue as they do not want people running stores out of their homes.

City Administrator Hagen asked if this could be worded to state that retail sales and pre-manufactured products are not allowed.

Councilmember Howell suggested changing this to address appointment only sales. She stated that she does not see it as a concern for what people sell out of their homes but rather the traffic of

having a store run out of their home. She noted that she does not want to be overly burdensome on residents. She shared that there was a situation in a different city where a man selling eyeglasses out of his home was going to have his business shut down.

Councilmember Specht gave an example of his neighbor who had a very successful Etsy shop who would have an open house a few times a year at their home to sell some of their products. He noted that this was not consistent retail sales out of the home with customers coming and going.

Planning Manager Larson stated that this would likely fall under the garage sale code.

Councilmember Howell asked about excluding occasional sales through multi-level marketing.

Planning Manager Larson explained that retail sales have the in-person qualifier. He noted that if it is sold online then it would not be restricted. He stated that if someone is selling products and are constantly hosting parties out of their home to sell their products then the neighbors would be calling the City to step in.

Councilmember Howell stated that she does not want to make this overly burdensome, especially since side-gigs are becoming increasingly popular.

Councilmember Woestehoff stated that a lot of this seems to come down to Staff's interpretation of allowed uses. He asked what happens when it is both an allowed use and prohibited use and which of the two would take priority.

Planning Manager Larson noted that they would fall back on looking at the other aspects of the Code and the totality of the circumstances.

Councilmember Woestehoff gave the example that firearm repairs and sales are considered an allowed use while retail sales are prohibited. He stated that he likes the clarification of these being by appointment only. He suggested that if it is something made in the home then it can be an allowed use; however, if it is shipped from a bulk order then it would be prohibited as retail sales.

Councilmember Howell reiterated that her appointment only suggestion would cut down on traffic as people would be aware that the intent is not to have people constantly flowing through their homes. She noted that it should not matter to the City what people choose to sell.

Councilmember Musgrove asked for more clarification on sales or storage yards. She asked if this refers to cars. She also asked about the use table and if the things that are allowed still need to get the qualifying permits.

Planning Manager Larson said yes and explained that these are broad terms that most of the permits would fall under.

Mayor Kuzma asked if the Council is in agreement to add the appointment only component.

The Council was in agreement.

Councilmember Howell asked why palm reading and fortune telling is a prohibited home occupation.

Planning Manager Larson shared that a lot of cities have prohibited this as there have been instances where palm readers have been caught doing nefarious acts and swindling customers out of large sums of money.

Community Development Director Hanson asked if the Council would like a definition for a sales and storage yard.

Councilmember Musgrove said yes as this would be helpful.

Councilmember Woestehoff asked if it is common for home occupations to require something that has a different level of building permits. He suggested adding something about if the space is so large that it requires a commercial building permit then it would be a prohibited use.

City Administrator Hagen shared that there is a statement in the code that says there should be no other exterior evidence of the existence of a home occupation, including outdoor storage of materials or commercial vehicles.

Councilmember Howell asked about limiting instructional classes to having no more than four people in attendance. She shared that she knows of someone in another city who teaches 15 kids a week and asked how this would affect someone in Ramsey attempting to do the same.

Planning Manager Larson asked if this is something that the Council would like to allow. He shared that he has dealt with something similar years ago that was run through the public hearing notice and neighbors of the individual running the classes out of her home showed up and were not happy with the traffic that it caused.

Councilmember Howell asked if it was a full time school or just something that happened once a week.

Planning Manager Larson stated that it was something that occurred a few evenings a week.

Councilmember Howell asked how this would affect someone who tutors kids out of their home, hosts a bible study, or has a home based church.

Planning Manager Larson stated that the home based church could become problematic under building code. He noted that religious institutions are already called out in the code. He added that people getting together for a bible study would not be affected as it is not a business.

Councilmember Musgrove asked how they differentiate a home based church versus someone who has a lot of people living in their home that are also causing traffic concerns. She asked why someone could not host church in their home once a week but someone else could have multiple non-related people living in the same home and coming and going everyday.

Planning Manager Larson explained that the home based church would be turning the home into some other use altogether. He noted that people can have their friends over to practice religion together as long as it is not an organized church.

Councilmember Howell stated that she knows someone who volunteers to teach kids once a week out of his home. She added that she can see not allowing schools for profit to run out of homes; however, people getting together to learn or volunteer together should not be restricted.

Planning Manager Larson noted that if it is volunteering and not a business then it would not be a home occupation.

Mayor Kuzma stated that it would become a problem when someone applies for a tax exempt status and uses their home as the official address.

Councilmember Woestehoff related this to someone having friends over to their home and drinking versus someone wanting to run a bar out of their home, the first is acceptable but the second creates the problem.

Councilmember Specht stated that churches met in homes during COVID. He noted that the church still had its building but was meeting at different homes because of the times. He stated that they need to put some kind of caveats to this.

Planning Manager Larson said this would get very messy to try to write something about this; however, if they just leave it out and people have home churches or bible studies in their homes and they are not disturbing the neighbors then the City won't know about it. He stated that there is always the option for a special event permit if a church is hosting a service in someone's home.

City Attorney Knaak stated that this is getting into a gray area. He shared concerns with directly calling out religious gatherings as this can run into constitutional issues. He noted that these religious gatherings would likely be sporadic and incidental and he believes this should be allowed.

Councilmember Howell agreed that the City should stay out of the way of these religious gatherings. She noted that there also do not seem to be existing problems with this.

City Attorney Knaak stated that education is another circumstance where the City would not want to be involved in. He explained that if someone is homeschooling their children as well as children from other families then he would not want to get involved with this unless it is causing issues.

Councilmember Specht asked how they write this so that future Councils and Staff would know how to follow this.

City Attorney Knaak stated that the Staff the City has is very well trained. He said that he does not think that they have to worry about continuity on this issue.

Mayor Kuzma asked if the Council was in agreement with the current wording.

Councilmember Howell said yes as long as what City Attorney Knaak is saying meets what she is saying.

City Attorney Knaak stated that this ordinance does just that as long as it is enforced intelligently.

Planning Manager Larson reviewed the updated zoning map. He discussed the Lord of Life Church requests.

Councilmember Musgrove asked if this would not be conforming to the comprehensive plan.

Planning Manager Larson explained that in the proposed zoning district religious institutions are allowed in the R-1 district so this would be fine. He reviewed the requests from Voice of Hope Church for their property on Armstrong Boulevard as well as the requests for the non-residential properties on the south side of Ramsey and the COR parcel 46.

Councilmember Musgrove asked if the parcel 46 changes would be proactive changes so that the developers would not have to come back in the future for a zoning permit change.

Planning Manager Larson explained that part of the developer's application will be the plat and site plan reviews and adding a rezoning on top of this would be another thing that they would need to pay for and an extra step in this process. He noted that the Council has already given direction on both of these projects to move forward so Staff figured that this was enough direction to move forward with the rezoning. He stated that it is a proactive change. He shared that there is an interactive map that allows anyone to click on any property in town and it will show what the property is currently zoned and what it is proposed to be zoned.

Councilmember Woestehoff asked if this was able to be viewed by the public.

Planning Manager Larson said yes and shared that it is available on the zoning code update website since earlier this year.

Councilmember Musgrove asked if there were any residents that had any feedback regarding the zoning for some of the properties east of Variolite. She noted that some of these residents have come to speak at meetings and have been very frustrated with the zoning and developments.

Planning Manager Larson explained that basically nothing has changed in that area.

Councilmember Woestehoff stated that the residents who he has talked to over the years are more of the mindset of wanting to split their lots into multiple lots.

Councilmember Musgrove asked if this limits them based off of the number of houses.

Councilmember Woestehoff said yes as the lots would have to be kept above two and a half acres.

Planning Manager Larson discussed the urban reserve and how this would help satisfy the larger property owners in the City.

Councilmember Woestehoff stated that this does not seem to match the nature of the comprehensive plan. He asked if they would also update the comprehensive plan with a new map.

Planning Manager Larson said no and explained that this is tied to the staging map in the comprehensive plan where they are saying that development will happen somewhere down the line, just not right away which is when it would be rezoned.

Councilmember Woestehoff asked if this is an opportunity to look at some of the density requirements in this area or if they will look at this later because it concerns future use.

Planning Manager Larson stated that since it is future use they do not need to look at it now.

Councilmember Riley added that he understands the purpose of the urban reserve. He asked if they can call it something else without the word 'urban.'

Planning Manager Larson explained that part of the goal is to keep it consistent with all of the terms in the zoning code and the 'U' in MUSA stands for urban. He added that 'urban' can also have a very broad definition.

Councilmember Woestehoff suggested calling it the MUSA reserve.

Councilmember Riley suggested just calling it the reserve.

Community Development Director Hanson stated that the MET Council also calls it the urban reserve.

Planning Manager Larson added that this is a common term.

Councilmember Riley stated that he is always happier with the word 'suburban' rather than 'urban' as it fits better with Ramsey. He also suggested calling it the future reserve or the development reserve.

Councilmember Specht agreed.

Planning Manager Larson suggested keeping this as the urban reserve for consistency with other communities and the MET Council.

Councilmember Musgrove asked how this is defined in the definitions.

Planning Manager Larson reviewed the definition of urban reserve.

Councilmember Howell suggested just calling it the reserve district which should keep residents happy.

City Administrator Hagen suggested calling it the MUSA reserve.

Councilmember Riley agreed.

Planning Manager Larson explained the goal of consistency with keeping these terms lined up through the document.

Councilmember Specht noted that people may not know what MUSA means.

Mayor Kuzma asked if the Council was in agreement with calling it the MUSA reserve.

The Council was in agreement.

Planning Manager Larson asked if the Council was in agreement with this to be brought forward for adoption on October 24.

Councilmember Riley stated that he has additional comments on the updates. He noted that he can send them directly to Planning Manager Larson. He added that they also discussed the R-1B and R-1C at the last meeting and asked if these areas are on the map.

Planning Manager Larson stated that they are on the map in certain areas. He showed them on the map.

Councilmember Riley stated that he does not want to see this on the map; however, he understands that it is allowed.

City Administrator Hagen asked if the other comments that Councilmember Riley has would generate more discussion.

Councilmember Riley said they are not big discussion items, just clarifying questions. He noted that this is a bigger discussion to be had around what is driving the decisions that the R-1B and R-1C be on the map. He noted that if it is being driven by the comprehensive plan then they need to discuss if the comprehensive plan should be adjusted.

City Administrator Hagen added that it would be beneficial to discuss this at the special work session next week to work through these last questions.

There was a consensus of the Council.

3. TOPICS FOR FUTURE DISCUSSION

3.01: Review Future Topics/ Calendar

Noted.

Councilmember Musgrove asked if there was some more information that they could get on the recycling program when that will be discussed.

4. MAYOR / COUNCIL / STAFF INPUT

None.

5. ADJOURNMENT

The Work Session of the City Council was adjourned at 6:54 p.m.

Respectfully submitted,

_____
Brian S. Hagen
City Administrator

ATTEST:

_____
Katie M. Schmidt
City Clerk

Drafted by Ava Rokosz
TimeSaver Off Site Secretarial, Inc.

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CITY COUNCIL
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA

The Ramsey City Council conducted a regular meeting on Tuesday, October 10, 2023, at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present: Mayor Mark Kuzma
Councilmember Chelsee Howell
Councilmember Debra Musgrove
Councilmember Michael Olson
Councilmember Chris Riley
Councilmember Dan Specht
Councilmember Matt Woestehoff

Members Absent: None

Also Present: City Administrator Brian Hagen
Community Development Director Stephanie Hanson
IT Manager Jason Fredrickson
Recreation Coordinator Abigail Proulx
HR Specialist Nicole Laubach

1. CALL TO ORDER

Mayor Kuzma called the regular meeting of the Ramsey City Council to order at 7:02 p.m., followed by the Pledge of Allegiance led by Mayor Kuzma.

2. PRESENTATION

2.01: 2023 Happy Days Recap Presentation

HR Specialist Laubach and Recreation Coordinator Proulx reviewed the 2023 Happy Days recap. They highlighted the overall success of the event as well as the sponsors for the event. They shared that next year's Happy Days event is scheduled for September 7, 2024.

Mayor Kuzma asked if they are planning on hosting Happy Days at the same location next year.

Recreation Coordinator Proulx shared that they are tentatively looking into the plans for next year's event as they do the review for this year to look at areas of improvement. She noted that it will be roughly the same location; however, they may re-envision some of the area to make it more efficient.

Councilmember Specht thanked Staff for their amazing work at this event.

3. CITIZEN INPUT

Derrick Lind, 15230 Germanium Street, came forward and shared a handout with the Council. He noted that he is representing a citizen advocate group for Anoka County that wants election reform. He stated that they have been focusing primarily at the County level. He shared his purpose for coming forward tonight is to introduce himself. He noted that they have had 30 people give 80 presentations directly to Anoka County. He stated that they are trying to reform elections and get them back to what they used to be 30 years ago. He reviewed his handout that contains their concerns with elections, including concerns with the electronic polling and voting.

Councilmember Howell asked if the ask of the City is to hand count all election votes.

Mr. Lind stated that he is not asking the City to do anything but rather just making the City aware of his citizen advocate group.

4. APPROVE AGENDA

Motion by Councilmember Howell, seconded by Councilmember Olson, to approve the agenda as presented.

Motion carried. Voting Yes: Mayor Kuzma, Councilmembers Howell, Olson, Musgrove, Riley, Specht, and Woestehoff. Voting No: None.

5. CONSENT AGENDA

Councilmember Musgrove shared that the minutes from the Council Work Session on September 26 were narrative minutes as they did not have audio. She noted that these were not the typical minutes because of this. She added that there was a misplaced dash in the Council Regular Session minutes on page 3.

Councilmember Woestehoff noted that the acceptance of withdrawal for the Anoka Ramsey Athletic Association Training Facility is on the consent agenda. He acknowledged that this has been in the papers quite a bit and shared that the Council is deflated by this outcome as they really wanted this to come to Ramsey. He thanked Dustin Reeder and Jen Niska for the work that they have done over the last year to keep their focus on what is important, which is the kids and playing sports rather than just the facility. He noted that if there is a future opportunity the Council would be happy to talk through this with them. He stated that it is a tough loss for the City.

Councilmember Olson agreed with this.

Motion by Councilmember Musgrove, seconded by Councilmember Woestehoff, to approve the following items on the Consent Agenda with Councilmember Musgrove's amendments:

5.01: Receive Cash & Investments for Period Ending September 30, 2023
5.02: Receive August 2023 Financial Reports - General Fund, EDA and Enterprise Funds
5.03: Note the Following Boards, Commissions, and Committee Meeting Minutes:

- Planning Commission Meeting Minutes Dated August 24, 2023
- Economic Development Authority Meeting Minutes Dated August 10, 2023
- Public Works Committee Meeting Minutes Dated July 18, 2023
- Parks and Recreation Commission Meeting Minutes Dated August 10, 2023

5.04: Approve the Following Meeting Minutes:

1) City Council Work Session dated 9/26/2023
2) City Council Regular Session dated 9/26/2023

5.05: Approve Rental Licenses

5.06: Approve Business Licenses

5.07: Authorization to Hire a Police Officer Filling an Upcoming Vacancy in the Patrol Division

5.08: Adopt Resolution #23-248 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of September 21, 2023 through October 4, 2023.

5.09: Adopt Resolution #23-235 Approving a Conditional Use Permit from Dehn Oil at 6651 141st Avenue NW

5:10: Adopt Resolution #23-239 Approving a Conditional Use Permit for Additional Square Footage on an Existing Detached Accessory Structure at 14275 Alpaca St NW (Project No. 23-112); Case of Jay and Carol McDonald

5:11: Adopt Resolution #23-245 Approving Change Order #1 for Improvement Project #23-20, COR Mass Grading

5:12: Adopt Resolution #23-246 Approving Change Order No. 4 for Ramsey Gateway Highway 10 Widening Improvements

5:13: Adopt Resolution #23-247 Approving Change Order No. 8 for Ramsey Gateway Highway 10 Widening Improvements

5:14: Adopt Resolution #23-249 Denying a Massage Establishment and Massage Therapy License

5:15: Adopt Resolutions #23-250, #23-251, #23-252, and #23-253 Accepting Sewer Cleaning and Televising Proposals for 2024 Pavement Management Program Projects

5:16: Approve Resolution #23-254 Accepting Withdrawal of Site Plan for Anoka Ramsey Athletic Association Athletic Training Facility

Motion carried. Voting Yes: Mayor Kuzma, Councilmembers Musgrove, Woestehoff, Howell, Olson, Riley, and Specht. Voting No: None.

6. PUBLIC HEARING

None.

7. COUNCIL BUSINESS

7.01: Introduce Ordinance #23-15, Amending Chapter 34 Regarding Tobacco and Cannabis Use on Public Property

Community Development Director Hanson reviewed the Staff report concerning the public use of tobacco and cannabis use.

Motion by Councilmember Woestehoff, seconded by Councilmember Riley, to Ordinance #23-15 Amending Chapter 34 Offenses and Miscellaneous Provisions, Article I. In General, of the City Code, by Adding Section 34-2 Regarding Tobacco and Cannabis Use Within Public Property.

Further discussion:

Councilmember Specht shared that he agrees with a lot of what is in the ordinance; however, he does find it to be a little too restrictive for tobacco. He stated that he will not be supporting this.

Councilmember Howell stated that Staff has put a lot of time into creating this ordinance and said that it is crafted quite well. She noted that there is not a perfect answer to this. She added that she will not be supporting this tonight; however, she does like the final ordinance that Staff came up with.

A roll call vote was performed:

Councilmember Musgrove	aye
Councilmember Riley	aye
Councilmember Howell	nay
Councilmember Olson	aye
Councilmember Specht	nay
Councilmember Woestehoff	aye
Mayor Kuzma	aye

Motion carried.

8. MAYOR, COUNCIL AND STAFF INPUT

City Administrator Hagen announced upcoming meetings and events.

Councilmember Musgrove congratulated the three businesses from Ramsey that won awards at the Anoka Area Chamber of Commerce, which were Bob FM, Inky Elf, and Minnesota Tool and Die Works.

9. ADJOURNMENT

Motion by Councilmember Riley, seconded by Councilmember Musgrove, to adjourn the meeting.

Motion carried. Voting Yes: Mayor Kuzma, Councilmembers Riley, Musgrove, Howell, Olson, Specht and Woestehoff. Voting No: None.

The regular meeting of the City Council adjourned at 7:23 p.m.

Respectfully submitted,

_____
Brian S. Hagen
City Administrator

ATTEST:

_____
Katie M. Schmidt
City Clerk

Drafted by Ava Rokosz
TimeSaver Off Site Secretarial, Inc.

A recording of this meeting is available for viewing online at www.qctv.org <http://www.qctv.org>. Recordings are available for 36 months after the date of the meeting.

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Create a positive image for residential neighborhoods, business districts and key corridors.

Information

Title

Approve Business Licenses

Purpose/Background:

The purpose of this case is to obtain City Council approval of business license requests (not including Rental or BRC).

Background: Certain businesses or groups in the City of Ramsey are required to apply for a business license in addition to the Business Registration Certificate (BRC). Other businesses that may require a license, but are not required to have a BRC, may also be included in this approval. Those new license requests and/or renewals are attached for City Council approval.

Recommendation:

Staff recommends approval of business license applications contingent upon completion and approval of background checks or review by required city departments.

Action:

Motion to approve the attached business license applications contingent upon completion and approval of background checks or review by required city departments.

Attachments

Business License Applications

Form Review

Inbox	Reviewed By	Date
Sean Sullivan	Sean Sullivan	10/18/2023 11:51 AM
Brian Hagen	Brian Hagen	10/19/2023 07:37 AM
Form Started By: Wendy Schlueter		Started On: 10/13/2023 02:33 PM
Final Approval Date: 10/19/2023		

Report Name: License Report - License Types
Council Dates: 10/24/2023 to 10/24/2023
Status: Active, Inactive
License Type(s): 3.2 Beer Off-Sale, 3.2 Beer On-Sale Temporary, Amusement Center, Amusement Devices/Billiard Tables, Broker/Precious Metals Dealer, Business License-1st Year, Business License-Renewal, Garbage Haulers, Gasoline Sales, Liquor 2 A.M. Closing, Liquor Off-Sale, Liquor On-Sale, Liquor On-Sale Sunday, Mobile Food Unit–90 Days, Mobile Food Unit–Annual, Motor Vehicle Sales/Repair/Rentals, Pawnbroker, Second Hand Goods Dealer, Special Events, Temporary Amusement/Carnival/Circus, Temporary Intoxicating, Therapeutic Massage Establishment, Therapeutic Massage Therapist, Tobacco, Transient Merchant/Peddler/Solicitor, Wine Off-Sale, Wine On-Sale

City of Ramsey
License Report - License Types

Company	DBA	Complex_Name	Applicant	Location	Exp. Date	Council Date	Status
Transient Merchant/Peddler/Solicitor							
Everlight Solar			Tanner D Hall		12/31/2023	10/24/2023	A

Transient Merchant/Peddler/Solicitor License Count: 1

Total Licenses: 1

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Approve Rental Licenses

Purpose/Background:

The purpose of this case is to approve the rental license requests for 2023.

Background: Detached Single-Family Homes and Attached Single-Family Homes (townhomes, duplex, etc.) are required to obtain a license (registration) but are not subject to inspections (unless the city has sufficient evidence of a violation of the City Code)

Multi-Family Units (apartments, condos, etc.) are subject to the license and inspection program as required by code.

License application requests are attached for Council approval.

Recommendation:

Staff recommends approval of License Applications.

Action:

Motion to approve Rental License Applications.

Attachments

October Rentals

Form Review

Inbox	Reviewed By	Date
Brian Hagen	Brian Hagen	10/19/2023 07:44 AM
Form Started By: Dana Verbeek		Started On: 10/18/2023 12:04 PM
Final Approval Date: 10/19/2023		

Report Name: License Report - License Types
Council Dates: 10/11/2023 to 10/26/2023
Status: Active, Inactive
License Type(s): Multi-Family Rental, Rental

City of Ramsey
License Report - License Types

Company	DBA	Complex_Name	Applicant	Location	Exp. Date	Council Date	Status
Multi-Family Rental							
Weidner Property Managment		Residence at the COR		7700 Sunwood Dr NW	11/10/2026	10/24/2023	I
					Multi-Family Rental License Count: 1		
Rental							
Karen M Turbett				5440 149th La NW	9/22/2026	10/24/2023	I
You Wish You had this Land LLC			Josh Peterson	7009 175th Ave NW	10/27/2026	10/24/2023	I
Radysyuk			Nikolay Radysyuk	13915 Garnet Ter NW #515	10/27/2026	10/24/2023	I
					Rental License Count: 3		
					Total Licenses: 4		

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Approve Contract for Civil Legal Services with the Firm of Holstad & Knaak, PLC.

Purpose/Background:

The City of Ramsey has contracted with the firm of Holstad & Knaak, PLC and specifically Frederick W. Knaak, Esq. to serve as the City Attorney for a term of November 1, 2021 through October 31, 2023. At the October 10, 2023 City Council Work Session, consensus of the Council was to continue the agreement for an additional two years, with two amendments to the agreement. The first amendment being a new effective date of November 1, 2023, and the second amendment being a two percent (2%) increase to the monthly retainer rate. Other sections of the agreement remain unchanged.

Notification:

N/A

Funding Source:

The 2024 Preliminary Budget adopted on September 26, 2023 included a sufficient increase to the legal services operating budget. In some cases, portions of the Mr. Knaak's invoices may be billed to escrow accounts submitted by developers, etc.

Recommendation:

Staff is recommending approval of the attached contract for civil legal services.

Action:

Motion to enter into a contract for legal services with the firm of Holstad & Knaak, with Frederick W. Knaak, Esq. to serve as the City Attorney, to be effective November 1, 2023.

Attachments

Civicl Legal Services Agreement

Form Review

Inbox	Reviewed By	Date
Brian Hagen	Brian Hagen	10/19/2023 07:44 AM
Form Started By: Brian Hagen		Started On: 10/17/2023 11:32 AM
Final Approval Date: 10/19/2023		

CONTRACT FOR CIVIL (NON-CRIMINAL) MUNICIPAL LEGAL SERVICES

THIS AGREEMENT is made between and entered by the CITY OF RAMSEY, MINNESOTA, a Minnesota Statutory City (hereinafter, "the City") and HOLSTAD & KNAAK, PLC, a law firm organized as a professional association under the laws of the State of Minnesota (hereinafter, "the Attorney")

Upon formal appointment of the Attorney by the City Council and for the promised consideration as outlined below, the Attorney shall provide the following legal services to the City:

LEGAL SERVICES

1. Attend City Council meetings and other City Board, Authority, Commission or Committee meetings as requested by the City Council or City Administrator.

2. Draft and/or review ordinances, resolutions, and correspondence, as requested. Review City Council agendas and meeting minutes, as requested.

3. Advise the Mayor, Council Members, City Administrator, Department Heads and other City staff on City legal matters.

4. Prepare and/or review municipal contracts, such as contracts for public improvements, joint powers agreements, construction, and purchase of equipment.

5. Review of the Municipal Code on a regular basis and provide assistance in the drafting of any needed modifications or amendments.

6. Represent the City in matters related to the enforcement of City building and zoning codes in injunctive and other civil proceedings, except in instances where such representation is provided in the City's insurance contract and third-party representation is obtained. In such instances it will remain the Attorney's duty to closely monitor and cooperate as needed in such representation.

7. Research and submit legal options on municipal or other legal matters, as requested by the City Council or the City Administrator.

8. Meet with the City Council, City Administration, Department Heads and City Staff as needed to review Council and Commission Agenda items and the status of all legal matters before the City. The Attorney and City Administrator will establish any necessary schedule if and when it is determined that regular meetings will be necessary for this purpose.

9. Provide legal briefings or presentations regarding new or proposed legislation affecting the City's operation and activities.

10. Provide advice and training on open meeting law, data practice law and requirements, parliamentary procedure, record retention and privacy issues, including HIPPA.

11. Represent, as needed, the City in employment related issues, labor negotiations, arbitration, administrative hearings and in litigation involving those same issues.

12. Interpret and advise with respect to municipal employment matters including, but not limited to PERA, labor agreements, personnel policy, FMLA and Veterans Preference.

13. Defend City in litigation, except in those cases where the City's insurance company is required to provide defense, including, but not limited to: a) human rights claims; b) condemnation; c) permits and administrative actions; and d) labor and employment proceedings in which legal representation of the city is either advisable or required.

14, Represent the City in uninsured claims and other insurance matters.

15. In coordination with any separately retained Bond Counsel, review financing, special assessments, bonds and insurance requirements required by or for City Contracts or activities.

16. Represent the City in the acquisition of properties for public improvements, easements, and parks.

17. Represent the City in condemnation proceedings for public improvement projects.

18. Represent the City in workers' compensation matters.

19. Initiate litigation on behalf of the City as requested by the City Council.

20. Interpret and advise the City on questions related to zoning or land use issues, impact fees and legal uses.

21. On direction of the Administrator, prepare and/or review the following:

a) Conditional and Special Use Permits

b) Vacation of Rights of Way Applications, supporting documentation and Resolutions

c) Special Assessments

d) Planned Unit Developments

e) Development Agreements

f) Subdivision and Zoning Requests

g) Development Agreement Drafts

22. The foregoing, expressly enumerated services, while intended to be extensive, is not intended to be all inclusive, and services provided shall also include those additional matters that may be considered customary and usual in the provision of legal services by a City attorney under customs and laws of the State of Minnesota.

ADDITIONAL DUTIES OF ATTORNEY

1. The Attorney shall not subcontract out or assign any interest in this contract to any third party without the prior written consent of the City.

2. Frederic W. Knaak shall be the principal attorney on all matters involving the representation of the City and shall be expressly, professionally, and individually responsible for all facets of that representation.

3. The Attorney shall maintain professional liability insurance coverage at all times during its representation of the City in the amount of $2,000,000 aggregate claims, and $2,000,000 individual claims.

4. It is understood by the Attorney and the City that this contract shall run for two years after the appointment of the Attorney, at which time it may only be renewed upon express agreement of the City and the Attorney. Notwithstanding the intended term, it is expressly understood that the Attorney's tenure as City Attorney is at the pleasure of the City Council and that the appointment of the City Attorney may be terminated at any time with or without any cause. In the event of a termination for other-than-cause prior to the two-year term, to the extent feasible, the City shall provide 60 days notice of its intention to terminate or not renew this contract.

5. On or about December 31 of each year, for the duration of this Agreement, the City Attorney and City Administrator may mutually evaluate the usage of legal services during the prior year of this Agreement in order to evaluate usage of legal services during the prior year of the Agreement in order to evaluate usage and identify areas where modification in the parties' relationship may be mutually beneficial.

6. All data collected, created, received, maintained, or disseminated for any purposes by the activities of the Attorney because of this Agreement and the resulting Attorney-Client relations is governed by the Minnesota Government Data Practices Act, Minnesota Statutes, Chapter 13, as amended, the Minnesota Rules implement such act now in force or as adopted, as well as federal regulations on data privacy. This paragraph does not create a duty or any obligation on the part of the Attorney to provide access to public data to the public for inspection or otherwise if the public data are available from the City.

7. Any modification of the provisions of this Agreement shall be reduced to writing and signed by the parties hereto.

OTHER

1. The City expressly reserves its right to hire independent counsel on matters it determines requires an attorney with more expertise or expertise in a particular field. In such a situation, the City shall remain responsible to the Attorney for the monthly fee provided under this agreement along with any billings not related to the matter for which special counsel was retained. The City shall only be responsible to the Attorney for extra expenses in relation to the matter for which special counsel is retained if the City names the Attorney as co-counsel in the matter or otherwise requests the Attorney's participation.
2. The effective date of this Agreement shall be November 1, 2023.

COMPENSATION AND EXPENSES

1. Payment under this contract shall be in the form of a single, monthly fee of four-thousand one hundred and fifty/00 ($4,150.00). That payment is intended to be for all of the foregoing services, including up to 10 hours of time billed on litigation matters, such as condemnation matters or

arbitrations. This rate does not include filing or similar fees required in representing the City in litigation matters. These incidental fees shall be paid by the City as incurred.

2. If it appears that more than ten hours of time shall be required on litigation matters, the Attorney shall notify the City in writing of that expectation. Any time over the 10 hours included in the monthly fee shall be billed at a single rate of $150.00 per hour.

3. In the event of an unexpected or unusual cost, no expense or cost shall be billed to the City without first obtaining an authorization from the city in writing. Such an expense, as an example, might be a necessary deposition or transcript, or a very large volume of printing (in excess of 2000 pages in any given month.)

IN WITNESS WHEREOF, the CITY and the ATTORNEY have executed this Agreement and it is effective on the latest date affixed hereto.

CITY OF RAMSEY

By: _____

Mark E. Kuzma, its Mayor

By: _____

Brian Hagen, City Administrator

Dated: _____

HOLSTAD & KNAAK PLC

By: _____

Frederic W. Knaak, Esq.

Dated: _____

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Strive for high organizational morale and employee retention

Information

Title

Authorization to Hire a Full-time Parks Administrative Assistant

Purpose/Background:

The purpose of this case is to request authorization to hire a full-time Parks Administrative Assistant. This position was recently vacated when Ms. MaryJo Warner retired.

In order to fill this position, an internal and external recruitment was conducted. Ms. Lynn Bauer was selected for the position and passed the City's pre-employment testing. The City extended a contingent job offer which is pending City Council approval. If hired, Ms. Bauer will be subject to a six-month probationary period, the personnel policy and the AFSCME labor agreement.

The primary objectives of this position are to perform a variety of responsible administrative support functions for the Public Works Department, primarily related to the Parks Division. This may include, but is not limited to: overseeing all park reservations, providing excellent customer service to residents, contractors, staff and others; routing phone calls, preparing written correspondence, etc. This position will be cross-trained to provide back-up coverage to the Public Works Administrative Assistant, which primarily handles Streets and Utilities Divisions related work.

Funding Source:

The funding required for this position is included in the 2023 approved budget and represents a savings compared to the amount budgeted for this role.

Recommendation:

To hire Ms. Lynn Bauer as a full-time Parks Administrative Assistant, effective on or near November 13, 2023 at $26.356 per hour, which is step 3 of the 2023 wage scale.

Action:

Motion to authorize hiring Ms. Lynn Bauer as a full-time Parks Administrative Assistant, effective on or near November 13, 2023 at $26.356 per hour, which is step 3 of the 2023 wage scale.

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
Brian Hagen	Brian Hagen	10/19/2023 07:41 AM
Form Started By: Colleen Lasher		Started On: 10/16/2023 04:14 PM
Final Approval Date: 10/19/2023		

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-270 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of October 5, 2023 through October 18, 2023.

Purpose/Background:

Adopt Resolution #23-270 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of October 5, 2023 through October 18, 2023.

Recommendation:

Staff Recommends to Adopt Resolution #23-270 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of October 5, 2023 through October 18, 2023.

Action:

Motion to Adopt Resolution #23-270 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of October 5, 2023 through October 18, 2023.

Attachments

Bills List 10/24/2023

Resolution 23-270

Form Review

Inbox	Reviewed By	Date
Diana Lund	Diana Lund	10/19/2023 10:05 AM
Brian Hagen	Brian Hagen	10/19/2023 12:21 PM
Form Started By: Jennifer Morrison		Started On: 10/19/2023 09:56 AM
Final Approval Date: 10/19/2023		

CITY OF RAMSEY - FINANCE OFFICE PRINTED 10/19/2023

RAMSEY CITY COUNCIL MEETING

10.24.23

BILLS LIST

DISBURSEMENTS TO BE APPROVED THIS MEETING:

DISBURSEMENT TYPE:		SUBMITTED FOR APPROVAL
Prepaids 10.5.23 - 10.18.23		$ 296,343.21
Accounts Payable 10.5.23 - 10.18.23		509,129.32
Payroll	10.13.23	225,552.32
Debt Service		
Pay Estimates- Projects		4,160,422.32
TOTAL SUBMITTED FOR APPROVAL THIS MEETING (Invoices Available for Reviewal)		**$ 5,191,447.17**

DISBURSEMENTS PREVIOUSLY APPROVED AND PAID:

	APPROVED PREVIOUS MTG	2023 Y.T.D.
PREPAIDS	$ 755,835.07	$ 8,793,294.03
PREPAID ADJUSTMENTS		
ACCOUNTS PAYABLE INVOICING	298,089.73	8,468,027.59
ACCT PAYABLE INVOICING ADJUSTMENTS		
NET PAYROLL TOTAL	233,931.26	4,619,694.09
CORRECTION TO PAYROLL		
DEBT SERVICE		333,437.50
CORRECTION TO DEBT SERVICE		
PAY ESTIMATE(S) - PROJECTS		8,043,381.85
TOTAL CASH DISBURSEMENTS PREVIOUSLY APPROVED	**$ 1,287,856.06**	**$ 30,257,835.06**

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Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description	Business Unit
117571	**10/5/2023**		**119525 AIR COMFORT HEATING & AIR CONDITIONING**							
		1.00	PERMIT CANCEL 054968		121322	9212023	9101.2081		SURCHARGES-PERMITS	GENERAL FUND
		25.00	PERMIT CANCEL -054968		121322	9212023	9101.4208		MECHANICAL PERMIT	GENERAL FUND
		26.00								
117572	**10/5/2023**		**113045 ANCONA TITLE AND ESCROW**							
		49.36	ACCT 722257 15201 HELIUM ST		121220	10032023	9601.4651		WATER REVENUE	WATER FUND
		49.36								
117573	**10/5/2023**		**117280 CENTRA HOMES**							
		24.52	ACCT 734728 14848 WILLEMITE WA		121222	10032023	9601.4651		WATER REVENUE	WATER FUND
		24.52								
117574	**10/5/2023**		**120424 CLOSING HUB**							
		57.41	ACCT 678068667 7003 139TH AVE		121223	10032023	9601.4651		WATER REVENUE	WATER FUND
		57.41								
117575	**10/5/2023**		**120424 CLOSING HUB**							
		180.29	ACCT 729881 15220 GERMANIUM ST		121224	10032023 A	9601.4651		WATER REVENUE	WATER FUND
		180.29								
117576	**10/5/2023**		**100116 CONNEXUS ENERGY**							
		9,876.73	8/17-9/19/23 ELECTRIC USAGE		121319	759126-303101 SEPT 2023	9603.6371		ELECTRIC UTILITIES	STREET LIGHTING FUND
		14,492.31	08/17-9/19/23 ELECTRIC USAGE		121320	759126-303107 SEPT 2023	0194.6371		ELECTRIC UTILITIES	GENERAL GOVERNMENT BUILDINGS
		1,030.22	08/17-9/19/23 ELECTRIC USAGE		121320	759126-303107 SEPT 2023	0220.6371		ELECTRIC UTILITIES	FIRE PROTECTION
		69.57	08/17-9/19/23 ELECTRIC USAGE		121320	759126-303107 SEPT 2023	9230.6249		MISCELLANEOUS OPERATING SUPPLY	ECONOMIC DEVELOPMENT AUTHORIT
		2,764.90	08/17-9/19/23 ELECTRIC USAGE		121320	759126-303107 SEPT 2023	9240.6371		ELECTRIC UTILITIES	PARKING RAMP MAINTENANCE
		28.90	08/17-9/19/23 ELECTRIC USAGE		121320	759126-303107 SEPT 2023	9410.6371	00041018	ELECTRIC UTILITIES	RALF FUNDED PROJECTS
		666.54	08/17-9/19/23 ELECTRIC USAGE		121320	759126-303107 SEPT 2023	9410.6371	00041012	ELECTRIC UTILITIES	RALF FUNDED PROJECTS
		20,875.99	ELECTRICITY WATER		121321	759126-303102 SEPT 2023	9601.6371		ELECTRIC UTILITIES	WATER FUND
		877.27	ELECTRICITY SEWER		121321	759126-303102 SEPT 2023	9602.6371		ELECTRIC UTILITIES	SEWER FUND
		69.82	ELECTRICITY STORM		121321	759126-303102	9605.6371		ELECTRIC UTILITIES	STORM WATER UTILITY

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description	Business Unit
117576	10/5/2023		100116 CONNEXUS ENERGY						Continued...	
						SEPT 2023				
		89.25	SIREN UTILITIES		121323	759126-303095	0250.6371		ELECTRIC UTILITIES	CIVIL DEFENSE
						SEPT 2023				
		996.61	TRAFFIC SIGNALS		121330	759126-303100	0260.6371		ELECTRIC UTILITIES	TRAFFIC ENGINEERING
						SEPT 2023				
		658.70	MONTHLY ELECTRIC		121332	759126-303106	0311.6371		ELECTRIC UTILITIES	STREET MAINTENANCE
						SEPT 2023				
		3,054.78	MONTHLY ELECTRIC		121332	759126-303106	0452.6371		ELECTRIC UTILITIES	PARK & RECREATION
						SEPT 2023				
		642.23	MONTHLY ELECTRIC		121332	759126-303106	9601.6371		ELECTRIC UTILITIES	WATER FUND
						SEPT 2023				
		643.23	MONTHLY ELECTRIC		121332	759126-303106	9602.6371		ELECTRIC UTILITIES	SEWER FUND
						SEPT 2023				
		643.23	MONTHLY ELECTRIC		121332	759126-303106	9605.6371		ELECTRIC UTILITIES	STORM WATER UTILITY
						SEPT 2023				
		57,480.28								
117577	10/5/2023		100167 CORNERSTONE FORD							
		105.35-	EARLY PAY DISCOUNT		121324	16402751	0211.6388		OTHER VEHICLE REPAIR	POLICE PROTECTION
		36.67	SQUAD 396 REPAIR TRANS MOUNT		121324	16402751	0211.6229		SHOP MATERIALS	POLICE PROTECTION
		162.17	SQUAD 396 REPAIR TRANS MOUNT		121324	16402751	0211.6257		OTHER VEHICLE PARTS	POLICE PROTECTION
		854.63	SQUAD 396 REPAIR TRANS MOUNT		121324	16402751	0211.6388		OTHER VEHICLE REPAIR	POLICE PROTECTION
		261.11-	EARLY PAY DISCOUNT		121331	15434502	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		2,611.07	VEHICLE PARTS		121331	15434502	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		3,298.08								
117578	10/5/2023		100870 EDINA REALTY TITLE							
		256.21	ACCT 727958 16085 IODINE ST		121225	10032023	9601.4651		WATER REVENUE	WATER FUND
		256.21								
117579	10/5/2023		100870 EDINA REALTY TITLE							
		323.92	ACCT 724235 14839 YAKIMA ST		121226	10032023 A	9601.4651		WATER REVENUE	WATER FUND
		323.92								
117580	10/5/2023		114399 EGAN COMPANY							
		1.00	PERMIT CANCEL 055941		121329	1022023	9101.2081		SURCHARGES-PERMITS	GENERAL FUND
		20.00	PERMIT CANCEL-055941		121329	1022023	9101.4214		ELECTRICAL INSPECTION PERMIT	GENERAL FUND
		21.00								
117581	10/5/2023		120426 HELMBRECHT, MICHAEL OR JOSEPHINE							

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description	Business Unit
									Continued...	
117581	10/5/2023		120426 HELMBRECHT, MICHAEL OR JOSEPHINE							
		324.16	ACCT 637340884 15201 QUICKSILV		121228	10032023	9601.4651		WATER REVENUE	WATER FUND
		324.16								
117582	10/5/2023		120431 HODANICH, GINA							
		75.00	REISSUE CHK116828-BUS EXOP REF		121315	050223	9230.6249		MISCELLANEOUS OPERATING SUPPLY	ECONOMIC DEVELOPMENT AUTHORIT
		75.00								
117583	10/5/2023		120429 ISCHE-KNOBLAUCH, NATHAN T							
		57.41	ACCT 731876 13869 HEMATITE ST		121231	10032023	9601.4651		WATER REVENUE	WATER FUND
		57.41								
117584	10/5/2023		120427 JAAKKOLA, CRAIG							
		30.87	ACCT 732647 15002 TIGER ST		121229	10032023	9601.4651		WATER REVENUE	WATER FUND
		30.87								
117585	10/5/2023		120419 JME ELECTRIC LLC							
		1.00	PERMIT CANCEL 054878		121326	9282023	9101.2081		SURCHARGES-PERMITS	GENERAL FUND
		20.00	PERMIT CANCEL-054878		121326	9282023	9101.4214		ELECTRICAL INSPECTION PERMIT	GENERAL FUND
		21.00								
117586	10/5/2023		120428 KIRKPATRICK, CORY & BRIDGET							
		412.30	ACCT724684 14561 SUNFISH LK DR		121230	10032023	9601.4651		WATER REVENUE	WATER FUND
		412.30								
117587	10/5/2023		120430 MCCULLEY, ROGER OR KAY							
		70.58	ACCT 61445159 14431 WOLFRAM ST		121232	10032023	9601.4651		WATER REVENUE	WATER FUND
		70.58								
117588	10/5/2023		120432 MILANOVICH, VALISSA							
		53.63	ACCT 731382 14611 PERIDOT TERR		121233	10032023	9601.4651		WATER REVENUE	WATER FUND
		53.63								
117589	10/5/2023		120433 MILLER, DAVID OR LISA							
		73.15	ACCT 701429156 5700 148TH LN		121234	10032023	9601.4651		WATER REVENUE	WATER FUND
		73.15								
117590	10/5/2023		100360 NORTH STAR TOWING INC							
		184.00	TOW UNIT 569		121316	91609/91801	0220.6388		OTHER VEHICLE REPAIR	FIRE PROTECTION
		90.00	FORFEITURE TOW DODGE RAM		121316	91609/91801	0211.6389		TOWING SERVICES	POLICE PROTECTION
		274.00								

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117590	10/5/2023		100360 NORTH STAR TOWING INC						Continued...	
117591	10/5/2023		113843 NORTON, BRET & JESSICA							
		208.16	ACCT 734773 14362 TUNGSTEN WAY		121235	10032023	9601.4651		WATER REVENUE	WATER FUND
		208.16								
117592	10/5/2023		120434 NYE, ROBERT M							
		317.17	ACCT 731730 8729 150TH LANE		121236	10032023	9601.4651		WATER REVENUE	WATER FUND
		317.17								
117593	10/5/2023		120435 QUALLE, KELLY							
		331.18	ACCT 729772 7325 E RAMSEY PKWY		121237	10032023	9601.4651		WATER REVENUE	WATER FUND
		331.18								
117594	10/5/2023		117688 RESULTS TITLE							
		424.68	ACCT 724666 14605 OLIVINE TERR		121238	10032023	9601.4651		WATER REVENUE	WATER FUND
		424.68								
117595	10/5/2023		120436 REYES, JOSE TORRES OR GAVILAN, YADIRA RI							
		46.61	ACCT 731227 14633 OLIVINE TERR		121239	10032023	9601.4651		WATER REVENUE	WATER FUND
		46.61								
117596	10/5/2023		120423 RICHARD E & PATRICIA J BASSETT REVOCABLE							
		14.63	ACCT 730412 8760 176TH AVE NW		121221	10032023	9601.4651		WATER REVENUE	WATER FUND
		14.63								
117597	10/5/2023		120420 SLIPS SHARPENING INC							
		25.60	32" PAPER CUTTER SHARPENING		121318	6104	0194.6489		OTHER CONTRACTED SERVICES	GENERAL GOVERNMENT BUILDINGS
		25.60								
117598	10/5/2023		113038 THE TITLE GROUP							
		399.48	ACCT 733937 6107 RIVLYN AVE		121240	10032023	9601.4651		WATER REVENUE	WATER FUND
		399.48								
117599	10/5/2023		120425 THOMPSON-EMERY, BROOKS MARIE							
		190.60	ACCT 724366 7291 E RAMSEY PKWY		121227	10032023	9601.4651		WATER REVENUE	WATER FUND
		190.60								
117600	10/5/2023		120165 TITLE SPECIALISTS INC							
		14.63	ACCT 711426057 16540 QUARTZ ST		121241	10032023	9601.4651		WATER REVENUE	WATER FUND
		14.63								

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117600	10/5/2023		120165 TITLE SPECIALISTS INC						Continued...	
117601	10/5/2023		120105 TOUCHETTE, RON							
		1.00	PERMIT CANCEL 54973		121327	9282023	9101.2081		SURCHARGES-PERMITS	GENERAL FUND
		185.00	PERMIT CANCEL-054973		121327	9282023	9101.4205		BUILDING PERMIT	GENERAL FUND
		186.00								
117602	10/5/2023		116311 TRADEMARK TITLE SERVICES INC							
		16.98	ACCT 672343397 14713 BOWERS DR		121242	10032023	9601.4651		WATER REVENUE	WATER FUND
		16.98								
117603	10/5/2023		120421 TRT EXCAVATION & SEPTICS LLP							
		1.00	CANCELLED PERMIT 052903		121328	9292023	9101.2081		SURCHARGES-PERMITS	GENERAL FUND
		150.00	CANCELLED PERMIT-052903		121328	9292023	9101.4220		SEPTIC SYSTEM PERMIT	GENERAL FUND
		151.00								
117604	10/5/2023		119268 US HOME LLC							
		61.60	ACCT 734585 8512 152ND LANE		121243	10032023	9601.4651		WATER REVENUE	WATER FUND
		61.60								
117645	10/12/2023		100012 ACE SOLID WASTE INC							
		37,758.26	OCTOBER RECYCLING		121406	9643972T067 OCT 2023	9604.6489		OTHER CONTRACTED SERVICES	RECYCLING FUND
		141.47	FIRE STATIONS-OCTOBER 2023		121407	9649538T067 OCT 2023	0220.6374		REFUSE/RECYCLING	FIRE PROTECTION
		1,593.80	HD TRASH CANS		121408	9643981T067 HD	0296.6249		MISCELLANEOUS OPERATING SUPPLY	HAPPY DAYS
		1,000.00-	HD SPONSORSHIP CREDIT		121408	9643981T067 HD	0296.4609		OTHER MISCELLANEOUS REVENUES	HAPPY DAYS
		93.34	WASTE SERVICES		121411	9643982T067 OCT 2023	0311.6374		REFUSE/RECYCLING	STREET MAINTENANCE
		317.54	WASTE SERVICES		121411	9643982T067 OCT 2023	0194.6374		REFUSE/RECYCLING	GENERAL GOVERNMENT BUILDINGS
		610.39	WASTE SERVICES		121411	9643982T067 OCT 2023	0452.6374		REFUSE/RECYCLING	PARK & RECREATION
		93.33	WASTE SERVICES		121411	9643982T067 OCT 2023	9601.6374		REFUSE/RECYCLING	WATER FUND
		93.33	WASTE SERVICES		121411	9643982T067 OCT 2023	9602.6374		REFUSE/RECYCLING	SEWER FUND
		567.82	WASTE SERVICES		121411	9643982T067 OCT 2023	9604.6249		MISCELLANEOUS OPERATING SUPPLY	RECYCLING FUND
		93.33	WASTE SERVICES		121411	9643982T067 OCT 2023	9605.6374		REFUSE/RECYCLING	STORM WATER UTILITY

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117645	10/12/2023		100012 ACE SOLID WASTE INC						Continued...	
		40,362.61								
117646	10/12/2023		100086 BRIAN ASADI							
		149.75	REISSUE CHECK #117065 VEH WASH		121398	158	0220.6249		MISCELLANEOUS OPERATING SUPPLY	FIRE PROTECTION
		149.75								
117647	10/12/2023		110734 CITY OF RAMSEY							
		92.42	ACCT 730849 7566 159TH AVE		121399	10122023	9601.4651		WATER REVENUE	WATER FUND
		92.42								
117648	10/12/2023		100167 CORNERSTONE FORD							
		26.40-	EARLY PAY DISCOUNT		121413	16403287	0211.6388		OTHER VEHICLE REPAIR	POLICE PROTECTION
		36.67	SQUAD 312 CHECK ENGINE LIGHT R		121413	16403287	0211.6229		SHOP MATERIALS	POLICE PROTECTION
		227.26	SQUAD 312 CHECK ENGINE LIGHT R		121413	16403287	0211.6388		OTHER VEHICLE REPAIR	POLICE PROTECTION
		4.13-	EARLY PAY DISCOUNT		121422	15435229	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		41.25	VEHICLE #410 PARTS		121422	15435229	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		18.14-	EARLY PAY DISCOUNT		121423	15435348	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		181.38	TRUCK #692 PARTS		121423	15435348	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		22.86	EP DISC TAKEN ON ORIG INV		121424	15435390	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		228.59-	RETURN-ORIG IN 15434502		121424	15435390	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		7.88-	EARLY PAY DISCOUNT		121425	15435411	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		78.76	TRUCK #692 PARTS		121425	15435411	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		303.04								
117649	10/12/2023		100293 MIDC ENTERPRISES							
		911.41	IRRIGATION PARTS		121416	I0047670	0452.6268		IRRIGATION SUPPLIES	PARK & RECREATION
		1,500.00	IRRIGATION PARTS		121417	I0046422	0452.6268		IRRIGATION SUPPLIES	PARK & RECREATION
		2,411.41								
117650	10/12/2023		120343 MISKE MEADOWS HOA							
		100.00	REISSUE CK 117395 DD 8.28.19		121428	08252023	9101.2201		DEPOSITS PAYABLE	GENERAL FUND
		100.00								
117651	10/12/2023		102950 MN RURAL WATER ASSOCIATION							
		100.00	AR DAMAGE DEPOSIT REFUND		121409	10052023	9101.2201		DEPOSITS PAYABLE	GENERAL FUND
		100.00								
117652	10/12/2023		120042 NEW DAWN YOGA & WELLNESS / DAWN PERRA							
		50.00	REIS CK#116861 YOGA CLASS 4.12		121402	123456	0452.6489		OTHER CONTRACTED SERVICES	PARK & RECREATION
		50.00								

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117652	10/12/2023		120042 NEW DAWN YOGA & WELLNESS / DAWN PERRA						Continued...	
117653	10/12/2023		112979 RASINSKI, YILAN							
		200.00	WATER EFF REBATE 23-Y RASINKSI		121414	101023	9601.6436		WATER EFFICIENCY REBATE PROG	WATER FUND
		200.00								
117654	10/12/2023		120454 RCIS							
		100.00	REF DAMAGE DEP CP 8/28/23		121412	100923	9101.2201		DEPOSITS PAYABLE	GENERAL FUND
		100.00								
1005594	10/6/2023		119638 O'REILLY AUTO PARTS							
		.80-	EARLY PAY DISCOUNT		121325	6193-138825	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		39.99	TOOLCAT #687		121325	6193-138825	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		39.19								
1005595	10/6/2023		120052 SCHLUETER, WENDY							
		73.36	9.25-9.28.23 ECON DEVLP EXPO		121317	10052023	9230.6331		TRAVEL & LODGING	ECONOMIC DEVELOPMENT AUTHORIT
		73.36								
1005637	10/13/2023		119639 LARSON, TODD							
		57.50	MILEAGE MNAPA CONF 10.4-10.5		121400	10122023	0191.6334		MILEAGE REIMBURSEMENT	PLANNING & ZONING
		134.03	GRAND STAY HOTEL 10.4-10.5		121400	10122023	0191.6331		TRAVEL & LODGING	PLANNING & ZONING
		191.53								
1005638	10/13/2023		120452 MARTIN, ADAM							
		172.53	MILEAGE MNAPA CONF 10.4-10.6		121401	10122023	0191.6334		MILEAGE REIMBURSEMENT	PLANNING & ZONING
		21.00	PARKING MNAPA CONF 10.4-10.6		121401	10122023	0191.6331		TRAVEL & LODGING	PLANNING & ZONING
		193.53								
1005639	10/13/2023		119638 O'REILLY AUTO PARTS							
		.17-	EARLY PAY DISCOUNT		121410	6193-139944	0220.6257		OTHER VEHICLE PARTS	FIRE PROTECTION
		8.52	WASHER FLUID		121410	6193-139944	0220.6257		OTHER VEHICLE PARTS	FIRE PROTECTION
		2.90-	EARLY PAY DISCOUNT		121418	6193-139618	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		144.85	VEHICLE #407		121418	6193-139618	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		.11-	EARLY PAY DISCOUNT		121419	6193-139743	0311.6229		SHOP MATERIALS	STREET MAINTENANCE
		5.29	FUSE		121419	6193-139743	0311.6229		SHOP MATERIALS	STREET MAINTENANCE
		.26-	EARLY PAY DISCOUNT		121420	6193-139724	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		13.08	TRUCK #692 PARTS		121420	6193-139724	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		.92-	EARLY PAY DISCOUNT		121421	6193-139696	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		45.96	AIR FILTER		121421	6193-139696	0311.6257		OTHER VEHICLE PARTS	STREET MAINTENANCE
		.36-	EARLY PAY DISCOUNT		121426	6193-140024	0311.6227		LUBRICANTS & ADDITIVES	STREET MAINTENANCE

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1005639	10/13/2023		119638 O'REILLY AUTO PARTS							
		17.98	VEHICLE #407		121426	6193-140024	0311.6227		LUBRICANTS & ADDITIVES	STREET MAINTENANCE
		.78-	EARLY PAY DISCOUNT		121427	6193-140023	0311.6281		SMALL TOOLS & MINOR EQUIPMENT	STREET MAINTENANCE
		38.99	PULLEY TOOL		121427	6193-140023	0311.6281		SMALL TOOLS & MINOR EQUIPMENT	STREET MAINTENANCE
		269.17								
1005640	10/13/2023		111488 POPP.COM INC							
		639.37	POPP COMM-CITY MONTHLY PHONE		121405	992803233	0192.6321		TELEPHONE	DATA PROCESSING
		149.76	POPP-RAMP-PHONE		121405	992803233	9240.6321		TELEPHONE	PARKING RAMP MAINTENANCE
		79.84	POPP-YOUTHFIRST-PHONE		121405	992803233	9410.6315	00041012	MISCELLANEOUS PROFESSIONAL SER	RALF FUNDED PROJECTS
		868.97								
1005641	10/13/2023		111137 WRIGHT HENNEPIN COOPERATIVE ELECTRIC							
		27.95	C/H FIRE MONITORING		121403	150-1681-6340 OCT 2023	0194.6489		OTHER CONTRACTED SERVICES	GENERAL GOVERNMENT BUILDINGS
		52.95	PW FIRE PANEL MONT/TEST		121404	150-1681-4280 OCT 2023	0311.6489		OTHER CONTRACTED SERVICES	STREET MAINTENANCE
		52.95	FS#2 FIRE PANEL MONIT		121404	150-1681-4280 OCT 2023	0220.6489		OTHER CONTRACTED SERVICES	FIRE PROTECTION
		36.90	7550 SUNWOOD MONITORING		121404	150-1681-4280 OCT 2023	0194.6489		OTHER CONTRACTED SERVICES	GENERAL GOVERNMENT BUILDINGS
		36.90	PW MONITORING		121404	150-1681-4280 OCT 2023	0311.6489		OTHER CONTRACTED SERVICES	STREET MAINTENANCE
		48.95	RAMP FIRE PANEL TEST/MONIT		121404	150-1681-4280 OCT 2023	9240.6315		MISCELLANEOUS PROFESSIONAL SER	PARKING RAMP MAINTENANCE
		27.95	YOUTH FIRST FIRE PANEL MONIT		121404	150-1681-4280 OCT 2023	9410.6315	00041012	MISCELLANEOUS PROFESSIONAL SER	RALF FUNDED PROJECTS
		28.95	POLICE SECURITY		121415	150-1682-6501 OCT 2023	0211.6489		OTHER CONTRACTED SERVICES	POLICE PROTECTION
		313.50								
96101323	10/13/2023		108768 COMDATA NETWORK INC							
		401.30	ENDISYS, STRIPER PARTS		121512	SEPT 2023 BYRON	0452.6249		MISCELLANEOUS OPERATING SUPPLY	PARK & RECREATION
		288.40	PERSON FAMILY FARMSTRAW BALES		121512	SEPT 2023 BYRON	0296.6249		MISCELLANEOUS OPERATING SUPPLY	HAPPY DAYS
		68.13	DTF SQUAD		121513	SEPT 2023 PD FUEL	0211.6223		GASOLINE	POLICE PROTECTION
		99.99	MENARDS-CLEAR POLY		121514	SEPT 2023 WEBB	0211.6207		TRAINING SUPPLIES	POLICE PROTECTION
		39.92	COBORNS SUPERSTORE-FREEZIES		121515	SEPT 2023 FRANKFURTH	0280.6241		COMMUNITY POLICING SUPPLIES	COMMUNITY ORIENTING POLICING
		75.00	TLO TRANSUNION-ONLINE INV RESO		121515	SEPT 2023 FRANKFURTH	0211.6315		MISCELLANEOUS PROFESSIONAL SER	POLICE PROTECTION

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96101323	10/13/2023		108768 COMDATA NETWORK INC							
		17.03	MENARDS-SCRUFF REVAMP		121516	SEPT 2023 CURTIS	0280.6281		SMALL TOOLS & MINOR EQUIPMENT	COMMUNITY ORIENTING POLICING
		1,980.00	AXON-4 TASER INSTRUCTOR CLASSE		121517	SEPT 2023 BAGNE	0211.6335		TRAINING	POLICE PROTECTION
		120.00	SECRETARY OF STATE-JJ NOTARY		121518	SEPT 2023 TORSETH	0211.6451		MEMBERSHIP DUES	POLICE PROTECTION
		787.08	APWA FALL WRKSHP-TRAINING		121519	SEPT 2023 TURNER	0311.6335		TRAINING	STREET MAINTENANCE
		330.00	MN FALL EXPO-TRAINING		121519	SEPT 2023 TURNER	0311.6335		TRAINING	STREET MAINTENANCE
		284.61	GASOLINE FUEL		121520	SEPT 2023 FIRE FUEL	0220.6223		GASOLINE	FIRE PROTECTION
		450.00	FSP ALEXANDRIA ARROWWOOD-FBI C		121521	SEPT 2023 KATERS	0211.6331		TRAVEL & LODGING	POLICE PROTECTION
		91.94	STATE OF MN POST BOARD-NEW OFC		121521	SEPT 2023 KATERS	0211.6451		MEMBERSHIP DUES	POLICE PROTECTION
		13.00	COOPS LOCKSMITH-NEW OFC KEY		121522	SEPT 2023 BLUML	0211.6249		MISCELLANEOUS OPERATING SUPPLY	POLICE PROTECTION
		4.99	ARLO TECHNOLOGIES INC-INV CAME		121522	SEPT 2023 BLUML	0211.6315		MISCELLANEOUS PROFESSIONAL SER	POLICE PROTECTION
		264.05	DISCOUNTMUGS.COM-CRO COMMUNITY		121522	SEPT 2023 BLUML	0280.6241		COMMUNITY POLICING SUPPLIES	COMMUNITY ORIENTING POLICING
		125.00-	MAHCO TRAINING - SWALCHICK		121523	SEPT 2023 LARSON	0191.6335		TRAINING	PLANNING & ZONING
		5.69	ECM - ANOKA HERALD SUBSCRIPTIO		121524	SEPT 2023 SULLIVAN	9230.6451		MEMBERSHIP DUES	ECONOMIC DEVELOPMENT AUTHORIT
		40.13	COBORNS - POP AND WATER		121525	SEPT 2023 ANDERSON	9604.6249		MISCELLANEOUS OPERATING SUPPLY	RECYCLING FUND
		80.34	MICROSOFT-REPLCMNT LAPTOP SSD		121526	SEPT 2023 FREDRICKSON	0192.6281		SMALL TOOLS & MINOR EQUIPMENT	DATA PROCESSING
		219.98	NEWEGG-MONITORS - REPLACE		121526	SEPT 2023 FREDRICKSON	0192.6281		SMALL TOOLS & MINOR EQUIPMENT	DATA PROCESSING
		472.50	VARIDESKSIT/STAND STATION -CSO		121526	SEPT 2023 FREDRICKSON	0192.6281		SMALL TOOLS & MINOR EQUIPMENT	DATA PROCESSING
		131.87	09/12/23 WILD BURGER CC MEALS		121527	SEPT 2023 SCHMITZ	0111.6249		MISCELLANEOUS OPERATING SUPPLY	MAYOR AND COUNCIL
		64.19	09/26/23 COBORNS CC MEALS		121527	SEPT 2023 SCHMITZ	0111.6249		MISCELLANEOUS OPERATING SUPPLY	MAYOR AND COUNCIL
		100.00	09/09/23 DOMINO'S HD VOL MEALS		121527	SEPT 2023 SCHMITZ	0296.6249		MISCELLANEOUS OPERATING SUPPLY	HAPPY DAYS
		420.00	UOFM- GUIDES FOR SOIL DETERM		121528	SEPT 2023 SZYKULSKI	0240.6471		BOOKS & PAMPHLETS	PROTECTIVE INSPECTIONS
		32.87	AMAZON- SAFETY GLASSES(1)		121529	SEPT 2023	0220.6281		SMALL TOOLS & MINOR EQUIPMENT	FIRE PROTECTION

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96101323	10/13/2023		108768 COMDATA NETWORK INC						Continued...	
						KOHNER				
		17.75	AMAZON- SAFETY GLASSES(2)		121529	SEPT 2023	0220.6281		SMALL TOOLS & MINOR EQUIPMENT	FIRE PROTECTION
						KOHNER				
		18.22	AMAZON- SAFETY GLASSES(3)		121529	SEPT 2023	0220.6281		SMALL TOOLS & MINOR EQUIPMENT	FIRE PROTECTION
						KOHNER				
		50.00	FACEBOOK ADVERTISEMENT		121530	SEPT 2023	0130.6246		MARKETING & PROMOTIONS	ADMINISTRATION
						LASHER				
		125.00	MN GOV. COMM. MEM. MAGC		121530	SEPT 2023	0130.6451		MEMBERSHIP DUES	ADMINISTRATION
						LASHER				
		26.50	PARK BOARD-PARKING FAC TOUR		121531	SEPT 2023	0452.6335		TRAINING	PARK & RECREATION
						RIVERBLOOD				
		6,995.48								
97101323	10/13/2023		107885 DEPARTMENT OF LABOR AND INDUSTRY							
		4,338.75	SEPT 2023 SURCHARGE REMITTANCE		121500	100132023	9101.2081		SURCHARGES-PERMITS	GENERAL FUND
		86.72-	SEPT 2023 SURCHARGE REMITTANCE		121500	100132023	9101.4604		SURCHARGES	GENERAL FUND
		4,252.03								
98101323	10/13/2023		115568 ALERUS FINANCIAL NA							
		7,189.63			121389	10112313500414	9101.2176		LIFE/HEALTH-EMPLOYEE	GENERAL FUND
		7,189.63								
99101323	10/13/2023		107962 TOTAL ADMINISTRATIVE SERV (DO NOT USE)							
		905.00			121386	10112313500411	9101.2176		LIFE/HEALTH-EMPLOYEE	GENERAL FUND
		905.00								
99184332	10/13/2023		101306 IRS							
		17,903.23			121385	10112313500410	9101.2182		FICA & MEDICARE-EMPLOYER	GENERAL FUND
		29,209.88			121396	1011231350048	9101.2171		FEDERAL WITHHOLDING	GENERAL FUND
		17,903.23			121397	1011231350049	9101.2173		FICA & MEDICARE-EMPLOYEE	GENERAL FUND
		65,016.34								
99230103	10/13/2023		100301 MN CHILD SUPPORT PAYMENT CNTR							
		266.72			121392	1011231350044	9101.2185		GARNISHMENTS/SUPPORT	GENERAL FUND
		266.72								
99647598	10/13/2023		114790 GREAT WEST LIFE AND ANNUITY INS CO							
		13,830.74			121387	10112313500412	9101.2175		DEFERRED COMPENSATION	GENERAL FUND
		13,830.74								

10/5/2023 -- 10/18/2023

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description	Business Unit
									Continued...	
99669470	**10/13/2023**		**114790 GREAT WEST LIFE AND ANNUITY INS CO**							
		4,362.58			121388	10112313500413	9101.2176		LIFE/HEALTH-EMPLOYEE	GENERAL FUND
		4,362.58								
99721098	**10/13/2023**		**100398 PUBLIC EMPLOYEES RETIREMENT ASSN**							
		28,870.73			121393	1011231350045	9101.2174		PERA-EMPLOYEE	GENERAL FUND
		38,583.20			121394	1011231350046	9101.2183		PERA-EMPLOYER	GENERAL FUND
		67,453.93								
99800388	**10/13/2023**		**100223 ICMA RETIREMENT TRUST 457**							
		780.00			121384	1011231350041	9101.2175		DEFERRED COMPENSATION	GENERAL FUND
		780.00								
99853728	**10/13/2023**		**100601 MN DEPT OF REV WH**							
		13,974.79			121395	1011231350047	9101.2172		STATE WITHHOLDING	GENERAL FUND
		13,974.79								
		296,343.21	Grand Total							

Payment Instrument Totals

Checks	109,366.72
EFT Payments	185,027.24
A/P ACH Payment	1,949.25
Total Payments	296,343.21

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Payment Group Control Number 3707
Bank Account 999.1010 CASH IN BANK 00002224
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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Document Itm	Document Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
117584	ACE SOLID WASTE- RAMSEY	Vol Abate 5431 164th Ln NW	PV	121365	001	00999	10/1/2023	9652382T067	64.30		117584	ACE SOLID WASTE-RAMSEY
	ACE SOLID WASTE- RAMSEY 6601 MCKINLEY STREET NW RAMSEY MN 55303			Summary Total					64.30			
				Payment Amount					64.30			
119144	ADVANCED ENGINEERING AND ENV SERV (AE2S)		PV	121505	001	00999	10/10/2023	90392	22,442.01		119144	ADVANCED ENGINEERI AND ENV SERV (AE2S)
	ADVANCED ENGINEERING AND ENV SERV 4050 GARDEN VIEW DRIVE STE 200 GRAND FORKS ND 58201			Summary Total					22,442.01			
				Payment Amount					22,442.01			
107776	ALERT ALL CORP		PV	121352	001	00999	9/29/2023	W35716	511.00		107776	ALERT ALL CORP
	ALERT ALL CORP 164 ORLAN ROAD NEW HOLLAND PA 17557			Summary Total					511.00			
				Payment Amount					511.00			
102953	AMERIGAS OF ANOKA		PV	121457	001	00999	9/30/2023	805792056	32.19		102953	AMERIGAS OF ANOKA
	AMERIGAS OF ANOKA P O BOX 660288 DALLAS TX 75266-0288			Summary Total					32.19			
				Payment Amount					32.19			
100052	ANOKA POLICE DEPARTMENT		PV	121490	001	00999	10/12/2023	09 2023	425.00		100052	ANOKA POLICE

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	ANOKA POLICE DEPARTMENT 275 HARRISON STREET ANOKA MN 55303			Summary Total					425.00			DEPARTMENT
				Payment Amount					425.00			
100063	ASPEN MILLS 8201 C CENTRAL AVE NE SPRING LAKE PARK MN 55432		PV	121483	001	00999	10/9/2023	320967	167.61		100063	ASPEN MILLS
				Summary Total					167.61			
			PV	121484	001	00999	10/6/2023	320896	127.90			
				Summary Total					127.90			
			PV	121485	001	00999	10/9/2023	320996	281.85			
				Summary Total					281.85			
			PV	121486	001	00999	10/9/2023	320977	1,427.48			
				Summary Total					1,427.48			
			PV	121489	001	00999	10/10/2023	321064	520.05			
				Summary Total					520.05			
			PV	121491	001	00999	10/11/2023	321184	232.50			
				Summary Total					232.50			
			PD	121492	001	00999	10/25/2023	CM5005	10.00-			
				Summary Total					10.00-			
			PV	121495	001	00999	10/3/2023	320657	24.00			
				Summary Total					24.00			
			PV	121497	001	00999	10/4/2023	320748	2,186.90			
				Summary Total					2,186.90			
				Payment Amount					4,958.29			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
108226	ASPHALT SURFACE TECHNOLOGIES CORP	PAYAPP 1 23-04 167TH AVE RECON	PV	121566	001	09402	10/18/2023	10182023-1	322,570.99		108226	ASPHALT SURFACE TECHNOLOGIES CORP
	ASPHALT SURFACE TECHNOLOGIES CORP P O BOX 1025 ST CLOUD MN 56302	Summary Total							322,570.99			
		Payment Amount							322,570.99			
117516	BEST OUTDOOR SERVICES		PV	121344	001	00999	9/30/2023	4364	3,234.21		117516	BEST OUTDOOR SERVICES
	BEST OUTDOOR SERVICES 3098 162ND LANE NW ANDOVER MN 55304	Summary Total							3,234.21			
			PV	121345	001	00999	9/30/2023	4363	810.86			
		Summary Total							810.86			
		Payment Amount							4,045.07			
104915	BLUE LINE COLLISION CENTER		PV	121499	001	00999	10/6/2023	24431	1,505.12		104915	BLUE LINE COLLISION CENTER
	BLUE LINE COLLISION CENTER 6260 HIGHWAY 10 ANOKA MN 55303	Summary Total							1,505.12			
		Payment Amount							1,505.12			
100306	BUREAU OF CRIMINAL APPREHENSION		PV	121498	001	00999	9/30/2023	00000761619	1,560.00		100306	BUREAU OF CRIMINAL APPREHENSION
	BCA TRAINING 1430 MARYLAND AVENUE EAST ST PAUL MN 55106	Summary Total							1,560.00			
		Payment Amount							1,560.00			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
119134	CINTAS (FIRST AID VENDOR) CINTAS PO BOX 631025 CINCINNATI OH 45263-1025		PV	121456	001	00999	10/4/2023	5178225800	152.12		119134	CINTAS (FIRST AID VENDOR)
				Summary Total					152.12			
				Payment Amount					152.12			
113910	CMDC CMDC 1885 STATION PARKWAY STE A ANDOVER MN 55304	Soderholm Escr#120259 RLF App	PV	121435	001	00999	10/5/2023	20231005	1,500.00		113910	CMDC
				Summary Total					1,500.00			
				Payment Amount					1,500.00			
114117	CRAWFORD'S EQUIPMENT INC CRAWFORD'S EQUIPMENT INC 4898 HIGHWAY 95 NW CAMBRIDGE MN 55008		PV	121463	001	00999	10/6/2023	01-84433	15.48		114117	CRAWFORD'S EQUIPME INC
				Summary Total					15.48			
				Payment Amount					15.48			
104026	DIVERSIFIED PAVING INC DIVERSIFIED PAVING INC 56 33RD AVENUE S # 322 ST CLOUD MN 56301-3722	PAYAPP 1 23-21 DP POTHOLE PATC	PV	121567	001	09101	10/18/2023	10182023-1	424,888.92		104026	DIVERSIFIED PAVING INC
				Summary Total					424,888.92			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
				Payment Amount					424,888.92			
111093	DOUGLAS KERR UNDERGROUND LLC	FINAL PAYAPP 6 20-05 RIVERDALE	PV	121568	001	09402	10/18/2023	10182023-1	129,035.65		111093	DOUGLAS KERR UNDERGROUND LLC
	DOUGLAS KERR UNDERGROUND LLC			Summary Total					129,035.65			
	P O BOX 85	PAYAPP 3 23-12 HY10 IMPROV	PV	121569	001	09214	10/18/2023	10182023-2	271,356.82			
	MORA MN 55051			Summary Total					271,356.82			
		PAYAPP 3 23-05 BARTHELS RUM RI	PV	121570	001	09435	10/18/2023	10182023-3	267,151.08			
		PAYAPP 3 23-05 BARTHELS RUM RI	PV	121570	002	09435	10/18/2023	10182023-3	12,889.31			
				Summary Total					280,040.39			
				Payment Amount					680,432.86			
106624	EHLERS AND ASSOCIATES, INC	INV 95335	PV	121473	001	00999	10/9/2023	95335	5,000.00		106624	EHLERS AND ASSOCIATES, INC
	EHLERS & ASSOCIATES, INC			Summary Total					5,000.00			
	3060 CENTRE POINTE DRIVE	Inv#95336	PV	121474	001	00999	10/9/2023	95336	560.00			
	ROSEVILLE MN 55113-1105			Summary Total					560.00			
				Payment Amount					5,560.00			
118931	ELECTRIC SYSTEMS SOLUTIONS		PV	121477	001	00999	10/10/2023	8563	766.00		118931	ELECTRIC SYSTEMS SOLUTIONS
	ELECTRIC SYSTEMS SOLUTIONS			Summary Total					766.00			
	6021 167TH AVENUE NW											

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Payment Instrument Check Payment
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Payee Number	Name / Mailing Address	Stub Message	Document Ty	Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	RAMSEY MN 55303											
		Payment Amount							766.00			
104267	ELITE SANITATION		PV	121364	001	00999	9/27/2023	30140	122.00		104267	ELITE SANITATION
	ELITE SANITATION PO BOX 526 ELK RIVER MN 55330	Summary Total							122.00			
		Payment Amount							122.00			
119694	ELK RIVER PRINTING		PV	121478	001	00999	8/25/2023	164346	73.73		119694	ELK RIVER PRINTING
	ELK RIVER PRINTING 596 DODGE AVE NW ELK RIVER MN 55330	Summary Total							73.73			
		Payment Amount							73.73			
117609	EQUIPMENT MANAGEMENT COMPANY		PV	121382	001	00999	9/29/2023	62857	217.50		117609	EQUIPMENT MANAGEMENT COMPANY
	EQUIPMENT MANAGEMENT COMPANY 22824 WEST WINCHESTER DRIVE CHANNAHON IL 60410	Summary Total							217.50			
		Payment Amount							217.50			
104205	EXPRESS SIGNS INC		PV	121349	001	00999	9/20/2023	INV-8073	260.00		104205	EXPRESS SIGNS INC
	EXPRESS SIGNS INC PO BOX 475 ANOKA MN 55303	Summary Total							260.00			
		Payment Amount										

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									260.00			
109910	GREAT NORTHERN LANDSCAPE INC		PV	121362	001	00999	10/5/2023	15366	6,932.87		109910	GREAT NORTHERN LANDSCAPE INC
	GREAT NORTHERN LANDSCAPE INC 19720 IGUANA STREET NW ELK RIVER MN 55330			Summary Total					6,932.87			
			PV	121434	001	00999	10/2/2023	15369	3,909.61			
				Summary Total					3,909.61			
				Payment Amount					10,842.48			
117332	HEARTLAND TIRE INC		PV	121458	001	00999	10/5/2023	9036271	89.75		117332	HEARTLAND TIRE INC
	HEARTLAND TIRE INC 7151 RIVERDALE DRIVE NW RAMSEY MN 55303			Summary Total					89.75			
			PV	121470	001	00999	10/9/2023	9036333	107.71			
				Summary Total					107.71			
				Payment Amount					197.46			
119617	HIRSHFIELD'S		PV	121343	001	00999	10/4/2023	22181937	79.96		119617	HIRSHFIELD'S
	HIRSHFIELD'S 725 2ND AVENUE N MINNEAPOLIS MN 55405			Summary Total					79.96			
				Payment Amount					79.96			
120419	JME ELECTRIC LLC	PERMIT CANCEL 056068	PV	121563	001	00999	10/17/2023	10/17/2023	21.00		120419	JME ELECTRIC LLC
	JME ELECTRIC LLC PO BOX 188 LORETTO MN 55357			Summary Total					21.00			
				Payment Amount					21.00			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
120359	LANGUAGE LINE SERVICES INC LANGUAGE LINE SERVICES INC PO BOX 202564 DALLAS TX 75320-2564		PV	121493	001	00999	9/30/2023	11120611	9.27		120359	LANGUAGE LINE SERVICES INC
				Summary Total					9.27			
				Payment Amount					9.27			
100256	LANO EQUIPMENT INC LANO EQUIPMENT INC 6140 HIGHWAY 10 NW ANOKA MN 55303		PV	121446	001	00999	9/30/2023	02-1027961	441.15		100256	LANO EQUIPMENT INC
				Summary Total					441.15			
			PV	121453	001	00999	10/2/2023	02-1028096	2,395.00			
				Summary Total					2,395.00			
				Payment Amount					2,836.15			
100722	LATOUR VINYL LATOUR VINYL 7747 158TH AVENUE NW RAMSEY MN 55303		PV	121350	001	00999	9/27/2023	09272023	7.00		100722	LATOUR VINYL
				Summary Total					7.00			
				Payment Amount					7.00			
116823	M S MARTIN ENTERPRISES INC M S MARTIN ENTERPRISES INC 1319 SACANDAGA ROAD WEST CHARLTON NY 12010		PV	121509	001	00999	10/6/2023	3494	209.00		116823	M S MARTIN ENTERPRISES INC
				Summary Total					209.00			
				Payment Amount					209.00			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Document Itm	Document Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
100270	MACQUEEN EQUIPMENT INC		PV	121465	001	00999	10/6/2023	P53085	472.16		100270	MACQUEEN EQUIPMENT INC
				Summary Total					472.16			
	MACQUEEN EQUIPMENT INC 1125 7TH STREET EAST ST PAUL MN 55106											
				Payment Amount					472.16			
102219	MAGNEY CONSTRUCTION, INC	PAYAPP 4 21-09 WTR TRMNT PLANT	PV	121573	001	09601	10/18/2023	10182023-1	1,034,197.92		102219	MAGNEY CONSTRUCTION INC
				Summary Total					1,034,197.92			
	MAGNEY CONSTRUCTION, INC 1401 PARK ROAD CHANHASSEN MN 55317											
				Payment Amount					1,034,197.92			
120041	MARTIN MARIETTA MATERIALS		PV	121461	001	00999	10/4/2023	40611437	78.03		120041	MARTIN MARIETTA MATERIALS
				Summary Total					78.03			
	MARTIN MARIETTA MATERIALS PO BOX 93186 CHICAGO IL 60673-3186											
				Payment Amount					78.03			
117588	MEDART INC		PV	121548	001	00999	10/12/2023	08599546	247.43		117588	MEDART INC
				Summary Total					247.43			
	MEDART INC 124 MANUFACTURERS DRIVE ARNOLD MO 63010-4727											
				Payment Amount					247.43			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
108208	METRO PRODUCTS INC METRO PRODUCTS INC 7401 CENTRAL AVENUE NE FRIDLEY MN 55432		PV	121444	001	00999	9/27/2023	176576	3,215.35		108208	METRO PRODUCTS INC
				Summary Total					3,215.35			
			PV	121445	001	00999	9/27/2023	176575	226.00			
				Summary Total					226.00			
				Payment Amount					3,441.35			
120312	MEYER CONTRACTING INC MEYER CONTRACTING INC 11000 93RD AVE N MAPLE GROVE MN 55369	PAYAPP 3 23-11 LIFT STAT #10	PV	121574	001	09602	10/18/2023	10182023-1	125,221.04		120312	MEYER CONTRACTING INC
				Summary Total					125,221.04			
				Payment Amount					125,221.04			
104920	MN HWY SAFETY RESEARCH CNTR/MHSRC RANGE MN HWY SAFETY RESEARCH CNTR/MHSRC RANGE 720 FOURTH AVENUE SOUTH ST CLOUD MN 56301-4498		PV	121510	001	00999	10/13/2023	337900-10394	1,020.00		104920	MN HWY SAFETY RESEARCH CNTR/MHSF RANGE
				Summary Total					1,020.00			
				Payment Amount					1,020.00			
100345	NAPA AUTO PARTS ELK RIVER NAPA AUTO PARTS ELK RIVER 17137 YALE STREET NW		PV	121464	001	00999	10/6/2023	224217	298.17		100345	NAPA AUTO PARTS ELK RIVER
				Summary Total					298.17			
			PV	121468	001	00999	10/9/2023	224399	152.58			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	P O BOX 1041 ELK RIVER MN 55330								152.58			
				Summary Total					150.28			
			PV	121545	001	00999	10/12/2023	224868				
				Summary Total					150.28			
			PV	121546	001	00999	10/12/2023	224887	54.85			
				Summary Total					54.85			
				Payment Amount					655.88			
120078	NORTH CENTRAL INTERNATIONAL OF CORCORAN		PV	121467	001	00999	10/6/2023	X225014233	70.08		120078	NORTH CENTRAL INTERNATIONAL OF CORCORAN
	NORTH CENTRAL INTERNATIONAL OF CORCORAN PO BOX 993 WILMAR MN 56201			Summary Total					70.08			
				Payment Amount					70.08			
111368	POLLARDWATER		PV	121503	001	00999	9/27/2023	0247263	2,701.94		111368	POLLARDWATER
	POLLARDWATER P O BOX 417592 BOSTON MA 02241-7592			Summary Total					2,701.94			
				Payment Amount					2,701.94			
112959	PREMIUM WATERS INC		PV	121353	001	00999	9/30/2023	621331-09-23	59.93		112959	PREMIUM WATERS INC
	PREMIUM WATERS INC P O BOX 9128			Summary Total					59.93			
			PV	121354	001	00999	9/30/2023	621332-09-23	29.97			
	MINNEAPOLIS MN 55480-9128			Summary Total					29.97			
				Payment Amount					89.90			

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118400	PUMP AND METER SERVICE PUMP AND METER SERVICE 11303 EXCELSIOR BLVD HOPKINS MN 55343		PV	121452	001	00999	9/26/2023	4000855	2,747.48		118400	PUMP AND METER SERVICE
				Summary Total					2,747.48			
				Payment Amount					2,747.48			
114163	RCM SPECIALTIES INC RCM SPECIALTIES INC 12090 MARGO AVENUE SOUTH SUITE B HASTINGS MN 55033		PV	121449	001	00999	9/29/2023	9282	49,725.00		114163	RCM SPECIALTIES INC
				Summary Total					49,725.00			
				Payment Amount					49,725.00			
120470	RESTORE MASTERS CONTRACTING LLC RESTORE MASTERS CONTRACTING LLC 400 LAS COLINAS BLVD E STE 1050 IRVING TX 75039	PERMIT CANCEL 056155	PV	121562	001	00999	10/17/2023	10/17/2023	81.00		120470	RESTORE MASTERS CONTRACTING LLC
				Summary Total					81.00			
				Payment Amount					81.00			
119959	ROCKET CITY CAR WASH ROCKET CITY CAR WASH 14101 ST FRANCIS BLVD NW RAMSEY MN 55303		PV	121479	001	00999	10/11/2023	6	99.95		119959	ROCKET CITY CAR WAS
				Summary Total					99.95			
			PV	121480	001	00999	10/11/2023	7	99.95			
				Summary Total					99.95			
			PV	121481	001	00999	10/11/2023	8	99.95			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
				Summary Total					99.95			
				Payment Amount					299.85			
119374	SIGN SOLUTIONS USA, LLC		PV	121459	001	00999	10/4/2023	408511	1,027.67		119374	SIGN SOLUTIONS USA, LLC
	SIGN SOLUTIONS USA, LLC PO BOX 1408 FARGO ND 58107-1408			Summary Total					1,027.67			
				Payment Amount					1,027.67			
116931	SMART CONSTRUCTION AND REMODELING INC	PERMIT CANCEL	PV	121501	001	00999	10/9/2023	1092023	80.00		116931	SMART CONSTRUCTION AND REMODELING INC
	SMART CONSTRUCTION AND REMODELING INC 1509 92ND LANE NE BLAINE MN 55449			Summary Total					80.00			
				Payment Amount					80.00			
119466	STANDARD SPRING PARTS		PV	121469	001	00999	10/9/2023	401237	2,462.44		119466	STANDARD SPRING PARTS
	STANDARD SPRING PARTS 2015 GATEWAY BOULEVARD ARDEN HILLS MN 55112			Summary Total					2,462.44			
				Payment Amount					2,462.44			
114151	TASC (FEES)		PV	121360	001	00999	9/26/2023	IN2874954	234.75		114151	TASC (FEES)
	TASC CLIENT INVOICES			Summary Total					234.75			

Payment Group Control Number 3707
Bank Account 999.1010 CASH IN BANK 00002224
Version LOGIS004V
Originator JMORRISON
Payment Instrument Check Payment
Pay Through Date 10/25/2023

Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	P O BOX 88278 MILWAUKEE WI 53288-0001											
				Payment Amount					234.75			
108522	TOTAL CONTROL SYSTEMS, INC		PV	121334	001	00999	10/2/2023	10899	420.00		108522	TOTAL CONTROL SYSTEMS, INC
	TOTAL CONTROL SYSTEMS, INC P O BOX 40 STANCHFIELD MN 55080			Summary Total					420.00			
				Payment Amount					420.00			
119268	US HOME LLC	REF ERO ESC 8012 149TH CROSSIN	PV	121363	001	00999	10/9/2023	A 119633	1,500.00		119268	US HOME LLC
	US HOME LLC 16305 36TH AVENUE N SUITE 600 PLYMOUTH MN 55446			Summary Total					1,500.00			
		REF ERO ESC 8013 149TH LANE	PV	121366	001	00999	10/9/2023	A 119632	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 8014 149TH LANE	PV	121367	001	00999	10/9/2023	A 119628	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 8020 149TH CROSSIN	PV	121368	001	00999	10/9/2023	A 119634	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 8021 149TH LANE	PV	121369	001	00999	10/9/2023	A 119631	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 8028 149TH LANE	PV	121370	001	00999	10/9/2023	A 119629	1,500.00			

Payment Group Control Number 3707
Bank Account 999.1010 CASH IN BANK 00002224
Version LOGIS004V
Originator JMORRISON
Payment Instrument Check Payment
Pay Through Date 10/25/2023

Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Document Itm	Document Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
				Summary Total					1,500.00			
		REF ERO ESC 8518 152ND LANE	PV	121371	001	00999	10/9/2023	A 119383	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 8525 152ND LANE	PV	121372	001	00999	10/9/2023	A 119291	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 8525 152ND LANE	PV	121373	001	00999	10/9/2023	A 119291 LE	5,000.00			
				Summary Total					5,000.00			
		REF ERO ESC 8539 152ND LANE	PV	121374	001	00999	10/9/2023	A 119387	1,500.00			
				Summary Total					1,500.00			
				Payment Amount					18,500.00			
				Total Amount to be Processed					2,730,078.82			
				Total Number of Payments to be Processed					50			

Payment Group Control Number 3708
Bank Account 999.1010 CASH IN BANK 00002224
Version LOGIS004V
Originator JMORRISON
Payment Instrument T A/P ACH Payment
Pay Through Date 10/25/2023

Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
117651	ACCESS MECHANICAL INC		PV	121472	001	00999	10/9/2023	022321-2012	6,280.00		117651	ACCESS MECHANICAL INC
	ACCESS MECHANICAL INC 15901 FOX STREET NW ANDOVER MN 55304			Summary Total					6,280.00			
				Payment Amount					6,280.00			
117343	AMAZON CAPITAL SERVICES INC		PV	121341	001	00999	10/2/2023	1TFC-KF4K-CPLY	58.80		117343	AMAZON CAPITAL SERVICES INC
	AMAZON CAPITAL SERVICES INC PO BOX 035184 SEATTLE WA 98124-5184			Summary Total					58.80			
			PV	121346	001	00999	10/2/2023	1N4Y-999J-CFYY	686.21			
				Summary Total					686.21			
			PV	121494	001	00999	10/2/2023	1LYF-F366-9WHY	111.67			
				Summary Total					111.67			
				Payment Amount					856.68			
100026	ANDERSON IRRIGATION		PV	121437	001	00999	10/10/2023	1843	540.00		100026	ANDERSON IRRIGATION
	ANDERSON IRRIGATION 27066 103RD STREET NW ZIMMERMAN MN 55398			Summary Total					540.00			
			PV	121438	001	00999	10/10/2023	1848	2,032.50			
				Summary Total					2,032.50			
			PV	121439	001	00999	10/10/2023	1847	2,357.50			
				Summary Total					2,357.50			
			PV	121440	001	00999	10/10/2023	1842	2,442.00			
				Summary Total					2,442.00			
			PV	121441	001	00999	10/10/2023	1844	460.00			
				Summary Total					460.00			

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Payment Instrument T A/P ACH Payment
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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
				Payment Amount					7,832.00			
100029	ANOKA AREA CHAMBER OF COMMERCE	Inv #31773	PV	121357	001	00999	10/1/2023	31773	480.00		100029	ANOKA AREA CHAMBER OF COMMERCE
	ANOKA AREA CHAMBER OF COMMERCE 12 BRIDGE SQUARE ANOKA MN 55303			Summary Total					480.00			
			PV	121511	001	00999	10/10/2023	31846	175.00			
				Summary Total					175.00			
				Payment Amount					655.00			
100043	ANOKA COUNTY PROPERTY RECORDS TAXATION	Recording	PV	121436	001	00999	9/30/2023	23-33202/23-35588	92.00		100043	ANOKA COUNTY PROPERTY RECORDS TAXATION
	ANOKA COUNTY PROPERTY RECORDS TAXATION 2100 - 3RD AVENUE ANOKA MN 55303			Summary Total					92.00			
				Payment Amount					92.00			
101084	BATTERIES PLUS BULBS		PV	121496	001	00999	10/4/2023	P66361742	103.26		101084	BATTERIES PLUS BULBS
	BATTERIES PLUS BULBS 138 SOUTH DALE MABRY HWY TAMPA FL 33609			Summary Total					103.26			
				Payment Amount					103.26			
120422	BLAINE BROTHERS		PV	121462	001	00999	10/5/2023	080001818377	6,239.40		120422	BLAINE BROTHERS
	BLAINE BROTHERS 10011 XYLITE STREET NE			Summary Total					6,239.40			

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Payment Instrument T A/P ACH Payment
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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	BLAINE MN 55449											
				Payment Amount					6,239.40			
100647	BOLTON AND MENK INC		PV	121550	001	00999	10/11/2023	0322405	1,250.00		100647	BOLTON AND MENK INC
				Summary Total					1,250.00			
	BOLTON AND MENK INC		PV	121551	001	00999	10/11/2023	0322397	986.50			
	1960 PREMIER DRIVE			Summary Total					986.50			
	MANKATO MN 56001-5900		PV	121552	001	00999	10/11/2023	0322391	272.50			
				Summary Total					272.50			
			PV	121553	001	00999	10/11/2023	0322401	81.50			
				Summary Total					81.50			
			PV	121554	001	00999	10/11/2023	0322398	1,176.50			
				Summary Total					1,176.50			
			PV	121555	001	00999	10/11/2023	0322408	6,132.50			
				Summary Total					6,132.50			
			PV	121556	001	00999	10/11/2023	0322392	16,777.50			
				Summary Total					16,777.50			
			PV	121558	001	00999	10/11/2023	0322399	2,090.75			
				Summary Total					2,090.75			
			PV	121559	001	00999	10/11/2023	0322395	5,116.00			
				Summary Total					5,116.00			
			PV	121560	001	00999	10/11/2023	0322400	633.50			
				Summary Total					633.50			
			PV	121561	001	00999	10/11/2023	0322396	39,120.00			
				Summary Total					39,120.00			
		COR INFRASTRUCTURE	PV	121564	001	00999	10/11/2023	0322403	20,214.56			

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Payment Instrument T A/P ACH Payment
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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
				Summary Total					20,214.56			
				Payment Amount					93,851.81			
116845	CADY BUSINESS TECHNOLOGIES INC		PV	121433	001	00999	10/2/2023	IN-800107285540	39.00		116845	CADY BUSINESS TECHNOLOGIES INC
	CADY BUSINESS TECHNOLOGIES INC 3030 HARBOR LANE SUITE 104 PLYMOUTH MN 55447			Summary Total					39.00			
				Payment Amount					39.00			
112663	CAPSTONE HOMES INC	REF ERO ESC 14606 SNOWY OWL ST	PV	121375	001	00999	10/9/2023	A 120120	1,500.00		112663	CAPSTONE HOMES INC
	CAPSTONE HOMES INC 14015 SUNFISH LAKE BLVD SUITE 400 RAMSEY MN 55303			Summary Total					1,500.00			
		REF ERO ESC 14611 SNOWY OWL ST	PV	121376	001	00999	10/9/2023	A 120200	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 14623 SNOWY OWL ST	PV	121377	001	00999	10/9/2023	A 120151	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 15243 VICUNA ST	PV	121378	001	00999	10/9/2023	A 120199	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 15251 VICUNA ST	PV	121379	001	00999	10/9/2023	A 120198	1,500.00			
				Summary Total					1,500.00			
		REF ERO ESC 15257 VICUNA ST	PV	121380	001	00999	10/9/2023	A 120132	1,500.00			

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Payment Instrument T A/P ACH Payment
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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
				Summary Total					1,500.00			
		REF ERO ESC 15269 VICUNA ST	PV	121381	001	00999	10/9/2023	A 120133	1,500.00			
				Summary Total					1,500.00			
				Payment Amount					10,500.00			
112019	CENTRAL HYDRAULICS INC		PV	121451	001	00999	9/29/2023	83796	695.14		112019	CENTRAL HYDRAULICS INC
	CENTRAL HYDRAULICS INC 21877 INDUSTRIAL COURT ROGERS MN 55374			Summary Total					695.14			
				Payment Amount					695.14			
116197	CINTAS CORPORATION		PV	121460	001	00999	10/5/2023	4169985358	44.61		116197	CINTAS CORPORATION
	CINTAS CORPORATION CINTAS LOC #4K P O BOX 650838 DALLAS TX 75265-0838			Summary Total					44.61			
			PV	121547	001	00999	10/12/2023	4170668045	94.86			
				Summary Total					94.86			
				Payment Amount					139.47			
100141	DAVE PERKINS CONTRACTING INC		PV	121338	001	00999	10/2/2023	28729	29,600.00		100141	DAVE PERKINS CONTRACTING INC
	DAVE PERKINS CONTRACTING INC 19745 NOWTHEN BLVD NW ANOKA MN 55303-9655			Summary Total					29,600.00			
				Payment Amount					29,600.00			

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Payment Instrument T A/P ACH Payment
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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
100144	DEHN OIL COMPANY DEHN OIL COMPANY 6735 141ST AVENUE NW RAMSEY MN 55303		PV	121448	001	00999	9/29/2023	103121	2,640.06		100144	DEHN OIL COMPANY
				Summary Total					2,640.06			
			PV	121454	001	00999	10/3/2023	25218184	923.97			
				Summary Total					923.97			
			PV	121471	001	00999	10/6/2023	103154	2,461.76			
				Summary Total					2,461.76			
				Payment Amount					6,025.79			
116175	ECKBERG LAMMERS ATTORNEYS AT LAW ECKBERG LAMMERS ATTORNEYS AT LAW 1809 NORTHWESTERN AVENUE STILLWATER MN 55082	Inv #09 2023	PV	121348	001	00999	9/30/2023	09 2023	6,258.96		116175	ECKBERG LAMMERS ATTORNEYS AT LAW
				Summary Total					6,258.96			
				Payment Amount					6,258.96			
100158	ECM PUBLISHERS INC ECM PUBLISHERS INC 4095 COON RAPIDS BLVD COON RAPIDS MN 55433		PV	121355	001	00999	9/29/2023	966722	59.12		100158	ECM PUBLISHERS INC
				Summary Total					59.12			
			PV	121443	001	00999	10/6/2023	967537	451.50			
				Summary Total					451.50			
				Payment Amount					510.62			
120464	ENEBAK CONSTRUCTION COMPANY ENEBAK CONSTRUCTION COMPANY 16972 BRANDTJEN FARM DRIVE	PAYAPP 1 23-20 COR GRADING IMP	PV	121571	001	09214	10/18/2023	10182023-1	508,593.63		120464	ENEBAK CONSTRUCTIO COMPANY
				Summary Total					508,593.63			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	LAKEVILLE MN 55044											
				Payment Amount					508,593.63			
106790	ESRI, INC		PV	121339	001	00999	9/28/2023	94571901	4,780.00		106790	ESRI, INC
				Summary Total					4,780.00			
	ESRI, INC											
	PO BOX 741076											
	LOS ANGELES CA 90074-1076											
				Payment Amount					4,780.00			
113321	FACTORY MOTOR PARTS CO		PV	121450	001	00999	10/2/2023	6-1658252	39.48		113321	FACTORY MOTOR PART CO
				Summary Total					39.48			
	FACTORY MOTOR PARTS CO											
	BIN 139107											
	P O BOX 9107											
	MINNEAPOLIS MN 55480-9107											
				Payment Amount					39.48			
100143	FERGUSON WATERWORKS # 2518		PV	121335	001	00999	10/2/2023	0519848	28.09		100143	FERGUSON WATERWOF # 2518
				Summary Total					28.09			
	FERGUSON WATERWORKS 2516		PV	121504	001	00999	10/11/2023	0521103	3,253.56			
	P O BOX 802817			Summary Total					3,253.56			
	CHICAGO IL 60680-2817		PV	121506	001	00999	10/12/2023	0511346	4,458.67			
				Summary Total					4,458.67			
			PV	121507	001	00999	10/12/2023	0519848-1	3,783.40			
				Summary Total					3,783.40			
				Payment Amount								

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Payment Instrument T A/P ACH Payment
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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
									11,523.72			
119872	GENERAL PATTERN CO. INC		PV	121351	001	00999	9/20/2023	699406	60.00		119872	GENERAL PATTERN CO. INC
	GENERAL PATTERN CO. INC 3075 84TH LANE NE BLAINE MN 55449	Summary Total							60.00			
		Payment Amount							60.00			
100200	GOPHER STATE ONE CALL INC		PV	121336	001	00999	9/30/2023	3090696	480.60		100200	GOPHER STATE ONE CALL INC
	GOPHER STATE ONE CALL 7223 PARKWAY DRIVE SUITE 210 HANOVER MD 21076-1317	Summary Total							480.60			
		Payment Amount							480.60			
100209	HAKANSON ANDERSON ASSOC INC		PV	121557	001	00999	10/12/2023	51598	490.00		100209	HAKANSON ANDERSON ASSOC INC
	HAKANSON ANDERSON ASSOC INC 3601 THURSTON AVENUE ANOKA MN 55303-1063	Summary Total							490.00			
		Payment Amount							490.00			
100211	HAWKINS INC		PV	121337	001	00999	10/2/2023	6594926	5,234.50		100211	HAWKINS INC
	HAWKINS INC P O BOX 860263 MINNEAPOLIS MN 55486-0263	Summary Total							5,234.50			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
				Payment Amount					5,234.50			
104027	INK WIZARDS INC		PV	121432	001	00999	10/9/2023	9231	48.00		104027	INK WIZARDS INC
	INK WIZARDS INC 9958 HIGHWAY 10 NW ELK RIVER MN 55330			Summary Total					48.00			
				Payment Amount					48.00			
112475	INNOVATIVE OFFICE SOLUTIONS	S27569	PV	121431	001	00999	10/6/2023	IN4346394	335.27		112475	INNOVATIVE OFFICE SOLUTIONS
	INNOVATIVE OFFICE SOLUTIONS LOCKBOX 131434 P O BOX 1414 MINNEAPOLIS MN 55480-1414			Summary Total					335.27			
				Payment Amount					335.27			
120393	LANDALL SERVICES LLC	PAYAPP 2 23-10 WHISPERING PINE	PV	121572	001	09435	10/18/2023	10182023-1	377,729.50		120393	LANDALL SERVICES LLC
	LANDALL SERVICES LLC	PAYAPP 2 23-10 WHISPERING PINE	PV	121572	002	09435	10/18/2023	10182023-1	722.00			
	24752 128TH STREET ZIMMERMAN MN 55398			Summary Total					378,451.50			
				Payment Amount					378,451.50			
100266	LOGIS		PV	121340	001	00999	10/1/2023	54032	21,557.00		100266	LOGIS
	LOCAL GOVERNMENT INFORMATION SYSTEMS ASS 5750 DULUTH STREET			Summary Total					21,557.00			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	GOLDEN VALLEY MN 55422-4036											
				Payment Amount					21,557.00			
106616	MARTIN MCALLISTER, INC		PV	121358	001	00999	9/30/2023	15668	2,500.00		106616	MARTIN MCALLISTER, INC
	MARTIN MCALLISTER, INC 7650 EDINBOROUGH WAY #550 EDINA MN 55435			Summary Total					2,500.00			
				Payment Amount					2,500.00			
100284	MENARDS ELK RIVER		PV	121383	001	00999	10/5/2023	82761	61.79		100284	MENARDS ELK RIVER
	MENARDS ELK RIVER 19521 EVANS STREET NW ELK RIVER MN 55330-1077			Summary Total					61.79			
				Payment Amount					61.79			
100285	MET COUNCIL ENVIRONMENTAL SRV	Inv #1163229	PV	121347	001	00999	10/2/2023	0001163229	94,908.25		100285	MET COUNCIL ENVIRONMENTAL SRV
	MET COUNCIL ENVIRONMENTAL SRV P O BOX 856513 MINNEAPOLIS MN 55485-6513			Summary Total					94,908.25			
				Payment Amount					94,908.25			
119825	METRO CREATIVE GRAPHICS INC		PV	121361	001	00999	9/30/2023	221995	99.00		119825	METRO CREATIVE GRAPHICS INC
	METRO CREATIVE GRAPHICS INC PO BOX 2085			Summary Total					99.00			

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	LIVINGSTON NJ 07039											
				Payment Amount					99.00			
100289	METRO SALES INC		PV	121342	001	00999	10/4/2023	INV2378755	2,285.88		100289	METRO SALES INC
	METRO SALES INC			Summary Total					2,285.88			
	ATTN: ACCOUNTS RECEIVABLE											
	250 N RIVER RIDGE CIRCLE SUITE 100											
	BURNSVILLE MN 55337											
				Payment Amount					2,285.88			
115167	NET TRANSCRIPTS INC		PV	121487	001	00999	9/30/2023	NT17068	68.64		115167	NET TRANSCRIPTS INC
	NET TRANSCRIPTS INC			Summary Total					68.64			
	PO BOX 95777											
	CHICAGO IL 60694-5777											
				Payment Amount					68.64			
101234	NORTH VALLEY, INC	PAYAPP 1 23-06 MSA PAVMNT OVRL	PV	121575	001	09402	10/18/2023	10182023-1	258,733.50		101234	NORTH VALLEY, INC
	NORTH VALLEY, INC	PAYAPP 1 23-06 MSA PAVMNT OVRL	PV	121575	002	09402	10/18/2023	10182023-1	148,605.88			
	20015 IGUANA STREET NW #100	PAYAPP 1 23-06 MSA PAVMNT OVRL	PV	121575	003	09402	10/18/2023	10182023-1	1,641.57			
	NOWTHEN MN 55330	PAYAPP 1 23-06 MSA PAVMNT OVRL	PV	121575	004	09402	10/18/2023	10182023-1	17,335.52			
				Summary Total					426,316.47			
				Payment Amount					426,316.47			
117130	NORTHERN LINES	PAYAPP 5 23-01 161ST	PV	121576	001	09402	10/18/2023	10182023-1	43,993.40		117130	NORTHERN LINES

Payment Group Control Number 3708
Bank Account 999.1010 CASH IN BANK 00002224
Version LOGIS004V
Originator JMORRISON
Payment Instrument T A/P ACH Payment
Pay Through Date 10/25/2023

Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	CONTRACTING INC	AVE RECON										CONTRACTING INC
	NORTHERN LINES	PAYAPP 5 23-01 161ST	PV	121576	002	09402	10/18/2023	10182023-1	9,297.60			
	CONTRACTING INC	AVE RECON										
	11039 LAMONT AVE NE	PAYAPP 5 23-01 161ST	PV	121576	003	09402	10/18/2023	10182023-1	5,400.64			
		AVE RECON										
	HANOVER MN 55341	PAYAPP 5 23-01 161ST	PV	121576	004	09402	10/18/2023	10182023-1	13,182.60			
		AVE RECON										
		PAYAPP 5 23-01 161ST	PV	121576	005	09402	10/18/2023	10182023-1	2,922.62			
		AVE RECON										
				Summary Total					74,796.86			
				Payment Amount					74,796.86			
100363	NORTHERN SANITARY SUPPLY CO		PV	121333	001	00999	10/4/2023	207708	303.87		100363	NORTHERN SANITARY SUPPLY CO
	NORTHERN SANITARY SUPPLY CO											
	341 COON RAPIDS BLVD			Summary Total					303.87			
			PV	121508	001	00999	10/13/2023	207763	189.99			
	MINNEAPOLIS MN 55433			Summary Total					189.99			
				Payment Amount					493.86			
115071	NORTHLAND OCCUPATIONAL HEALTH		PV	121359	001	00999	10/3/2023	19875	250.00		115071	NORTHLAND OCCUPATIONAL HEALTH
	NORTHLAND OCCUPATIONAL HEALTH			Summary Total					250.00			
	7533 SUNWOOD DRIVE NW		PV	121430	001	00999	10/5/2023	19990	150.00			
	SUITE 212											
	RAMSEY MN 55303			Summary Total					150.00			
				Payment Amount					400.00			
110480	OPUS 21 MANAGEMENT	Inv #230920	PV	121482	001	00999	10/11/2023	230920	328.86		110480	OPUS 21 MANAGEMENT

Payment Group Control Number 3708
Bank Account 999.1010 CASH IN BANK 00002224
Version LOGIS004V
Originator JMORRISON
Payment Instrument T A/P ACH Payment
Pay Through Date 10/25/2023

Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	SOLUTIONS											SOLUTIONS
	OPUS 21 MANAGEMENT SOLUTIONS 680 COMMERCE DRIVE SUITE 160 WOODBURY MN 55125			Summary Total					328.86			
				Payment Amount					328.86			
112824	PARKPLACE STUDIO		PV	121476	001	00999	10/10/2023	10102023	910.00		112824	PARKPLACE STUDIO
	PARKPLACE STUDIO 6093 146TH LANE NW RAMSEY MN 55303			Summary Total					910.00			
			PV	121488	001	00999	10/10/2023	10102023-PD	379.00			
				Summary Total					379.00			
				Payment Amount					1,289.00			
112421	PERRILL		PV	121455	001	00999	10/1/2023	261057	200.00		112421	PERRILL
	PERRIL 110 CHESHIRE LANE SUITE 105 MINNETONKA MN 55305			Summary Total					200.00			
				Payment Amount					200.00			
114134	PHASOR ELECTRIC COMPANY		PV	121549	001	00999	10/13/2023	049950	1,794.00		114134	PHASOR ELECTRIC COMPANY
	PHASOR ELECTRIC COMPANY 2160 108TH LANE NE BLAINE MN 55449			Summary Total					1,794.00			
				Payment Amount					1,794.00			
116092	ROADKILL ANIMAL CONTROL		PV	121447	001	00999	9/30/2023	09302023	309.00		116092	ROADKILL ANIMAL

Payment Group Control Number 3708
Bank Account 999.1010 CASH IN BANK 00002224
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Payment Instrument T A/P ACH Payment
Pay Through Date 10/25/2023

Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
												CONTROL
	ROADKILL ANIMAL CONTROL 520 HAROLD DRIVE BURNSVILLE MN 55337			Summary Total					309.00			
				Payment Amount					309.00			
100431	SAFETY KLEEN CORPORATION		PV	121466	001	00999	10/3/2023	R003014222	110.97		100431	SAFETY KLEEN CORPORATION
	SAFETY KLEEN CORPORATION PO BOX 975201 DALLAS TX 75397-5201			Summary Total					110.97			
				Payment Amount					110.97			
100440	SHORT ELLIOT HENDRICKSON INC		PV	121442	001	00999	10/9/2023	454382	38,960.97		100440	SHORT ELLIOT HENDRICKSON INC
	SHORT ELLIOT HENDRICKSON INC P O BOX 64780 ST PAUL MN 55164-0780			Summary Total					38,960.97			
				Payment Amount					38,960.97			
119121	SLOTH INSPECTIONS INC		PV	121502	001	00999	9/30/2023	09302023	6,222.75		119121	SLOTH INSPECTIONS INC
	SLOTH INSPECTIONS INC 2089 175TH LANE NW ANDOVER MN 55304			Summary Total					6,222.75			
				Payment Amount					6,222.75			

Payment Group Control Number 3708
Bank Account 999.1010 CASH IN BANK 00002224
Version LOGIS004V
Originator JMORRISON
Payment Instrument T A/P ACH Payment
Pay Through Date 10/25/2023

Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
100485	TIMESAVER OFF SITE SECRETARIAL INC		PV	121356	001	00999	10/4/2023	M28594	768.75		100485	TIMESAVER OFF SITE SECRETARIAL INC
	TIMESAVER OFF SITE SECRETARIAL INC 21021 KAROLINE COURT N FOREST LAKE MN 55025							Summary Total	768.75			
								Payment Amount	768.75			
106812	TWIN CITY FILTER SERVICE INC		PV	121475	001	00999	10/6/2023	0748367-IN	642.81		106812	TWIN CITY FILTER SERVICE INC
	TWIN CITY FILTER SERVICE INC 2529 25TH AVE S MINNEAPOLIS MN 55406-1280							Summary Total	642.81			
								Payment Amount	642.81			
107571	VEIT AND COMPANY INC	PAYAPP 1 23-02 CENTRL PARK LOT	PV	121577	001	09805	10/18/2023	10182023-1	33,181.58		107571	VEIT AND COMPANY INC
	VEIT AND COMPANY INC	PAYAPP 1 23-02 CENTRL PARK LOT	PV	121577	002	09805	10/18/2023	10182023-1	33,181.57			
	14000 VEIT PLACE	PAYAPP 1 23-02 CENTRL PARK LOT	PV	121577	003	09805	10/18/2023	10182023-1	118,588.98			
	ROGERS MN 55374							Summary Total	184,952.13			
								Payment Amount	184,952.13			
106351	WATER LABORATORIES, INC		PV	121429	001	00999	10/8/2023	9706	690.00		106351	WATER LABORATORIES, INC
	WATER LABORATORIES, INC 333 EAST MAIN STREET PO BOX 388							Summary Total	690.00			

Payment Group Control Number	3708		
Bank Account	999.1010	CASH IN BANK	00002224
Version	LOGIS004V		
Originator	JMORRISON		
Payment Instrument	T	A/P ACH Payment	
Pay Through Date	10/25/2023		

Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Document Number	Document Itm	Document Co	Due Date	Invoice Number	Payment Amount	Discount Taken	Supplier Number	Supplier Name
	ELK RIVER MN 55330											
								Payment Amount	690.00			
								Total Amount to be Processed	1,939,472.82			
								Total Number of Payments to be Processed	50			

Checks - 2,730,078.82
ACH - 1,939,472.82
4,669,551.64

Councilmember introduced the following resolution and moved for its adoption:

RESOLUTION #23-270

RESOLUTION APPROVING CASH DISBURSEMENTS MADE AND AUTHORIZING PAYMENT OF ACCOUNTS PAYABLE INVOICING RECEIVED DURING THE PERIOD OF OCTOBER 5, 2023 THROUGH OCTOBER 18, 2023

WHEREAS, the City of Ramsey Finance Department has made cash disbursements and received accounts payable invoicing during the period of October 5, 2023 through October 18, 2023 in the amount of $5,191,447.17 and

WHEREAS, the City Council of the City of Ramsey is required to authorize payment for all disbursement transactions.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) That the Ramsey City Council hereby approves the cash disbursements made and authorizes payment of the accounts payable invoices as detailed in the attached Bills List for the period October 5, 2023 through October 18, 2023, in the amount of $5,191,447.17.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember , and upon vote being taken thereon, the following voted in favor thereof:

Mayor Kuzma
Councilmember
Councilmember
Councilmember
Councilmember
Councilmember
Councilmember

and the following voted against the same:

None

and the following abstained:

None

and the following were absent:

None

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-244 Approving Final Payment to Douglas-Kerr Underground, LLC for IP #20-05, Riverdale Drive Extension, Llama Street to Bowers Drive.

Purpose/Background:

Resolution and Pay Request attached.

Observations/Alternatives:

Issuing final payment will be contingent on receipt of the following items from Douglas-Kerr Underground, LLC:

- IC 134 forms (Contractor's Withholding Affidavit showing compliance with the provisions of Minnesota Statute 290.92 requiring withholding state income tax)
- Waiver of Mechanic's Lien Rights (Affidavits that all claims against Douglas-Kerr Underground, LLC by reasons of the contract have been fully paid or satisfactorily secured)
- Consent of Surety to Final Payment (Certification from the contractor's surety, if any)

Following receipt of these items, final payment will be issued.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends final payment to Douglas-Kerr Underground, LLC for IP #20-05, Riverdale Drive Extension, Llama Street to Bowers Drive in the amount of $129,035.65.

Action:

Motion to adopt Resolution #23-244 approving final payment to Douglas-Kerr Underground, LLC, for IP #20-05, Riverdale Drive Extension, Llama Street to Bowers Drive in the amount of $129,035.65.

Attachments

Pay Resolution #23-244

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Bruce Westby	10/19/2023 05:09 AM
Brian Hagen	Brian Hagen	10/19/2023 07:24 AM
Form Started By: Stacie Damjanovich		Started On: 09/28/2023 11:06 AM
Final Approval Date: 10/19/2023		

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-244

RESOLUTION APPROVING FINAL PAYMENT TO DOUGLAS-KERR UNDERGROUND, LLC, FOR IMPROVEMENT PROJECT #20-05, RIVERDALE DRIVE EXTENSION, LLAMA STREET TO BOWERS DRIVE

WHEREAS, existing Riverdale Drive between Sunfish Lake Boulevard and Armstrong Boulevard functions as the south frontage road to U.S. Highway 10/169; and

WHEREAS, the City of Ramsey proposes to extend Riverdale Drive between Llama Street and Bowers Drive to extend the south frontage road system south of U.S. Highway 10/169 to Bowers Drive; and

WHEREAS, pursuant to Ramsey City Council Resolution #21-267 adopted September 14, 2021, the City Council accepted the awarded amount of $612,000 in Local Partnership Program (LPP) funds to pay for a portion of Improvement Project #20-05; and

WHEREAS, pursuant to Ramsey City Council Resolution #21-304 adopted October 26, 2021, the City Council accepted a design services proposal of Bolton & Menk, Inc. to develop final plans and specifications and solicit bids for Improvement Project #20-05; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-071 adopted March 22, 2022, the City Council approved three Assessment Agreements for Improvement Project #20- 05; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-088 adopted April 12, 2022, the City Council approved including the reconstruction of Riverdale Drive between Llama Street and the segment of Riverdale Drive constructed as part of the Armstrong Boulevard & Highway 10 interchange under Improvement Project #20-05; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-148 adopted June 28, 2022, the City Council approved the plans and specifications prepared by Bolton & Menk, Inc. and authorized the advertisement of bids for Improvement Project #20-05; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-158 adopted July 12, 2022, the City Council approved Cooperative Construction Agreement #1050030 with the State of Minnesota, Department of Transportation, as related to City Improvement Project #20-05; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-176 adopted August 8, 2022, the City Council authorized entering into a construction contract with Douglas-Kerr Underground, LLC., for the making of such improvements at the contract price of $2,342,102.66; and

WHEREAS, as of October 24, 2023, $2,126,032.64 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends final payment to Douglas-Kerr Underground, LLC of Mora, Minnesota, for said project, in the amount of $129,035.65.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) That the City Council hereby authorizes final payment to Douglas-Kerr Underground, LLC of Mora, Minnesota for Improvement Project #20-05, Riverdale Drive Extension, Llama Street to Bower Drive, in the amount of $129,035.65.

2) The City Council authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be given a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember ____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Contractor's Application for Payment

Owner:	City of Ramsey	**Owner's Project No.:**	20-05
Engineer:	Bolton & Menk, Inc.	**Engineer's Project No.:**	0R1.125908, 0R1.128236
Contractor:	Douglas-Kerr Underground, LLC	**Agency's Project No.:**	SP 020-121, SAP 119-115-005
Project:	2022 Riverdale Drive Extension		
Contract:			

Application No.: 6 **Application Date:** 9/26/2023

Application Period: **From** 6/6/2023 **to** 9/26/2023

1. Original Contract Price	$	2,342,102.66
2. Net change by Change Orders	$	-
3. Current Contract Price (Line 1 + Line 2)	$	2,342,102.66
4. Total Work completed and materials stored to date (Sum of Column H Unit Price Total and Column M Stored Materials)	$	2,255,068.29
5. Retainage		
a. _____ X $ 2,255,068.29 Work Completed	$	-
b. _____ X $ - Stored Materials	$	-
c. Total Retainage (Line 5.a + Line 5.b)	$	-
6. Amount eligible to date (Line 4 - Line 5.c)	$	2,255,068.29
7. Less previous payments	$	2,126,032.64
8. Amount due this application	$	**129,035.65**
9. Balance to finish, including retainage (Line 3 - Line 4)		NA

Contractor's FINAL PAYMENT Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective; and
(4) The provisions of M. S. 290.92 have been complied with and that all claims against me by reason of the Contract have been paid or satisfactorily secured.

Contractor: Douglas-Kerr Underground, LLC

Signature: _____ **Date:** 9-27-23

Name: Dennis D. Douglas **Title:** Manager

Recommended by Engineer		**Approved by Owner**	
By:	Kevin P Kielb	**By:**	Bruce Westby
Name:	Kevin P. Kielb	**Name:**	Bruce Westby
Title:	Project Engineer	**Title:**	City Engineer/Public Works Dir.
Date:	9/26/2023	**Date:**	10/5/2023

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey
Engineer:	Bolton & Menk, Inc.
Contractor:	Douglas-Kerr Underground, LLC
Project:	2022 Riverdale Drive Extension
Contract:	

Owner's Project No.:	20-05
Engineer's Project No.:	0R1.125908, 0R1.128236
Contractor's Project No.:	
Agency's Project No.:	SP 020-121, SAP 119-115-005

Application No.: 6 Application Period: From 06/06/23 to 09/26/23 Application Date: 09/26/23

A	B	C	D	E	F	F1	F2	G	H	I	J
		Contract Information				Previous Estimate		Work Completed			
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	% of Value of Item (H / F) (%)	Balance to Finish (F - H) ($)
	Original Contract										
1	AS BUILT	1.00	LUMP SUM	3,800.00	3,800.00	1.00	3,800.00	1.00	3,800.00	100%	
2	MOBILIZATION	1.00	LUMP SUM	101,000.00	101,000.00	1.00	101,000.00	1.00	101,000.00		
3	PAVEMENT MARKING REMOVAL	1,550.00	LIN FT	1.50	2,325.00	713.00	1,069.50	713.00	1,069.50		
4	REMOVE ANCHORAGE ASSEMBLY - TENSION CABLE	3.00	EACH	4,500.00	13,500.00	3.00	13,500.00	3.00	13,500.00		
5	REMOVE MAIL BOX & SUPPORT	1.00	EACH	250.00	250.00	-	-	-	-		
6	SALVAGE SIGN	8.00	EACH	45.00	360.00	2.00	90.00	2.00	90.00		
7	REMOVE SIGN	15.00	EACH	45.00	675.00	2.00	90.00	2.00	90.00		
8	REMOVE PIPE APRON	8.00	EACH	151.55	1,212.40	8.00	1,212.40	8.00	1,212.40		
9	REMOVE TENSION CABLE GUARDRAIL	547.00	LIN FT	8.50	4,649.50	547.00	4,649.50	547.00	4,649.50		
10	REMOVE PIPE CULVERT	206.00	LIN FT	15.50	3,193.00	206.00	3,193.00	206.00	3,193.00		
11	SAWING BIT PAVEMENT (FULL DEPTH)	3,165.00	LIN FT	3.15	9,969.75	1,000.00	3,150.00	1,000.00	3,150.00		
12	SAWING CONCRETE PAVEMENT (FULL DEPTH)	40.00	LIN FT	3.70	148.00	40.00	148.00	40.00	148.00		
13	REMOVE CURB AND GUTTER	350.00	LIN FT	3.85	1,347.50	350.00	1,347.50	350.00	1,347.50		
14	REMOVE BITUMINOUS PAVEMENT	9,110.00	SQ YD	3.90	35,529.00	9,110.00	35,529.00	9,110.00	35,529.00		
15	REMOVE CONCRETE PAVEMENT	490.00	SQ YD	7.80	3,822.00	490.00	3,822.00	490.00	3,822.00		
16	EXCAVATION - COMMON (EV)	2,335.00	CU YD	30.45	71,100.75	2,080.00	63,336.00	2,080.00	63,336.00		
17	EXCAVATION - SUBGRADE (EV)	50.00	CU YD	11.55	577.50	-	-	-	-		
18	COMMON EMBANKMENT (CV)	100.00	CU YD	14.00	1,400.00	100.00	1,400.00	100.00	1,400.00		
19	SUBGRADE PREPARATION	61.00	ROAD ST	251.90	15,365.90	61.00	15,365.90	61.00	15,365.90		
20	AGGREGATE SURFACING (CV) CLASS 2	105.00	CU YD	132.25	13,886.25	71.39	9,441.33	71.39	9,441.33		
21	STREET SWEEPER (WITH PICKUP BROOM)	16.00	HOUR	150.00	2,400.00	66.62	9,993.00	66.62	9,993.00		
22	AGGREGATE BASE (CV) CLASS 5 MODIFIED	4,170.00	CU YD	36.20	150,954.00	2,705.10	97,924.62	2,705.10	97,924.62		
23	AGGREGATE BASE (CV) CLASS 6	50.00	CU YD	62.40	3,120.00	50.00	3,120.00	50.00	3,120.00		
24	AGGREGATE BASE (CV) FROM STOCKPILE	2,800.00	CU YD	14.70	41,160.00	4,931.70	72,495.99	4,931.70	72,495.99		
25	TYPE SP 9.5 WEARING COURSE MIX (3,C)	3,120.00	TON	96.45	300,924.00	2,445.28	235,847.26	2,622.98	252,986.46		
26	TYPE SP 9.5 WEARING COURSE MIX (3,C)	840.00	TON	105.60	88,704.00	1,072.18	113,222.21	1,072.18	113,222.21		
27	TYPE SP 12.5 NON WEARING COURSE MIX (3,C)	3,750.00	TON	88.15	330,562.50	3,196.29	281,752.96	3,196.29	281,752.96		
28	TYPE SP 12.5 WEARING COURSE MIX (4,F)	140.00	TON	125.35	17,549.00	124.93	15,659.98	124.93	15,659.98		
29	TYPE SP 12.5 NON WEAR COURSE MIX (4,B)	140.00	TON	106.55	14,917.00	124.93	13,311.29	124.93	13,311.29		
30	FINE AGGREGATE BEDDING (CV)	36.00	CU YD	21.15	761.40	-	-	-	-		
31	22" SPAN RC PIPE-ARCH APRON	2.00	EACH	3,093.00	6,186.00	2.00	6,186.00	2.00	6,186.00		
32	22" SPAN RC PIPE-ARCH CULVERT CL IVA	84.00	LIN FT	154.50	12,978.00	88.00	13,596.00	88.00	13,596.00		
33	15" RC PIPE SEWER DESIGN 3006 CLASS V	8.00	LIN FT	89.35	714.80	7.00	625.45	7.00	625.45		
34	24" RC PIPE SEWER DESIGN 3006 CLASS III	16.00	LIN FT	113.95	1,823.20	-	-	-	-		
35	4" PVC PIPE SEWER	130.00	LIN FT	26.70	3,471.00	225.00	6,007.50	225.00	6,007.50		
36	6" PVC PIPE SEWER	90.00	LIN FT	55.40	4,986.00	83.00	4,598.20	83.00	4,598.20		
37	8" PVC PIPE SEWER	185.00	LIN FT	94.90	17,556.50	186.00	17,651.40	186.00	17,651.40		
38	8"X4" PVC WYE	2.00	EACH	1,007.00	2,014.00	4.00	4,028.00	4.00	4,028.00		
39	CONNECT TO EXISTING SANITARY SEWER	3.00	EACH	3,303.00	9,909.00	3.00	9,909.00	3.00	9,909.00		
40	CONNECT TO EXISTING STORM SEWER	2.00	EACH	3,521.00	7,042.00	2.00	7,042.00	2.00	7,042.00		
41	ADJUST GATE VALVE BOX	21.00	EACH	835.95	17,554.95	25.00	20,898.75	25.00	20,898.75		
42	CONNECT TO EXISTING WATER MAIN	5.00	EACH	2,498.00	12,490.00	5.00	12,490.00	5.00	12,490.00		
43	6" GATE VALVE & BOX	4.00	EACH	3,164.00	12,656.00	4.00	12,656.00	4.00	12,656.00		
44	8" GATE VALVE & BOX	2.00	EACH	4,395.00	8,790.00	2.00	8,790.00	2.00	8,790.00		

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey
Engineer:	Bolton & Menk, Inc.
Contractor:	Douglas-Kerr Underground, LLC
Project:	2022 Riverdale Drive Extension
Contract:	

Owner's Project No.:	20-05
Engineer's Project No.:	0R1.125908, 0R1.128236
Contractor's Project No.:	
Agency's Project No.:	SP 020-121, SAP 119-115-005

Application No.: 6 Application Period: From 06/06/23 to 09/26/23 Application Date: 09/26/23

A	B	C	D	E	F	F1	F2	G	H	I	J
		Contract Information				Previous Estimate		Work Completed			
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	% of Value of Item (H / F) (%)	Balance to Finish (F - H) ($)
45	12" GATE VALVE & BOX	3.00	EACH	6,888.00	20,664.00	3.00	20,664.00	3.00	20,664.00		
46	HYDRANT	3.00	EACH	6,233.00	18,699.00	4.00	24,932.00	4.00	24,932.00		
47	1" CURB STOP & BOX	2.00	EACH	1,166.00	2,332.00	4.00	4,664.00	4.00	4,664.00		
48	1" SADDLE	2.00	EACH	945.85	1,891.70	4.00	3,783.40	4.00	3,783.40		
49	1" TYPE K COPPER PIPE	115.00	LIN FT	21.95	2,524.25	229.00	5,026.55	229.00	5,026.55		
50	6" WATERMAIN DUCTILE IRON CL 53	65.00	LIN FT	80.35	5,222.75	55.00	4,419.25	55.00	4,419.25		
51	8" WATERMAIN	280.00	LIN FT	83.50	23,380.00	279.50	23,338.25	279.50	23,338.25		
52	12" WATERMAIN	880.00	LIN FT	86.50	76,120.00	870.00	75,255.00	870.00	75,255.00		
53	STEEL CASING (TRENCHLESS)	395.00	LIN FT	502.00	198,290.00	395.00	198,290.00	395.00	198,290.00		
54	12" WATERMAIN (IN CASING)	395.00	LIN FT	146.20	57,749.00	395.00	57,749.00	395.00	57,749.00		
55	WATERMAIN FITTINGS	760.00	POUND	11.80	8,968.00	1,153.00	13,605.40	1,153.00	13,605.40		
56	CASTING ASSEMBLY	60.00	EACH	1,200.00	72,000.00	60.00	72,000.00	60.00	72,000.00		
57	CONSTRUCT SANITARY SEWER MANHOLE	26.00	LIN FT	538.95	14,012.70	25.10	13,527.65	25.10	13,527.650		
58	CONSTRUCT DRAINAGE STRUCTURE DES 48-4020	4.00	LIN FT	1,356.00	5,424.00	4.00	5,424.00	4.00	5,424.00		
59	CONSTRUCT DRAINAGE STRUCTURE DES 60-4020	4.00	LIN FT	1,622.00	6,488.00	4.00	6,488.00	4.00	6,488.00		
60	SEAL MANHOLE	20.00	EACH	181.50	3,630.00	20.00	3,630.00	20.00	3,630.00		
61	6" CONCRETE WALK	3,140.00	SQ FT	9.90	31,086.00	3,533.00	34,976.70	3,533.00	34,976.70		
62	CONCRETE CURB AND GUTTER DESIGN B618	10,325.00	LIN FT	13.60	140,420.00	9,951.00	135,333.60	9,951.00	135,333.60		
63	CONCRETE CURB AND GUTTER DESIGN D418	200.00	LIN FT	25.60	5,120.00	224.00	5,734.40	224.00	5,734.40		
64	6" CONCRETE DRIVEWAY PAVEMENT	30.00	SQ YD	63.00	1,890.00	45.00	2,835.00	45.00	2,835.00		
65	8" CONCRETE DRIVEWAY PAVEMENT	540.00	SQ YD	65.60	35,424.00	548.25	35,965.20	548.25	35,965.20		
66	TRUNCATED DOMES	380.00	SQ FT	50.00	19,000.00	408.00	20,400.00	408.00	20,400.00		
67	ANCHORAGE ASSEMBLY - TENSION CABLE	1.00	EACH	16,000.00	16,000.00	1.00	16,000.00	1.00	16,000.00		
68	TENSION CABLE GUARDRAIL	982.00	LIN FT	95.00	93,290.00	982.00	93,290.00	982.00	93,290.00		
69	TRAFFIC CONTROL 1	1.00	LUMP SUM	19,950.00	19,950.00	1.00	19,950.00	1.00	19,950.00		
70	TRAFFIC CONTROL 2	1.00	LUMP SUM	19,950.00	19,950.00	1.00	19,950.00	1.00	19,950.00		
71	ALTERNATE PEDESTRIAN ROUTE	1.00	LUMP SUM	1,000.00	1,000.00	1.00	1,000.00	1.00	1,000.00		
72	INSTALL SIGN TYPE C	8.00	EACH	250.00	2,000.00	4.00	1,000.00	4.00	1,000.00		
73	SIGN PANELS TYPE D	56.25	SQ FT	78.00	4,387.50	56.25	4,387.50	56.25	4,387.50		
74	STABILIZED CONSTRUCTION EXIT	1.00	LUMP SUM	0.01	0.01	-	-	-	-		
75	STORM DRAIN INLET PROTECTION	41.00	EACH	208.75	8,558.75	41.00	8,558.75	41.00	8,558.75		
76	CULVERT END CONTROLS	2.00	EACH	278.80	557.60	-	-	-	-		
77	SILT FENCE, TYPE MS	5,040.00	LIN FT	1.50	7,560.00	4,351.00	6,526.50	4,351.00	6,526.50		
78	SEDIMENT CONTROL LOG TYPE WOOD FIBER	3,100.00	LIN FT	2.20	6,820.00	2,471.00	5,436.20	2,471.00	5,436.20		
79	SOIL BED PREPARATION	3.80	ACRE	400.00	1,520.00	3.80	1,520.00	3.80	1,520.00		
80	SUBSOILING	3.80	ACRE	325.00	1,235.00	3.80	1,235.00	3.80	1,235.00		
81	FERTILIZER TYPE 3	1,140.00	POUND	0.65	741.00	950.00	617.50	950.00	617.50		
82	ROLLED EROSION PREVENTION CATEGORY 20	1,100.00	SQ YD	1.40	1,540.00	800.00	1,120.00	800.00	1,120.00		
83	SEEDING	3.80	ACRE	185.00	703.00	3.80	703.00	3.80	703.00		
84	RAPID STABILIZATION METHOD 2	1.00	ACRE	1,500.00	1,500.00	-	-	-	-		
85	SEEDING MIXTURE 25-121	370.00	POUND	5.25	1,942.50	456.00	2,394.00	456.00	2,394.00		
86	HYDRAULIC BONDED FIBER MATRIX	12,510.00	POUND	1.50	18,765.00	17,550.00	26,325.00	17,550.00	26,325.00		
87	4" SOLID LINE MULTI COMP	10,950.00	LIN FT	0.80	8,760.00	10,949.00	8,759.20	10,949.00	8,759.20		
88	4" SOLID LINE MULTI COMP GROUND IN (WR)	3,100.00	LIN FT	1.90	5,890.00	3,089.00	5,869.10	3,089.00	5,869.10		
89	24" SOLID LINE MULTI COMP	20.00	LIN FT	13.50	270.00	22.00	297.00	22.00	297.00		

EJCDC C-620 Contractor's Application for Payment
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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey
Engineer:	Bolton & Menk, Inc.
Contractor:	Douglas-Kerr Underground, LLC
Project:	2022 Riverdale Drive Extension
Contract:	

Owner's Project No.:	20-05
Engineer's Project No.:	0R1.125908, 0R1.128236
Contractor's Project No.:	
Agency's Project No.:	SP 020-121, SAP 119-115-005

Application No.: 6 Application Period: From 06/06/23 to 09/26/23 Application Date: 09/26/23

A	B	C	D	E	F	F1	F2	G	H	I	J
		Contract Information				Previous Estimate		Work Completed			
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	% of Value of Item (H / F) (%)	Balance to Finish (F - H) ($)
90	4" DOUBLE SOLID LINE MULTI COMP	4,920.00	LIN FT	1.60	7,872.00	4,987.00	7,979.20	4,987.00	7,979.20		
91	CROSSWALK PREFORM THERMO GROUND IN ESR	180.00	SQ FT	14.00	2,520.00	150.00	2,100.00	150.00	2,100.00		
92	CROSSWALK MULTI COMP	780.00	SQ FT	6.00	4,680.00	750.00	4,500.00	750.00	4,500.00		
93	PAVEMENT MESSAGE THERMO GROUND IN ESR	15.00	SQ FT	28.00	420.00	15.00	420.00	15.00	420.00		
		-	-	-	-	-	-	-	-		
				Original Contract Totals	$ 2,342,102.66		$ 2,237,929.09		$ 2,255,068.29		NA

EJCDC C-620 Contractor's Application for Payment
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CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-255 Approving Partial Payment to Veit & Company, Inc. for Improvement Project #23-02, Central Park Parking Lot Reconstruction.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends partial payment No. 1 to Veit & Company, Inc. for improvement project #23-02, Central Park Parking Lot Reconstruction in the amount of $184,952.13.

Action:

Motion to adopt Resolution #23-255 approving partial payment No. 1 to Veit & Company, Inc. for Improvement Project #23-02, Central Park Parking Lot Reconstruction in the amount of $184,952.13

Attachments

Pay Resolution #23-255

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Stacie Damjanovich	10/18/2023 11:28 AM
Bruce Westby	Bruce Westby	10/19/2023 06:08 AM
Bruce Westby	Bruce Westby	10/19/2023 12:48 PM
Brian Hagen	Brian Hagen	10/19/2023 12:57 PM
Form Started By: Stacie Damjanovich		Started On: 10/06/2023 03:56 PM
Final Approval Date: 10/19/2023		

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-255

RESOLUTION APPROVING PARTIAL PAYMENT TO VEIT & COMPANY, INC. OF ROGERS, MINNESOTA FOR IMPROVEMENT PROJECT #23-02; CENTRAL PARK PARKING LOT RECONSTRUCTION

WHEREAS, the City of Ramsey proposes to reconstruct the Central Park main parking lot; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-089, adopted April 12th, 2022, the City Council accepted and awarded the proposal to Bolten & Menk, Inc. for Topographic Survey of the project area; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-285, adopted December 13, 2022, the City Council ordered the City Engineer to prepare plans and specifications for Improvement Project #23-02, Central Park Main Parking Lot Reconstruction; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-166, adopted July 25, 2023 the City Council approved final plans and specifications as prepared by the City Engineer and authorized advertisement for bids for the same improvements; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-184, adopted August 22, 2023, a contract was awarded to Veit & Company, Inc. of Rogers, Minnesota, in the amount of $561,036.71 for construction and said improvements; and

WHEREAS, as of October 24, 2023 $0.00 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends partial payment No. 1 to Veit & Company, Inc., of Rogers, Minnesota for improvement project #23-02, Central Park Parking Lot Reconstruction in the amount of $184,952.13.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA:

1) The City Council hereby authorizes partial payment No. 1 to Veit & Company, Inc. of Rogers, Minnesota for Improvement Project #23-02, Central Park Parking Lot Reconstruction in the amount of $184,952.13.

2) The City Council hereby authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember ____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Pay Estimate Summary Sheet

Estimate Number:	1	Partial
Project Number:	23-02	
Project Name:	Central Park Main Parking Lot Reconstruction	
Period Ending	September 30, 2023	
Contractor:	Veit & Company, Inc.	
Address:	14000 Veit Place, Rogers, MN 55374	

1	Original Contract Amount			$ 561,036.71
2	Change Order(s)	No. ____ Thru No. ____		
3	Total Funds Encumbered			$ 561,036.71
4	Value of Work Completed			$ 194,686.45
5	Retainage	5 %		$ (9,734.32)
	Percent Complete		35%	
6	Deductions or Charges			
7	Total Earned Less Retainage (Lines 4+5+6)			$ 184,952.13
8	Previous Payment(s)			$ -
9	**Payment Due (Lines 7-8)**			**$ 184,952.13**
10	Total Balance to Finish, Including Retainage (Lines 3-7)			$ 376,084.58

Certification of Partial Payment

I hereby certify that, to the best of my knowledge and belief, all items, quantities and prices of work and material shown on this Estimate are correct and that all work has been performed in full accordance with the terms and conditions of the Contract for this project between owner and the undersigned Contractor, and as amended by any authorized changes and the foregoing is a true and correct statement of the contract amount for the period covered by this estimate.

Veit & Company, Inc	**Brad Holtz**
Contractor Name	Print Name
Project Manager	Brad Holtz Digitally signed by Brad Holtz DN: C=US, E=brad.holtz@veitusa.com, O="Veit & Company, Inc.", CN=Brad Holtz Date: 2023.10.05 12:20:45-05'00'
Title	Signature
	10/5/23
	Date

City of Ramsey Approval	
	10/5/2023
Signature (Project Engineer)	Date
	10/09/2023
Signature (City Engineer)	Date

Central Park Main Parking Lot Reconstruction
I.P. 23-02
Estimate No. 1 **Partial**
Period Ending September 30, 2023

			CONTRACT AMOUNT				COMPLETED THIS PERIOD		COMPLETED TO DATE	
Item No.	MnDOT No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
1	2021.501	MOBILIZATION	LS	1.0	$ 38,330.00	$ 38,330.00	0.75	$ 28,747.50	0.75	$ 28,747.50
2	2101.501	CLEARING & GRUBBING LANDSCAPING	LS	1	$ 2,420.00	$ 2,420.00	1	$ 2,420.00	1	$ 2,420.00
3	2101.502	CLEARING	EACH	7	$ 81.50	$ 570.50	7	$ 570.50	7	$ 570.50
4	2101.502	GRUBBING	EACH	7	$ 81.50	$ 570.50	7	$ 570.50	7	$ 570.50
5	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	101	$ 2.50	$ 252.50	0	$ -	0	$ -
6	2104.503	REMOVE CONCRETE CURB AND GUTTER	LF	32	$ 21.25	$ 680.00	32	$ 680.00	32	$ 680.00
7	2104.503	REMOVE BITUMINOUS CURB	LF	39	$ 11.50	$ 448.50	39	$ 448.50	39	$ 448.50
8	2104.504	REMOVE BITUMINOUS PAVEMENT	SY	8837	$ 1.50	$ 13,255.50	8837	$ 13,255.50	8837	$ 13,255.50
9	2106.507	EXCAVATION - COMMON (EV)	CY	100	$ 10.25	$ 1,025.00	100	$ 1,025.00	100	$ 1,025.00
10	2106.507	EXCAVATION - SUBGRADE (EV)	CY	1632	$ 4.50	$ 7,344.00	1280	$ 5,760.00	1280	$ 5,760.00
11	2106.607	HAUL & STOCKPILE SUBGRADE EXCAVATION MATERIAL	CY	1705	$ 7.33	$ 12,497.65	1280	$ 9,382.40	1280	$ 9,382.40
12	2112.604	SUBGRADE PREPARATION	SY	9305	$ 0.50	$ 4,652.50	9305	$ 4,652.50	9305	$ 4,652.50
13	2130.523	WATER	MGAL	30	$ 92.50	$ 2,775.00	0	$ -	0	$ -
14	2211.507	AGGREGATE BASE CLASS 5 MODIFIED	CY	1354	$ 14.25	$ 19,294.50	0	$ -	0	$ -
15	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	608	$ 3.90	$ 2,371.20	0	$ -	0	$ -
16	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,F)	TON	982	$ 105.00	$ 103,110.00	0	$ -	0	$ -
17	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,F)	TON	736	$ 114.00	$ 83,904.00	0	$ -	0	$ -
18	2502.603	4" PVC CONDUIT - SCHEDULE 40	LF	111	$ 27.75	$ 3,080.25	111	$ 3,080.25	111	$ 3,080.25
19	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS III	LF	429	$ 72.00	$ 30,888.00	429	$ 30,888.00	429	$ 30,888.00
20	2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS III	LF	358	$ 77.50	$ 27,745.00	358	$ 27,745.00	358	$ 27,745.00
21	2503.503	24" RC PIPE SEWER DESIGN 3006 CLASS III	LF	31	$ 111.00	$ 3,441.00	31	$ 3,441.00	31	$ 3,441.00
22	2503.503	30" RC PIPE SEWER DESIGN 3006 CLASS III	LF	24	$ 141.00	$ 3,384.00	7	$ 987.00	7	$ 987.00
23	2503.503	CLEAN & VIDEO PIPE SEWER	LF	842	$ 5.50	$ 4,631.00	0	$ -	0	$ -
24	2503.602	CONNECT TO EXISTING STORM SEWER	EA	1	$ 3,490.00	$ 3,490.00	1	$ 3,490.00	1	$ 3,490.00
25	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 2'X3'	EA	1	$ 2,040.00	$ 2,040.00	1	$ 2,040.00	1	$ 2,040.00
26	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 27-4020	EA	6	$ 1,690.00	$ 10,140.00	6	$ 10,140.00	6	$ 10,140.00
27	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	EA	5	$ 3,680.00	$ 18,400.00	5	$ 18,400.00	5	$ 18,400.00
28	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	EA	1	$ 6,350.00	$ 6,350.00	1	$ 6,350.00	1	$ 6,350.00
29	2506.502	CASTING ASSEMBLY (STORM)	EA	13	$ 1,200.00	$ 15,600.00	13	$ 15,600.00	13	$ 15,600.00
30	2521.504	6" CONCRETE WALK	SY	129	$ 91.50	$ 11,803.50	0	$ -	0	$ -
31	2531.604	6" CONCRETE FLUME	SY	26	$ 153.00	$ 3,978.00	0	$ -	0	$ -
32	2534.503	CONCRETE CURB & GUTTER DESIGN B612	LF	2551	$ 32.00	$ 81,632.00	0	$ -	0	$ -
33	2563.601	TRAFFIC CONTROL	LS	1	$ 0.01	$ 0.01	0	$ -	0	$ -
34	2572.503	TEMPORARY TREE PROTECTION FENCE	LF	697	$ 2.30	$ 1,603.10	696	$ 1,600.80	696	$ 1,600.80
35	2573.501	STABILIZED CONSTRUCTION EXIT	EA	1	$ 2,080.00	$ 2,080.00	0	$ -	0	$ -
36	2573.502	STORM DRAIN INLET PROTECTION	EA	11	$ 202.00	$ 2,222.00	11	$ 2,222.00	11	$ 2,222.00
37	2573.503	SILT FENCE, TYPE MS	LF	239	$ 5.00	$ 1,195.00	238	$ 1,190.00	238	$ 1,190.00
38	2574.507	TOPSOIL (LV)	CY	567	$ 15.25	$ 8,646.75	0	$ -	0	$ -

Item No.	MnDOT No.	Item Description	CONTRACT AMOUNT				COMPLETED THIS PERIOD		COMPLETED TO DATE	
			Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
39	2574.508	FERTILIZER TYPE 3	LBS	40	$ 1.10	$ 44.00	0	$ -	0	$ -
40	2575.505	SEEDING	ACRE	0.40	$ 509.00	$ 203.60	0.00	$ -	0.00	$ -
41	2575.508	HYDRAULIC MULCH MATRIX	LBS	760	$ 1.00	$ 760.00	0	$ -	0	$ -
42	2575.508	SEED MIXTURE 25-151	LBS	25	$ 4.80	$ 120.00	0	$ -	0	$ -
43	2575.508	SEED MIXTURE 33-262	LBS	10	$ 14.50	$ 145.00	0	$ -	0	$ -
44	2575.604	ROLLED EROSION PREVENTION CATEGORY 25	SY	1009	$ 2.20	$ 2,219.80	0	$ -	0	$ -
45	2582.503	4" SOLID LINE PAINT (EPOXY)	LF	5314	$ 3.90	$ 20,724.60	0	$ -	0	$ -
46	2582.618	PAVEMENT MESSAGE (EPOXY)	SF	25	$ 38.75	$ 968.75	0	$ -	0	$ -
		GRAND TOTALS				**$ 561,036.71**		**$ 194,686.45**		**$ 194,686.45**

Internal City Use Only				
Park Improvement Trust Fund		*$ 34,927.98*		*$ 34,927.98*
Capital Maintenance Fund		*$ 34,927.98*		*$ 34,927.98*
Storm Sewer Utility Fund		*$ 124,830.50*		*$ 124,830.50*
Total Funds		*$ 194,686.45*		*$ 194,686.45*

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-256 Approving Partial Payment to North Valley, Inc. for Improvement Project #23-06, 2023 MSA Pavement Overlay Improvements.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends partial payment No. 1 to North Valley, Inc. for improvement project #23-06, 2023 MSA Pavement Overlay Improvements in the amount of $426,316.47.

Action:

Motion to adopt Resolution #23-256 approving partial payment No. 1 to North Valley, Inc. for Improvement Project #23-06, MSA Pavement Overlay Improvements in the amount of $426,316.47.

Attachments

Pay Resolution #23-256

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Stacie Damjanovich	10/18/2023 11:21 AM
Bruce Westby	Bruce Westby	10/19/2023 05:25 AM
Brian Hagen	Brian Hagen	10/19/2023 07:25 AM
Form Started By: Stacie Damjanovich		Started On: 10/06/2023 03:21 PM
Final Approval Date: 10/19/2023		

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-256

RESOLUTION APPROVING PARTIAL PAYMENT TO NORTH VALLEY, INC. OF NOWTHEN, MINNESOTA FOR IMPROVEMENT PROJECT #23-06; 2023 MSA PAVEMENT OVERLAY IMPROVEMENTS

WHEREAS, the City of Ramsey proposes to overlay the pavement on numerous Municipal State Aid (MSA) street segments in 2023 as identified within the 2023 – 2032 Capital Improvement Program; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-250, adopted November 7th, 2022, the City Council accepted and awarded the proposal to Bolton & Menk, Inc., for topographic survey of the project area; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-287, adopted December 13, 2022, the City Council ordered the City Engineer to prepare plans and specifications for Improvement Project #23-06, 2023 MSA Pavement Overlay Improvements; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-083, adopted April 25, 2023, the City Council approved adding streets within the Rivenwick 3rd and Rivenwick Village subdivisions to Improvement Project #23-06; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-141, adopted June 27, 2023, the City Council approved plans and specifications as prepared by the City Engineer and authorized advertisement for bids for said improvement; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-169, adopted July 25, 2023, a contract was awarded to North Valley, Inc. of Nowthen, Minnesota, in the amount of $498,917.55 for construction and said improvements; and

WHEREAS, as of October 24, 2023 $0.00 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends partial payment No. 1 to North Valley, Inc., of Nowthen, Minnesota for improvement project #23-06, 2023 MSA Pavement Overlay Improvements in the amount of $426,316.47.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA:

1) The City Council hereby authorizes partial payment No. 1 to North Valley, Inc. of Nowthen, Minnesota for Improvement Project #23-06, 2023 MSA Pavement Overlay Improvements in the amount of $426,316.47.

2) The City Council hereby authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember ____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Pay Estimate Summary Sheet

Estimate Number:	1 Partial
Project Number:	IP 23-06 (S.A.P. 199-114-001)
Project Name:	2023 MSA Pavement Overlay Improvements
Period Ending	September 30, 2023
Contractor:	North Valley, Inc.
Address:	20015 Iguana Street NW Suite 100, Nowthen, MN 55330

1	Original Contract Amount			$ 498,917.55
2	Change Order(s)	No. ____ Thru No. ____		
3	Total Funds Encumbered			$ 498,917.55
4	Value of Work Completed			$ 448,754.18
5	Retainage	5 %		$ (22,437.71)
	Percent Complete		90%	
6	Deductions or Charges			
7	Total Earned Less Retainage (Lines 4+5+6)			$ 426,316.47
8	Previous Payment(s)			$ -
9	**Payment Due (Lines 7-8)**			**$ 426,316.47**
10	Total Balance to Finish, Including Retainage (Lines 3-7)			$ 72,601.08

Certification of Partial Payment

I hereby certify that, to the best of my knowledge and belief, all items, quantities and prices of work and material shown on this Estimate are correct and that all work has been performed in full accordance with the terms and conditions of the Contract for this project between owner and the undersigned Contractor, and as amended by any authorized changes and the foregoing is a true and correct statement of the contract amount for the period covered by this estimate.

North Valley Inc	Les Bloom
Contractor Name	Print Name
President	
Title	Signature
	10/6/2023
	Date

City of Ramsey Approval

	10/6/2023
Signature (Project Engineer)	Date
	10/09/2023
Signature (City Engineer)	Date

2023 MSA Pavement Overlay Improvements
I.P. IP 23-06 (S.A.P. 199-114-001)
Estimate No. 1 **Partial**
Period Ending September 30, 2023

			CONTRACT AMOUNT				COMPLETED THIS PERIOD		COMPLETED TO DATE	
Item No.	MnDOT No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
1	2021.501	MOBILIZATION	LS	1.0	$ 10,610.51	$ 10,610.51	0.5	$ 5,305.26	0.5	$ 5,305.26
2	2104.502	REMOVE CASTING ASSEMBLY	EA	16	$ 308.57	$ 4,937.12	16	$ 4,937.12	16	$ 4,937.12
3	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	664	$ 3.09	$ 2,051.76	536	$ 1,656.24	536	$ 1,656.24
4	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	187	$ 8.66	$ 1,619.42	185	$ 1,602.10	185	$ 1,602.10
5	2104.503	REMOVE CONCRETE CURB AND GUTTER	LF	601	$ 10.79	$ 6,484.79	535	$ 5,772.65	535	$ 5,772.65
6	2104.504	REMOVE BITUMINOUS PAVEMENT	SY	99	$ 28.07	$ 2,778.93	282	$ 7,915.74	282	$ 7,915.74
7	2104.504	REMOVE CONCRETE VALLEY GUTTER	SY	46	$ 41.19	$ 1,894.74	44	$ 1,812.36	44	$ 1,812.36
8	2104.504	REMOVE CONCRETE WALK	SY	333	$ 19.75	$ 6,576.75	413	$ 8,156.75	413	$ 8,156.75
9	2211.507	AGGREGATE BASE CLASS 5 MODIFIED (CV)	CY	51	$ 92.03	$ 4,693.53	10	$ 920.30	10	$ 920.30
10	2231.603	SAWED & SEALED JOINT	EA	101	$ 54.14	$ 5,468.14	0	$ -	0	$ -
11	2231.604	BITUMINOUS PATCH	SY	235	$ 48.63	$ 11,428.05	282	$ 13,713.66	282	$ 13,713.66
12	2232.504	MILL BITUMINOUS PAVEMENT 2.0"	SY	23522	$ 1.32	$ 31,049.04	23645	$ 31,211.40	23645	$ 31,211.40
13	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	1647	$ 4.60	$ 7,576.20	1891	$ 8,698.60	1891	$ 8,698.60
14	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	2658	$ 95.79	$ 254,609.82	2525	$ 241,869.75	2525	$ 241,869.75
15	2504.602	ADJUST VALVE BOX	EA	3	$ 460.15	$ 1,380.45	12	$ 5,521.80	12	$ 5,521.80
16	2506.502	ADJUST FRAME AND RING CASTING	EA	16	$ 595.49	$ 9,527.84	16	$ 9,527.84	16	$ 9,527.84
17	2506.502	CASTING ASSEMBLY (SANITARY)	EA	16	$ 812.03	$ 12,992.48	16	$ 12,992.48	16	$ 12,992.48
18	2506.602	GROUT ADJUSTMENT RINGS	EA	16	$ 162.41	$ 2,598.56	0	$ -	0	$ -
19	2506.602	GROUT CATCH BASIN	EA	39	$ 189.47	$ 7,389.33	8	$ 1,515.76	8	$ 1,515.76
20	2506.602	RESET CASTING ASSEMBLY	EA	5	$ 703.76	$ 3,518.80	0	$ -	0	$ -
21	2521.518	6" CONCRETE WALK	SF	3284	$ 7.80	$ 25,615.20	3720	$ 29,016.00	3720	$ 29,016.00
22	2521.602	DRILL & GROUT REINF BAR (EPOXY COATED)	EA	202	$ 10.83	$ 2,187.66	266	$ 2,880.78	266	$ 2,880.78
23	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LF	601	$ 48.72	$ 29,280.72	535	$ 26,065.20	535	$ 26,065.20
24	2531.604	7" CONCRETE VALLEY GUTTER	SY	46	$ 75.79	$ 3,486.34	44	$ 3,334.76	44	$ 3,334.76
25	2531.618	TRUNCATED DOMES	SF	381	$ 48.72	$ 18,562.32	381	$ 18,562.32	381	$ 18,562.32
26	2540.601	LANDSCAPE RESTORATION	LS	1	$ 2,706.77	$ 2,706.77	0	$ -	0	$ -
27	2563.601	TRAFFIC CONTROL	LS	1	$ 2,923.30	$ 2,923.30	0.75	$ 2,192.48	0.75	$ 2,192.48
28	2563.601	ALTERNATE PEDESTRIAN ROUTE	LS	1	$ 974.44	$ 974.44	1	$ 974.44	1	$ 974.44
29	2574.507	TOPSOIL (LV)	CY	43	$ 81.20	$ 3,491.60	32	$ 2,598.40	32	$ 2,598.40
30	2575.504	SODDING TYPE LAWN	SY	300	$ 21.65	$ 6,495.00	0	$ -	0	$ -
31	2582.503	4" DOUBLE SOLID LINE PAINT (EPOXY)	LF	2645	$ 1.84	$ 4,866.80	0	$ -	0	$ -
32	2582.503	4" SOLID LINE PAINT (EPOXY)	LF	5446	$ 0.92	$ 5,010.32	0	$ -	0	$ -
33	2582.518	CROSSWALK PAINT (EPOXY)	SF	318	$ 12.99	$ 4,130.82	0	$ -	0	$ -
		GRAND TOTALS				**$ 498,917.55**		**$ 448,754.19**		**$ 448,754.18**

Internal City Use Only			
Municipal State Aid Funds (0.57 Mob)	*$ 272,351.07*		*$ 272,351.06*
Pavement Management Funds (0.33 Mob)	*$ 156,427.24*		*$ 156,427.23*
Storm Sewer Utility Funds (0.04 Mob)	*$ 1,727.97*		*$ 1,727.97*
Sanitary Sewer Utility Funds (0.06 Mob)	*$ 18,247.92*		*$ 18,247.92*
Total Funds	*$ 448,754.19*		*$ 448,754.18*

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-257 Approving Partial Payment to Douglas-Kerr Underground, LLC for Improvement Project #23-05, Barthel's Rum River Acres 2nd Street Reconstruction.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends partial payment No. 3 to Douglas-Kerr Underground, LLC. for improvement project #23-05, Barthel's Rum River Acres 2nd Street Reconstruction, in the amount of $280,040.39.

Action:

Motion to adopt Resolution #23-257 approving partial payment to Douglas-Kerr Underground, LLC for Improvement Project #23-05, Barthel's Rum River Acres 2nd Street Reconstruction in the amount of $280,040.39

Attachments

Pay Resolution #23-257

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Stacie Damjanovich	10/18/2023 11:23 AM
Bruce Westby	Bruce Westby	10/19/2023 05:22 AM
Brian Hagen	Brian Hagen	10/19/2023 07:24 AM
Form Started By: Stacie Damjanovich		Started On: 10/06/2023 02:43 PM
Final Approval Date: 10/19/2023		

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-257

RESOLUTION APPROVING PARTIAL PAYMENT TO DOUGLAS-KERR UNDERGROUND, LLC., OF MORA, MINNESOTA FOR IMPROVEMENT PROJECT #23-05; BARTHEL'S RUM RIVER ACRES 2ND STREET RECONSTRUCTION

WHEREAS, the City of Ramsey proposes to reconstruct the streets within the Barthel's Rum River Acres 2nd subdivision; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-202, adopted August 23, 2022, City Council accepted and awarded the proposal to Hakanson Anderson for Topographic Survey of the project area; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-204, adopted August 23, 2022, the City Council awarded a contract to Haugo Geotechnical Services to prepare a geotechnical report for Improvement Project #23-05, Barthel's Rum River Acres 2nd Addition Street Reconstructions, including 13 soil borings and pavement cores; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-286, adopted December 13, 2022, the City Engineer was ordered to prepare plans and specifications for Improvement Project #23-05, Barthel's Rum River Acres 2nd Addition Street Reconstructions; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-047 adopted February 28, 2023, the City Council awarded Haugo Geotechnical Services an addendum to the current contract for said project and plans and specs have been updated with said information; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-082, adopted April 25th 2023, the City Council approved plans and specifications as prepared by the City Engineer authorized advertisement for bids for same improvements; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-104, adopted on May 23, 2023, a contract was awarded to Douglas-Kerr Underground, LLC. of Mora, Minnesota in amount of $1,198,428.85 for said improvements; and

WHEREAS, as of October 24, 2023 $813,442.53 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends partial payment No. 3 to Douglas-Kerr Underground, LLC., of Mora, Minnesota for improvement project #23-05, Barthel's Rum River Acres 2nd Street Reconstruction, in the amount of $280,040.39.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) The City Council hereby authorizes partial payment No. 3 to Douglas-Kerr Underground, LLC of Mora, Minnesota for Improvement Project #23-05, Barthel's Rum River Acres 2nd

Street Reconstruction in the amount of $280,040.39.

2) The City Council hereby authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember ____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Pay Estimate Summary Sheet

Estimate Number:	3 Partial
Project Number:	23-05
Project Name:	Barthel's Rum River Acres 2nd Street Reconstructions
Period Ending	September 30, 2023
Contractor:	Douglas-Kerr Underground, L.L.C.
Address:	PO Box 85, Mora, MN 55051-0085

1	Original Contract Amount		$ 1,198,428.85
2	Change Order(s)	No. 1 Thru No. 1	$ 18,490.45
3	Total Funds Encumbered		$ 1,216,919.30
4	Value of Work Completed		$ 1,151,034.65
5	Retainage 5 %		$ (57,551.73)
	Percent Complete	95%	
6	Deductions or Charges		$ -
7	Total Earned Less Retainage (Lines 4+5+6)		$ 1,093,482.92
8	Previous Payment(s)		$ 813,442.53
9	**Payment Due (Lines 7-8)**		**$ 280,040.39**
10	Total Balance to Finish, Including Retainage (Lines 3-7)		$ 123,436.38

Certification of Partial Payment

I hereby certify that, to the best of my knowledge and belief, all items, quantities and prices of work and material shown on this Estimate are correct and that all work has been performed in full accordance with the terms and conditions of the Contract for this project between owner and the undersigned Contractor, and as amended by any authorized changes and the foregoing is a true and correct statement of the contract amount for the period covered by this estimate.

Douglas-Kerr Underground
Contractor Name

Ryan Kerr
Print Name

Manager
Title

Signature

10/6/23
Date

City of Ramsey Approval

Signature (Project Engineer)

10/6/2023
Date

Signature (City Engineer)

10/07/2023
Date

Barthel's Rum River Acres 2nd Street Reconstructions
I.P. 23-05
Estimate No. 3 **Partial**
Period Ending September 30, 2023

			CONTRACT AMOUNT				COMPLETED THIS PERIOD		COMPLETED TO DATE	
Item No.	MnDOT No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
1	2021.501	MOBILIZATION	LS	1.0	$ 91,325.00	$ 91,325.00	0	$ -	0.75	$ 68,493.75
2	2102.502	CLEARING TREE	TREE	2	$ 500.00	$ 1,000.00	0	$ -	10	$ 5,000.00
3	2101.502	GRUBBING TREE	TREE	2	$ 300.00	$ 600.00	0	$ -	10	$ 3,000.00
4	2101.503	REMOVE CULVERT	LF	520	$ 8.25	$ 4,290.00	0	$ -	427	$ 3,522.75
5	2104.502	SALVAGE MAIL BOX SUPPORT	EA	34	$ 75.00	$ 2,550.00	0	$ -	30	$ 2,250.00
6	2104.503	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LF	640	$ 2.80	$ 1,792.00	0	$ -	489	$ 1,369.20
7	2104.503	SAWING CONCRETE PAVEMENT - FULL DEPTH	LF	100	$ 3.45	$ 345.00	14	$ 48.30	156	$ 538.20
8	2104.504	REMOVE CONCRETE PAVEMENT - DRIVEWAYS	SY	100	$ 10.95	$ 1,095.00	8	$ 87.60	153	$ 1,675.35
9	2104.504	REMOVE BITUMINOUS PAVEMENT - DRIVEWAYS	SY	570	$ 8.25	$ 4,702.50	0	$ -	519	$ 4,281.75
10	2104.504	REMOVE GRAVEL SURFACE - DRIVEWAYS	SY	145	$ 2.65	$ 384.25	0	$ -	0	$ -
11	2105.607	COMMON EXCAVATION (EV)	CY	780	$ 19.35	$ 15,093.00	755	$ 14,609.25	755	$ 14,609.25
12	2105.607	SUBGRADE EXCAVATION, REMOVE UNSUITABLE MATERIALS (EV)	CY	6450	$ 11.60	$ 74,820.00	0	$ -	7171	$ 83,183.60
13	2106.607	HAUL & STOCKPILE RECLAIM MATERIAL (LV)	CY	1230	$ 9.65	$ 11,869.50	0	$ -	1570	$ 15,150.50
14	2106.507	SELECT GRANULAR BORROW (CV)	CY	6810	$ 17.95	$ 122,239.50	0	$ -	5112	$ 91,760.40
15	2112.519	SUBGRADE PREPARATION	RDST	29	$ 301.20	$ 8,734.80	0	$ -	29	$ 8,734.80
16	2130.523	WATER	MGAL	50	$ 79.00	$ 3,950.00	0	$ -	170	$ 13,430.00
17	2211.507	AGGREGATE BASE CLASS 5 - MODIFIED (CV)	CY	1415	$ 31.90	$ 45,138.50	0	$ -	735	$ 23,446.50
18	2215.504	FULL DEPTH RECLAMATION	SY	24230	$ 1.30	$ 31,499.00	0	$ -	26648	$ 34,642.40
19	2105.507	GEOTEXTILE FABRIC TYPE 4	SY	135	$ 1.60	$ 216.00	0	$ -	101	$ 161.60
20	2108.504	GEOTEXTILE FABRIC TYPE 5	SY	8000	$ 1.85	$ 14,800.00	0	$ -	7976	$ 14,755.60
21	2232.504	MILL BITUMINOUS PAVEMENT (2.0")	SY	24	$ 3.50	$ 84.00	0	$ -	0	$ -
22	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	1700	$ 3.50	$ 5,950.00	1330	$ 4,655.00	1345	$ 4,707.50
23	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,C) 2.0"	TON	2860	$ 87.00	$ 248,820.00	0	$ -	2943	$ 256,041.00
24	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 1.5"	TON	2060	$ 94.00	$ 193,640.00	2123	$ 199,562.00	2123	$ 199,562.00
25	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 2.0" DRIVEWAYS	TON	65	$ 281.45	$ 18,294.25	77	$ 21,671.65	77	$ 21,671.65
26	2501.503	15" RC PIPE SEWER DESIGN 3006 CLASS III	LF	276	$ 97.80	$ 26,992.80	0	$ -	256	$ 25,036.80
27	2501.503	18" RC PIPE SEWER DESIGN 3006 CLASS III	LF	52	$ 87.20	$ 4,534.40	0	$ -	52	$ 4,534.40
28	2501.503	36" RC PIPE SEWER DESIGN 3006 CLASS III	LF	136	$ 207.75	$ 28,254.00	0	$ -	136	$ 28,254.00
29	2502.503	4" PERF PVC PIPE DRAIN	LF	2247	$ 20.75	$ 46,625.25	0	$ -	2122	$ 44,031.50
30	2501.502	15" RC PIPE APRON	EA	12	$ 2,381.00	$ 28,572.00	0	$ -	12	$ 28,572.00
31	2501.502	18" RC PIPE APRON	EA	2	$ 2,569.00	$ 5,138.00	0	$ -	2	$ 5,138.00
32	2501.502	36" RC PIPE APRON	EA	4	$ 7,112.00	$ 28,448.00	0	$ -	4	$ 28,448.00
33	2501.603	30" PIPE CULVERT TEMPORARY BYPASS	LF	120	$ 35.25	$ 4,230.00	0	$ -	120	$ 4,230.00
34	2502.502	4" PRECAST CONCRETE HEADWALL	EA	2	$ 457.80	$ 915.60	0	$ -	2	$ 915.60
35	2502.502	STORM SEWER PILING & CONCRETE END SECTION	EA	4	$ 6,646.00	$ 26,584.00	0	$ -	4	$ 26,584.00
36	2502.602	4" PVC PIPE DRAIN CLEANOUT	EA	10	$ 417.90	$ 4,179.00	0	$ -	10	$ 4,179.00
37	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	EA	2	$ 3,755.00	$ 7,510.00	0	$ -	2	$ 7,510.00
38	2506.502	CASTING ASSEMBLY (STORM)	EA	2	$ 1,754.00	$ 3,508.00	2	$ 3,508.00	2	$ 3,508.00

			CONTRACT AMOUNT				COMPLETED THIS PERIOD		COMPLETED TO DATE	
Item No.	MnDOT No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
39	2531.504	6" CONCRETE PAVEMENT DRIVEWAY	SY	105	$ 150.00	$ 15,750.00	0	$ -	0	$ -
40	2531.504	GRAVEL SURFACE	SY	145	$ 8.20	$ 1,189.00	0	$ -	0	$ -
41	2540.602	TEMPORARY MAIL BOX CLUSTER	EA	3	$ 550.00	$ 1,650.00	0	$ -	2	$ 1,100.00
42	2540.602	INSTALL MAIL BOX SUPPORT	EA	34	$ 100.00	$ 3,400.00	0	$ -	0	$ -
43	2575.504	ROLLED EROSION PREVENTION CATEGORY 20	SY	865	$ 1.50	$ 1,297.50	145	$ 217.50	582	$ 873.00
44	2575.602	LANDSCAPE RESTORATION	EA	10	$ 500.00	$ 5,000.00	0	$ -	0	$ -
45	2563.601	TRAFFIC CONTROL	LS	1	$ 2,450.00	$ 2,450.00	0.00	$ -	0.75	$ 1,837.50
46	2573.503	SEDIMENT CONTROL LOG TYPE STRAW	LF	675	$ 3.00	$ 2,025.00	0	$ -	528	$ 1,584.00
47	2573.503	SILT FENCE, TYPE MS	LF	2400	$ 2.25	$ 5,400.00	0	$ -	1724	$ 3,879.00
48	2573.503	FLOTATION SILT CURTAIN TYPE MOVING WATER	LF	80	$ 21.85	$ 1,748.00	0	$ -	100	$ 2,185.00
49	2573.501	STABILIZED CONSTRUCTION EXIT	EA	3	$ 778.75	$ 2,336.25	0	$ -	4	$ 3,115.00
50	2574.507	TOPSOIL (LV)	CY	690	$ 37.10	$ 25,599.00	825	$ 30,607.50	825	$ 30,607.50
51	2574.508	FERTILIZER TYPE 3	LBS	130	$ 0.85	$ 110.50	0	$ -	0	$ -
52	2511.509	RANDOM RIPRAP CLASS III	CY	25	$ 126.25	$ 3,156.25	0	$ -	24	$ 3,030.00
53	2575.505	SEEDING	ACRE	1.28	$ 1,500.00	$ 1,920.00	0.00	$ -	0.00	$ -
54	2575.508	HYDRAULIC MATRIX TYPE MULCH	LBS	5120	$ 1.20	$ 6,144.00	0	$ -	0	$ -
55	2575.508	SEED MIXTURE 25-151	LBS	150	$ 3.20	$ 480.00	0	$ -	10	$ 32.00
56	2575.508	SEED MIXTURE 33-261	LBS	1	$ 50.00	$ 50.00	0	$ -	1	$ 50.00
		ORIGINAL CONTRACT TOTALS				**$ 1,198,428.85**		**$ 274,966.80**		**$ 1,131,222.10**
		CHANGE ORDER No.1								
Item No.	MnDOT No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
CO1	2101.503	REMOVE CULVERT	LF	23	$ 8.25	$ 189.75	26	$ 214.50	26	$ 214.50
CO2	2104.503	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LF	12	$ 2.80	$ 33.60	12	$ 33.60	12	$ 33.60
CO3	2104.504	REMOVE BITUMINOUS PAVEMENT - DRIVEWAYS	SY	24	$ 8.25	$ 198.00	26	$ 214.50	26	$ 214.50
CO4	2105.607	COMMON EXCAVATION (EV)	CY	168	$ 19.35	$ 3,250.80	135	$ 2,612.25	135	$ 2,612.25
CO5	2501.503	15" RC PIPE SEWER DESIGN 3006 CLASS III	LF	16	$ 97.80	$ 1,564.80	16	$ 1,564.80	16	$ 1,564.80
CO6	2501.502	15" RC PIPE APRON	EA	2	$ 2,381.00	$ 4,762.00	2	$ 4,762.00	2	$ 4,762.00
CO7	2575.504	ROLLED EROSION PREVENTION CATEGORY 20	SY	38	$ 1.50	$ 57.00	87	$ 130.50	87	$ 130.50
CO8	2573.503	SEDIMENT CONTROL LOG TYPE STRAW	LF	205	$ 3.00	$ 615.00	0	$ -	0	$ -
CO9	2574.507	TOPSOIL (LV)	CY	87	$ 37.10	$ 3,227.70	180	$ 6,678.00	180	$ 6,678.00
CO10	2575.505	SEEDING	ACRE	0.13	$ 1,500.00	$ 195.00	0.00	$ -	0.00	$ -
CO11	2575.508	HYDRAULIC MATRIX TYPE MULCH	LBS	500	$ 1.20	$ 600.00	0	$ -	0	$ -
CO12	2575.508	SEED MIXURE 25-151	LBS	15	$ 3.20	$ 48.00	0	$ -	0	$ -
CO13	2105.603	DITCH GRADING	HR	4	$ 450.00	$ 1,800.00	7	$ 3,150.00	7	$ 3,150.00
CO14	2105.609	HAUL EXCESS MATERIAL	CY	168	$ 11.60	$ 1,948.80	39	$ 452.40	39	$ 452.40
		CHANGE ORDER No.1 TOTALS				**$ 18,490.45**		**$ 19,812.55**		**$ 19,812.55**
		GRAND TOTALS				**$ 1,216,919.30**		**$ 294,779.35**		**$ 1,151,034.65**

Internal City Use Only			
Pavement Management Funds (0.89 Mob)	*$ 281,211.65*		*$ 919,307.74*
Storm Sewer Utility Funds (0.11 Mob)	*$ 13,567.70*		*$ 231,726.91*
Total Funds	*$ 294,779.35*		*$ 1,151,034.65*

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-258 Approving Partial Payment to Landall Services, LLC for Improvement Project #23-10; Whispering Pines Estates Plat 3 Street Reconstructions.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends partial payment No. 2 to Landall Services, LLC for improvement project #23-10, Whispering Pines Estates Plat 3 Street Reconstructions in the amount of $378,451.50.

Action:

Motion to adopt Resolution #23-258 approving partial payment No. 2 to Landall Services, LLC for Improvement Project #23-10; Whispering Pines Estates Plat 3 Street Reconstructions in the amount of $378,451.50.

Attachments

Pay Resolution #23-258

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Stacie Damjanovich	10/18/2023 11:35 AM
Bruce Westby	Bruce Westby	10/19/2023 06:13 AM
Brian Hagen	Brian Hagen	10/19/2023 07:25 AM

Form Started By: Stacie Damjanovich Started On: 10/09/2023 08:59 AM

Final Approval Date: 10/19/2023

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-258

RESOLUTION APPROVING PARTIAL PAYMENT NO. 2 TO LANDALL SERVICES, LLC. OF ZIMMERMAN, MINNESOTA FOR IMPROVEMENT PROJECT #23-10; WHISPERING PINES ESTATES PLAT 3 STREET RECONSTRUCTIONS

WHEREAS, the City of Ramsey proposes to reconstruct the streets within the Whispering Pines Estates Plat 3 subdivision; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-251, adopted November 7th, 2022, the City Council accepted and awarded the proposal to Bolton & Menk, Inc., for topographic survey of the project area; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-251, adopted November 7th, 2022, the City Council accepted and awarded the proposal to Haugo Geotechnical Services for a geotechnical report of the project area; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-289, adopted December 13, 2022, the City Council ordered the City Engineer to prepare plans and specifications for said improvements; and

WHEREAS, pursuant to Ramsey City Council resolution #23-146, adopted June 27, 2023 the City Council approved final plans and specifications as prepared by the City Engineer and authorized advertisement for bid for said improvements; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-170, adopted on July 25, 2023, a contract was awarded to Landall Services, LLC of Zimmerman, Minnesota, in the amount of $533,248.00 for construction of said improvements; and

WHEREAS, as of October 24, 2023 $150,414.69 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends partial payment No. 2 to Landall Services, LLC of Zimmerman, Minnesota, for improvement project #23-10, Whispering Pines Estates Plat 3 Street Reconstructions, in the amount of $378,451.50.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) The City Council hereby authorizes partial payment No. 2 to Landall Services, LLC, of Zimmerman, Minnesota for Improvement Project #23-10, Whispering Pines Estates Plat 3 Street Reconstructions in the amount of $378,451.50.

2) The City Council hereby authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember _____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Pay Estimate Summary Sheet

Estimate Number:	2 Partial
Project Number:	23-10
Project Name:	Whispering Pines Estates Plat 3 Street Reconstructions
Period Ending	September 30, 2023
Contractor:	Landall Services, LLC
Address:	24752 128th Street, Zimmerman, MN 55398

1	Original Contract Amount		$ 533,248.00
2	Change Order(s)	No. ____ Thru No. ____	
3	Total Funds Encumbered		$ 533,248.00
4	Value of Work Completed		$ 556,701.25
5	Retainage 5 %		$ (27,835.06)
	Percent Complete	104%	
6	Deductions or Charges		
7	Total Earned Less Retainage (Lines 4+5+6)		$ 528,866.19
8	Previous Payment(s)		$ 150,414.69
9	**Payment Due (Lines 7-8)**		**$ 378,451.50**
10	Total Balance to Finish, Including Retainage (Lines 3-7)		$ 27,835.06

Certification of Partial Payment

I hereby certify that, to the best of my knowledge and belief, all items, quantities and prices of work and material shown on this Estimate are correct and that all work has been performed in full accordance with the terms and conditions of the Contract for this project between owner and the undersigned Contractor, and as amended by any authorized changes and the foregoing is a true and correct statement of the contract amount for the period covered by this estimate.

Landall Services LLC	Travis Novotny
Contractor Name	Print Name
Owner	
Title	Signature
	10-6-23
	Date

City of Ramsey Approval

Joe Tarnowski	10/9/2023
Signature (Project Engineer)	Date
Bruce West	10/09/2023
Signature (City Engineer)	Date

Whispering Pines Estates Plat 3 Street Reconstructions
I.P. 23-10
Estimate No. 2 **Partial**
Period Ending September 30, 2023

			CONTRACT AMOUNT				COMPLETED THIS PERIOD		COMPLETED TO DATE	
Item No.	MnDOT No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
1	2021.501	MOBILIZATION	LS	1.0	$ 10,000.00	$ 10,000.00	0.5	$ 5,000.00	1.0	$ 10,000.00
2	2101.503	REMOVE CULVERT	LF	421	$ 22.00	$ 9,262.00	0	$ -	490	$ 10,780.00
3	2104.503	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LF	1349	$ 7.50	$ 10,117.50	0	$ -	1431	$ 10,732.50
4	2105.504	GEOTEXTILE FABRIC TYPE 4	SY	68	$ 4.00	$ 272.00	65	$ 260.00	65	$ 260.00
5	2105.607	COMMON EXCAVATION (EV)	CY	410	$ 16.00	$ 6,560.00	205	$ 3,280.00	205	$ 3,280.00
6	2106.607	HAUL & STOCKPILE RECLAIM MATERIAL (LV)	CY	1600	$ 14.00	$ 22,400.00	0	$ -	1600	$ 22,400.00
7	2130.523	WATER	MGAL	50	$ 75.00	$ 3,750.00	30	$ 2,250.00	80	$ 6,000.00
8	2215.504	FULL DEPTH RECLAMATION	SY	22800	$ 2.00	$ 45,600.00	0	$ -	24700	$ 49,400.00
9	2232.504	MILL BITUMINOUS PAVEMENT (2.0")	SY	19	$ 5.00	$ 95.00	0	$ -	0	$ -
10	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	2	$ 4.50	$ 9.00	40	$ 180.00	40	$ 180.00
11	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 2.5"	TON	3220	$ 105.00	$ 338,100.00	3534	$ 371,070.00	3534	$ 371,070.00
12	2501.502	15" RC PIPE APRON	EA	10	$ 800.00	$ 8,000.00	0	$ -	10	$ 8,000.00
13	2501.502	18" RC PIPE APRON	EA	10	$ 900.00	$ 9,000.00	0	$ -	10	$ 9,000.00
14	2501.503	15" RC PIPE SEWER DESIGN 3006 CLASS III	LF	184	$ 75.00	$ 13,800.00	0	$ -	184	$ 13,800.00
15	2501.503	18" RC PIPE SEWER DESIGN 3006 CLASS III	LF	160	$ 80.00	$ 12,800.00	0	$ -	160	$ 12,800.00
16	2511.509	RANDOM RIPRAP CLASS III	CY	23	$ 150.00	$ 3,450.00	0	$ -	20	$ 3,000.00
17	2563.601	TRAFFIC CONTROL	LS	1	$ 4,000.00	$ 4,000.00	0.25	$ 1,000.00	0.75	$ 3,000.00
18	2573.501	STABILIZED CONSTRUCTION EXIT	EA	3	$ 1,500.00	$ 4,500.00	0	$ -	3	$ 4,500.00
19	2573.503	SEDIMENT CONTROL LOG TYPE STRAW	LF	550	$ 4.00	$ 2,200.00	0	$ -	300	$ 1,200.00
20	2573.503	SILT FENCE, TYPE MS	LF	1676	$ 1.50	$ 2,514.00	0.0	$ -	1312.5	$ 1,968.75
21	2574.507	TOPSOIL (LV)	CY	530	$ 35.00	$ 18,550.00	438	$ 15,330.00	438	$ 15,330.00
22	2574.508	FERTILIZER TYPE 3	LBS	76	$ 5.00	$ 380.00	0	$ -	0	$ -
23	2575.504	ROLLED EROSION PREVENTION CATEGORY 20	SY	355	$ 2.50	$ 887.50	0	$ -	0	$ -
24	2575.505	SEEDING	ACRE	0.76	$ 4,000.00	$ 3,040.00	0.00	$ -	0.00	$ -
25	2575.508	HYDRAULIC MATRIX TYPE MULCH	LBS	3020	$ 0.95	$ 2,869.00	0	$ -	0	$ -
26	2575.508	SEED MIXTURE 25-151	LBS	91	$ 12.00	$ 1,092.00	0	$ -	0	$ -
		GRAND TOTALS				**$ 533,248.00**		**$ 398,370.00**		**$ 556,701.25**

Internal City Use Only				
Pavement Management Funds (0.90 Mob)		*$ 397,610.00*		*$ 508,841.25*
Storm Sewer Utility Funds (0.10 Mob)		*$ 760.00*		*$ 47,860.00*
Total Funds		*$ 398,370.00*		*$ 556,701.25*

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-260 Approving Partial Payment to Meyer Contracting, Inc. for Improvement Project #23-11; Lift Station 10 improvements.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends partial payment No. 3 to Meyer Contracting, Inc. for improvement project #23-11, Lift Station #10 Improvements, in the amount of $125,221.04.

Action:

Motion to adopt Resolution #23-260 approving partial payment No. 3 to Meyer Contracting, Inc. for Improvement Project #23-11; Lift Station 10 in the amount of $125,221.04.

Attachments

Pay Resolution #23-260

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Stacie Damjanovich	10/18/2023 11:52 AM
Bruce Westby	Bruce Westby	10/19/2023 06:17 AM
Brian Hagen	Brian Hagen	10/19/2023 07:25 AM
Form Started By: Stacie Damjanovich		Started On: 10/10/2023 04:19 PM
Final Approval Date: 10/19/2023		

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-260

RESOLUTION APPROVING PARTIAL PAYMENT TO MEYER CONTRACTING, INC., OF MAPLE GROVE, MINNESOTA FOR IMPROVEMENT PROJECT #23-11; LIFT STATION #10 IMPROVEMENTS

WHEREAS, pursuant to Ramsey City Council Resolution #22-010, adopted January 11, 2022, the City Council approved the Preliminary Plat for the Trott Brook Crossing residential subdivision; and

WHEREAS, pursuant to Ramsey City Council Resolution #22-252, adopted November 7, 2022, the City Council approved a Grading Agreement for the Trott Brook Crossing residential subdivision, allowing grading activities for the first phase of construction to begin; and

WHEREAS, on March 28, 2023, the City Council approved the Final Plat and Development Agreement for Trott Brook Crossing; and

WHEREAS, Bolton and Menk, Inc. prepared final plans and specifications for Improvement Project #23-11 to allow the City to serve the Trott Brook Crossing residential subdivision with the necessary municipal trunk sanitary sewer in 2023 as required to meet the proposed development schedule; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-094, adopted April 25, 2023, the City Council approved the plans and specifications prepared by Bolton and Menk, Inc. and authorized advertisements for bids for said improvements; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-131, adopted June 13, 2023, a contract was awarded to Meyer Contracting Inc. of Maple Grove, Minnesota in the amount of $1,461,454.93 for said improvements; and

WHEREAS, as of October 24, 2023 $1,002,197.58 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends partial payment No. 3 to Meyer Contracting, Inc. of Maple Grove, Minnesota, for improvement project #23-11, Lift Station #10 Improvements, in the amount of $125,221.04.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) The City Council hereby authorizes partial payment No. 3 to Meyer Contracting, Inc., of Maple Grove, Minnesota for Improvement Project #23-11, Lift Station #10 Improvements

in the amount of $125,221.04.

2) The City Council hereby authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember _____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Contractor's Application for Payment

Owner:	City of Ramsey	**Owner's Project No.:**	23-11
Engineer:	Bolton & Menk, Inc.	**Engineer's Project No.:**	0R1.131248; 0R1.129410
Contractor:	Meyer Contracting, Inc.	**Agency's Project No.:**	
Project:	Lift Station #10 Improvements		
Contract:			

Application No.: 3 **Application Date:** 10/6/2023

Application Period: **From** 9/2/2023 **to** 10/5/2023

1. Original Contract Price	$	1,461,454.93
2. Net change by Change Orders	$	-
3. Current Contract Price (Line 1 + Line 2)	$	1,461,454.93
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	$	1,186,756.44
5. Retainage		
a. 5% X $ 1,186,756.44 Work Completed	$	59,337.82
b. _____ X $ - Stored Materials	$	-
c. Total Retainage (Line 5.a + Line 5.b)	$	59,337.82
6. Amount eligible to date (Line 4 - Line 5.c)	$	1,127,418.62
7. Less previous payments	$	1,002,197.58
8. **Amount due this application**	**$**	**125,221.04**
9. Balance to finish, including retainage (Line 3 - Line 4)	$	274,698.49

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: Meyer Contracting, Inc.

Signature: [signature] **Date:** 10/10/23

Name: Scott Pelletier **Title:** Project Manager

Recommended by Engineer		**Approved by Owner**	
By:	[signature]	**By:**	[signature]
Name:	Zach Lingl, PE	**Name:**	Bruce Westby
Title:	Project Manager	**Title:**	City Engineer/Public Works Dir.
Date:	10/6/2023	**Date:**	10/12/2023

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey
Engineer:	Bolton & Menk, Inc.
Contractor:	Meyer Contracting, Inc.
Project:	Lift Station #10 Improvements
Contract:	

Owner's Project No.:	23-11
Engineer's Project No.:	0R1.131248; 0R1.129410
Contractor's Project No.:	
Agency's Project No.:	

Application No.: 3 **Application Period:** From 09/02/23 to 10/05/23 **Application Date:** 10/06/23

A	B	C	D	E	F	F1	F2	G	H	I	J	K	L
		Contract Information				Previous Estimate		Work Completed					
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
	Original Contract												
1	MOBILIZATION	1.00	LUMP SUM	74,062.19	74,062.19	0.75	55,546.64	0.90	66,655.97		66,655.97	90%	7,406.22
2	CLEARING & GRUBBING	1.00	LUMP SUM	5,700.00	5,700.00	1.00	5,700.00	1.00	5,700.00		5,700.00	100%	-
3	REMOVE FENCE	130.00	LIN FT	2.28	296.40	160.00	364.80	160.00	364.80		364.80	123%	(68.40)
4	REMOVE CONCRETE SIDEWALK	435.00	SQ FT	0.86	374.10	-	-	-	-		-		374.10
5	DEWATERING	1.00	LUMP SUM	100,000.00	100,000.00	1.00	100,000.00	1.00	100,000.00		100,000.00	100%	-
6	GRANULAR BORROW (CV)	235.00	CU YD	30.00	7,050.00	-	-	-	-		-		7,050.00
7	EXCAVATION - COMMON (EV)	420.00	CU YD	24.68	10,365.60	-	-	420.00	10,365.60		10,365.60	100%	-
8	EXCAVATION - SUBGRADE (EV)	235.00	CU YD	24.00	5,640.00	-	-	-	-		-		5,640.00
9	AGGREGATE BASE (CV) CL 5 MOD	275.00	CU YD	78.81	21,672.75	-	-	162.30	12,790.86		12,790.86	59%	8,881.89
10	TYPE SP 9.5 WEARING COURSE MIX (3,C)	162.50	TON	147.06	23,897.25	-	-	-	-		-		23,897.25
11	24" PVC PIPE SEWER C900	210.00	LIN FT	393.25	82,582.50	160.00	62,920.00	160.00	62,920.00		62,920.00	76%	19,662.50
12	AIR RELIEF MANHOLE	1.00	EACH	28,084.15	28,084.15	0.90	25,275.74	1.00	28,084.15		28,084.15	100%	-
13	CONNECT TO EXISTING SANITARY SEWER	2.00	EACH	7,997.07	15,994.14	2.00	15,994.14	2.00	15,994.14		15,994.14	100%	-
14	SANITARY MANHOLE COATING	26.00	LIN FT	609.09	15,836.34	26.00	15,836.34	26.00	15,836.34		15,836.34	100%	-
15	CLEAN & TELEVISE PIPE SEWER	85.00	LIN FT	16.76	1,424.60	-	-	155.00	2,597.80		2,597.80	182%	(1,173.20)
16	SANITARY FORCEMAIN - DIRECTIONALLY DRILLED	2,440.00	LIN FT	109.30	266,692.00	2,453.00	268,112.90	2,453.00	268,112.90		268,112.90	101%	(1,420.90)
17	DUCTILE IRON FITTINGS	300.00	POUND	33.31	9,993.00	296.00	9,859.76	296.00	9,859.76		9,859.76	99%	133.24
18	CONNECT TO EXISTING WATER MAIN	1.00	EACH	1,650.25	1,650.25	1.00	1,650.25	1.00	1,650.25		1,650.25	100%	-
19	6" GATE VALVE & BOX	1.00	EACH	3,073.36	3,073.36	1.00	3,073.36	1.00	3,073.36		3,073.36	100%	-
20	HYDRANT	1.00	EACH	8,467.81	8,467.81	1.00	8,467.81	1.00	8,467.81		8,467.81	100%	-
21	6" WATERMAIN DUCTILE IRON CL 53	30.00	LIN FT	123.97	3,719.10	130.00	16,116.10	130.00	16,116.10		16,116.10	433%	(12,397.00)
22	CASTING ASSEMBLY	2.00	EACH	818.93	1,637.86	-	-	2.00	1,637.86		1,637.86	100%	-
23	TEMPORARY CONTROLS	1.00	LUMP SUM	600.00	600.00	-	-	-	-		-		600.00
24	CONSTRUCT TRIPLEX LIFT STATION	1.00	LUMP SUM	645,658.85	645,658.85	0.70	451,961.20	0.80	516,527.08		516,527.08	80%	129,131.77
25	SEAL MANHOLE	2.00	EACH	357.39	714.78	-	-	2.00	714.78		714.78	100%	-
26	CONSTRUCT SANITARY SEWER MANHOLE	17.00	LIN FT	679.34	11,548.78	17.00	11,548.78	17.00	11,548.78		11,548.78	100%	-
27	4" CONCRETE WALK	290.00	SQ FT	10.50	3,045.00	-	-	-	-		-		3,045.00
28	6" CONCRETE DRIVEWAY PAVEMENT	150.00	SQ YD	103.00	15,450.00	-	-	-	-		-		15,450.00
29	BOLLARD	8.00	EACH	1,234.51	9,876.08	-	-	9.00	11,110.59		11,110.59	113%	(1,234.51)
30	TRAFFIC CONTROL	1.00	LUMP SUM	1,700.00	1,700.00	0.75	1,275.00	1.00	1,700.00		1,700.00	100%	-
31	SILT FENCE; TYPE MS	1,050.00	LIN FT	3.45	3,622.50	360.00	1,242.00	360.00	1,242.00		1,242.00	34%	2,380.50
32	SEDIMENT CONTROL LOG TYPE WOOD FIBER	600.00	LIN FT	5.95	3,570.00	-	-	-	-		-		3,570.00
33	FERTILIZER TYPE 3	600.00	POUND	1.55	930.00	-	-	100.00	155.00		155.00	17%	775.00
34	COMMON TOPSOIL BORROW	200.00	CU YD	47.66	9,532.00	-	-	56.00	2,668.96		2,668.96	28%	6,863.04
35	ROLLED EROSION PREVENTION CATEGORY 20	3,560.00	SQ YD	1.99	7,084.40	-	-	1,581.00	3,146.19		3,146.19	44%	3,938.21
36	SEEDING	2.00	ACRE	22,749.57	45,499.14	-	-	0.33	7,507.36		7,507.36	17%	37,991.78
37	SEEDING MIXTURE 25-121	200.00	POUND	5.20	1,040.00	-	-	40.00	208.00		208.00	20%	832.00
38	HYDRAULIC BONDED FIBER MATRIX	7,000.00	POUND	1.91	13,370.00	-	-	-	-		-		13,370.00
	Original Contract Totals				$ 1,461,454.93		$ 1,054,944.82		$ 1,186,756.44	$ -	$ 1,186,756.44	81%	$ 274,698.49

EJCDC C-620 Contractor's Application for Payment
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CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-261 Approving Partial Payment to Enebak Construction Company for Improvement Project #23-20; COR Mass Grading.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends partial payment No. 1 to Enebak Construction Company for improvement project #23-20, The COR Mass Grading, in the amount of $508,593.63.

Action:

Motion to adopt Resolution #23-261 approving partial payment No. 1 to Enebak Construction Company for improvement project #23-20; COR Mass Grading in the amount of $508,593.63.

Attachments

Pay Resolution #23-261

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Stacie Damjanovich	10/18/2023 11:55 AM
Bruce Westby	Bruce Westby	10/19/2023 06:21 AM
Brian Hagen	Brian Hagen	10/19/2023 07:25 AM

Form Started By: Stacie Damjanovich Started On: 10/11/2023 09:32 AM

Final Approval Date: 10/19/2023

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-261

RESOLUTION APPROVING PARTIAL PAYMENT NO. 1 TO ENEBAK CONSTRUCTION COMPANY OF LAKEVILLE, MINNESOTA FOR IMPROVEMENT PROJECT #23-20; COR MASS GRADING

WHEREAS, the City of Ramsey proposes to construct infrastructure improvements within The COR; and

WHEREAS, pursuant to Ramsey City Council resolution #22-241, adopted October 25, 2022, the City Council authorized Bolton & Menk, Inc. to complete The COR Public Infrastructure and Wetland Analysis proposals; and

WHEREAS, pursuant to Ramsey City Council resolution #23-107, adopted May 9, 2023, the City Council approved The COR Public Infrastructure Design Services proposal of Bolton & Menk, Inc. specifying their scope of services and not-to-exceed fees for design services associated with public infrastructure improvements in The COR; and

WHEREAS, pursuant to Ramsey City Council resolution #23-157, adopted July 11, 2023, the City Council approves the plans prepared by Bolton and Menk, Inc. and authorized advertising bids for City Improvement Project #23-20, COR Mass Grading; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-176, adopted August 8, 2023, a contract was awarded to Enebak Construction Company of Lakeville, Minnesota in the amount of $4,197,240.34 for said improvements; and

WHEREAS, as of October 24, 2023 $0.00 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends partial payment No. 1 to Enebak Construction Company of Lakeville, Minnesota for improvement project #23-20, The COR Mass Grading, in the amount of $508,593.63.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) The City Council hereby authorizes partial payment No. 1 to Enebak Construction Company of Lakeville, Minnesota for Improvement Project #23-20, The COR Mass Grading in the amount of $508,593.63.

2) The City Council hereby authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills

for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember _____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Contractor's Application for Payment

Owner:	City of Ramsey	**Owner's Project No.:**	23-20
Engineer:	Bolton & Menk, Inc.	**Engineer's Project No.:**	0R1.130893
Contractor:	Enebak Construction Company	**Agency's Project No.:**	
Project:	The COR Grading Improvements		
Contract:			
Application No.:	1	**Application Date:**	10/5/2023
Application Period:	**From** 9/1/2023	**to**	9/30/2023

1. Original Contract Price	$	4,197,240.34
2. Net change by Change Orders	$	-
3. Current Contract Price (Line 1 + Line 2)	$	4,197,240.34
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	$	535,361.72
5. Retainage		
a. 5% X $ 535,361.72 Work Completed	$	26,768.09
b. X $ - Stored Materials	$	-
c. Total Retainage (Line 5.a + Line 5.b)	$	26,768.09
6. Amount eligible to date (Line 4 - Line 5.c)	$	508,593.63
7. Less previous payments		
8. Amount due this application	**$**	**508,593.63**
9. Balance to finish, including retainage (Line 3 - Line 4)	$	3,661,878.62

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: Enebak Construction Company: 16972 Brandtjen Farm Drive, Lakeville, MN 55044

Signature: Thomas Hanson **Date:** 10-10-2023

Name: ~~Thomas Hanson~~ **Title:** Project Manager

Recommended by Engineer		**Approved by Owner**	
By:	Kevin P Kielb	**By:**	Bruce Westby
Name:	Kevin Kielb	**Name:**	Bruce Westby
Title:	Principal Engineer	**Title:**	City Engineer/Public Works Dir.
Date:	10/5/2023	**Date:**	10/12/2023

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey
Engineer:	Bolton & Menk, Inc.
Contractor:	Enebak Construction Company
Project:	The COR Grading Improvements
Contract:	

Owner's Project No.:	23-20
Engineer's Project No.:	0R1.130893
Contractor's Project No.:	
Agency's Project No.:	

Application No.: 1 **Application Period:** From 09/01/23 to 09/30/23 **Application Date:** 10/05/23

A	B	C	D	E	F	F1	F2	G	H	I	J	K	L
		Contract Information				Previous Estimate		Work Completed					
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
	Original Contract												
1	MOBILIZATION	1.00	LUMP SUM	84,337.50	84,337.50			0.50	42,168.75		42,168.75	50%	42,168.75
2	REMOVE MANHOLE OR CATCH BASIN (STORM)	10.00	EACH	1,428.01	14,280.10			7.00	9,996.07		9,996.07	70%	4,284.03
3	REMOVE SHEET PILING AND CONCRETE END CAP	1.00	EACH	1,022.95	1,022.95			-	-		-		1,022.95
4	REMOVE MANHOLE (SANITARY)	4.00	EACH	2,194.87	8,779.48			-	-		-		8,779.48
5	REMOVE GATE VALVE & BOX	1.00	EACH	426.12	426.12			-	-		-		426.12
6	REMOVE HYDRANT	2.00	EACH	426.12	852.24			-	-		-		852.24
7	REMOVE STORM PIPE	1,235.00	LIN FT	39.48	48,757.80			1,024.00	40,427.52		40,427.52	83%	8,330.28
8	REMOVE SANITARY PIPE	532.00	LIN FT	18.81	10,006.92			-	-		-		10,006.92
9	REMOVE WATERMAIN	659.00	LIN FT	13.71	9,034.89			-	-		-		9,034.89
10	REMOVE AND REPLACE CURB & GUTTER	25.00	LIN FT	120.95	3,023.75			-	-		-		3,023.75
11	SAW CUT BITUMINOUS PAVEMENT (FULL DEPTH)	48.00	LIN FT	3.00	144.00			-	-		-		144.00
12	REMOVE BITUMINOUS PAVEMENT	2,440.00	SQ YD	2.50	6,100.00			-	-		-		6,100.00
13	BITUMINOUS PATCH SPECIAL	30.00	SQ YD	138.82	4,164.60			-	-		-		4,164.60
14	SALVAGE & REINSTALL RIPRAP	100.00	CU YD	87.12	8,712.00			-	-		-		8,712.00
15	EXCAVATION - COMMON (EV)	366,900.00	CU YD	1.47	539,343.00			147,250.00	216,457.50		216,457.50	40%	322,885.50
16	EXCAVATION - SUBGRADE (EV)	5,550.00	CU YD	1.47	8,158.50			-	-		-		8,158.50
17	COMMON EMBANKMENT (CV)	284,250.00	CU YD	0.01	2,842.50			-	-		-		2,842.50
18	DEWATERING	1.00	LUMP SUM	500,000.00	500,000.00			-	-		-		500,000.00
19	EXCAVATION SPECIAL (EV)	160,920.00	CU YD	1.47	236,552.40			134,900.00	198,303.00		198,303.00	84%	38,249.40
20	EMBANKMENT SPECIAL (CV)	146,310.00	CU YD	0.01	1,463.10			-	-		-		1,463.10
21	CLAY LINER (CV) (P)	26,100.00	CU YD	35.47	925,767.00			-	-		-		925,767.00
22	STOCKPILE EXCESS TOPSOIL (SV)	10,470.00	CU YD	0.01	104.70			-	-		-		104.70
23	STREET SWEEPER (WITH PICKUP BROOM)	25.00	HOUR	165.00	4,125.00			4.00	660.00		660.00	16%	3,465.00
24	SKID LOADER	50.00	HOUR	203.00	10,150.00			-	-		-		10,150.00
25	15" CMP APRON	2.00	EACH	453.21	906.42			-	-		-		906.42
26	15" RC PIPE APRON	2.00	EACH	2,016.77	4,033.54			-	-		-		4,033.54
27	21" RC PIPE APRON	1.00	EACH	2,707.74	2,707.74			-	-		-		2,707.74
28	24" RC PIPE APRON	1.00	EACH	5,723.94	5,723.94			-	-		-		5,723.94
29	30" RC PIPE APRON	1.00	EACH	3,921.84	3,921.84			-	-		-		3,921.84
30	36" RC PIPE APRON	1.00	EACH	5,312.46	5,312.46			-	-		-		5,312.46
31	TRENCHLESS STORM SEWER	136.00	LIN FT	1,731.76	235,519.36			-	-		-		235,519.36
32	8" CONCRETE HEADWALL	3.00	EACH	19,173.00	57,519.00			-	-		-		57,519.00
33	15" CMP	100.00	LIN FT	35.75	3,575.00			-	-		-		3,575.00
34	15" RC PIPE SEWER CLASS V	217.00	LIN FT	52.80	11,457.60			-	-		-		11,457.60
35	21" RC PIPE SEWER CLASS IV	47.00	LIN FT	65.36	3,071.92			-	-		-		3,071.92
36	24" RC PIPE SEWER CLASS III	448.00	LIN FT	72.39	32,430.72			-	-		-		32,430.72
37	30" RC PIPE SEWER CLASS IV	417.00	LIN FT	122.33	51,011.61			-	-		-		51,011.61
38	36" RC PIPE SEWER CLASS III	122.00	LIN FT	141.50	17,263.00			-	-		-		17,263.00
39	48" RC PIPE SEWER CLASS III	1,715.00	LIN FT	245.81	421,564.15			-	-		-		421,564.15
40	CONNECT TO EXISTING STORM SEWER	7.00	EACH	3,057.93	21,405.51			-	-		-		21,405.51
41	6" DIP WATERMAIN CL 53	32.00	LIN FT	64.17	2,053.44			-	-		-		2,053.44
42	8" DIP WATERMAIN CL 52	120.00	LIN FT	61.05	7,326.00			-	-		-		7,326.00

EJCDC C-620 Contractor's Application for Payment
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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey
Engineer:	Bolton & Menk, Inc.
Contractor:	Enebak Construction Company
Project:	The COR Grading Improvements
Contract:	

Owner's Project No.:	23-20
Engineer's Project No.:	0R1.130893
Contractor's Project No.:	
Agency's Project No.:	

Application No.: 1 **Application Period:** From 09/01/23 to 09/30/23 **Application Date:** 10/05/23

A	B	C	D	E	F	F1	F2	G	H	I	J	K	L
		Contract Information				Previous Estimate		Work Completed					
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
43	12" DIP WATERMAIN CL 52	620.00	LIN FT	87.16	54,039.20			-	-		-		54,039.20
44	6" GATE VALVE AND BOX	2.00	EACH	2,224.94	4,449.88			-	-		-		4,449.88
45	8" GATE VALVE AND BOX	2.00	EACH	3,041.71	6,083.42			-	-		-		6,083.42
46	12" GATE VALVE AND BOX	3.00	EACH	5,315.48	15,946.44			-	-		-		15,946.44
47	HYDRANT	2.00	EACH	5,844.34	11,688.68			-	-		-		11,688.68
48	WATERMAIN FITTINGS	1,700.00	LBS	14.36	24,412.00			-	-		-		24,412.00
49	CONNECT TO EXISTING WATER MAIN	3.00	EACH	1,747.39	5,242.17			-	-		-		5,242.17
50	CONNECT TO EXISTING SANITARY SEWER	2.00	EACH	4,368.47	8,736.94			-	-		-		8,736.94
51	CLEAN & VIDEO TAPE PIPE SEWER	740.00	LIN FT	4.03	2,982.20			-	-		-		2,982.20
52	8" PVC PIPE SEWER	170.00	LIN FT	32.12	5,460.40			-	-		-		5,460.40
53	18" PVC PIPE SEWER	570.00	LIN FT	66.64	37,984.80			-	-		-		37,984.80
54	4" INSULATION	20.00	SQ YD	75.45	1,509.00			-	-		-		1,509.00
55	CONSTRUCT SANITARY SEWER MANHOLE	46.50	LIN FT	409.90	19,060.35			-	-		-		19,060.35
56	CONSTRUCT DRAINAGE STRUCTURE DES 48-4020	19.50	LIN FT	481.25	9,384.38			-	-		-		9,384.38
57	CONSTRUCT DRAINAGE STRUCTURE DES 60-4020	11.20	LIN FT	864.89	9,686.77			-	-		-		9,686.77
58	CONSTRUCT DRAINAGE STRUCTURE DES 72-4020	31.00	LIN FT	848.50	26,303.50			-	-		-		26,303.50
59	CONSTRUCT DRAINAGE STRUCTURE DES 84-4020	17.90	LIN FT	1,252.62	22,421.90			-	-		-		22,421.90
60	CONSTRUCT DRAINAGE STRUCTURE DES 108-4020	21.60	LIN FT	2,138.96	46,201.54			-	-		-		46,201.54
61	CONSTRUCT DRAINAGE STRUCTURE DES 60-4022	12.40	LIN FT	628.38	7,791.91			-	-		-		7,791.91
62	CONSTRUCT DRAINAGE STRUCTURE DESIGN 84-4022	15.30	LIN FT	1,363.21	20,857.10			-	-		-		20,857.10
63	CONSTRUCT DRAINAGE STRUCTURE - OUTLET CONTROL STRUCTURE (5' DIA)	1.00	EACH	9,003.19	9,003.19			-	-		-		9,003.19
64	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (SPLITTER STRUCTURE 7)	1.00	EACH	86,978.28	86,978.28			-	-		-		86,978.28
65	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (SPLITTER STRUCTURE 27)	1.00	EACH	98,761.35	98,761.35			-	-		-		98,761.35
66	CASTING ASSEMBLY, STORM	15.00	EACH	467.09	7,006.35			-	-		-		7,006.35
67	CASTING ASSEMBLY, SANITARY	4.00	EACH	428.52	1,714.08			-	-		-		1,714.08
68	ADJUST FRAME & RING CASTING	10.00	EACH	603.18	6,031.80			-	-		-		6,031.80
69	RANDOM RIPRAP CLASS III	85.00	CU YD	143.00	12,155.00			-	-		-		12,155.00
70	TRAFFIC CONTROL	1.00	LUMP SUM	5,000.00	5,000.00			-	-		-		5,000.00
71	F&I PERMANENT TYPE III BARRICADES	2.00	EACH	450.00	900.00			-	-		-		900.00
72	EROSION CONTROL SUPERVISOR	1.00	LUMP SUM	0.01	0.01			-	-		-		0.01
73	STABILIZED CONSTRUCTION EXIT	1.00	LUMP SUM	1,274.30	1,274.30			-	-		-		1,274.30
74	STORM DRAIN INLET PROTECTION	48.00	EACH	412.65	19,807.20			-	-		-		19,807.20
75	SILT FENCE, TYPE MS	9,190.00	LIN FT	1.80	16,542.00			4,450.00	8,010.00		8,010.00	48%	8,532.00
76	TEMPORARY STABILIZATION	50.00	ACRE	650.00	32,500.00			-	-		-		32,500.00
77	TOPSOIL PLACEMENT (CV)	39,400.00	CU YD	1.83	72,102.00			7,236.00	13,241.88		13,241.88	18%	58,860.12
78	ROLLED EROSION PREVENTION CATEGORY 20	15,500.00	SQ YD	1.54	23,870.00			-	-		-		23,870.00
79	SEED MIXTURE 25-141	3,700.00	POUND	4.28	15,836.00			-	-		-		15,836.00
80	SEED MIXTURE 34-263	70.00	POUND	62.90	4,403.00			-	-		-		4,403.00
81	SEED MIXTURE 38-631	70.00	POUND	43.42	3,039.40			-	-		-		3,039.40
82	HYDRAULIC MULCH MATRIX	117,300.00	POUND	0.90	105,570.00			-	-		-		105,570.00
83	SEED MIXTURE NATIVE GRASS - CUSTOM	60.00	POUND	13.20	792.00			-	-		-		792.00
84	WATER FOR DUST CONTROL	2,000.00	MGAL	9.38	18,760.00			650.00	6,097.00		6,097.00	33%	12,663.00
				Original Contract Totals	$ 4,197,240.34		$ -		$ 535,361.72	$ -	$ 535,361.72	13%	$ 3,661,878.62

EJCDC C-620 Contractor's Application for Payment
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CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-262 Approving Partial Payment to Diversified Paving, Inc. for Pavement Maintenance Project #23-21; 2023 Deep Pothole Patching Contracted Services.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Streets Supervisor has inspected the completed work and recommends partial payment No. 1 to Diversified Paving, Inc. for pavement maintenance project #23-21, 2023 Deep Pothole Patching Contracted Services, in the amount of $424,888.92.

Action:

Motion to adopt Resolution #23-262 approving partial payment No. 1 to Diversified Paving, Inc. for pavement maintenance project #23-21; 2023 Deep Pothole Patching Contracted Services, in the amount of $424,888.92.

Attachments

Resolution #23-262

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Bruce Westby	10/19/2023 06:36 AM
Brian Hagen	Brian Hagen	10/19/2023 07:25 AM
Form Started By: Stacie Damjanovich		Started On: 10/13/2023 10:03 AM
Final Approval Date: 10/19/2023		

Councilmember ____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-262

RESOLUTION APPROVING PARTIAL PAYMENT NO. 1 TO DIVERSIFIED PAVING, INC. FOR IMPROVEMENT PROJECT #23-21, 2023 DEEP POTHOLE PATCHING CONTRACTED SERVICES

WHEREAS, numerous streets in the City of Ramsey are experiencing severe pavement distress resulting in unsafe conditions for drivers; and

WHEREAS, the City of Ramsey adopted a budget for 2023 including $375,000 to temporarily repair the bituminous pavement on numerous public street segments in support of the City's Pavement Management Program, with another $375,000 reserved for temporary pavement repairs in 2024; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-100 adopted May 9, 2023, a construction contract was awarded for Pavement Maintenance Project #23-15, 2023 Priority Pothole Patching Contracted Services, to immediately patch the highest priority potholes on streets experiencing severe pavement distress; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-115 adopted May 23, 2023, a construction contract was awarded for Pavement Maintenance Project #23-14, 2023 Critical Mill and Overlay Improvements, to temporarily repair pavement in 21 of the most critical areas experiencing severe pavement distress; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-101, adopted May 9, 2023, the City Council approved plans and specifications and authorized advertisements for bids for Pavement Maintenance Project #23-16, 2023 Pavement Patching Contracted Services, which proposed to utilize contracted services to patch pavement on all remaining streets experiencing severe pavement distress not addressed under projects #23-14 or #23-15; and

WHEREAS, two bids for Pavement Maintenance Project #23-16 were presented to the Ramsey City Council on June 13, 2023, whereby the Ramsey City Council rejected the bid found to comply with the approved plans and specifications and advertisement for bids and directed the City Engineer to promptly prepare two separate plans for proposed spray patching and deep pothole patching contracted services and advertise bids for said projects; and

WHEREAS, the City Engineer prepared contract documents for the new Street Maintenance Projects designated as Maintenance Projects #23-21, Deep Pothole Patching Contracted Services, and #23-22, Spray Patching Contracted Services, and bids were advertised in the Anoka Union Herald newspaper on June 16 and 23, 2023; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-154 adopted July 11, 2023, the City Council authorized entering into a construction contract with Diversified Paving, Inc. of Saint Cloud, Minnesota, for the said project at the contracted price of $499,650.00; and

WHEREAS, as of October 24, 2023 $0.00 has been paid to date; and

WHEREAS, the Streets Supervisor has inspected the completed work and recommends partial payment No. 1 to Diversified Paving, Inc. of Saint Cloud, Minnesota for said project, in the amount of $424,888.92.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) The City Council hereby authorizes partial payment No. 1 to Diversified Paving of Saint Cloud, Minnesota for Improvement Project #23-21, Deep Pothole Patching Contracted Services in the amount of $424,888.92.

2) The City Council hereby authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember _____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Pay Estimate Summary Sheet

Estimate Number: 1 Partial
Project Number: 23-21
Project Name: 2023 Deep Pothole Patching Contracted Services
Period Ending September 22, 2023
Contractor: Diversified Paving
Address: 56 33rd Avenue S., Saint Cloud, MN 56301-3722

1	Original Contract Amount		$ 499,650.00
2	Change Order(s)	No. ___ Thru No. ___	
3	Total Funds Encumbered		$ 499,650.00
4	Value of Work Completed		$ 447,251.50
5	Retainage	5 %	$ (22,362.58)
	Percent Complete	90%	
6	Deductions or Charges		$ -
7	Total Earned Less Retainage (Lines 4+5+6)		$ 424,888.92
8	Previous Payment(s)		$ -
9	**Payment Due (Lines 7-8)**		**$ 424,888.92**
10	Total Balance to Finish, Including Retainage (Lines 3-7)		$ 74,761.08

Certification of Partial Payment

I hereby certify that, to the best of my knowledge and belief, all items, quantities and prices of work and material shown on this Estimate are correct and that all work has been performed in full accordance with the terms and conditions of the Contract for this project between owner and the undersigned Contractor, and as amended by any authorized changes and the foregoing is a true and correct statement of the contract amount for the period covered by this estimate.

Diversified Paving.
Contractor Name

Kyle Nen
Print Name

P.M.
Title

Signature

10-12-2023
Date

City of Ramsey Approval

Signature (Project Engineer)

Date

Signature (City Engineer)

10/12/2023
Date

2023 Deep Pothole Patching Contracted Services
I.P. 23-21
Estimate No. 1 **Partial**
Period Ending September 22, 2023

		CONTRACT AMOUNT				COMPLETED THIS PERIOD		COMPLETED TO DATE	
Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
1	Mobilization	LS	1.0	$ 25,355.00	$ 25,355.00	1.0	$ 25,355.00	1.0	$ 25,355.00
2	Bituminous Patching Mixture (Type SP 9.5)	TON	2100	$ 103.00	$ 216,300.00	1608.0	$ 165,624.00	1608.0	$ 165,624.00
3	Bituminous Material for Tack Coat (CSS-1h)	GAL	900.0	$ 5.00	$ 4,500.00	850.0	$ 4,250.00	850.0	$ 4,250.00
4	Traffic Control	LS	1	$ 6,115.00	$ 6,115.00	1.0	$ 6,115.00	1.0	$ 6,115.00
5	4-Person Work Crew	HOUR	420	$ 589.00	$ 247,380.00	417.5	$ 245,907.50	417.5	$ 245,907.50
GRAND TOTALS					**$ 499,650.00**		**$ 447,251.50**		**$ 447,251.50**

Internal City Use Only				
2023 Budgeted Funds		*$ 275,000.00*		*$ 447,251.50*
Municipal State Aid Funds		*$ 45,619.65*		
Public Improvement Revolving (PIR) Funds		*$ 126,631.85*		
Total Funds		*$ 447,251.50*		*$ 447,251.50*

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-263 Approving Partial Payment to Northern Lines Contracting for Improvement Project #23-01; 161st Avenue Reconstruction.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends partial payment No. 5 to Northern Lines Contracting, Inc. for improvement project #23-01; 161st Avenue Reconstruction, in the amount of $74,796.86.

Action:

Motion to adopt Resolution #23-263 approving partial payment No. 5 to Northern Lines Contracting, Inc for IP #23-01; 161st Avenue Reconstruction, in the amount of $74,796.86.

Attachments

Pay Resolution #23-263

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Bruce Westby	10/19/2023 06:42 AM
Brian Hagen	Brian Hagen	10/19/2023 07:37 AM
Form Started By: Stacie Damjanovich		Started On: 10/13/2023 02:17 PM
Final Approval Date: 10/19/2023		

Councilmember ____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-263

RESOLUTION APPROVING PARTIAL PAYMENT NO. 5 TO NORTHERN LINES CONTRACTING, INC. OF HANOVER, MINNESOTA FOR IMPROVEMENT PROJECT #23-01; 161ST AVENUE RECONSTRUCTION

WHEREAS, the City of Ramsey proposes to reconstruct 161st Avenue between Armstrong Boulevard and Variolite Street; and

WHEREAS, pursuant to Ramsey City Council resolution #22-089, adopted April 12th, 2022, the City Council accepted and awarded the proposal to Bolten & Menk, Inc., for Topographic Survey of the project area; and

WHEREAS, pursuant to Ramsey City Council resolution #22-200, adopted August 23rd, 2022, the City Engineer was ordered to prepare plans and specifications for Improvement Project #23-01, 161st Avenue Reconstructions; and

WHEREAS, pursuant to Ramsey City Council resolution #23-051, adopted March 14, 2023, the City Council approved plans and specifications as prepared by the City Engineer and authorized advertisement for bids for same improvements; and

WHEREAS, proposals were received for Construction Staking and As-built Survey of $29,770.00 from Bolton Menk, Inc. for same improvement; and

WHEREAS, pursuant to Ramsey City Council resolution #23-081 adopted April 25, 2023 a contract was awarded to Northern Lines Contracting, Inc. of Hanover, Minnesota, in the amount of $1,244,237.29 for said improvements; and

WHEREAS, as of October 24, 2023 $1,117,554.06 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends partial payment no. 5 to Northern Lines Contracting, Inc. of Hanover, Minnesota for said project in the amount of $74,796.86.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA:

1) That the City Council are hereby authorizes partial payment no. 5 to Northern Lines Contracting, Inc. of Hanover, Minnesota for improvement project #23-01 161st Avenue Reconstruction, in the amount of $74,796.86.

2) That the City Council hereby accepts the project and authorizes the Mayor or City Administrator to sign the release for this payment.

3) That the total amount of this payment is not included in resolutions approving payment of bills for date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember ________ and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

23-263

Pay Estimate Summary Sheet

Estimate Number:	5 Partial
Project Number:	23-01 (S.A.P. 199-123-001)
Project Name:	161st Avenue Reconstruction
Period Ending	September 30, 2023
Contractor:	Northern Lines Contracting, Inc.
Address:	11039 Lamont Avenue NE, Hanover, MN 55341

1	Original Contract Amount		$ 1,244,237.29
2	Change Order(s)	No. ____ Thru No. ____	
3	Total Funds Encumbered		$ 1,244,237.29
4	Value of Work Completed		$ 1,204,394.87
5	Retainage 1 %		$ (12,043.95)
	Percent Complete	97%	
6	Deductions or Charges		$ -
7	Total Earned Less Retainage (Lines 4+5+6)		$ 1,192,350.92
8	Previous Payment(s)		$ 1,117,554.06
9	**Payment Due (Lines 7-8)**		**$ 74,796.86**
10	Total Balance to Finish, Including Retainage (Lines 3-7)		$ 51,886.37

Certification of Partial Payment

I hereby certify that, to the best of my knowledge and belief, all items, quantities and prices of work and material shown on this Estimate are correct and that all work has been performed in full accordance with the terms and conditions of the Contract for this project between owner and the undersigned Contractor, and as amended by any authorized changes and the foregoing is a true and correct statement of the contract amount for the period covered by this estimate.

Northern Lines Contracting, Inc	Scott E. Enright
Contractor Name	Print Name
Project Manager	Scott E. Enright
Title	Signature
	10/13/23
	Date

City of Ramsey Approval

Joe Turnquist	10/13/2023
Signature (Project Engineer)	Date
Bruce Westby	10/16/2023
Signature (City Engineer)	Date

161st Avenue Reconstruction
I.P. 23-01 (S.A.P. 199-123-001)
Estimate No. 5 Partial
Period Ending September 30, 2023

Item No.	MnDOT No.	Item Description	CONTRACT AMOUNT				COMPLETED THIS PERIOD		COMPLETED TO DATE	
			Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
1	2021.501	MOBILIZATION	LS	1.0	$ 35,000.00	$ 35,000.00	0.00	$ -	1.00	$ 35,000.00
2	2101.502	CLEARING	EA	16	$ 187.00	$ 2,992.00	0	$ -	29.00	$ 5,423.00
3	2101.502	GRUBBING	EA	16	$ 187.00	$ 2,992.00	0	$ -	29.00	$ 5,423.00
4	2101.505	CLEARING	ACRE	0.31	$ 9,500.00	$ 2,945.00	0.00	$ -	0.31	$ 2,945.00
5	2101.505	GRUBBING	ACRE	0.31	$ 9,500.00	$ 2,945.00	0.00	$ -	0.31	$ 2,945.00
6	2104.502	REMOVE BASKETBALL HOOP	EA	2	$ 135.00	$ 270.00	0	$ -	2	$ 270.00
7	2104.502	SALVAGE MAIL BOX SUPPORT	EA	8	$ 105.00	$ 840.00	0	$ -	8	$ 840.00
8	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	238	$ 3.00	$ 714.00	0	$ -	250	$ 750.00
9	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	79	$ 5.00	$ 395.00	0	$ -	70	$ 350.00
10	2104.503	REMOVE CONCRETE CURB AND GUTTER	LF	6	$ 10.00	$ 60.00	0	$ -	0	$ -
11	2104.504	REMOVE BITUMINOUS PAVEMENT	SY	3111	$ 2.30	$ 7,155.30	0	$ -	3111	$ 7,155.30
12	2104.504	REMOVE CONCRETE PAVEMENT	SY	69	$ 6.00	$ 414.00	0	$ -	69	$ 414.00
13	2104.602	LANDSCAPE RESTORATION	EA	12	$ 500.00	$ 6,000.00	0	$ -	0	$ -
14	2106.507	EXCAVATION - CHANNEL & PONDING (EV)	CY	7219	$ 6.10	$ 44,035.90	0	$ -	7056	$ 43,041.60
15	2106.507	EXCAVATION - COMMON (EV)	CY	886	$ 6.10	$ 5,404.60	0	$ -	886	$ 5,404.60
16	2106.507	EXCAVATION - SUBGRADE (EV)	CY	1768	$ 6.10	$ 10,784.80	0	$ -	1768	$ 10,784.80
17	2106.607	HAUL & STOCKPILE RECLAIM MATERIAL (LV)	CY	2025	$ 5.50	$ 11,137.50	0	$ -	2025	$ 11,137.50
18	2108.504	GEOTEXTILE FABRIC TYPE 4	SY	68	$ 5.00	$ 340.00	0	$ -	0	$ -
19	2112.519	SUBGRADE PREPARATION - ROADWAY	RDST	26	$ 375.00	$ 9,750.00	0	$ -	26	$ 9,750.00
20	2112.604	SUBGRADE PREPARATION	SY	5445	$ 1.05	$ 5,717.25	0	$ -	6445	$ 5,717.25
21	2123.61	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	45	$ 165.00	$ 7,425.00	4	$ 660.00	12	$ 1,980.00
22	2130.523	WATER	MGAL	52	$ 35.00	$ 1,820.00	0	$ -	0	$ -
23	2211.507	AGGREGATE BASE CLASS 5 MODIFIED (CV)	CY	2687	$ 22.00	$ 59,114.00	0	$ -	2687	$ 59,114.00
24	2215.504	FULL DEPTH RECLAMATION	SY	8974	$ 1.50	$ 13,461.00	0	$ -	8974	$ 13,461.00
25	2232.504	MILL BITUMINOUS PAVEMENT 2.0"	SY	26	$ 10.50	$ 273.00	0	$ -	26	$ 273.00
26	2301.604	CONCRETE PAVEMENT DRIVEWAYS 6.0"	SY	80	$ 94.75	$ 7,580.00	0	$ -	79	$ 7,485.25
27	2357.606	BITUMINOUS MATERIAL FOR TACK COAT	GAL	721	$ 3.15	$ 2,271.15	0	$ -	340	$ 1,071.00
28	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,C)	TON	860	$ 89.05	$ 76,583.00	0	$ -	969	$ 86,289.45
29	2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,F) - PARKING LOT	TON	303	$ 98.10	$ 29,724.30	0	$ -	305	$ 29,920.50
30	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	860	$ 91.70	$ 78,862.00	0	$ -	771	$ 70,700.70
31	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) DRIVEWAYS	TON	5	$ 210.00	$ 1,050.00	0	$ -	5	$ 1,050.00
32	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) TRAIL	TON	365	$ 104.50	$ 38,142.50	0	$ -	408	$ 42,636.00
33	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,F) PARKING LOT	TON	227	$ 101.15	$ 22,961.05	0	$ -	230	$ 23,264.50
34	2501.502	18" RC PIPE APRON	EA	1	$ 1,430.00	$ 1,430.00	0	$ -	1	$ 1,430.00
35	2501.502	30" RC PIPE APRON	EA	1	$ 2,025.00	$ 2,025.00	0	$ -	1	$ 2,025.00
36	2501.602	TRASH GUARD FOR 18" RC PIPE APRON	EA	1	$ 820.00	$ 820.00	0	$ -	1	$ 820.00
37	2501.602	TRASH GUARD FOR 30" RC PIPE APRON	EA	1	$ 2,475.00	$ 2,475.00	0	$ -	1	$ 2,475.00
38	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS III	LF	378	$ 64.00	$ 24,192.00	0	$ -	378	$ 24,192.00
39	2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS III	LF	80	$ 72.00	$ 5,760.00	0	$ -	80	$ 5,760.00
40	2503.503	30" RC PIPE SEWER DESIGN 3006 CLASS III	LF	699	$ 146.00	$ 102,054.00	0	$ -	708	$ 103,368.00
41	2503.602	CONNECT TO EXISTING SANITARY SEWER	EA	2	$ 21,000.00	$ 42,000.00	0	$ -	2	$ 42,000.00
42	2503.603	6" PVC PIPE SEWER SDR 26	LF	153	$ 42.00	$ 6,426.00	0	$ -	162	$ 6,804.00
43	2503.603	8" PVC PIPE SEWER SDR 26	LF	1180	$ 41.00	$ 48,380.00	0	$ -	1179	$ 48,339.00
44	2503.603	CLEAN & TELEVISE PIPE SEWER	LF	1333	$ 6.00	$ 7,998.00	1333	$ 7,998.00	1333	$ 7,998.00
45	2504.602	6" PIPE PLUG	EA	2	$ 120.00	$ 240.00	0	$ -	2	$ 240.00
46	2504.602	6" GATE VALVE & BOX	EA	5	$ 2,300.00	$ 11,500.00	0	$ -	5	$ 11,500.00
47	2504.602	8" GATE VALVE & BOX	EA	2	$ 3,135.00	$ 6,270.00	0	$ -	3	$ 9,405.00
48	2504.602	ADJUST VALVE BOX	EA	7	$ 385.00	$ 2,695.00	0	$ -	7	$ 2,695.00
49	2504.602	CONNECT TO EXISTING WATERMAIN	EA	2	$ 1,485.00	$ 2,970.00	0	$ -	2	$ 2,970.00
50	2504.602	HYDRANT (8.5' BURY)	EA	2	$ 5,910.00	$ 11,820.00	0	$ -	2	$ 11,820.00
51	2504.603	6" WATERMAIN DUCTILE IRON CL 53	LF	144	$ 65.00	$ 9,360.00	0	$ -	144	$ 9,360.00
52	2504.603	8" WATERMAIN DUCTILE IRON CL 52	LF	1170	$ 66.00	$ 77,220.00	0	$ -	1170	$ 77,220.00
53	2504.608	WATERMAIN FITTINGS	LBS	431	$ 16.00	$ 6,896.00	0	$ -	431	$ 6,896.00
54	2506.502	ADJUST FRAME AND RING CASTING	EA	5	$ 695.00	$ 3,475.00	0	$ -	5	$ 3,475.00
55	2506.502	CASTING ASSEMBLY (SANITARY)	EA	4	$ 945.00	$ 3,780.00	0	$ -	4	$ 3,780.00
56	2506.502	CASTING ASSEMBLY (STORM)	EA	12	$ 790.00	$ 9,480.00	0	$ -	12	$ 9,480.00
57	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 2'X3'	EA	3	$ 1,850.00	$ 5,550.00	0	$ -	4	$ 7,400.00
58	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 27-4020	EA	1	$ 1,460.00	$ 1,460.00	0	$ -	1	$ 1,460.00
59	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	EA	4	$ 2,960.00	$ 11,840.00	0	$ -	4	$ 11,840.00
60	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	EA	2	$ 5,285.00	$ 10,570.00	0	$ -	2	$ 10,570.00
61	2506.502	355270.93	EA	2	$ 9,365.00	$ 18,730.00	0	$ -	2	$ 18,730.00
62	2506.503	CONSTRUCT SANITARY SEWER MANHOLE	LF	56.7	$ 420.00	$ 23,814.00	0.0	$ -	56.7	$ 23,826.60
63	2511.507	RANDOM RIP RAP CLASS III	CY	20	$ 210.00	$ 4,200.00	0	$ -	20	$ 4,200.00
64	2521.504	6" CONCRETE WALK	SY	124	$ 151.45	$ 18,779.80	0	$ -	49	$ 7,421.05
65	2521.602	DRILL & GROUT REINF BAR (EPOXY COATED)	EA	88	$ 31.50	$ 2,772.00	0	$ -	0	$ -
66	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LF	4799	$ 18.55	$ 89,021.45	0	$ -	5049	$ 93,658.95
67	2531.503	CONCRETE CURB & GUTTER DESIGN B612	LF	1389	$ 24.30	$ 33,752.70	0	$ -	1052	$ 25,563.60
68	2531.604	7" CONCRETE DRAINAGE FLUME	SY	4	$ 163.00	$ 652.00	0	$ -	0	$ -

Item No.	MnDOT No.	Item Description	CONTRACT AMOUNT				COMPLETED THIS PERIOD		COMPLETED TO DATE	
			Unit	Estimated Quantity	Unit Price	Extended Total	Quantity	Extended Total	Quantity	Extended Total
69	2531.604	7" CONCRETE VALLEY GUTTER	SY	232	$ 157.00	$ 36,424.00	0	$ -	254	$ 39,878.00
70	2531.618	TRUNCATED DOMES	SF	222	$ 68.25	$ 15,151.50	0	$ -	86	$ 5,869.50
71	2540.602	TEMPORARY MAIL BOX CLUSTER	EA	1	$ 420.00	$ 420.00	0	$ -	1	$ 420.00
72	2540.602	INSTALL MAIL BOX SUPPORT	EA	8	$ 132.00	$ 1,056.00	8	$ 1,056.00	8	$ 1,056.00
73	2563.601	TRAFFIC CONTROL	LS	1	$ 7,250.00	$ 7,250.00	0.0	$ -	1.0	$ 7,250.00
74	2571.502	BASKETBALL HOOP	EA	4	$ 3,150.00	$ 12,600.00	0.0	$ -	4	$ 12,600.00
75	2571.502	CONIFEROUS TREE 6' HT B&B	EA	7	$ 930.00	$ 6,510.00	0.0	$ -	0	$ -
76	2571.502	DECIDUOUS TREE 6' HT B&B	EA	2	$ 795.00	$ 1,590.00	0.0	$ -	0	$ -
77	2572.503	TEMPORARY TREE PROTECTION FENCE	LF	1824	$ 2.45	$ 4,468.80	0.0	$ -	1824	$ 4,468.80
78	2573.502	STABILIZED CONSTRUCTION EXIT	EA	3	$ 970.00	$ 2,910.00	0	$ -	1	$ 970.00
79	2573.502	STORM DRAIN INLET PROTECTION	EA	10	$ 225.00	$ 2,250.00	0	$ -	10	$ 2,250.00
80	2573.503	SEDIMENT CONTROL LOG TYPE STRAW	LF	125	$ 3.15	$ 393.75	0	$ -	0	$ -
81	2573.503	SILT FENCE; TYPE MS	LF	5236	$ 2.75	$ 14,399.00	0	$ -	4849	$ 13,334.75
82	2574.507	TOPSOIL (LV)	CY	1975	$ 0.01	$ 19.75	0	$ -	0	$ -
83	2574.508	FERTILIZER TYPE 3	LBS	305	$ 0.95	$ 289.75	205	$ 194.75	305	$ 289.75
84	2575.504	ROLLED EROSION PREVENTION CATEGORY 20	SY	7595	$ 2.00	$ 15,190.00	0	$ -	6500	$ 13,000.00
85	2575.505	SEEDING	ACRE	2.83	$ 263.00	$ 744.29	0.83	$ 218.29	2.83	$ 744.29
86	2575.508	HYDRAULIC MULCH MATRIX	LBS	5040	$ 1.25	$ 6,300.00	5040	$ 6,300.00	5040	$ 6,300.00
87	2575.508	SEED MIXTURE 25-151	LBS	175	$ 5.25	$ 918.75	175	$ 918.75	175	$ 918.75
88	2575.508	SEED MIXTURE 33-262	LBS	65	$ 14.00	$ 910.00	0	$ -	75	$ 1,050.00
89	2582.503	4" BROKEN LINE PAINT (EPOXY)	LF	530	$ 1.55	$ 821.50	830	$ 1,286.50	830	$ 1,286.50
90	2582.503	4" DASHED LINE PAINT (EPOXY)	LF	644	$ 1.55	$ 998.20	0	$ -	0	$ -
91	2582.503	4" SOLID LINE PAINT (EPOXY)	LF	6502	$ 1.55	$ 10,078.10	5124	$ 7,942.20	5124	$ 7,942.20
92	2582.518	CROSSWALK PAINT (EPOXY)	SF	522	$ 5.50	$ 2,871.00	240	$ 1,320.00	240	$ 1,320.00
93	2582.518	PAVEMENT MESSAGE (EPOXY)	SF	11	$ 9.60	$ 105.60	13	$ 127.68	13	$ 127.68
		GRAND TOTALS				$ 1,244,237.29		$ 28,022.17		$ 1,204,394.87

Internal City Use Only			
MSA Funds (0.46 Mobilization)		$ 19,898.49	$ 627,293.59
Storm Sewer Utility Funds (0.25 Mobilization)		$ -	$ 232,440.00
Water Utility Funds (0.09 Mobilization)		$ -	$ 135,016.00
Sanitary Sewer Utility Funds (0.09 Mobilization)		$ 7,998.00	$ 139,612.60
Park Improvement Funds (0.11 Mobilization)		$ 127.68	$ 70,032.68
Total Funds		$ 28,022.17	$ 1,204,394.87

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-264 Approving Partial Payment to Asphalt Surface Technologies Corp. for Improvement Project #23-04, 167th Avenue Reconstruction.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends partial payment No. 1 to Asphalt Surface Technologies Corp. for Improvement Project #23-04, 167th Avenue Reconstruction, in the amount of $322,570.99.

Action:

Motion to adopt Resolution #23-264 approving partial payment No. 1 to Asphalt Surface Technologies Corp. for Improvement Project #23-04, 167th Avenue Reconstruction, in the amount of $322,570.99.

Attachments

Pay Resolution #23-264

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Bruce Westby	10/19/2023 06:48 AM
Brian Hagen	Brian Hagen	10/19/2023 07:37 AM
Form Started By: Stacie Damjanovich		Started On: 10/13/2023 03:21 PM
Final Approval Date: 10/19/2023		

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-264

RESOLUTION APPROVING PARTIAL PAYMENT NO. 1 TO ASPHALT SURFACE TECHNOLOGIES CORP. OF SAINT CLOUD, MINNESOTA FOR IMPROVEMENT PROJECT #23-04, 167TH AVENUE RECONSTRUCTION

WHEREAS, the City of Ramsey Proposes to reconstruct 167th Avenue between Nowthen Boulevard (County State Aid Highway 5) and Saint Francis Boulevard (Trunk Highway 47) in 2023 as identified within the 2023-2032 10-Year Capital Improvement Program: and

WHEREAS, pursuant to Ramsey City Council resolution #22-130, adopted June 14th, 2022, the City Council accepted and awarded the proposal to Bolten & Menk, Inc., for Topographic Survey of the project area; and

WHEREAS, pursuant to Ramsey City Council resolution #22-201, adopted August 23rd, 2022, the City Council ordered the City Engineer to prepare plans and specifications for Improvement Project #23-04; and

WHEREAS, pursuant to Ramsey City Council resolution #22-204, adopted August 23rd, 2022, the City Council accepted the proposal of Haugo Geotechnical Services to complete geotechnical evaluations for Improvement Project #23-04; and

WHEREAS, pursuant to Ramsey City Council resolution #22-270, adopted November 22nd, 2022, the City Council accepted the proposal of Bolton & Menk, Inc. to prepare final plans and specifications for Improvement Project #23-04; and

WHEREAS, pursuant to Ramsey City Council resolution #23-070, adopted March 28th, 2023, the City Council authorized entering into a contract with Braun Intertec to prepare a stabilized full-depth reclamation mix design for Improvement Project #23-04; and

WHEREAS, pursuant to Ramsey City Council resolution #23-114, adopted May 23rd, 2023, the City Council approved plans and specifications and authorized advertising bids for improvement Project #23-04; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-148 adopted on June 27, 2023 a contracted was awarded to Asphalt Surface Technologies Corp. of Saint Cloud, Minnesota, in the amount of $1,511,455.59 for said improvements; and

WHEREAS, as of October 24, 2023 $0.00 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends partial payment No. 1 to Asphalt Surface Technologies Corp. for said project, in the amount of $322,570.99.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) The City Council hereby authorizes partial payment No. 1 to Asphalt Surface Technologies Corp. of Saint Cloud, Minnesota for Improvement Project #23-04, 167th Avenue Reconstruction in the amount of $322,570.99.

2) The City Council hereby authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember _____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

23-204

Contractor's Application for Payment

Owner:	City of Ramsey	**Owner's Project No.:**	23-04
Engineer:	Bolton & Menk, Inc.	**Engineer's Project No.:**	0R1.129245/0R1.131249
Contractor:	Asphalt Surface Technologies Corp.	**Agency's Project No.:**	
Project:	SAP 199-102-007 167th Avenue Reconstruction		
Contract:			
Application No.:	1	**Application Date:**	10/9/2023
Application Period:	**From** 8/21/2023	**to**	10/1/2023

1. Original Contract Price	$	1,511,455.59
2. Net change by Change Orders	$	-
3. Current Contract Price (Line 1 + Line 2)	$	1,511,455.59
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	$	339,548.41
5. Retainage		
a. 5% X $ 339,548.41 Work Completed	$	16,977.42
b. _____ X $ - Stored Materials	$	-
c. Total Retainage (Line 5.a + Line 5.b)	$	16,977.42
6. Amount eligible to date (Line 4 - Line 5.c)	$	322,570.99
7. Less previous payments		
8. Amount due this application	$	322,570.99
9. Balance to finish, including retainage (Line 3 - Line 4)	$	1,171,907.18

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: Astech Corp.

Signature: _____ **Date:** 10-16-2023

Name: Lance Bemboom **Title:** Superintendent

Recommended by Engineer

By: _____

Name: Zach Lingl, PE

Title: Project Manager

Date: 10/13/2023

Approved by Owner

By: _____

Name: Bruce Westby

Title: City Engineer/Public Works Dir.

Date: 10/16/2023

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey	**Owner's Project No.:**	23-04
Engineer:	Bolton & Menk, Inc.	**Engineer's Project No.:**	0R1.129245/0R1.131249
Contractor:	Asphalt Surface Technologies Corp.	**Contractor's Project No.:**	
Project:	SAP 199-102-007 167th Avenue Reconstruction	**Agency's Project No.:**	
Contract:			

Application No.: 1 **Application Period:** From 08/21/23 to 10/01/23 **Application Date:** 10/09/23

A	B	C	D	E	F	F1	F2	G	H	I	J	K	L
		Contract Information				Previous Estimate		Work Completed					
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
	Original Contract												
1	MOBILIZATION	1.00	LUMP SUM	47,000.00	47,000.00			0.50	23,500.00		23,500.00	50%	23,500.00
2	REMOVE DRAINAGE STRUCTURE	5.00	EACH	500.50	2,502.50			5.00	2,502.50		2,502.50	100%	-
3	REMOVE PIPE CULVERTS	430.00	LIN FT	11.33	4,871.90			430.00	4,871.90		4,871.90	100%	-
4	REMOVE SEWER PIPE (STORM)	415.00	LIN FT	15.18	6,299.70			415.00	6,299.70		6,299.70	100%	-
5	REMOVE CURB AND GUTTER	1,575.00	LIN FT	6.60	10,395.00			1,583.00	10,447.80		10,447.80	101%	(52.80)
6	SAWING CONCRETE PAVEMENT (FULL DEPTH)	38.00	LIN FT	3.00	114.00			-	-		-		114.00
7	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	885.00	LIN FT	3.00	2,655.00			928.00	2,784.00		2,784.00	105%	(129.00)
8	REMOVE BITUMINOUS PAVEMENT	550.00	SQ YD	4.29	2,359.50			334.00	1,432.86		1,432.86	61%	926.64
9	REMOVE CONCRETE PAVEMENT	166.00	SQ YD	6.16	1,022.56			100.00	616.00		616.00	60%	406.56
10	GRANULAR BORROW (CV)	200.00	CU YD	34.10	6,820.00			60.00	2,046.00		2,046.00	30%	4,774.00
11	CHANNEL AND POND EXCAVATION	413.00	CU YD	22.00	9,086.00			540.00	11,880.00		11,880.00	131%	(2,794.00)
12	EXCAVATION - COMMON (P) (EV)	1,148.00	CU YD	21.12	24,245.76			1,148.00	24,245.76		24,245.76	100%	-
13	COMMON EMBANKMENT (P) (CV)	230.00	CU YD	33.00	7,590.00			-	-		-		7,590.00
14	EXCAVATION - SUBGRADE (EV)	320.00	CU YD	22.00	7,040.00			-	-		-		7,040.00
15	DEWATERING	1.00	LUMP SUM	5,000.00	5,000.00			1.00	5,000.00		5,000.00	100%	-
16	HAUL AND STOCKPILE BITUMINOUS MATERIAL	757.00	CU YD	8.58	6,495.06			1,008.00	8,648.64		8,648.64	133%	(2,153.58)
17	AGGREGATE SURFACING (CV) CLASS 5 (DRIVEWAYS)	81.00	CU YD	40.00	3,240.00			-	-		-		3,240.00
18	STREET SWEEPER (WITH PICKUP BROOM)	24.00	HOUR	150.00	3,600.00			5.00	750.00		750.00	21%	2,850.00
19	WATER	900.00	MGAL	38.50	34,650.00			-	-		-		34,650.00
20	AGGREGATE BASE (CV) CLASS 5 MODIFIED	320.00	CU YD	33.00	10,560.00			-	-		-		10,560.00
21	AGGREGATE BASE (CV) FROM STOCKPILE	757.00	CU YD	22.88	17,320.16			-	-		-		17,320.16
22	FULL DEPTH RECLAMATION	9,965.00	SQ YD	2.53	25,211.45			9,965.00	25,211.45		25,211.45	100%	-
23	STABILIZED FULL DEPTH RECLAMATION	18,250.00	SQ YD	4.07	74,277.50			-	-		-		74,277.50
24	BITUMINOUS MATERIAL FOR MIXTURE	230.00	TON	690.80	158,884.00			-	-		-		158,884.00
25	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	3,560.00	TON	88.72	315,843.20			-	-		-		315,843.20
26	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,C)	4,420.00	TON	83.60	369,512.00			-	-		-		369,512.00
27	18" RC PIPE APRON	15.00	EACH	2,384.80	35,772.00			15.00	35,772.00		35,772.00	100%	-
28	24" RC PIPE APRON	2.00	EACH	3,036.00	6,072.00			2.00	6,072.00		6,072.00	100%	-
29	4" INSULATION	4.00	SQ YD	45.10	180.40			4.00	180.40		180.40	100%	-
30	15" RC PIPE SEWER CLASS V	75.00	LIN FT	79.20	5,940.00			75.00	5,940.00		5,940.00	100%	-

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey	**Owner's Project No.:**	23-04
Engineer:	Bolton & Menk, Inc.	**Engineer's Project No.:**	0R1.129245/0R1.131249
Contractor:	Asphalt Surface Technologies Corp.	**Contractor's Project No.:**	
Project:	SAP 199-102-007 167th Avenue Reconstruction	**Agency's Project No.:**	
Contract:			

Application No.: 1 **Application Period:** From 08/21/23 to 10/01/23 **Application Date:** 10/09/23

A	B	C	D	E	F	F1	F2	G	H	I	J	K	L
		Contract Information				Previous Estimate		Work Completed					
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
31	18" RC PIPE SEWER CLASS V	780.00	LIN FT	96.80	75,504.00			780.00	75,504.00		75,504.00	100%	-
32	24" RC PIPE SEWER CLASS III	66.00	LIN FT	119.90	7,913.40			66.00	7,913.40		7,913.40	100%	-
33	ADJUST VALVE BOX	11.00	EACH	495.00	5,445.00			-	-		-		5,445.00
34	CONST DRAINAGE STRUCTURE DESIGN SPECIAL	1.00	EACH	3,278.00	3,278.00			1.00	3,278.00		3,278.00	100%	-
35	CONST DRAINAGE STRUCTURE DES 48-4020	3.00	EACH	4,653.00	13,959.00			1.00	4,653.00		4,653.00	33%	9,306.00
36	RANDOM RIPRAP CL III	10.00	CU YD	127.60	1,276.00			-	-		-		1,276.00
37	6" CONCRETE WALK	308.00	SQ FT	22.00	6,776.00			123.50	2,717.00		2,717.00	40%	4,059.00
38	CONCRETE CURB & GUTTER DES B618	1,580.00	LIN FT	24.00	37,920.00			1,580.00	37,920.00		37,920.00	100%	-
39	6" CONCRETE DRIVEWAY PAVEMENT	120.00	SQ YD	100.00	12,000.00			134.30	13,430.00		13,430.00	112%	(1,430.00)
40	TRAFFIC CONTROL	1.00	LUMP SUM	5,390.00	5,390.00			0.50	2,695.00		2,695.00	50%	2,695.00
41	TRUNCATED DOMES	76.00	SQ FT	65.00	4,940.00			40.00	2,600.00		2,600.00	53%	2,340.00
42	STORM DRAIN INLET PROTECTION	3.00	EACH	132.00	396.00			3.00	396.00		396.00	100%	-
43	SILT FENCE, TYPE MS	3,785.00	LIN FT	2.20	8,327.00			3,785.00	8,327.00		8,327.00	100%	-
44	SEDIMENT CONTROL LOG TYPE WOOD FIBER	300.00	LIN FT	3.30	990.00			580.00	1,914.00		1,914.00	193%	(924.00)
45	COMMON TOPSOIL BORROW	2,200.00	CU YD	35.20	77,440.00			-	-		-		77,440.00
46	FERTILIZER TYPE 3	1,050.00	POUND	1.10	1,155.00			-	-		-		1,155.00
47	ROLLED EROSION PREVENTION CATEGORY 20	2,140.00	SQ YD	2.75	5,885.00			-	-		-		5,885.00
48	SEEDING	3.50	ACRE	275.00	962.50			-	-		-		962.50
49	SEEDING MIXTURE 25-141	170.00	POUND	4.40	748.00			-	-		-		748.00
50	SEEDING MIXTURE 25-151	130.00	POUND	3.30	429.00			-	-		-		429.00
51	SEEDING MIXTURE 33-261	30.00	POUND	24.20	726.00			-	-		-		726.00
52	HYDRAULIC BONDED FIBER MATRIX	11,760.00	POUND	2.20	25,872.00			-	-		-		25,872.00
53	4" BROKEN LINE MULTI COMP	1,168.00	LIN FT	1.30	1,518.40			-	-		-		1,518.40
54	4" SOLID LINE MULTI COMP	3,112.00	LIN FT	1.30	4,045.60			-	-		-		4,045.60
55	PAVEMENT MESSAGE MULTI COMP	400.00	SQ FT	10.00	4,000.00			-	-		-		4,000.00
		-	-	-	-				-		-		-
				Original Contract Totals	$ 1,511,455.59		$ -		$ 339,548.41	$ -	$ 339,548.41	22%	$ 1,171,907.18

EJCDC C-620 Contractor's Application for Payment
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CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Not Applicable

Information

Title

Adopt Resolution #23-265 Approving Partial Payment to Douglas-Kerr Underground, LLC. for IP #23-12; HY-10 Ramsey Improvements.

Purpose/Background:

Resolution and Pay Request attached.

Recommendation:

The Senior Engineering Technician has inspected the completed work and recommends partial payment No. 3 to Douglas-Kerr Underground, LLC of Mora, Minnesota, for improvement project #23-12, HY-10 Ramsey Improvements, in the amount of $271,356.82.

Action:

Motion to adopt Resolution #23-265 approving partial payment No. 3 to Douglas-Kerr Underground, LLC for Improvement Project #23-12; HY-10 Ramsey Improvements, in the amount of $271,356.82.

Attachments

Pay Resolution #23-265

Pay Request

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Bruce Westby	10/19/2023 07:04 AM
Bruce Westby	Bruce Westby	10/19/2023 12:49 PM
Brian Hagen	Brian Hagen	10/19/2023 12:57 PM
Form Started By: Stacie Damjanovich		Started On: 10/16/2023 09:24 AM
Final Approval Date: 10/19/2023		

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-265

RESOLUTION APPROVING PARTIAL PAYMENT NO. 3 TO DOUGLAS-KERR UNDERGROUND, LLC., OF MORA, MINNESOTA FOR IMPROVEMENT PROJECT #23-12; HY-10 RAMSEY IMPROVEMENTS

WHEREAS, the City of Ramsey proposes to reconstruct the existing segments of Ferret Street, 146th Avenue and 147th Avenue within the HY-10 Ramsey plat; and

WHEREAS, the City proposes to extend Ferret Street to connect to Bunker Lake Boulevard to provide a secondary access route to properties within the HY-10 Ramsey plat; and

WHEREAS, the City proposes to extend sanitary sewer and watermain utilities under 147th Avenue and Ferret Street to allow all properties within the HY-10 Ramsey plat, which is located within the City's MUSA, to be served by municipal utilities; and

WHEREAS, pursuant to Ramsey City Council Resolution #21-349 adopted December 14, 2021, the City Council accepted a design services proposal from Bolton & Menk, Inc. to update the Feasibility Report, prepare plans and specifications, and solicit bids for Improvement Project #23-12; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-054, adopted March 14, 2023, the City Council approved the additional services to be performed by Bolton and Menk to complete plans and specifications, approved the construction services proposal submitted by Bolton and Menk, approved plans and specifications as prepared by Bolton and Menk, and authorized advertising for bids for said improvements; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-078, adopted on April 25, 2023, a contract was awarded to Douglas-Kerr Underground, L.L.C. of Mora, Minnesota, in the amount of $1,398,953.30 for said improvements; and

WHEREAS, as of October 24, 2023 $928,913.30 has been paid to date; and

WHEREAS, the Senior Engineering Technician has inspected the completed work and recommends partial payment No. 3 to Douglas-Kerr Underground, LLC. of Mora, Minnesota, for improvement project #23-12, HY-10 Ramsey Improvements, in the amount of $271,356.82.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) The City Council hereby authorizes partial payment No. 3 to Douglas-Kerr Underground, LLC, of Mora, Minnesota for Improvement Project #23-12, HY-10 Ramsey Improvements in the amount of $271,356.82.

2) The City Council hereby authorizes the Mayor and City Administrator to sign the release form for this payment.

3) The total amount of this payment is not included in resolutions approving payment of bills

for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember _____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Contractor's Application for Payment

Owner:	City of Ramsey	**Owner's Project No.:**	23-12
Engineer:	Bolton & Menk, Inc.	**Engineer's Project No.:**	0R1.126299
Contractor:	Douglas-Kerr Underground, LLC	**Agency's Project No.:**	
Project:	HY-10 Ramsey Improvements		
Contract:			

Application No.: 3 **Application Date:** 10/9/2023

Application Period: From 9/1/2023 to 9/30/2023

1. Original Contract Price	$	1,398,953.30
2. Net change by Change Orders	$	-
3. Current Contract Price (Line 1 + Line 2)	$	1,398,953.30
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	$	1,263,442.23
5. Retainage		
a. 5% X $ 1,263,442.23 Work Completed	$	63,172.11
b. X $ - Stored Materials	$	-
c. Total Retainage (Line 5.a + Line 5.b)	$	63,172.11
6. Amount eligible to date (Line 4 - Line 5.c)	$	1,200,270.12
7. Less previous payments	$	928,913.30
8. **Amount due this application**	$	**271,356.82**
9. Balance to finish, including retainage (Line 3 - Line 4)	$	135,511.07

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: Douglas-Kerr Underground, LLC

Signature: [signature] **Date:** 10-16-23

Name: Dennis D. Douglas **Title:** Manager

Recommended by Engineer		**Approved by Owner**	
By:	[signature]	**By:**	[signature]
Name:	Zach Lingl, PE	**Name:**	Bruce Westby
Title:	Project Manager	**Title:**	City Engineer/Public Works Dir.
Date:	10/13/2023	**Date:**	10/17/2023

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey	Owner's Project No.:	23-12
Engineer:	Bolton & Menk, Inc.	Engineer's Project No.:	0R1.126299
Contractor:	Douglas-Kerr Underground, LLC	Contractor's Project No.:	
Project:	HY-10 Ramsey Improvements	Agency's Project No.:	
Contract:			

Application No.: 3 Application Period: From 09/01/23 to 09/30/23 Application Date: 10/09/23

A	B	C	D	E	F	F1	F2	G	H	I	J	K	L
		Contract Information				Previous Estimate		Work Completed					
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
	Original Contract												
1	MOBILIZATION	1.00	LUMP SUM	25,600.00	25,600.00	0.75	19,200.00	0.75	19,200.00		19,200.00	75%	6,400.00
2	CLEARING	43.00	EACH	70.80	3,044.40	46.00	3,256.80	46.00	3,256.80		3,256.80	107%	(212.40)
3	GRUBBING	43.00	EACH	47.20	2,029.60	46.00	2,171.20	46.00	2,171.20		2,171.20	107%	(141.60)
4	CLEARING	0.10	ACRE	2,880.00	288.00	0.10	288.00	0.10	288.00		288.00	100%	-
5	GRUBBING	0.10	ACRE	1,920.00	192.00	0.10	192.00	0.10	192.00		192.00	100%	-
6	PAVEMENT MARKING REMOVAL	1,090.00	LIN FT	0.80	872.00	-	-	-	-		-		872.00
7	SALVAGE MAIL BOX & SUPPORT	1.00	EACH	200.00	200.00	-	-	-	-		-		200.00
8	SALVAGE SIGN	3.00	EACH	50.00	150.00	-	-	-	-		-		150.00
9	REMOVE SIGN	1.00	EACH	50.00	50.00	2.00	100.00	2.00	100.00		100.00	200%	(50.00)
10	REMOVE CASTING	2.00	EACH	187.80	375.60	2.00	375.60	3.00	563.40		563.40	150%	(187.80)
11	REMOVE MISCELLANEOUS STRUCTURE (ABANDONED WELL)	8.00	EACH	70.65	565.20	8.00	565.20	8.00	565.20		565.20	100%	-
12	REMOVE SEPTIC SYSTEM	1.00	EACH	1,676.00	1,676.00	1.00	1,676.00	1.00	1,676.00		1,676.00	100%	-
13	REMOVE GATE VALVE & BOX	1.00	EACH	138.60	138.60	-	-	-	-		-		138.60
14	REMOVE PIPE SEWERS	12.00	LIN FT	11.70	140.40	-	-	-	-		-		140.40
15	REMOVE FENCE	230.00	LIN FT	5.65	1,299.50	230.00	1,299.50	230.00	1,299.50		1,299.50	100%	-
16	SAWING BIT PAVEMENT (FULL DEPTH)	940.00	LIN FT	2.90	2,726.00	306.00	887.40	831.00	2,409.90		2,409.90	88%	316.10
17	SAWING CONCRETE PAVEMENT (FULL DEPTH)	390.00	LIN FT	3.60	1,404.00	272.00	979.20	463.00	1,666.80		1,666.80	119%	(262.80)
18	REMOVE CURB AND GUTTER	900.00	LIN FT	3.25	2,925.00	363.00	1,179.75	828.00	2,691.00		2,691.00	92%	234.00
19	REMOVE BITUMINOUS PAVEMENT	865.00	SQ YD	2.25	1,946.25	709.22	1,595.75	895.52	2,014.92		2,014.92	104%	(68.67)
20	REMOVE CONCRETE PAVEMENT	840.00	SQ YD	4.25	3,570.00	483.00	2,052.75	671.00	2,851.75		2,851.75	80%	718.25
21	DEWATERING	1.00	LUMP SUM	31,619.00	31,619.00	1.00	31,619.00	1.00	31,619.00		31,619.00	100%	-
22	EXCAVATION - COMMON (EV)	2,625.00	CU YD	8.10	21,262.50	3,035.70	24,589.17	3,035.70	24,589.17		24,589.17	116%	(3,326.67)
23	EXCAVATION - CHANNEL AND POND	4,992.00	CU YD	8.50	42,432.00	3,326.43	28,274.66	4,900.00	41,650.00		41,650.00	98%	782.00
24	EXCAVATION - SUBGRADE (EV)	200.00	CU YD	7.15	1,430.00	-	-	-	-		-		1,430.00
25	STABILIZING AGGREGATE (CV)	200.00	CU YD	0.01	2.00	-	-	-	-		-		2.00
26	COMMON EMBANKMENT (CV)	3,131.00	CU YD	5.85	18,316.35	1,227.20	7,179.12	1,227.20	7,179.12		7,179.12	39%	11,137.23
27	HAUL AND STOCKPILE BITUMINOUS MATERIAL	2,050.00	CU YD	10.95	22,447.50	1,320.00	14,454.00	1,320.00	14,454.00		14,454.00	64%	7,993.50
28	SUBGRADE PREPARATION	24.00	ROAD ST	151.30	3,631.20	24.00	3,631.20	24.00	3,631.20		3,631.20	100%	-
29	AGGREGATE SURFACING (CV) CLASS 2	20.00	CU YD	80.20	1,604.00	-	-	-	-		-		1,604.00
30	STREET SWEEPER (WITH PICKUP BROOM)	20.00	HOUR	150.00	3,000.00	4.50	675.00	12.50	1,875.00		1,875.00	63%	1,125.00
31	AGGREGATE BASE (CV) CLASS 5 MODIFIED	820.00	CU YD	29.50	24,190.00	1,176.55	34,708.23	1,523.60	44,946.20		44,946.20	186%	(20,756.20)
32	AGGREGATE BASE (CV) FROM STOCKPILE	2,050.00	CU YD	4.60	9,430.00	777.80	3,577.88	777.80	3,577.88		3,577.88	38%	5,852.12
33	FULL DEPTH RECLAMATION (10")	7,350.00	SQ YD	2.05	15,067.50	7,452.80	15,278.24	7,452.80	15,278.24		15,278.24	101%	(210.74)
34	BITUMINOUS PATCH SPECIAL (DRIVEWAY)	20.00	SQ YD	66.65	1,333.00	-	-	169.00	11,263.85		11,263.85	845%	(9,930.85)

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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey	Owner's Project No.:	23-12
Engineer:	Bolton & Menk, Inc.	Engineer's Project No.:	0R1.126299
Contractor:	Douglas-Kerr Underground, LLC	Contractor's Project No.:	
Project:	HY-10 Ramsey Improvements	Agency's Project No.:	
Contract:			

Application No.: 3 Application Period: From 09/01/23 to 09/30/23 Application Date: 10/09/23

A	B	C	D	E	F	F1	F2	G	H	I	J	K	L
		Contract Information				Previous Estimate		Work Completed					
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
35	TYPE SP 9.5 WEARING COURSE MIX (3,C)	1,160.00	TON	84.50	98,020.00	-	-	-	-		-		98,020.00
36	TYPE SP 12.5 WEARING COURSE MIX (3,C)	120.00	TON	112.60	13,512.00	-	-	97.23	10,948.10		10,948.10	81%	2,563.90
37	TYPE SP 12.5 NON WEARING COURSE MIX (3,C)	1,460.00	TON	81.40	118,844.00	61.37	4,995.90	1,479.62	120,441.45		120,441.45	101%	(1,597.45)
38	22" SPAN RC PIPE-ARCH APRON	2.00	EACH	1,674.00	3,348.00	2.00	3,348.00	2.00	3,348.00		3,348.00	100%	-
39	15" RC PIPE APRON	1.00	EACH	1,339.00	1,339.00	1.00	1,339.00	1.00	1,339.00		1,339.00	100%	-
40	18" RC PIPE APRON	2.00	EACH	1,573.00	3,146.00	2.00	3,146.00	2.00	3,146.00		3,146.00	100%	-
41	27" RC PIPE APRON	1.00	EACH	1,900.00	1,900.00	1.00	1,900.00	1.00	1,900.00		1,900.00	100%	-
42	TRASH GUARD FOR 15" PIPE APRON	1.00	EACH	913.55	913.55	1.00	913.55	1.00	913.55		913.55	100%	-
43	TRASH GUARD FOR 18" PIPE APRON	2.00	EACH	1,031.00	2,062.00	2.00	2,062.00	2.00	2,062.00		2,062.00	100%	-
44	TRASH GUARD FOR 27" PIPE APRON	1.00	EACH	2,332.00	2,332.00	1.00	2,332.00	1.00	2,332.00		2,332.00	100%	-
45	TRASH GUARD FOR 22" SPAN PIPE APRON	2.00	EACH	1,213.00	2,426.00	2.00	2,426.00	2.00	2,426.00		2,426.00	100%	-
46	22" SPAN RC PIPE-ARCH CULV CL IVA	83.00	LIN FT	115.25	9,565.75	83.00	9,565.75	83.00	9,565.75		9,565.75	100%	-
47	15" RC PIPE SEWER DESIGN 3006 CLASS V	610.00	LIN FT	61.45	37,484.50	613.00	37,668.85	613.00	37,668.85		37,668.85	100%	(184.35)
48	18" RC PIPE SEWER DESIGN 3006 CLASS V	50.00	LIN FT	64.45	3,222.50	51.00	3,286.95	51.00	3,286.95		3,286.95	102%	(64.45)
49	24" RC PIPE SEWER DESIGN 3006 CLASS III	750.00	LIN FT	81.85	61,387.50	753.00	61,633.05	753.00	61,633.05		61,633.05	100%	(245.55)
50	27" RC PIPE SEWER DESIGN 3006 CLASS III	165.00	LIN FT	109.75	18,108.75	165.00	18,108.75	165.00	18,108.75		18,108.75	100%	-
51	8" PVC PIPE SEWER	1,831.00	LIN FT	36.40	66,648.40	1,812.00	65,956.80	1,812.00	65,956.80		65,956.80	99%	691.60
52	8" PIPE PLUG	12.00	EACH	385.05	4,620.60	11.00	4,235.55	11.00	4,235.55		4,235.55	92%	385.05
53	CONNECT TO EXISTING SANITARY SEWER (CORE & BOOT)	1.00	EACH	2,389.00	2,389.00	1.00	2,389.00	1.00	2,389.00		2,389.00	100%	-
54	CLEAN & TELEVISE PIPE SEWER	1,831.00	LIN FT	1.45	2,654.95	-	-	-	-		-		2,654.95
55	4" INSULATION	385.00	SQ YD	33.95	13,070.75	364.70	12,381.57	364.70	12,381.57		12,381.57	95%	689.18
56	CONNECT TO EXISTING WATER MAIN	3.00	EACH	886.75	2,660.25	4.00	3,547.00	4.00	3,547.00		3,547.00	133%	(886.75)
57	6" GATE VALVE & BOX	6.00	EACH	2,603.00	15,618.00	5.00	13,015.00	5.00	13,015.00		13,015.00	83%	2,603.00
58	8" GATE VALVE & BOX	11.00	EACH	3,797.00	41,767.00	11.00	41,767.00	11.00	41,767.00		41,767.00	100%	-
59	12" GATE VALVE & BOX	5.00	EACH	5,883.00	29,415.00	5.00	29,415.00	5.00	29,415.00		29,415.00	100%	-
60	16"X12" WET TAP	1.00	EACH	8,888.00	8,888.00	1.00	8,888.00	1.00	8,888.00		8,888.00	100%	-
61	HYDRANT	6.00	EACH	5,707.00	34,242.00	5.00	28,535.00	5.00	28,535.00		28,535.00	83%	5,707.00
62	RELOCATE HYDRANT	1.00	EACH	2,322.00	2,322.00	1.00	2,322.00	1.00	2,322.00		2,322.00	100%	-
63	6" WATERMAIN DUCTILE IRON CL 53	95.00	LIN FT	65.50	6,222.50	94.00	6,157.00	94.00	6,157.00		6,157.00	99%	65.50
64	8" WATERMAIN DUCTILE IRON CL 52	355.00	LIN FT	73.10	25,950.50	352.00	25,731.20	352.00	25,731.20		25,731.20	99%	219.30
65	12" WATERMAIN DUCTILE IRON CL 52	1,865.00	LIN FT	86.75	161,788.75	2,020.00	175,235.00	2,020.00	175,235.00		175,235.00	108%	(13,446.25)
66	WATERMAIN FITTINGS	2,900.00	POUND	10.20	29,580.00	3,289.00	33,547.80	3,289.00	33,547.80		33,547.80	113%	(3,967.80)
67	CASTING ASSEMBLY (SANITARY SEWER)	7.00	EACH	1,781.00	12,467.00	-	-	7.00	12,467.00		12,467.00	100%	-
68	CASTING ASSEMBLY (STORM SEWER)	15.00	EACH	1,162.00	17,430.00	-	-	15.00	17,430.00		17,430.00	100%	-
69	ADJUST FRAME & RING CASTING	1.00	EACH	1,526.00	1,526.00	-	-	1.00	1,526.00		1,526.00	100%	-

EJCDC C-620 Contractor's Application for Payment
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Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of Ramsey	Owner's Project No.:	23-12
Engineer:	Bolton & Menk, Inc.	Engineer's Project No.:	0R1.126299
Contractor:	Douglas-Kerr Underground, LLC	Contractor's Project No.:	
Project:	HY-10 Ramsey Improvements	Agency's Project No.:	
Contract:			

Application No.: 3 Application Period: From 09/01/23 to 09/30/23 Application Date: 10/09/23

A	B	C	D	E	F	F1	F2	G	H	I	J	K	L
		Contract Information				Previous Estimate		Work Completed					
Bid Item No.	Description	Item Quantity	Units	Unit Price ($)	Value of Bid Item (C X E) ($)	Quantity Previous Estimate	Value Previous Estimate	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) ($)	Materials Currently Stored (not in G) ($)	Work Completed and Materials Stored to Date (H + I) ($)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) ($)
70	CONSTRUCT SANITARY SEWER MANHOLE	62.00	LIN FT	508.65	31,536.30	60.60	30,824.19	60.60	30,824.19		30,824.19	98%	712.11
71	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPEC 1 (2'X3')	12.00	LIN FT	537.90	6,454.80	12.00	6,454.80	12.00	6,454.80		6,454.80	100%	-
72	CONSTRUCT DRAINAGE STRUCTURE DES 48-4020	19.00	LIN FT	739.45	14,049.55	22.92	16,948.19	22.92	16,948.19		16,948.19	121%	(2,898.64)
73	CONSTRUCT DRAINAGE STRUCTURE DES 60-4020	29.00	LIN FT	927.90	26,909.10	32.71	30,351.61	32.71	30,351.61		30,351.61	113%	(3,442.51)
74	RANDOM RIPRAP CL III	40.00	CU YD	121.45	4,858.00	31.04	3,769.81	31.04	3,769.81		3,769.81	78%	1,088.19
75	SEAL MANHOLE	7.00	EACH	171.40	1,199.80	-	-	7.00	1,199.80		1,199.80	100%	-
76	4" CONCRETE WALK	4,450.00	SQ FT	5.05	22,472.50	-	-	4,780.00	24,139.00		24,139.00	107%	(1,666.50)
77	6" CONCRETE WALK	130.00	SQ FT	15.30	1,989.00	-	-	130.00	1,989.00		1,989.00	100%	-
78	CONCRETE CURB AND GUTTER DESIGN B612	55.00	LIN FT	29.50	1,622.50	-	-	-	-		-		1,622.50
79	CONCRETE CURB AND GUTTER DESIGN B618	4,230.00	LIN FT	18.00	76,140.00	3,749.00	67,482.00	4,250.00	76,500.00		76,500.00	100%	(360.00)
80	4" CONCRETE MEDIAN	180.00	SQ YD	48.80	8,784.00	-	-	298.96	14,589.25		14,589.25	166%	(5,805.25)
81	8" CONCRETE DRIVEWAY PAVEMENT	390.00	SQ YD	76.45	29,815.50	129.55	9,904.10	363.33	27,776.58		27,776.58	93%	2,038.92
82	CONCRETE MEDIAN NOSE-SPECIAL	1.00	EACH	450.00	450.00	1.00	450.00	1.00	450.00		450.00	100%	-
83	TRUNCATED DOMES	30.00	SQ FT	65.00	1,950.00	-	-	28.00	1,820.00		1,820.00	93%	130.00
84	INSTALL MAIL BOX & SUPPORT	1.00	EACH	200.00	200.00	-	-	-	-		-		200.00
85	TRAFFIC CONTROL	1.00	LUMP SUM	2,800.00	2,800.00	0.75	2,100.00	0.75	2,100.00		2,100.00	75%	700.00
86	CONIFEROUS TREE 6' HT B&B	9.00	EACH	525.00	4,725.00	-	-	-	-		-		4,725.00
87	TEMPORARY FENCE	1,900.00	LIN FT	1.75	3,325.00	1,360.00	2,380.00	1,360.00	2,380.00		2,380.00	72%	945.00
88	STABILIZED CONSTRUCTION EXIT	1.00	LUMP SUM	1,237.00	1,237.00	-	-	-	-		-		1,237.00
89	STORM DRAIN INLET PROTECTION	12.00	EACH	123.70	1,484.40	12.00	1,484.40	15.00	1,855.50		1,855.50	125%	(371.10)
90	SEDIMENT CONTROL LOG TYPE WOOD FIBER	1,000.00	LIN FT	2.55	2,550.00	-	-	-	-		-		2,550.00
91	FERTILIZER TYPE 3	1,080.00	POUND	0.80	864.00	-	-	1,080.00	864.00		864.00	100%	-
92	COMMON TOPSOIL BORROW	500.00	CU YD	27.25	13,625.00	-	-	-	-		-		13,625.00
93	ROLLED EROSION PREVENTION CATEGORY 20	6,890.00	SQ YD	1.40	9,646.00	-	-	-	-		-		9,646.00
94	SEEDING	3.60	ACRE	325.00	1,170.00	-	-	3.60	1,170.00		1,170.00	100%	-
95	RAPID STABILIZATION METHOD 2	1.00	ACRE	2,500.00	2,500.00	-	-	-	-		-		2,500.00
96	SEED MIXTURE 25-121	340.00	POUND	4.75	1,615.00	-	-	340.00	1,615.00		1,615.00	100%	-
97	SEED MIXTURE 35-241	200.00	POUND	15.35	3,070.00	-	-	-	-		-		3,070.00
98	HYDRAULIC BONDED FIBER MATRIX	12,600.00	POUND	0.95	11,970.00	-	-	12,600.00	11,970.00		11,970.00	100%	-
99	4" SOLID LINE MULTI COMP	2,440.00	LIN FT	0.50	1,220.00	-	-	-	-		-		1,220.00
100	4" DOUBLE SOLID LINE MULTI COMP	2,190.00	LIN FT	1.00	2,190.00	-	-	-	-		-		2,190.00
101	24" SOLID LINE MULTI COMP	200.00	LIN FT	8.00	1,600.00	-	-	-	-		-		1,600.00
102	CROSSWALK MULTI COMP	130.00	SQ FT	6.00	780.00	-	-	-	-		-		780.00
103	PAVEMENT MESSAGE MULTI COMP	220.00	SQ FT	10.55	2,321.00	-	-	-	-		-		2,321.00
	Original Contract Totals				$ 1,398,953.30		$ 977,803.47		$ 1,263,442.23	$ -	$ 1,263,442.23	90%	$ 135,511.07

EJCDC C-620 Contractor's Application for Payment
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CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Address infrastructure needs.

Information

Title

Adopt Resolution #23-267 Authorizing Partial Payment No. 4 to Magney Construction, Inc. for Improvement Project #21-09; Centralized Water Treatment Plant.

Purpose/Background:

Pay Estimate and Resolution attached.

Recommendation:

The Resident Project Representative from Advanced Engineering and Environmental Services (AE2S) has inspected the completed work and recommends partial payment #4 to Magney Construction, Inc. for Improvement Project #21-09, Centralized Water Treatment Plant, in the amount of $1,034,197.92.

Action:

Adopt Resolution #23-267 authorizing partial payment #4 to Magney Construction, Inc. of Chanhassen, Minnesota, for Improvement Project #21-09, Centralized Water Treatment Plant, in the amount of $1,034,197.92.

Attachments

Resolution

Pay Estimate

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Bruce Westby	10/19/2023 07:22 AM
Brian Hagen	Brian Hagen	10/19/2023 07:44 AM
Form Started By: Marsha Weidner		Started On: 10/18/2023 10:03 AM
Final Approval Date: 10/19/2023		

Councilmember ____ introduced the following resolution and moved for its adoption:

RESOLUTION #23-267

RESOLUTION AUTHORIZING PARTIAL PAYMENT #4 TO MAGNEY CONSTRUCTION, INC. FOR IMPROVEMENT PROJECT #21-09; CENTRALIZED WATER TREATMENT PLANT

WHEREAS, pursuant to Ramsey City Council Resolution #19-248 adopted October 8, 2019, five (5) proposals were accepted and a professional services contract was awarded to SEH, Inc. for analyzing the City's municipal water supply system source water, developing a water system model, and preparing a preliminary design report for a centralized water treatment plant to ensure that the City's municipal water supply system will continue to provide adequate quantities of safe drinking water into the foreseeable future; and

WHEREAS, pursuant to Ramsey City Council Resolution #21-143 adopted May 25, 2021, the final Feasibility Study dated March 4, 2021, for the centralized water treatment plant was approved; and

WHEREAS, pursuant to Ramsey City Council Resolution #21-150 adopted May 25, 2021, Requests for Proposals for professional engineering services to prepare final plans and specifications, to administer the bid process, and to provide construction administration services for construction of a municipal water treatment plant was approved and the advertising and direct soliciting of said proposal was authorized; and

WHEREAS, pursuant to Ramsey City Council Resolution #21-220 adopted July 27, 2021, Staff was authorized to negotiate a contract with Advanced Engineering and Environmental Services (AE2S) in an amount not to exceed $1,198,600 in response to their professional engineering services proposal, subject to review and approval of the contract by the City Attorney; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-032 adopted January 24, 2023, final plans and specifications as prepared by AE2S were approved and advertisements for bids were authorized for Improvement Project #21-09; and

WHEREAS, pursuant to Ramsey City Council Resolution #23-061 adopted March 28, 2023, the lowest responsible bid of Magney Construction, Inc. was accepted in the amount of $31,528,500, for the Base Bid and Section 01 21 00 Allowances, the Mayor and City Administrator were directed to enter into a construction contract with Magney Construction, Inc., and the Mayor was directed to accept the amendment from AE2S in the amount of $225,100 for additional construction phase services for said improvements for and on behalf of the City of Ramsey; and

WHEREAS, as of October 24, 2023 $2,342,504.30 has been paid to date; and

WHEREAS, the Resident Project Representative from Advanced Engineering and Environmental Services (AE2S) has inspected the completed work and recommends partial payment #4 to Magney Construction, Inc. for said project in the amount of $1,034,197.92.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA:

1) That the City Council hereby authorizes partial payment #4 to Magney Construction, Inc. of Chanhassen, Minnesota, for Improvement Project #21-09, Centralized Water Treatment Plant, in the amount of $1,034,197.92.

2) That the City Council hereby accepts the project and authorizes the Mayor or City Administrator to sign the release for this payment.

3) That the total amount of this payment is not included in resolutions approving payment of bills for the date of October 24, 2023.

4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember _____ and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Contractor's Application For Payment No. 04A

	Application Period: 8/31/2023 - 10/3/2023	Application Date: 10/3/2023 (revised 10/17/23)
To (Owner): City of Ramsey, MN	From (Contractor): Magney Construction, Inc.	Via (Engineer): Advanced Engineering and Environmental Services, Inc.
Project: Ramsey Water Treatment Plant	Contract: All Construction	
Owner's Contract No.:	Contractor's Project No.: 00599	Engineer's Project No.: 05434-2020-002

Application for Payment

Change Order Summary

Approved Change Orders

Number	Additions	Deductions
TOTALS	$0.00	$0.00
NET CHANGE BY CHANGE ORDERS		$0.00

1.	**ORIGINAL CONTRACT PRICE**		$31,528,500.00
2.	**Net change by Change Orders**		$0.00
3.	**CURRENT CONTRACT PRICE (Line 1 ± 2)**		$31,528,500.00
4.	**TOTAL COMPLETED AND STORED TO DATE (Column F on Progress Estimate)**		$3,554,423.39
5.	**RETAINAGE:**		
	a. **5.0%** **$3,347,698.40**	**Work Completed**	$167,384.92
	b. **5% x** **$206,725.00**	**Stored Materials**	$10,336.25
	c. **Total Retainage (Line 5a + Line 5b)**		$177,721.17
6.	**AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)**		$3,376,702.22
7.	**LESS PREVIOUS PAYMENTS (Line 6 from prior Application)**		$2,342,504.30
8.	**AMOUNT DUE THIS APPLICATION**		**$1,034,197.92**
9.	**BALANCE TO FINISH, PLUS RETAINAGE (Column G on Progress Estimate + Line 5 above)**		$28,151,797.78

Contractor's Certification

The undersigned Contractor certifies that: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By:	Date:
Kevin K	10/17/2023

Payment of: $1,034,197.92
(Line 8 or other - attach explanation of other amount)

is recommended by: RYAN HANSON (Engineer) 10/17/2023 (Date)

Payment of: $1,034,197.92
(Line 8 or other - attach explanation of other amount)

is approved by: Brian Jorgenson (City of Ramsey, MN) 10/18/2023 (Date)

Approved by: (Funding Agency (if applicable)) (Date)

Schedule of Values

Ramsey Water Treatment Plant

Payment Application No. 04

Date of Application: 10/3/2023

Work completed through: 10/3/2023

Item			C	D	E	Total Completed and Stored to Date (C + D + E)	% (G)	Balance to Finish
Specification Section No.	Description	Scheduled Value	From Previous Application (C+D)	This Period	Materials Presently Stored (not in Col D)			
01 10 00	Mobilization	$1,250,424.00	$190,000.00	$64,000.00	$0.00	$254,000.00	20	$996,424.00
01 10 01	General Conditions	$268,800.00	$32,600.00	$11,000.00	$0.00	$43,600.00	16	$225,200.00
01 10 02	Supervision	$384,000.00	$48,000.00	$16,000.00	$0.00	$64,000.00	17	$320,000.00
01 10 03	Bond & Insurance	$425,600.00	$425,600.00	$0.00	$0.00	$425,600.00	100	$0.00
01 21 00	ALLOWANCES							
1	Office Furniture ($50,000)	$50,000.00	$0.00	$0.00	$0.00	$0.00	0	$50,000.00
2	Computer Hardware ($80,000)	$80,000.00	$0.00	$0.00	$0.00	$0.00	0	$80,000.00
3	IT Equipment ($100,000)	$100,000.00	$0.00	$0.00	$0.00	$0.00	0	$100,000.00
4	Security and Access Control Hardware and Equipment ($60,000)	$60,000.00	$0.00	$0.00	$0.00	$0.00	0	$60,000.00
5	Irrigation System ($60,000)	$60,000.00	$0.00	$0.00	$0.00	$0.00	0	$60,000.00
6	General Construction Allowance ($950,000)	$950,000.00	$0.00	$63,843.40	$0.00	$63,843.40	7	$886,156.60
03 20 00	Concrete Reinforcement - Building	$1,602,777.00	$96,501.00	$27,660.00	$156,701.00	$280,862.00	18	$1,321,915.00
03 20 00	Concrete Reinforcement - Reservoir	$864,856.00	$486,498.00	$88,935.00	$0.00	$575,433.00	67	$289,423.00
03 30 00	Cast-in-Place Concrete Work - Site	$108,600.00	$3.00	$0.00	$3.00	$6.00	0	$108,594.00
03 30 00	Cast-in-Place Concrete Work - Building	$3,885,960.00	$6,154.00	$159,250.00	$0.00	$165,404.00	4	$3,720,556.00
03 30 00	Cast-in-Place Concrete Work - Reservoir	$1,410,075.00	$647,491.00	$346,750.00	$0.00	$994,241.00	71	$415,834.00
03 35 30	Polished Concrete Finish	$6,800.00	$0.00	$0.00	$0.00	$0.00	0	$6,800.00
03 41 00	Structural Precast Concrete	$1,042,796.00	$0.00	$0.00	$0.00	$0.00	0	$1,042,796.00
04 22 00	Unit Masonry	$269,000.00	$0.00	$0.00	$0.00	$0.00	0	$269,000.00
05 12 00	Structural Steel Framing, Misc. Metals, Metal Stairs and Aluminum Railing	$1,990,378.00	$0.00	$0.00	$0.00	$0.00	0	$1,990,378.00
06 00 00	Carpentry	$375,128.00	$0.00	$0.00	$0.00	$0.00	0	$375,128.00
06 73 00	Fiberglass Reinforced Plastic Grating	$353,707.00	$0.00	$0.00	$0.00	$0.00	0	$353,707.00
07 12 00	Fluid Applied Waterproofing	$78,130.00	$0.00	$0.00	$0.00	$0.00	0	$78,130.00
07 12 50	Hot Mopped Waterproofing	$7,420.00	$0.00	$0.00	$0.00	$0.00	0	$7,420.00
07 17 13	Bentonite Waterproofing	$124,650.00	$78,130.00	$36,000.00	$0.00	$114,130.00	92	$10,520.00
07 21 00	Thermal Insulation and Air Barriers	$15,600.00	$0.00	$0.00	$0.00	$0.00	0	$15,600.00
07 23 00	Weather Barrier	$39,800.00	$0.00	$0.00	$0.00	$0.00	0	$39,800.00
07 24 00	Exterior Insulation and Finish System	$67,955.00	$0.00	$0.00	$0.00	$0.00	0	$67,955.00
07 42 15	Architectural Metal Panels	$229,910.00	$0.00	$0.00	$0.00	$0.00	0	$229,910.00
07 50 10	Concrete Faced Insulated Panels	$15,000.00	$0.00	$0.00	$0.00	$0.00	0	$15,000.00
07 53 23	EPDM Roof System, Flashing & Sheet Metal	$589,225.00	$0.00	$0.00	$0.00	$0.00	0	$589,225.00
07 92 00	Caulking & Sealants	$37,465.00	$0.00	$0.00	$0.00	$0.00	0	$37,465.00
08 11 13	Doors, Frames & Hardware	$328,136.00	$0.00	$0.00	$0.00	$0.00	0	$328,136.00
08 31 15	Access Doors	$6,513.00	$0.00	$0.00	$0.00	$0.00	0	$6,513.00
08 35 13	Accordion Folding Fire Door	$65,683.00	$0.00	$0.00	$0.00	$0.00	0	$65,683.00

Schedule of Values

Ramsey Water Treatment Plant

Payment Application No. 04

Date of Application: 10/3/2023

Work completed through: 10/3/2023

Item			C	D	E	Total Completed and Stored to Date (C + D + E)	% (G)	Balance to Finish
Specification Section No.	Description	Scheduled Value	From Previous Application (C+D)	This Period	Materials Presently Stored (not in Col D)			
08 35 16	Heavy Duty Folding Door	$49,985.00	$0.00	$0.00	$0.00	$0.00	0	$49,985.00
08 36 00	Sectional Overhead Doors	$14,900.00	$0.00	$0.00	$0.00	$0.00	0	$14,900.00
08 41 13	Aluminum Framed Entrances and Storefronts/Curtainwall/Glazing	$254,163.00	$0.00	$0.00	$0.00	$0.00	0	$254,163.00
08 95 00	Translucent Wall Panels	$275,400.00	$0.00	$0.00	$0.00	$0.00	0	$275,400.00
09 20 00	Metal Framing and Gypsum Board	$190,345.00	$0.00	$0.00	$0.00	$0.00	0	$190,345.00
09 30 00	Tiling	$8,195.00	$0.00	$0.00	$0.00	$0.00	0	$8,195.00
09 51 00	Acoustical Ceilings	$47,000.00	$0.00	$0.00	$0.00	$0.00	0	$47,000.00
09 65 13	Resilient Base and Accessories	$3,000.00	$0.00	$0.00	$0.00	$0.00	0	$3,000.00
09 68 13	Carpet Tile	$12,299.00	$0.00	$0.00	$0.00	$0.00	0	$12,299.00
09 90 00	Painting	$846,400.00	$0.00	$0.00	$0.00	$0.00	0	$846,400.00
10 14 16	Plaques/Dimensional Letter Signage and Panel Signage	$16,310.00	$0.00	$0.00	$0.00	$0.00	0	$16,310.00
10 28 00	Toilet Accessories	$708.00	$0.00	$0.00	$0.00	$0.00	0	$708.00
10 44 16	Fire Extinguishers	$1,656.00	$0.00	$0.00	$0.00	$0.00	0	$1,656.00
12 24 13	Roller Window Shades	$1,500.00	$0.00	$0.00	$0.00	$0.00	0	$1,500.00
12 35 30	Architectural Casework	$51,850.00	$0.00	$0.00	$0.00	$0.00	0	$51,850.00
12 35 35	Solid Polymer Fabrications	$15,000.00	$0.00	$0.00	$0.00	$0.00	0	$15,000.00
21 13 13	Wet Pipe Sprinkler System	$65,835.00	$0.00	$0.00	$0.00	$0.00	0	$65,835.00
22 00 00	Plumbing Install, Rough-in & Finish - Labor	$76,500.00	$0.00	$10,000.00	$0.00	$10,000.00	13	$66,500.00
22 00 01	Plumbing Pipe, Fittings & Fixtures - Material	$270,000.00	$0.00	$0.00	$0.00	$0.00	0	$270,000.00
22 07 00	Plumbing Insulation	$49,670.00	$0.00	$0.00	$0.00	$0.00	0	$49,670.00
23 00 00	HVAC General Conditions, Permits & Mobilization	$15,200.00	$0.00	$0.00	$0.00	$0.00	0	$15,200.00
23 00 00.01	Testing, Adjusting & Balancing	$5,900.00	$0.00	$0.00	$0.00	$0.00	0	$5,900.00
23 00 00.02	Ductwork Insulation	$29,400.00	$0.00	$0.00	$0.00	$0.00	0	$29,400.00
23 00 00.03	HVAC Controls	$76,000.00	$0.00	$0.00	$0.00	$0.00	0	$76,000.00
23 00 00.04	Refrigerant Piping - Labor	$10,400.00	$0.00	$0.00	$0.00	$0.00	0	$10,400.00
23 00 00.05	Refrigerant Piping - Material	$2,800.00	$0.00	$0.00	$0.00	$0.00	0	$2,800.00
23 00 00.06	Ductwork - Labor	$70,900.00	$0.00	$0.00	$0.00	$0.00	0	$70,900.00
23 00 00.07	Ductwork - Material	$65,100.00	$0.00	$0.00	$0.00	$0.00	0	$65,100.00
23 00 00.08	Louvers and Dampers - Labor	$8,100.00	$0.00	$0.00	$0.00	$0.00	0	$8,100.00
23 00 00.09	Louvers and Dampers - Material	$12,500.00	$0.00	$0.00	$0.00	$0.00	0	$12,500.00
23 00 00.10	VAV and GRD - Labor	$6,800.00	$0.00	$0.00	$0.00	$0.00	0	$6,800.00
23 00 00.11	VAV and GRD - Material	$7,600.00	$0.00	$0.00	$0.00	$0.00	0	$7,600.00
23 00 00.12	HVAC Fans - Labor	$13,800.00	$0.00	$0.00	$0.00	$0.00	0	$13,800.00
23 00 00.13	HVAC Fans - Material	$39,600.00	$0.00	$0.00	$0.00	$0.00	0	$39,600.00
23 00 00.14	Gas Unit Heaters - Labor	$14,000.00	$0.00	$0.00	$0.00	$0.00	0	$14,000.00
23 00 00.15	Gas Unit Heaters - Material	$16,200.00	$0.00	$0.00	$0.00	$0.00	0	$16,200.00

Schedule of Values

Ramsey Water Treatment Plant

Payment Application No. 04

Date of Application: 10/3/2023

Work completed through: 10/3/2023

Item			C	D	E	Total Completed and Stored to Date (C + D + E)	% (G)	Balance to Finish
Specification Section No.	Description	Scheduled Value	From Previous Application (C+D)	This Period	Materials Presently Stored (not in Col D)			
23 00 00.16	Make-Up Air Units - Labor	$5,600.00	$0.00	$0.00	$0.00	$0.00	0	$5,600.00
23 00 00.17	Make-Up Air Units - Material	$76,000.00	$0.00	$0.00	$0.00	$0.00	0	$76,000.00
23 00 00.18	Roof Top Units - Labor	$1,400.00	$0.00	$0.00	$0.00	$0.00	0	$1,400.00
23 00 00.19	Roof Top Units - Material	$50,200.00	$0.00	$0.00	$0.00	$0.00	0	$50,200.00
23 00 00.20	Split System A/C Unit - Labor	$3,000.00	$0.00	$0.00	$0.00	$0.00	0	$3,000.00
23 00 00.21	Split System A/C Unit - Material	$56,400.00	$0.00	$0.00	$0.00	$0.00	0	$56,400.00
23 00 00.22	Dehumidification Units - Labor	$3,500.00	$0.00	$0.00	$0.00	$0.00	0	$3,500.00
23 00 00.23	Dehumidification Units - Material	$37,500.00	$0.00	$0.00	$0.00	$0.00	0	$37,500.00
26 00 00	Electrical Mobilization & Permit	$10,000.00	$0.00	$0.00	$0.00	$0.00	0	$10,000.00
26 00 01	Temporary Power	$30,000.00	$11,000.00	$0.00	$0.00	$11,000.00	37	$19,000.00
26 05 19	Conductors	$222,000.00	$2,600.00	$0.00	$0.00	$2,600.00	1	$219,400.00
26 05 26	Grounding and Bonding	$10,000.00	$0.00	$0.00	$0.00	$0.00	0	$10,000.00
26 05 29	Hangers and Supports	$20,000.00	$0.00	$0.00	$0.00	$0.00	0	$20,000.00
26 05 33	Raceways and Boxes	$336,600.00	$0.00	$2,500.00	$0.00	$2,500.00	1	$334,100.00
26 22 13	Transformers	$20,000.00	$0.00	$0.00	$0.00	$0.00	0	$20,000.00
26 23 00	Electric Heat	$40,000.00	$0.00	$15,500.00	$0.00	$15,500.00	39	$24,500.00
26 24 11	Electrical Service	$30,000.00	$0.00	$0.00	$0.00	$0.00	0	$30,000.00
26 24 13	Switchboards	$30,000.00	$0.00	$0.00	$0.00	$0.00	0	$30,000.00
26 24 15	Transfer Switches	$30,000.00	$0.00	$0.00	$0.00	$0.00	0	$30,000.00
26 24 16	Panelboards	$30,000.00	$0.00	$0.00	$0.00	$0.00	0	$30,000.00
26 24 19	Motor Controls	$30,000.00	$0.00	$0.00	$0.00	$0.00	0	$30,000.00
26 27 26	Wiring Devices	$30,000.00	$0.00	$0.00	$0.00	$0.00	0	$30,000.00
26 28 16	Enclosed Switches	$20,000.00	$0.00	$0.00	$0.00	$0.00	0	$20,000.00
26 32 13	Engine Generators	$420,400.00	$0.00	$0.00	$0.00	$0.00	0	$420,400.00
26 51 00	Lighting	$150,000.00	$0.00	$0.00	$0.00	$0.00	0	$150,000.00
26 90 01	Measuring and Control Instruments/Water Treatment Controls/I & C	$1,506,000.00	$0.00	$0.00	$0.00	$0.00	0	$1,506,000.00
28 31 00	Fire Alarm	$50,000.00	$0.00	$0.00	$0.00	$0.00	0	$50,000.00
27 00 00	Cabling	$25,000.00	$0.00	$0.00	$0.00	$0.00	0	$25,000.00
31 10 00	Site Clearing/ Site Prep/ Erosion Control	$94,700.00	$74,940.00	$2,470.00	$0.00	$77,410.00	82	$17,290.00
31 20 00	Earth Moving - Excavation	$242,600.00	$142,870.00	$31,553.00	$0.00	$174,423.00	72	$68,177.00
31 20 01	Earth Moving - Backfill	$267,800.00	$0.00	$0.00	$0.00	$0.00	0	$267,800.00
31 20 02	Finish Grading	$69,900.00	$0.00	$0.00	$0.00	$0.00	0	$69,900.00
31 23 19	Dewatering	$35,900.00	$27,780.00	$3,940.00	$0.00	$31,720.00	88	$4,180.00
32 12 16	Asphalt Paving	$183,097.00	$0.00	$0.00	$0.00	$0.00	0	$183,097.00
32 13 13	Concrete Paving	$59,400.00	$0.00	$0.00	$0.00	$0.00	0	$59,400.00
32 17 13	Plastic Bollard Covers	$1,700.00	$0.00	$0.00	$0.00	$0.00	0	$1,700.00

Schedule of Values

Ramsey Water Treatment Plant

Payment Application No. 04

Date of Application: 10/3/2023

Work completed through: 10/3/2023

Item			C	D	E	Total Completed and Stored to Date (C + D + E)	% (G)	Balance to Finish
Specification Section No.	Description	Scheduled Value	From Previous Application (C+D)	This Period	Materials Presently Stored (not in Col D)			
32 31 13	Chain Link Fencing, Gates and Equipment	$207,654.00	$0.00	$0.00	$0.00	$0.00	0	$207,654.00
32 92 00	Turfs and Grasses	$63,500.00	$0.00	$0.00	$0.00	$0.00	0	$63,500.00
32 93 00	Plants	$50,000.00	$0.00	$0.00	$0.00	$0.00	0	$50,000.00
33 11 13	Facility Water Distribution Systems	$727,300.00	$57,855.00	$0.00	$0.00	$57,855.00	8	$669,445.01
33 13 13	Facility Sanitary Sewer Systems	$87,800.00	$0.00	$0.00	$0.00	$0.00	0	$87,800.00
33 41 00	Storm Utility Drainage	$124,600.00	$0.00	$0.00	$0.00	$0.00	0	$124,600.00
33 46 00	Subdrainage	$61,400.00	$0.00	$0.00	$0.00	$0.00	0	$61,400.00
40 23 19	Process Pipe & Fittings	$2,202,644.00	$62,408.00	$0.00	$0.00	$62,408.00	3	$2,140,236.00
40 27 87	Process Pipe Supports, Anchors and Sleeves	$139,344.00	$75,367.00	$2,500.00	$50,021.00	$127,888.00	92	$11,456.00
40 27 89	Process Pipe Specialties	$51,300.00	$0.00	$0.00	$0.00	$0.00	0	$51,300.00
40 27 97	Process Gauges	$5,327.00	$0.00	$0.00	$0.00	$0.00	0	$5,327.00
40 92 00	Process Valves - Plug, Butterfly, Air and Check	$655,400.00	$0.00	$0.00	$0.00	$0.00	0	$655,400.00
40 92 01	Process Valves - Pressure Reducing Valves	$149,439.00	$0.00	$0.00	$0.00	$0.00	0	$149,439.00
41 23 14	Overhead Crane Systems	$131,775.00	$0.00	$0.00	$0.00	$0.00	0	$131,775.00
43 05 10	Disinfection of Water Systems	$24,000.00	$0.00	$0.00	$0.00	$0.00	0	$24,000.00
43 11 16	Gas Handling Blowers	$107,240.00	$0.00	$0.00	$0.00	$0.00	0	$107,240.00
43 23 22	Split Case Pumps	$281,247.00	$0.00	$0.00	$0.00	$0.00	0	$281,247.00
43 32 76	Chlorine Gas Feed Equipment	$129,661.00	$0.00	$0.00	$0.00	$0.00	0	$129,661.00
43 32 77	Chemical Feed System Pumps	$94,650.00	$0.00	$0.00	$0.00	$0.00	0	$94,650.00
43 32 78	Chemical Feed System Accessories	$82,275.00	$0.00	$0.00	$0.00	$0.00	0	$82,275.00
44 42 24	Plate Settlers	$868,280.00	$0.00	$0.00	$0.00	$0.00	0	$868,280.00
46 33 20	Liquid Chemical Storage Tanks	$94,360.00	$0.00	$0.00	$0.00	$0.00	0	$94,360.00
46 33 33	Polymer Blending and Feed Equipment	$26,940.00	$0.00	$0.00	$0.00	$0.00	0	$26,940.00
46 43 47	Jet Mixing System	$159,793.00	$0.00	$0.00	$0.00	$0.00	0	$159,793.00
46 61 00	Filtration Equipment	$984,470.00	$0.00	$0.00	$0.00	$0.00	0	$984,470.00
	Totals	$31,528,500.00	$2,465,797.00	$881,901.40	$206,725.00	$3,554,423.39	11.3%	$27,974,076.61

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Strive for high organizational morale and employee retention

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Information

Title

Adopt Resolution #23-269 to Authorize an Adjustment to the Pay Scale for Temporary On-call Snow Plow Drivers

Purpose/Background:

The purpose of this case is to ask the City Council for authorization to adjust the pay scale for Temporary On-Call Snow Plow Drivers.

The City employs Temporary On-call Snow Plow Drivers to work in the Public Works Department. As part of earlier discussions regarding on On-call Snow Plow Driver pay, the City Council expressed an interest in raising the pay. The pay was raised last fall to $16.00 to $20.00 per hour. The 2024 preliminary budget discussions also included additional discussion with the City Council and now accounts for an increase of an average pay of $20.00 per hour. It is recommended the new pay scale for Temporary On-call Snow Plow Drivers be set at $18.00 to $22.00 per hour, depending on qualifications. The proposed pay scale based on an average pay of $20.00 per hour, is in-line with the actual proposed wages for the soon to be hired 2023 / 2024 drivers.

There are very few area cities that employ temporary on-call snow plow drivers. Staff reached out to Elk River, Ham Lake, Lino Lakes, Champlin and Savage. (These cities were contacted last year.) The average pay is now approximately $18.00 to $20.65 per hour. However, this figure is based on last year's wages only. Staff was informed the new 2024 pay scales have either not been discussed or approved yet. The City of Ramsey has been very fortunate to have its former drivers return year-after-year; this year, it is expected to hire five returning drivers. The proposed wages will help to continue that trend.

Method of Progression
Typically, the hourly pay for new employees is the starting wage and the pay increases each year the employee returns. Last year, the City Council granted staff the discretion to start new employees higher in the pay scale if their qualifications and experience warrant it; staff would like that to continue.

Notification:

Funding Source:

The 2023 portion of the funding will come from the likely savings incurred by reduced warming house hours as well as staff turn-over, if needed. The 2024 portion of the funding has been included in the preliminary 2024 budget.

Recommendation:

To increase the Temporary On-call Snow Plow Driver pay scale, depending on qualifications, to $18.00 to $22.00, depending on qualifications.

Action:

Motion to adopt resolution #23-269 to Increase the Temporary On-call Snow Plow Driver pay scale to $18.00 to $22.00 per hour, depending on qualifications.

Attachments

Resolution 23-269

Form Review

Inbox	Reviewed By	Date
Brian Hagen	Brian Hagen	10/19/2023 12:20 PM
Form Started By: Colleen Lasher		Started On: 10/18/2023 10:27 AM
Final Approval Date: 10/19/2023		

Councilmember Specht introduced the following resolution and moved for its adoption:

RESOLUTION #23-269

RESOLUTION TO AUTHORIZE AN ADJUSTMENT TO THE PAY SCALES FOR TEMPORARY ON-CALL SNOW PLOW DRIVERS

WHEREAS, the City Council wishes to have an adjusted pay scale for Temporary On-call Snow Plow Drivers; and

WHEREAS, it is recommended the new pay scales for Temporary On-call Snow Plow Drivers be set at $18.00 to $22.00 per hour, depending on qualifications; and

WHEREAS, the 2024 preliminary budget accounts for the above-mentioned pay scale based on an average pay of $20.00 per hour which is in-line with the actual proposed wages for the soon to be hired 2023 / 2024 drivers.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

1) Motion to adopt resolution #23-269 to increase the Temporary On-call Snow Plow Driver pay scale to $18.00 to $22.00 per hour, depending on qualifications.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember…., and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____

Mayor

ATTEST:

_____

City Clerk

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Identify and implement operational efficiencies, cost savings and additional funding sources.

Information

Title:

Adopt Resolution # 23-268 Providing for the Issuance and Sale of $8,315,000 General Obligation (GO) Bonds, Series 2023A and Levying a Tax for the Payment Thereof

Purpose/Background:

Purpose: To provide funding for $7M of COR Improvements consisting of: COR tree clearing, Hy 10/Ferret Street Reconstruction, COR mass grading and COR infrastructure plans and specs for Zeolite Street, Ramsey Parkway and Center Street and approximately $1.45M for capital equipment as outlined in the 2024 General Fund Budget.

Background:

A COR analysis Update was prepared by Bolton and Menk, Inc. Included in this analysis and confirmed by City Council were the following priorities:

- Grading, lining and installing storm sewer for the Waterfront stormwater pond
- Filling low-lying COR properties using fill from the Waterfront pond excavation
- Design and prepare plans and specifications for Zeolite Street, north end of Center Street and Ramsey Parkway between Sunwood Drive roundabout and Willemite Street.

All items listed above have been approved by City Council at various dates in 2023 with the funding stated to be the issuance of Tax Increment bonds in the estimated amount of $7,000,000.

After much discussion in regards to the proposed 2024 General Fund Budget and respective tax levies, it was determined that the unfunded capital equipment items would be funded via the issuance of capital equipment debt. The total amount of financing needed was $1.453Million.

One bond will be issued which will incorporate the funding needs as outlined above in the amount of $8,315,000 which includes estimated underwriter and issuance costs. The Tax Increment side of the bond will be for a period of 15 years and the Capital Equipment will be for a term of 10 years.

At its regular meeting of September 26, 2023 City Council passed resolution #23-231 Providing for the Sale of General Obligation Bonds.

The GO bonds will be bid on the morning of October 24, 2023. Sale Day Report is attached.

The City had a bond rating call with Standard & Poor's (S&P) rating service on October 11, 2023. S& P assigned an AA+ rating to this issue and affirmed the City's rating of AA+ on prior issues. The ratings report is attached.

The City's preliminary levy that was adopted September 26, 2023, included an estimated annual debt levy of $188,736 that was applicable to this bond being sold to fund approximately $1.453M of 2024 Capital Equipment included in the 2024 budget - 2 plow trucks, front-end loader, 4X4 dump, Bobcat loader, etc. When sold, if the annual debt levy is determined to be higher than the $188,736 the levy amount for 2024 cannot be increased, but the remaining 9 years of annual levies would offset the difference. If there are any debt

savings after the final sale has occurred on October 24, 2023, this reduction will be reflected in the final debt levy adopted in December.

The remainder of the debt, $7M will be funded from the annual tax increment generated in the City's Tax Increment District #14 known as The COR.

Time Frame/Observations/Alternatives:

Alternatives:

1. Motion to Adopt Resolution #23-268 Providing the Issuance and Sale of $8,315,000 General Obligation Bonds, Series 2023A.

2. Motion to not Adopt Resolution #23-268 Providing the Issuance and Sale of $8,315,000 General Obligation Bonds, Series 2023A, which would be to reject the bids of the bond sale.

Funding Source:

The issuance of the GO bonds will be to fund the TIF 14 area improvements as outlined above and some of the Capital Equipment that was included in the 2024 Preliminary Adopted General Fund Budget.

Recommendation:

Staff recommends Alternative #1.

Outcome/Action:

Motion to Adopt Resolution #23-268 Providing for the Issuance and Sale of $8,315,000 General Obligation (GO) Bonds, Series 2023A and Levying a Tax for the Payment Thereof.

Attachments

S&P Ratings Report

Res 23 268

Sale Day Report

Form Review

Inbox	Reviewed By	Date
Brian Hagen	Brian Hagen	10/19/2023 07:24 AM
Diana Lund (Originator)	Diana Lund	10/24/2023 03:52 PM
Diana Lund (Originator)	Kathy Schmitz	10/24/2023 04:01 PM
Form Started By: Diana Lund		Started On: 09/18/2023 01:36 PM
Final Approval Date: 10/24/2023		

S&P Global
Ratings

RatingsDirect®

Summary:

Ramsey, Minnesota; General Obligation

Primary Credit Analyst:
Jessica Olejak, Chicago + 1 (312) 233 7068; jessica.olejak@spglobal.com

Secondary Contact:
Rebecca Y Roman, Chicago (1) 708-219-0455; rebecca.roman@spglobal.com

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Credit Highlights

Outlook

Related Research

Summary:

Ramsey, Minnesota; General Obligation

Credit Profile		
US$8.64 mil GO bnds ser 2023A dtd 11/15/2023 due 12/15/2038		
Long Term Rating	AA+/Stable	New

Credit Highlights

- S&P Global Ratings assigned its 'AA+' long-term rating to the City of Ramsey, Minn.'s anticipated $8.64 million series 2023A general obligation (GO) bonds.
- S&P Global Ratings also affirmed its 'AA+' rating on the city's existing GO debt.
- The outlook is stable.

Security

Ramsey's unlimited ad valorem tax GO pledge secures the series 2023A bonds but management anticipates that a portion of the debt service will be paid from tax increment financing (TIF) revenue generated by existing development within TIF District 14. Bond proceeds will finance capital equipment and the improvements in TIF District 14.

Credit overview

Ramsey's strong financial profile is underscored by the city's consistent operating surpluses, supported by an expanding property tax base and local revenue-raising flexibility. For fiscal 2023 (year-end Dec. 31), management anticipates the city will achieve its breakeven operating budget. The preliminary fiscal 2024 budget is balanced and includes an 11% operating levy increase, seven new positions, and some additional capital expenditures. Management expects some uncertainty with the fiscal 2025 budget as all union contracts will be open for negotiation, but plans to maintain general fund reserves at their current level. Given the city's extremely high reserve levels at more than $11 million, we believe Ramsey will be able to manage potentially higher personnel costs and any future unexpected expenditures.

We revised our view of Ramsey's economy to very strong from strong, following an increase in projected income levels compared with the U.S. Nevertheless, we believe Ramsey's underlying economy lacks the depth of that of higher-rated peers, but the city benefits from its proximity to the Twin Cities. Furthermore, the city's debt and contingent liability profile will likely remain at least weak, based on Ramsey's elevated debt service carrying charge and plans to issue up to $8 million of utility revenue-backed debt to make necessary improvements to the city's water treatment plant, with the total project estimated at approximately $43 million.

The 'AA+' rating further reflects our assessment of Ramsey's:

- Growing suburban economy, with extensive residential, commercial, and industrial development based on the city's abundance of developable land;
- Considerable revenue-raising flexibility, with a predominantly property tax-funded budget; and

- Strong management, highlighted by the city's five-year operating forecast, 10-year capital improvement plan, and fund balance policy requiring 50% of expenditures in reserves, with a strong institutional framework score.

We do not view pension and other postemployment benefits to be a credit pressure, given how low contributions are relative to budget. However, General Employees' Retirement fund and Public Employees' Police and Fire fund contributions were below our minimum funding progress metric last year and current fixed-rate contribution practices are not expected to materially reduce unfunded liabilities in the near term.

Environmental, social, and governance

Ramsey faces heightened environmental risks based on the elevated manganese levels in four of its eight drinking water wells, as per the Minnesota Department of Health guidelines. Elevated manganese levels pose health risks to bottle-fed infants, children, and adults. The city is remediating these risks through the above-mentioned improvements to the water treatment plant, which are under construction. We view the city's social and governance risks as neutral in our credit rating analysis. In addition, Ramsey has implemented policies and practices to help mitigate its exposure to cyber security risks.

Outlook

The stable outlook reflects our expectation that Ramsey will maintain its fund balance within its reserve policy and property tax revenue growth will continue over the two-year outlook horizon.

Downside scenario

We could take a negative rating action if the city were to become operationally imbalanced and make a materially large draw on its reserves.

Upside scenario

We could take a positive rating action if Ramsey strengthened multiple credit factors, including moderation of the debt profile and materially higher income and wealth metrics.

Ramsey, Minnesota -- key credit metrics

	Most recent	Historical information		
		2022	2021	2020
Very strong economy				
Projected per capita EBI % of U.S.	110			
Market value per capita ($)	146,383			
Population		28,178	27,487	27,154
County unemployment rate(%)		2.6		
Market value ($000)	4,124,767	3,773,024	3,284,612	3,022,065
Ten largest taxpayers % of taxable value	7.8			
Strong budgetary performance				
Operating fund result % of expenditures		0.7	2.5	8.5
Total governmental fund result % of expenditures		10.7	1.1	(1)

Ramsey, Minnesota -- key credit metrics (cont.)				
	Most recent	**Historical information**		
		2022	**2021**	**2020**
Very strong budgetary flexibility				
Available reserves % of operating expenditures		75.6	71.7	71.0
Total available reserves ($000)		11,064	10,413	10,073
Very strong liquidity				
Total government cash % of governmental fund expenditures		331	260	362
Total government cash % of governmental fund debt service		3283	3259	2001
Strong management				
Financial Management Assessment	Good			
Weak debt & long-term liabilities				
Debt service % of governmental fund expenditures		10.1	12.0	19.9
Net direct debt % of governmental fund revenue	158			
Overall net debt % of market value	2.0			
Direct debt 10-year amortization (%)	61			
Required pension contribution % of governmental fund expenditures		3.6		
OPEB actual contribution % of governmental fund expenditures		0.1		
Strong institutional framework				

EBI--Effective buying income. OPEB--Other postemployment benefits. Data points and ratios may reflect analytical adjustments.

Related Research

Through The ESG Lens 3.0: The Intersection Of ESG Credit Factors And U.S. Public Finance Credit Factors, March 2, 2022

Ratings Detail (As Of October 17, 2023)		
Ramsey GO		
Long Term Rating	AA+/Stable	Affirmed
Ramsey GO		
Long Term Rating	AA+/Stable	Affirmed
Ramsey GO		
Long Term Rating	AA+/Stable	Affirmed
Ramsey GO		
Long Term Rating	AA+/Stable	Affirmed

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.spglobal.com/ratings for further information. Complete ratings information is available to RatingsDirect subscribers at www.capitaliq.com. All ratings affected by this rating action can be found on S&P Global Ratings' public website at www.spglobal.com/ratings.

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Councilmember introduced the following resolution and moved its adoption:

RESOLUTION #23-268

RESOLUTION PROVIDING FOR THE ISSUANCE AND SALE OF $8,315,000 GENERAL OBLIGATION BONDS, SERIES 2023A PLEDGING TAX INCREMENTS AND LEVYING A TAX FOR THE PAYMENT THEREOF

A. WHEREAS, the City Council of the City of Ramsey, Minnesota (the "City") has heretofore determined and declared that it is necessary and expedient to issue $8,315,000 General Obligation Bonds, Series 2023A (the "Bonds" or individually a "Bond"), pursuant to Minnesota Statutes, Chapters 475; and

1. Chapter 469 to finance a TIF Project, as hereinafter defined, within the City; and

2. Sections 410.32 and 412.301to finance the acquisition of capital equipment for the City (the "Equipment"); and

B. WHEREAS, the City Council of the City of Ramsey, Minnesota (the "City"), has heretofore established Development District No. 1 (the "Development District") pursuant to the provisions of Minnesota Statutes, Sections 469.124 through 469.133, and has approved a Development Program (the "Program") with respect to the Development District; and

C. WHEREAS, the Council has also heretofore established Tax Increment Financing (Redevelopment) District No. 14 as a redevelopment district within the Development District (the "Tax Increment District") pursuant to Minnesota Laws, 2010, Chapter 389, Article 7, Section 22, as amended by Minnesota Laws, 2011, Chapter 112, Article 11, Section 16, Minnesota Laws 2021, Chapter 14, Article 9, Section 10, and Minnesota Laws, 2023, Chapter 64, Article 8, Section 10, and the provisions of Minnesota Statutes, Section 469.174 through 469.1794 (the "Tax Increment Financing Act"), and has approved a tax increment financing plan (the "Plan") with respect to the Tax Increment District; and

D. WHEREAS, pursuant to the provisions of the Program and Plan, funds are to be expended within the Development District to provide funds to finance street improvements within the Tax Increment District as set forth in the Plan (the "TIF Project"); and

E. WHEREAS, each item of Equipment to be financed by the Equipment Portion of the Bonds has an expected useful life at least as long as the term of the Equipment Portion of the Bonds;

F. WHEREAS, the principal amount of the Equipment Portion of the Bonds does not exceed 0.25% of the market value of the taxable property in the City ($4,124,767,000 times 0.25% is $ 10,311,918); and

G. WHEREAS, the TIF Project and the Equipment are sometimes referred together herein as the "Project"; and

H. WHEREAS, the City has retained Ehlers & Associates, Inc., in Roseville, Minnesota ("Ehlers"), as its independent financial advisor for the sale of the Bonds and was therefore authorized to sell the Bonds by private negotiation in accordance with Minnesota Statutes, Section 475.60, Subdivision 2(9) and proposals to purchase the Bonds have been solicited by Ehlers; and

I. WHEREAS, the proposals set forth on Exhibit A attached hereto were received by the City Administrator, or designee, at the office of Ehlers, at 11:00 A.M. on the date hereof, pursuant to the Preliminary Official Statement for the Bonds, dated October 24, 2023; and

J. WHEREAS, it is in the best interests of the City that the Bonds be issued in book-entry form as hereinafter provided; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ramsey, Minnesota, as follows:

1. Acceptance of Proposal. The proposal of Robert W. Baird & Co. Incorporated, Milwaukee, Wisconsin (the "Purchaser"), to purchase the Bonds in accordance with the Preliminary Official Statement, at the rates of interest hereinafter set forth, and to pay therefor the sum of $8,536,005.31, plus interest accrued to settlement, is hereby found, determined and declared to be the most favorable proposal received and is hereby accepted and the Bonds are hereby awarded to the Purchaser. The Finance Director is directed to retain the deposit of the Purchaser.

2. Bond Terms.

(a) Original Issue Date; Denominations; Maturities; Term Bond Option. The Bonds shall be dated November 15, 2023, as the date of original issue and shall be issued forthwith on or after such date in fully registered form, shall be numbered from R-1 upward in the denomination of $5,000 each or in any integral multiple thereof of a single maturity (the "Authorized Denominations") and shall mature on December 15 in the years and amounts as follows:

Year	Amount	Year	Amount
2024	$405,000	2032	$645,000
2025	455,000	2033	675,000
2026	480,000	2034	530,000
2027	505,000	2035	550,000
2028	530,000	2036	570,000
2029	560,000	2037	595,000
2030	585,000	2038	620,000
2031	610,000		

As may be requested by the Purchaser, one or more term Bonds may be issued having mandatory sinking fund redemption and final maturity amounts conforming to the foregoing principal repayment schedule, and corresponding additions may be made to the provisions of the applicable Bond(s).

(b) Allocation. The aggregate principal amount of $6,915,000 maturing in each of the years and amounts hereinafter set forth are issued to finance the TIF Project (the "Tax Increment Portion" of the Bonds); and the aggregate principal amount of $1,400,000 maturing in each of the years and amounts hereinafter set forth are issued to finance the Equipment (the "Equipment Portion" of the Bonds):

Year	Tax Increment Portion	Equipment Portion	Total
2024	$300,000	$105,000	$405,000
2025	340,000	115,000	455,000
2026	355,000	125,000	480,000
2027	375,000	130,000	505,000
2028	395,000	135,000	530,000
2029	415,000	145,000	560,000
2030	435,000	150,000	585,000
2031	455,000	155,000	610,000
2032	480,000	165,000	645,000
2033	500,000	175,000	675,000
2034	530,000	---	530,000
2035	550,000	---	550,000
2036	570,000	---	570,000
2037	595,000	---	595,000
2038	620,000	---	620,000

If Bonds are prepaid, the prepayments shall be allocated to the portions of debt service (and hence allocated to the payment of Bonds treated as relating to a particular portion of debt service) as provided in this paragraph. If the source of prepayment moneys is the general fund of the City, or other generally available source, including the levy of taxes, the prepayment may be allocated to either or both of the portions of debt service in such amounts as the City shall determine.

(c) Book Entry Only System. The Depository Trust Company, a limited purpose trust company organized under the laws of the State of New York or any of its successors or its successors to its functions hereunder (the "Depository") will act as securities depository for the Bonds, and to this end:

(i) The Bonds shall be initially issued and, so long as they remain in book entry form only (the "Book Entry Only Period"), shall at all times be in the form of a separate single fully registered Bond for each maturity of the Bonds; and for purposes of complying with this requirement under paragraphs 5 and 10 Authorized Denominations for any Bond shall be deemed to be limited during the Book Entry Only Period to the outstanding principal amount of that Bond.

(ii) Upon initial issuance, ownership of the Bonds shall be registered in a bond register maintained by the Bond Registrar (as hereinafter defined) in the name of CEDE & CO., as the nominee (it or any nominee of the existing or a successor Depository, the "Nominee").

(iii) With respect to the Bonds neither the City nor the Bond Registrar shall have any responsibility or obligation to any broker, dealer, bank, or any other financial institution for which the Depository holds Bonds as securities depository (the "Participant") or the person for which a Participant holds an interest in the Bonds shown on the books and records of the Participant (the "Beneficial Owner"). Without limiting the immediately preceding sentence, neither the City, nor the Bond Registrar, shall have any such responsibility or obligation with respect to (A) the accuracy of the records of the Depository, the Nominee or any Participant with respect to any ownership interest in the Bonds, or (B) the delivery to any Participant, any Owner or any other person, other than the Depository, of any notice with respect to the Bonds, including any notice of redemption, or (C) the payment to any Participant, any Beneficial Owner or any other person, other than the Depository, of any amount with respect to the principal of or premium, if any, or interest on the Bonds, or (D) the consent given or other action taken by the Depository as the Registered Holder of any Bonds (the "Holder"). For purposes of securing the vote or consent of any Holder under this Resolution, the City may, however, rely upon an omnibus proxy under which the Depository assigns its consenting or voting rights to certain Participants to whose accounts the Bonds are credited on the record date identified in a listing attached to the omnibus proxy.

(iv) The City and the Bond Registrar may treat as and deem the Depository to be the absolute owner of the Bonds for the purpose of payment of the principal of and premium, if any, and interest on the Bonds, for the purpose of giving notices of redemption and other matters with respect to the Bonds, for the purpose of obtaining any consent or other action to be taken by Holders for the purpose of registering transfers with respect to such Bonds, and for all purpose whatsoever. The Bond Registrar, as paying agent hereunder, shall pay all principal of and premium, if any, and interest on the Bonds only to the Holder or the Holders of the Bonds as shown on the bond register, and all such payments shall be valid and effective to fully satisfy and discharge the City's obligations with respect to the principal of and premium, if any, and interest on the Bonds to the extent of the sum or sums so paid.

(v) Upon delivery by the Depository to the Bond Registrar of written notice to the effect that the Depository has determined to substitute a new Nominee in place of the existing Nominee, and subject to the transfer provisions in paragraph 10, references to the Nominee hereunder shall refer to such new Nominee.

(vi) So long as any Bond is registered in the name of a Nominee, all payments with respect to the principal of and premium, if any, and interest on such Bond and all notices with respect to such Bond shall be made and given, respectively, by the Bond Registrar or City, as the case may be, to the Depository as provided in the Letter of Representations to the Depository required by the Depository as a condition to its acting as book-entry Depository for the Bonds (said Letter of Representations, together with any replacement thereof or amendment or substitute thereto, including any standard procedures or policies referenced therein or applicable thereto respecting the procedures and other matters relating to the

Depository's role as book-entry Depository for the Bonds, collectively hereinafter referred to as the "Letter of Representations").

(vii) All transfers of beneficial ownership interests in each Bond issued in book-entry form shall be limited in principal amount to Authorized Denominations and shall be effected by procedures by the Depository with the Participants for recording and transferring the ownership of beneficial interests in such Bonds.

(viii) In connection with any notice or other communication to be provided to the Holders pursuant to this Resolution by the City or Bond Registrar with respect to any consent or other action to be taken by Holders, the Depository shall consider the date of receipt of notice requesting such consent or other action as the record date for such consent or other action; provided, that the City or the Bond Registrar may establish a special record date for such consent or other action. The City or the Bond Registrar shall, to the extent possible, give the Depository notice of such special record date not less than fifteen calendar days in advance of such special record date to the extent possible.

(ix) Any successor Bond Registrar in its written acceptance of its duties under this Resolution and any paying agency/bond registrar agreement, shall agree to take any actions necessary from time to time to comply with the requirements of the Letter of Representations.

(d) Termination of Book-Entry Only System. Discontinuance of a particular Depository's services and termination of the book-entry only system may be effected as follows:

(i) The Depository may determine to discontinue providing its services with respect to the Bonds at any time by giving written notice to the City and discharging its responsibilities with respect thereto under applicable law. The City may terminate the services of the Depository with respect to the Bond if it determines that the Depository is no longer able to carry out its functions as securities depository or the continuation of the system of book-entry transfers through the Depository is not in the best interests of the City or the Beneficial Owners.

(ii) Upon termination of the services of the Depository as provided in the preceding paragraph, and if no substitute securities depository is willing to undertake the functions of the Depository hereunder can be found which, in the opinion of the City, is willing and able to assume such functions upon reasonable or customary terms, or if the City determines that it is in the best interests of the City or the Beneficial Owners of the Bond that the Beneficial Owners be able to obtain certificates for the Bonds, the Bonds shall no longer be registered as being registered in the bond register in the name of the Nominee, but may be registered in whatever name or names the Holder of the Bonds shall designate at that time, in accordance with paragraph 10. To the extent that the Beneficial Owners are designated as the transferee by the Holders, in accordance with paragraph 10, the Bonds will be delivered to the Beneficial Owners.

(iii) Nothing in this subparagraph (d) shall limit or restrict the provisions of paragraph 10.

(e) Letter of Representations. The provisions in the Letter of Representations are incorporated herein by reference and made a part of the resolution, and if and to the extent any such provisions are inconsistent with the other provisions of this resolution, the provisions in the Letter of Representations shall control.

3. Purpose. The Bonds shall provide funds to finance the Project. Tax increments derived from the Tax Increment District (the "Tax Increments") established pursuant to the Plan, are herein pledged to the payment of the Tax Increment Portion of the Bonds and interest thereon. The estimated collection of Tax Increments exceeds twenty percent of the cost of the TIF Project. Proceeds of the Tax Increment Portion of the Bonds shall be expended on costs or uses permitted by the Tax Increment Financing Act. The Equipment Portion of the Bonds shall provide funds to finance the acquisition of the Equipment. The total cost of the Project, which shall include all costs enumerated in Minnesota Statutes, Section 475.65, is estimated to be at least equal to the amount of the Bonds. The City covenants that it shall do all things and perform all acts required of it to assure that work on the Project proceeds with due diligence to completion and that any and all permits and studies required under law for the Project are obtained.

4. Interest. The Bonds shall bear interest payable semiannually on June 15 and December 15 of each year (each, an "Interest Payment Date"), commencing June 15, 2024, calculated on the basis of a 360-day year of twelve 30-day months, at the respective rates per annum set forth opposite the maturity years as follows:

Maturity Year	Interest Rate	Maturity Year	Interest Rate
2024	5.000 %	2032	5.000 %
2025	5.000	2033	5.000
2026	5.000	2034	4.000
2027	5.000	2035	4.000
2028	5.000	2036	4.000
2029	5.000	2037	4.125
2030	5.000	2038	4.250
2031	5.000		

5. Redemption. All Bonds maturing on December 15, 2033, and thereafter, shall be subject to redemption and prepayment at the option of the City on December 15, 2032, and on any date thereafter at a price of par plus accrued interest. Redemption may be in whole or in part of the Bonds subject to prepayment. If redemption is in part, the maturities and the principal amounts within each maturity to be redeemed shall be determined by the City; and if only part of the Bonds having a common maturity date are called for prepayment, the specific Bonds to be prepaid shall be chosen by lot by the Bond Registrar. Bonds or portions thereof called for redemption shall be due and payable on the redemption date, and interest thereon shall cease to accrue from and after the redemption date. Mailed notice of redemption shall be given to the paying agent and to each affected registered holder of the Bonds not more than sixty (60) days and not fewer than thirty (30) days prior to the date fixed for redemption.

To effect a partial redemption of Bonds having a common maturity date, the Bond Registrar prior to giving notice of redemption shall assign to each Bond having a common maturity date a distinctive number for each $5,000 of the principal amount of the Bond. The Bond Registrar shall then select by lot, using such method of selection as it shall deem proper in its discretion, from the numbers so assigned to the Bonds, as many numbers as, at $5,000 for each number, shall equal the principal amount of the Bonds to be redeemed. The Bonds to be redeemed shall be the Bonds to which were assigned numbers so selected; provided, however, that only so much of the principal amount of each Bond of a denomination of more than $5,000 shall be redeemed as shall equal $5,000 for each number assigned to it and so selected. If a Bond is to be redeemed only in part, it shall be surrendered to the Bond Registrar (with, if the City or Bond Registrar so requires, a written instrument of transfer in form satisfactory to the City and Bond Registrar duly executed by the Holder thereof or the Holder's attorney duly authorized in writing) and the City shall execute (if necessary) and the Bond Registrar shall authenticate and deliver to the Holder of the Bond, without service charge, a new Bond or Bonds having the same stated maturity and interest rate and of any Authorized Denomination or Denominations, as requested by the Holder, in aggregate principal amount equal to and in exchange for the unredeemed portion of the principal of the Bond so surrendered.

6. Bond Registrar. Bond Trust Services Corporation, in Roseville, Minnesota, is appointed to act as bond registrar and transfer agent with respect to the Bonds (the "Bond Registrar"), and shall do so unless and until a successor Bond Registrar is duly appointed, all pursuant to any contract the City and Bond Registrar shall execute which is consistent herewith. The Bond Registrar shall also serve as paying agent unless and until a successor paying agent is duly appointed. Principal and interest on the Bonds shall be paid to the registered holders (or record holders) of the Bonds in the manner set forth in the form of Bond and paragraph 12.

7. Form of Bond. The Bonds, together with the Bond Registrar's Certificate of Authentication, the form of Assignment and the registration information thereon, shall be in substantially the following form:

UNITED STATES OF AMERICA
STATE OF MINNESOTA
ANOKA COUNTY
CITY OF RAMSEY

R-_____ $_____

GENERAL OBLIGATION BOND, SERIES 2023A

Interest Rate	Maturity Date	Date of Original Issue	CUSIP
	December 15,	November 15, 2023	

REGISTERED OWNER: CEDE & CO.

PRINCIPAL AMOUNT:

The City of Ramsey, Anoka County, Minnesota (the "Issuer"), certifies that it is indebted and for value received promises to pay to the registered owner specified above, or registered assigns, unless called for earlier redemption, in the manner hereinafter set forth, the principal amount specified above, on the maturity date specified above, and to pay interest thereon semiannually on June 15 and December 15 of each year (each, an "Interest Payment Date"), commencing June 15, 2024, at the rate per annum specified above (calculated on the basis of a 360-day year of twelve 30-day months) until the principal sum is paid or has been provided for. This Bond will bear interest from the most recent Interest Payment Date to which interest has been paid or, if no interest has been paid, from the date of original issue hereof. The principal of and premium, if any, on this Bond are payable upon presentation and surrender hereof at the principal office of Bond Trust Services Corporation, in Roseville, Minnesota (the "Bond Registrar"), acting as paying agent, or any successor paying agent duly appointed by the Issuer (the "Bond Registrar"), acting as paying agent, or any successor paying agent duly appointed by the Issuer. Interest on this Bond will be paid on each Interest Payment Date by check or draft mailed to the person in whose name this Bond is registered (the "Holder" or "Bondholder") on the registration books of the Issuer maintained by the Bond Registrar and at the address appearing thereon at the close of business on the first (1st) day of the calendar month of such Interest Payment Date (the "Regular Record Date"). Any interest not so timely paid shall cease to be payable to the person who is the Holder hereof as of the Regular Record Date, and shall be payable to the person who is the Holder hereof at the close of business on a date (the "Special Record Date") fixed by the Bond Registrar whenever money becomes available for payment of the defaulted interest. Notice of the Special Record Date shall be given to Bondholders not less than ten days prior to the Special Record Date. The principal of and premium, if any, and interest on this Bond are payable in lawful money of the United States of America. So long as this Bond is registered in the name of the Depository or its Nominee as provided in the Resolution hereinafter described, and as those terms are defined therein, payment of principal of, premium, if any, and interest on this Bond and notice with respect thereto shall be made as provided in the Letter of Representations, as defined in the Resolution, and surrender of this Bond shall not be required for payment of the redemption price upon a partial redemption of this Bond. Until termination of the book-entry only system pursuant to the Resolution, Bonds may only be registered in the name of the Depository or its Nominee.

Optional Redemption. All Bonds of this issue (the "Bonds") maturing on December 15, 2033, and thereafter, are subject to redemption and prepayment at the option of the Issuer on December 15, 2032, and on any date thereafter at a price of par plus accrued interest. Redemption may be in whole or in part of the Bonds subject to prepayment. If redemption is in part, the maturities and the principal amounts within each maturity to be redeemed shall be determined by the Issuer; and if only part of the Bonds having a common maturity date are called for prepayment, the specific Bonds to be prepaid shall be chosen by lot by the Bond Registrar. Bonds or portions thereof called for redemption shall be due and payable on the redemption date, and interest thereon shall cease to accrue from and after the redemption date. Mailed notice of redemption shall be given to the paying agent and to each affected registered holder of the Bonds not more than sixty (60) days and not fewer than thirty (30) days prior to the date fixed for redemption.

Prior to the date on which any Bond or Bonds are directed by the Issuer to be redeemed in advance of maturity, the Issuer will cause notice of the call thereof for redemption identifying the Bonds to be redeemed to be mailed to the Bond Registrar and all Bondholders, at the addresses

shown on the Bond Register. All Bonds so called for redemption will cease to bear interest on the specified redemption date, provided funds for their redemption have been duly deposited.

Selection of Bonds for Redemption; Partial Redemption. To effect a partial redemption of Bonds having a common maturity date, the Bond Registrar shall assign to each Bond having a common maturity date a distinctive number for each $5,000 of the principal amount of such Bond. The Bond Registrar shall then select by lot, using such method of selection as it shall deem proper in its discretion, from the numbers assigned to the Bonds, as many numbers as, at $5,000 for each number, shall equal the principal amount of Bonds to be redeemed. The Bonds to be redeemed shall be the Bonds to which were assigned numbers so selected; provided, however, that only so much of the principal amount of such Bond of a denomination of more than $5,000 shall be redeemed as shall equal $5,000 for each number assigned to it and so selected. If a Bond is to be redeemed only in part, it shall be surrendered to the Bond Registrar (with, if the Issuer or Bond Registrar so requires, a written instrument of transfer in form satisfactory to the Issuer and Bond Registrar duly executed by the Holder thereof or the Holder's attorney duly authorized in writing) and the Issuer shall execute (if necessary) and the Bond Registrar shall authenticate and deliver to the Holder of the Bond, without service charge, a new Bond or Bonds having the same stated maturity and interest rate and of any Authorized Denomination or Denominations, as requested by the Holder, in aggregate principal amount equal to and in exchange for the unredeemed portion of the principal of the Bond so surrendered.

Issuance; Purpose; General Obligation. This Bond is one of an issue in the total principal amount of $8,315,000, all of like date of original issue and tenor, except as to number, maturity, interest rate, denomination and redemption privilege, issued pursuant to and in full conformity with the Constitution, Charter of the Issuer and laws of the State of Minnesota and pursuant to a resolution adopted by the City Council on October 24, 2023 (the "Resolution"), for the purpose of providing funds to finance street improvements within the Issuer's Tax Increment Financing (Redevelopment) District No. 14 and the acquisition of capital equipment for the Issuer. This Bond is payable out of the General Obligation Bonds, Series 2023A Fund of the Issuer. This Bond constitutes a general obligation of the Issuer, and to provide moneys for the prompt and full payment of its principal, premium, if any, and interest when the same become due, the full faith and credit and taxing powers of the Issuer have been and are hereby irrevocably pledged.

Denominations; Exchange; Resolution. The Bonds are issuable solely in fully registered form in Authorized Denominations (as defined in the Resolution) and are exchangeable for fully registered Bonds of other Authorized Denominations in equal aggregate principal amounts at the principal office of the Bond Registrar, but only in the manner and subject to the limitations provided in the Resolution. Reference is hereby made to the Resolution for a description of the rights and duties of the Bond Registrar. Copies of the Resolution are on file in the principal office of the Bond Registrar.

Transfer. This Bond is transferable by the Holder in person or the Holder's attorney duly authorized in writing at the principal office of the Bond Registrar upon presentation and surrender hereof to the Bond Registrar, all subject to the terms and conditions provided in the Resolution and to reasonable regulations of the Issuer contained in any agreement with the Bond Registrar. Thereupon the Issuer shall execute and the Bond Registrar shall authenticate and deliver, in exchange for this Bond, one or more new fully registered Bonds in the name of the transferee (but

not registered in blank or to "bearer" or similar designation), of an Authorized Denomination or Denominations, in aggregate principal amount equal to the principal amount of this Bond, of the same maturity and bearing interest at the same rate.

Fees upon Transfer or Loss. The Bond Registrar may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with the transfer or exchange of this Bond and any legal or unusual costs regarding transfers and lost Bonds.

Treatment of Registered Owners. The Issuer and Bond Registrar may treat the person in whose name this Bond is registered as the owner hereof for the purpose of receiving payment as herein provided (except as otherwise provided herein with respect to the Record Date) and for all other purposes, whether or not this Bond shall be overdue, and neither the Issuer nor the Bond Registrar shall be affected by notice to the contrary.

Authentication. This Bond shall not be valid or become obligatory for any purpose or be entitled to any security unless the Certificate of Authentication hereon shall have been executed by the Bond Registrar.

Qualified Tax-Exempt Obligation. This Bond has been designated by the Issuer as a "qualified tax-exempt obligation" for purposes of Section 265(b)(3) of the Internal Revenue Code of 1986, as amended.

IT IS HEREBY CERTIFIED AND RECITED that all acts, conditions and things required by the Constitution, Charter of the Issuer and laws of the State of Minnesota to be done, to happen and to be performed, precedent to and in the issuance of this Bond, have been done, have happened and have been performed, in regular and due form, time and manner as required by law; and that this Bond, together with all other debts of the Issuer outstanding on the date of original issue hereof and the date of its issuance and delivery to the original purchaser, does not exceed any constitutional, charter or statutory limitation of indebtedness.

IN WITNESS WHEREOF, the City of Ramsey, Anoka County, Minnesota, by its City Council has caused this Bond to be executed on its behalf by the facsimile signatures of its Mayor and its City Administrator, the corporate seal of the Issuer having been intentionally omitted as permitted by law.

Date of Registration:	Registrable by: BOND TRUST SERVICES CORPORATION
_____	Payable at: BOND TRUST SERVICES CORPORATION
BOND REGISTRAR'S CERTIFICATE OF AUTHENTICATION This Bond is one of the Bonds described in the Resolution mentioned	CITY OF RAMSEY, ANOKA COUNTY, MINNESOTA /s/ Facsimile

Within.

BOND TRUST SERVICES
CORPORATION
Roseville, Minnesota
Bond Registrar

By: _____
Authorized Signature

Mayor

/s/ Facsimile
City Administrator

ABBREVIATIONS

The following abbreviations, when used in the inscription on the face of this Bond, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM - as tenants in common
TEN ENT - as tenants by the entireties
JT TEN - as joint tenants with right of survivorship and not as tenants in common
UTMA - _____ as custodian for _____
(Cust) (Minor)
under the _____ Uniform
(State)
Transfers to Minors Act

Additional abbreviations may also be used though not in the above list.

_____

ASSIGNMENT

For value received, the undersigned hereby sells, assigns and transfers unto _____ the within Bond and does hereby irrevocably constitute and appoint _____ attorney to transfer the Bond on the books kept for the registration thereof, with full power of substitution in the premises.

Dated: _____ _____

Notice: The assignor's signature to this assignment must correspond with the name as it appears upon the face of the within Bond in every particular, without alteration or any change whatever.

Signature Guaranteed:

_____

Signature(s) must be guaranteed by a national bank or trust company or by a brokerage firm having a membership in one of the major stock exchanges or any other "Eligible Guarantor Institution" as defined in 17 CFR 240.17 Ad-15(a)(2).

The Bond Registrar will not affect transfer of this Bond unless the information concerning the transferee requested below is provided.

Name and Address: _____

_____

_____

(Include information for all joint owners if the Bond is held by joint account.)

8. Execution. Bonds shall be in typewritten form, shall be executed on behalf of the City by the signatures of its Mayor and City Administrator and be sealed with the seal of the City; provided, as permitted by law, both signatures may be photocopied facsimiles and the seal has been omitted. In the event of disability or resignation or other absence of either officer, the Bonds may be signed by the manual or facsimile signature of the officer who may act on behalf of the absent or disabled officer. In case either officer whose signature or facsimile of whose signature shall appear on the Bonds shall cease to be such officer before the delivery of the Bonds, the signature or facsimile shall nevertheless be valid and sufficient for all purposes, the same as if the officer had remained in office until delivery.

9. Authentication. No Bond shall be valid or obligatory for any purpose or be entitled to any security or benefit under this resolution unless a Certificate of Authentication on the Bond, substantially in the form hereinabove set forth, shall have been duly executed by an authorized representative of the Bond Registrar. Certificates of Authentication on different Bonds need not be signed by the same person. The Bond Registrar shall authenticate the signatures of officers of the City on each Bond by execution of the Certificate of Authentication on the Bond and by inserting as the date of registration in the space provided the date on which the Bond is authenticated, except that for purposes of delivering the original Bonds to the Purchaser, the Bond Registrar shall insert as a date of registration the date of original issue of November 15, 2023. The Certificate of Authentication so executed on each Bond shall be conclusive evidence that it has been authenticated and delivered under this resolution.

10. Registration; Transfer; Exchange. The City will cause to be kept at the principal office of the Bond Registrar a bond register in which, subject to such reasonable regulations as the Bond Registrar may prescribe, the Bond Registrar shall provide for the registration of Bonds and the registration of transfers of Bonds entitled to be registered or transferred as herein provided.

Upon surrender for transfer of any Bond at the principal office of the Bond Registrar, the City shall execute (if necessary), and the Bond Registrar shall authenticate, insert the date of registration (as provided in paragraph 9) of, and deliver, in the name of the designated transferee or transferees, one or more new Bonds of any Authorized Denomination or Denominations of a like aggregate principal amount, having the same stated maturity and interest rate, as requested by the transferor; provided, however, that no Bond may be registered in blank or in the name of "bearer" or similar designation.

At the option of the Holder, Bonds may be exchanged for Bonds of any Authorized Denomination or Denominations of a like aggregate principal amount and stated maturity, upon surrender of the Bonds to be exchanged at the principal office of the Bond Registrar. Whenever any Bonds are so surrendered for exchange, the City shall execute (if necessary), and the Bond Registrar shall authenticate, insert the date of registration of, and deliver the Bonds which the Holder making the exchange is entitled to receive.

All Bonds surrendered upon any exchange or transfer provided for in this resolution shall be promptly canceled by the Bond Registrar and thereafter disposed of as directed by the City.

All Bonds delivered in exchange for or upon transfer of Bonds shall be valid general obligations of the City evidencing the same debt, and entitled to the same benefits under this resolution, as the Bonds surrendered for such exchange or transfer.

Every Bond presented or surrendered for transfer or exchange shall be duly endorsed or be accompanied by a written instrument of transfer, in form satisfactory to the Bond Registrar, duly executed by the Holder thereof or the Holder's attorney duly authorized in writing.

The Bond Registrar may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with the transfer or exchange of any Bond and any legal or unusual costs regarding transfers and lost Bonds.

Transfers shall also be subject to reasonable regulations of the City contained in any agreement with the Bond Registrar, including regulations which permit the Bond Registrar to close its transfer books between record dates and payment dates. The City Administrator is hereby authorized to negotiate and execute the terms of said agreement.

11. Rights Upon Transfer or Exchange. Each Bond delivered upon transfer of or in exchange for or in lieu of any other Bond shall carry all the rights to interest accrued and unpaid, and to accrue, which were carried by such other Bond.

12. Interest Payment; Record Date. Interest on any Bond shall be paid on each Interest Payment Date by check or draft mailed to the person in whose name the Bond is registered (the "Holder") on the registration books of the City maintained by the Bond Registrar and at the address appearing thereon at the close of business on the first (1st) day of the calendar month of such Interest Payment Date (the "Regular Record Date"). Any such interest not so timely paid shall cease to be payable to the person who is the Holder thereof as of the Regular Record Date, and shall be payable to the person who is the Holder thereof at the close of business on a date (the "Special Record Date") fixed by the Bond Registrar whenever money becomes available for payment of the defaulted interest. Notice of the Special Record Date shall be given by the Bond Registrar to the Holders not less than ten days prior to the Special Record Date.

13. Treatment of Registered Owner. The City and Bond Registrar may treat the person in whose name any Bond is registered as the owner of such Bond for the purpose of receiving payment of principal of and premium, if any, and interest (subject to the payment provisions in paragraph 12) on, such Bond and for all other purposes whatsoever whether or not such Bond shall be overdue, and neither the City nor the Bond Registrar shall be affected by notice to the contrary.

14. Delivery; Application of Proceeds. The Bonds when so prepared and executed shall be delivered by the Finance Director to the Purchaser upon receipt of the purchase price, and the Purchaser shall not be obliged to see to the proper application thereof.

15. Fund and Accounts. There is hereby established a special fund to be designated "General Obligation Bonds, Series 2023A Fund" (the "Fund") to be administered and maintained by the Finance Director as a bookkeeping account separate and apart from all other funds maintained in the official financial records of the City. The Fund shall be maintained in the manner herein specified until all of the Bonds and the interest thereon have been fully paid.

There shall be maintained in the Fund the following two (2) separate accounts, to be designated the "Capital Account" and "Debt Service Account," respectively.

(a) Capital Account. To the Capital Account there shall be credited the proceeds of the sale of the Bonds. From the Capital Account there shall be paid all costs and expenses of the acquisition and construction of the Project, including all costs incurred and to be incurred of the kind authorized in Minnesota Statutes, Section 475.65. The moneys in the Capital Account shall be used for no other purpose except as otherwise provided by law; provided that the proceeds of the Bonds may also be used to the extent necessary to pay interest on the Bonds due prior to the anticipated date of commencement of the collection of taxes herein levied or the receipt of Tax Increments; and provided further that if upon completion and acquisition of the Project, there shall remain any unexpended balance in the Capital Account, the balance may be transferred to the Debt Service Account.

(b) Debt Service Account. There shall be maintained separate subaccounts in the Debt Service Account to be designated the "Tax Increment Debt Service Subaccount" and the "Equipment Debt Service Subaccount." There are hereby irrevocably appropriated and pledged to, and there shall be credited to the separate subaccounts of the Debt Service Account:

(i) Tax Increment Debt Service Subaccount. There are hereby irrevocably appropriated and pledged to, and there shall be credited to the Tax Increment Debt Service Subaccount: (A) Tax Increments, in an amount sufficient, together with other sums herein pledged, to pay the annual principal and interest payments on the Tax Increment Portion of the Bonds; (B) all collections of taxes herein or hereafter levied for the payment of the Tax Increment Portion of the Bonds and interest thereon; (C) a pro rata share of all funds remaining in the Capital Account after completion of the Project and payment of the costs thereof; (D) all investment earnings on funds held in the Debt Service Account; and (E) any and all other moneys which are properly available and are appropriated by the governing body of the City to the Tax Increment Debt Service Subaccount. The amount of any surplus remaining in the Tax Increment Debt Service Subaccount when the Tax Increment Portion of the Bonds and interest thereon are paid shall be used consistent with Minnesota Statutes, Section 475.61, Subdivision 4. The Tax Increment Debt Service Subaccount shall be used solely to pay the principal and interest on the Tax Increment Portion of the Bonds and any other general obligation bonds of the City hereafter issued by the City and made payable from said account as provided by law.

(ii) Equipment Debt Service Subaccount. To the Equipment Debt Service Subaccount there shall be credited: (A) all collections of taxes herein or hereafter levied for the payment of the Equipment Portion of the Bonds; (B) a pro rata share of all funds remaining in the Capital Account after the payment of all costs of acquisition of the Equipment; (C) all investment earnings on funds held in the Equipment Debt Service Subaccount; and (D) any and all other moneys which are properly available and are appropriated by the governing body of the City to the Equipment Debt Service Subaccount. The amount of any surplus remaining in the Equipment Debt Service Subaccount when the Equipment Portion of the Bonds and interest thereon

are paid shall be used consistent with Minnesota Statutes, Section 475.61, Subdivision 4. The Equipment Debt Service Subaccount shall be used solely to pay the principal and interest on the Equipment Portion of the Bonds and any other general obligation bonds of the City hereafter issued by the City and made payable from said subaccount as provided by law.

No portion of the proceeds of the Bonds shall be used directly or indirectly to acquire higher yielding investments or to replace funds which were used directly or indirectly to acquire higher yielding investments, except (1) for a reasonable temporary period until such proceeds are needed for the purpose for which the Bonds were issued and (2) in addition to the above in an amount not greater than the lesser of five percent of the proceeds of the Bonds or $100,000. To this effect, any proceeds of the Bonds and any sums from time to time held in the Capital Account or Debt Service Account (or any other City account which will be used to pay principal or interest to become due on the bonds payable therefrom) in excess of amounts which under then applicable federal arbitrage regulations may be invested without regard to yield shall not be invested at a yield in excess of the applicable yield restrictions imposed by said arbitrage regulations on such investments after taking into account any applicable "temporary periods" or "minor portion" made available under the federal arbitrage regulations. Money in the Fund shall not be invested in obligations or deposits issued by, guaranteed by or insured by the United States or any agency or instrumentality thereof if and to the extent that such investment would cause the Bonds to be "federally guaranteed" within the meaning of Section 149(b) of the Internal Revenue Code of 1986, as amended (the "Code").

16. Covenants Relating to the Tax Increment Portion of the Bonds.

(a) Original Net Tax Capacity; Tax Increments; Use of Tax Increments. The County Auditor of Anoka County has certified the original net tax capacity of property in the Tax Increment District. The County Auditor shall determine in each year if the then current net tax capacity of property in the Tax Increment District exceeds the original net tax capacity, and shall calculate, in the manner provided in Minnesota Statutes, Section 469.177, Subdivision 3, the captured net tax capacity (as defined therein) attributable to the Tax Increment District. The City hereby determines to retain 100% of the captured tax capacity for purposes of tax increment financing. The County Auditor shall, in each such year, compute the local tax rate to be extended against the captured net tax capacity in the manner provided in Minnesota Statutes, Section 469.177, Subdivision 3, and the tax generated thereby shall constitute the Tax Increments for the year in which it is received. The County Auditor will remit to the City the Tax Increments so received. The City hereby appropriates the Tax Increments to the Tax Increment Debt Service Subaccount, which appropriation shall continue until all of the Tax Increment Portion of the Bonds and any additional bonds payable from the Tax Increment Debt Service Subaccount, are paid or discharged.

(b) Reservation of Rights. Notwithstanding any provisions herein to the contrary, the City reserves the right to terminate, reduce, or apply to other lawful purposes the Tax Increments herein pledged to the payment of the Tax Increment Portion of the Bonds and interest thereon to the extent and in the manner permitted by law.

(c) Coverage Test. The Tax Increments are such that if collected in full they, together with estimated collections of other revenues herein pledged for the payment of the Bonds, will produce at least five percent in excess of the amount needed to meet when due the principal and interest payments on the Tax Increment Portion of the Bonds.

(d) Future Tax Levies. In the event that it is anticipated that the aggregate of Tax Increments and any other funds appropriated to and then held in the Tax Increment Debt Service Subaccount and the estimated collections of Tax Increments to be received in the next succeeding year will not be sufficient to pay the principal and interest on the Tax Increment Portion of the Bonds to become due in the first calendar year thereafter and the first six months of the succeeding calendar year, the City Council shall pass a resolution requesting the County Auditor of Anoka County to levy an ad valorem tax in an amount as is necessary, together with the aforementioned funds then held in the Tax Increment Debt Service Account and said estimated collections of Tax Increments to pay the principal and interest on the Tax Increment Portion of the Bonds to become due during said period.

17. Covenants Relating to the Equipment Portion of the Bonds. To provide moneys for payment of the principal and interest on the Equipment Portion of the Bonds there is hereby levied upon all of the taxable property in the City a direct annual ad valorem tax which shall be spread upon the tax rolls and collected with and as part of other general property taxes in the City for the years and in the amounts as follows:

Year of Tax Levy	Year of Tax Collection	Amount

See attached schedule in Exhibit B

The tax levies are such that if collected in full they, together with other revenues herein pledged for the payment of the Equipment Portion of the Bonds, will produce at least five percent in excess of the amount needed to meet when due the principal and interest payments on the Equipment Portion of the Bonds. The tax levies shall be irrepealable so long as any of the Equipment Portion of the Bonds are outstanding and unpaid, provided that the City reserves the right and power to reduce the levies in the manner and to the extent permitted by Minnesota Statutes, Section 475.61, Subdivision 3.

18. General Obligation Pledge. For the prompt and full payment of the principal and interest on the Bonds, as the same respectively become due, the full faith, credit and taxing powers of the City shall be and are hereby irrevocably pledged. If the balance in the Debt Service Account is ever insufficient to pay all principal and interest then due on the Bonds and any other bonds payable therefrom, the deficiency shall be promptly paid out of any other funds of the City which are available for such purpose, and such other funds may be reimbursed with or without interest from the Debt Service Account when a sufficient balance is available therein.

19. Defeasance. When all Bonds have been discharged as provided in this paragraph, all pledges, covenants and other rights granted by this resolution to the registered holders of the Bonds shall, to the extent permitted by law, cease. The City may discharge its obligations with respect to any Bonds which are due on any date by irrevocably depositing with the Bond Registrar on or before that date a sum sufficient for the payment thereof in full; or if any Bond should not

be paid when due, it may nevertheless be discharged by depositing with the Bond Registrar a sum sufficient for the payment thereof in full with interest accrued to the date of such deposit. The City may also discharge its obligations with respect to any prepayable Bonds called for redemption on any date when they are prepayable according to their terms, by depositing with the Bond Registrar on or before that date a sum sufficient for the payment thereof in full, provided that notice of redemption thereof has been duly given. The City may also at any time discharge its obligations with respect to any Bonds, subject to the provisions of law now or hereafter authorizing and regulating such action, by depositing irrevocably in escrow, with a suitable banking institution qualified by law as an escrow agent for this purpose, cash or securities described in Minnesota Statutes, Section 475.67, Subdivision 8, bearing interest payable at such times and at such rates and maturing on such dates as shall be required, without regard to sale and/or reinvestment, to pay all amounts to become due thereon to maturity or, if notice of redemption as herein required has been duly provided for, to such earlier redemption date.

20. Compliance With Reimbursement Bond Regulations. The provisions of this paragraph are intended to establish and provide for the City's compliance with United States Treasury Regulations Section 1.150-2 (the "Reimbursement Regulations") applicable to the "reimbursement proceeds" of the Bonds, being those portions thereof which will be used by the City to reimburse itself for any expenditure which the City paid or will have paid prior to the Closing Date (a "Reimbursement Expenditure").

The City hereby certifies and/or covenants as follows:

(a) Not later than sixty days after the date of payment of a Reimbursement Expenditure, the City (or person designated to do so on behalf of the City) has made or will have made a written declaration of the City's official intent (a "Declaration") which effectively (i) states the City's reasonable expectation to reimburse itself for the payment of the Reimbursement Expenditure out of the proceeds of a subsequent borrowing; (ii) gives a general and functional description of the property, project or program to which the Declaration relates and for which the Reimbursement Expenditure is paid, or identifies a specific fund or account of the City and the general functional purpose thereof from which the Reimbursement Expenditure was to be paid (collectively the "Project"); and (iii) states the maximum principal amount of debt expected to be issued by the City for the purpose of financing the Project; provided, however, that no such Declaration shall necessarily have been made with respect to: (i) "preliminary expenditures" for the Project, defined in the Reimbursement Regulations to include engineering or architectural, surveying and soil testing expenses and similar prefatory costs, which in the aggregate do not exceed twenty percent of the "issue price" of the Bonds, and (ii) a *de minimis* amount of Reimbursement Expenditures not in excess of the lesser of $100,000 or five percent of the proceeds of the Bonds.

(b) Each Reimbursement Expenditure is a capital expenditure or a cost of issuance of the Bonds or any of the other types of expenditures described in Section 1.150-2(d)(3) of the Reimbursement Regulations.

(c) The "reimbursement allocation" described in the Reimbursement Regulations for each Reimbursement Expenditure shall and will be made forthwith following (but not prior to) the issuance of the Bonds, and not later than 18 months after the later of (i) the date of the payment of the Reimbursement Expenditure, or (ii) the date on which the Project to which the Reimbursement

Expenditure relates is first placed in service, but in no event more than three years after the date of payment of the Reimbursement Expenditure.

(d) Each such reimbursement allocation will be made in a writing that evidences the City's use of Bond proceeds to reimburse the Reimbursement Expenditure and, if made within 30 days after the Bonds are issued, shall be treated as made on the day the Bonds are issued.

Provided, however, that the City may take action contrary to any of the foregoing covenants in this paragraph upon receipt of an opinion of its Bond Counsel for the Bonds stating in effect that such action will not impair the tax-exempt status of the Bonds.

21. Continuing Disclosure. The City is the sole obligated person with respect to the Bonds. The City hereby agrees, in accordance with the provisions of Rule 15c2-12 (the "Rule"), promulgated by the Securities and Exchange Commission (the "Commission") pursuant to the Securities Exchange Act of 1934, as amended, and a Continuing Disclosure Undertaking (the "Undertaking") hereinafter described to:

(a) Provide or cause to be provided to the Municipal Securities Rulemaking Board (the "MSRB") by filing at www.emma.msrb.org in accordance with the Rule, certain annual financial information and operating data in accordance with the Undertaking. The City reserves the right to modify from time to time the terms of the Undertaking as provided therein.

(b) Provide or cause to be provided to the MSRB notice of the occurrence of certain events with respect to the Bonds in not more than ten (10) business days after the occurrence of the event, in accordance with the Undertaking.

(c) Provide or cause to be provided to the MSRB notice of a failure by the City to provide the annual financial information with respect to the City described in the Undertaking, in not more than ten (10) business days following such occurrence.

(d) The City agrees that its covenants pursuant to the Rule set forth in this paragraph and in the Undertaking is intended to be for the benefit of the Holders of the Bonds and shall be enforceable on behalf of such Holders; provided that the right to enforce the provisions of these covenants shall be limited to a right to obtain specific enforcement of the City's obligations under the covenants.

The Mayor and City Administrator of the City, or any other officer of the City authorized to act in their place (the "Officers") are hereby authorized and directed to execute on behalf of the City the Undertaking in substantially the form presented to the City Council subject to such modifications thereof or additions thereto as are (i) consistent with the requirements under the Rule, (ii) required by the Purchaser of the Bonds, and (ii) acceptable to the Officers.

22. Certificate of Registration and Tax Levy. A certified copy of this resolution is hereby directed to be filed in the office of the County Auditor of Anoka County, Minnesota together with such other information as the County Auditor shall require, and to obtain the County Auditor's Certificate that the Bonds have been entered in the bond register and the tax levy required by law has been made.

23. Records and Certificates. The officers of the City are hereby authorized and directed to prepare and furnish to the Purchaser, and to the attorneys approving the legality of the issuance of the Bonds, certified copies of all proceedings and records of the City relating to the Bonds and to the financial condition and affairs of the City, and such other affidavits, certificates and information as are required to show the facts relating to the legality and marketability of the Bonds as the same appear from the books and records under their custody and control or as otherwise known to them, and all such certified copies, certificates and affidavits, including any heretofore furnished, shall be deemed representations of the City as to the facts recited therein.

24. Negative Covenant as to Use of Bond Proceeds and Project. The City hereby covenants not to use the proceeds of the Bonds or to use the Project, or to cause or permit them to be used, or to enter into any deferred payment arrangements for the cost of the Project, in such a manner as to cause the Bonds to be "private activity bonds" within the meaning of Sections 103 and 141 through 150 of the Code.

25. Tax-Exempt Status of the Bonds; Rebate.

(a) Allocation to the Tax Increment Portion of the Bonds. The City shall comply with requirements necessary under the Code to establish and maintain the exclusion from gross income under Section 103 of the Code of the interest on the Tax Increment Portion of the Bonds, including without limitation (i) requirements relating to temporary periods for investments, (ii) limitations on amounts invested at a yield greater than the yield on the Tax Increment Portion of the Bonds, and (iii) the rebate of excess investment earnings to the United States. The City expects to satisfy the 24-month exemption for gross proceeds of the Tax Increment Portion of the Bonds as provided in Section 1.148-7(e) of the Regulations. The Mayor and/or City Administrator and/or Finance Director are hereby authorized and directed to make such elections as to arbitrage and rebate matters relating to the Tax Increment Portion of the Bonds as they deem necessary, appropriate or desirable in connection with the Tax Increment Portion of the Bonds, and all such elections shall be, and shall be deemed and treated as, elections of the City.

(b) Allocation to the Equipment Portion of the Bonds. The City shall comply with requirements necessary under the Code to establish and maintain the exclusion from gross income under Section 103 of the Code of the interest on the Equipment Portion of the Bonds, including without limitation (a) requirements relating to temporary periods for investments, (b) limitations on amounts invested at a yield greater than the yield on the Equipment Portion of the Bonds, and (c) the rebate of excess investment earnings to the United States. The City expects to satisfy the 18-month expenditure exemption for gross proceeds of the Equipment Portion of the Bonds as provided in Section 1.148-7(d) of the Regulations. The Mayor and/or City Administrator and/or Finance Director are hereby authorized and directed to make such elections as to arbitrage and rebate matters relating to the Equipment Portion of Bonds as they deem necessary, appropriate or desirable in connection with the Equipment Portion of the Bonds, and all such elections shall be, and shall be deemed and treated as, elections of the City.

26. Designation of Qualified Tax-Exempt Obligations. In order to qualify the Bonds as "qualified tax-exempt obligations" within the meaning of Section 265(b)(3) of the Code, the City hereby makes the following factual statements and representations:

(a) the Bonds are issued after August 7, 1986;

(b) the Bonds are not "private activity bonds" as defined in Section 141 of the Code;

(c) the City hereby designates the Bonds as "qualified tax-exempt obligations" for purposes of Section 265(b)(3) of the Code;

(d) the reasonably anticipated amount of tax-exempt obligations (other than private activity bonds, treating qualified 501(c)(3) bonds as not being private activity bonds) which will be issued by the City (and all entities treated as one issuer with the City, and all subordinate entities whose obligations are treated as issued by the City) during this calendar year 2023 will not exceed $10,000,000; and

(e) not more than $10,000,000 of obligations issued by the City during this calendar year 2023 have been designated for purposes of Section 265(b)(3) of the Code; and

(f) the aggregate face amount of the Bonds does not exceed $10,000,000.

The City shall use its best efforts to comply with any federal procedural requirements which may apply in order to effectuate the designation made by this paragraph.

27. Official Statement. The Official Statement relating to the Bonds prepared and distributed by Ehlers is hereby approved and the officers of the City are authorized in connection with the delivery of the Bonds to sign such certificates as may be necessary with respect to the completeness and accuracy of the Official Statement.

28. Payment of Issuance Expenses. The City authorizes the Purchaser to forward the amount of Bond proceeds allocable to the payment of issuance expenses to Wells Fargo Bank, San Francisco, California on the closing date for further distribution as directed by the City's financial advisor, Ehlers.

29. Severability. If any section, paragraph or provision of this resolution shall be held to be invalid or unenforceable for any reason, the invalidity or unenforceability of such section, paragraph or provision shall not affect any of the remaining provisions of this resolution.

30. Headings. Headings in this resolution are included for convenience of reference only and are not a part hereof, and shall not limit or define the meaning of any provision hereof.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 24th day of October, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

STATE OF MINNESOTA
COUNTY OF ANOKA
CITY OF RAMSEY

I, the undersigned, being the duly qualified and acting City Administrator of the City of Ramsey, Minnesota, DO HEREBY CERTIFY that I have compared the attached and foregoing extract of minutes with the original thereof on file in my office, and that the same is a full, true and complete transcript of the minutes of a meeting of the City Council, duly called and held on the date therein indicated, insofar as such minutes relate to authorizing the issuance and awarding the sale of $8,315,000 General Obligation Bonds, Series 2023A.

WITNESS my hand on October 24, 2023.

_____
City Administrator

EXHIBIT A

PROPOSALS

BID TABULATION

$8,640,000* General Obligation Bonds, Series 2023A

City of Ramsey, Minnesota

SALE: October 24, 2023

AWARD: BAIRD

Rating: S&P Global Ratings "AA+"

Tax Exempt - Bank Qualified

NAME OF BIDDER	MATURITY (December 15)	REOFFERING YIELD	COUPON RATE	PRICE	TRUE INTEREST RATE
BAIRD				$8,872,410.65	4.1475%
Milwaukee, Wisconsin	2024	4.000%	5.000%		
C.L. King & Associates	2025	3.950%	5.000%		
Colliers Securities LLC	2026	3.900%	5.000%		
Edward Jones	2027	3.850%	5.000%		
Fidelity Capital Markets	2028	3.800%	5.000%		
Crews & Associates, Inc.	2029	3.800%	5.000%		
Country Club Bank	2030	3.800%	5.000%		
Oppenheimer & Co.	2031	3.820%	5.000%		
Sierra Pacific Securities	2032	3.840%	5.000%		
The Baker Group	2033	3.860%	5.000%		
Alliance Global Partners	2034	4.000%	4.000%		
Celadon Financial Group, LLC	2035	4.050%	4.000%		
Isaak Bond Investments, Inc	2036	4.100%	4.000%		
Carty & Company, Inc.	2037	4.150%	4.125%		
UMB Bank,N.A.	2038	4.250%	4.250%		
Wintrust Investments, LLC					
FMS Bonds Inc.					
First Kentucky Securities Corp.					
BNYMellon Capital Markets					
Midland Securities					
Multi Bank Securities Inc.					
First Southern LLC					
Dinosaur Securities					
First Bankers' Banc Securities, Inc.					
Mountainside Securities LLC					
StoneX Financial Inc.					
Commerce Bank, N.A.					
Seaport Global Securities LLC					

* Subsequent to bid opening the issue size was decreased to $8,315,000.

Adjusted Price - $8,536,005.31 Adjusted Net Interest Cost - $2,959,656.80 Adjusted TIC - 4.1480%

EXHIBIT B

TAX LEVY SCHEDULE

City of Ramsey, Minnesota

$6,915,000 General Obligation Bonds, Series 2023A
TIF

Tax Levy Schedule

Tax Levy Year	Tax Collect Year	Bond Pay Year	Total P+I	Net New D/S	P & I @105%	TIF Revenue	Net Levy
2022	2023	2023	-	-	-	-	-
2023	2024	2024	646,009.90	646,009.90	678,310.40	678,310.40	-
2024	2025	2025	644,393.76	644,393.76	676,613.45	676,613.45	-
2025	2026	2026	642,393.76	642,393.76	674,513.45	674,513.45	-
2026	2027	2027	644,643.76	644,643.76	676,875.95	676,875.95	-
2027	2028	2028	645,893.76	645,893.76	678,188.45	678,188.45	-
2028	2029	2029	646,143.76	646,143.76	678,450.95	678,450.95	-
2029	2030	2030	645,393.76	645,393.76	677,663.45	677,663.45	-
2030	2031	2031	643,643.76	643,643.76	675,825.95	675,825.95	-
2031	2032	2032	645,893.76	645,893.76	678,188.45	678,188.45	-
2032	2033	2033	641,893.76	641,893.76	673,988.45	673,988.45	-
2033	2034	2034	646,893.76	646,893.76	679,238.45	679,238.45	-
2034	2035	2035	645,693.76	645,693.76	677,978.45	677,978.45	-
2035	2036	2036	643,693.76	643,693.76	675,878.45	675,878.45	-
2036	2037	2037	645,893.76	645,893.76	678,188.45	678,188.45	-
2037	2038	2038	646,350.00	646,350.00	678,667.50	678,667.50	-
Total			**$9,674,828.78**	**$9,674,828.78**	**$10,158,570.22**	**$10,158,570.22**	**-**

Bond Data

Dated Date	11/15/2023
Call Date	12/15/2032

October 24, 2023

SALE DAY REPORT FOR:

City of Ramsey, Minnesota

$8,315,000 General Obligation Bonds, Series 2023A

Prepared by:

Ehlers
3060 Centre Pointe Drive
Roseville, MN 55113

Stacie Kvilvang,
Senior Municipal Advisor

Jason Aarsvold,
Senior Municipal Advisor

BUILDING COMMUNITIES. IT'S WHAT WE DO.

Competitive Sale Results

PURPOSE: For the purposes of financing the acquisition of capital equipment and street improvements within the City's Tax Increment Financing (Redevelopment) District No. 14 ("TIF District No. 14")

RATING: S&P Global Ratings "AA+"

NUMBER OF BIDS: 6

LOW BIDDER: Baird, Milwaukee, Wisconsin

COMPARISON FROM LOWEST TO HIGHEST BID:
(TIC as bid)

LOW BID:* 4.1475%

HIGH BID: 4.3148%

Summary of Sale Results:	
Principal Amount*:	$8,315,000
Underwriter's Discount:	$93,126
Reoffering Premium:	$314,131
True Interest Cost:	4.1480%
Costs of Issuance:	$82,000
Yield:	3.80%-4.25%
Total Net P&I	$11,495,662

NOTES: * Subsequent to bid opening, the issue size was decreased to $8,315,000.00.

CLOSING DATE: November 15, 2023

CITY COUNCIL ACTION: Adopt a resolution awarding the sale of $8,315,000 General Obligation Bonds, Series 2023A.

SUPPLEMENTARY ATTACHMENTS

- Bid Tabulation
- Sources and Uses of Funds and Updated Debt Service Schedules
- Rating Report (Distributed to City via email from S & P)
- Bond Resolution (Distributed in City Council Packets)

BID TABULATION

$8,640,000* General Obligation Bonds, Series 2023A

City of Ramsey, Minnesota

SALE: October 24, 2023

AWARD: BAIRD

Rating: S&P Global Ratings "AA+"

Tax Exempt - Bank Qualified

NAME OF BIDDER	MATURITY (December 15)	REOFFERING YIELD	COUPON RATE	PRICE	TRUE INTEREST RATE
BAIRD				$8,872,410.65	4.1475%
Milwaukee, Wisconsin	2024	4.000%	5.000%		
C.L. King & Associates	2025	3.950%	5.000%		
Colliers Securities LLC	2026	3.900%	5.000%		
Edward Jones	2027	3.850%	5.000%		
Fidelity Capital Markets	2028	3.800%	5.000%		
Crews & Associates, Inc.	2029	3.800%	5.000%		
Country Club Bank	2030	3.800%	5.000%		
Oppenheimer & Co.	2031	3.820%	5.000%		
Sierra Pacific Securities	2032	3.840%	5.000%		
The Baker Group	2033	3.860%	5.000%		
Alliance Global Partners	2034	4.000%	4.000%		
Celadon Financial Group, LLC	2035	4.050%	4.000%		
Isaak Bond Investments, Inc	2036	4.100%	4.000%		
Carty & Company, Inc.	2037	4.150%	4.125%		
UMB Bank,N.A.	2038	4.250%	4.250%		
Wintrust Investments, LLC					
FMS Bonds Inc.					
First Kentucky Securities Corp.					
BNYMellon Capital Markets					
Midland Securities					
Multi Bank Securities Inc.					
First Southern LLC					
Dinosaur Securities					
First Bankers' Banc Securities, Inc.					
Mountainside Securities LLC					
StoneX Financial Inc.					
Commerce Bank, N.A.					
Seaport Global Securities LLC					

* Subsequent to bid opening the issue size was decreased to $8,315,000.

Adjusted Price - $8,536,005.31 Adjusted Net Interest Cost - $2,959,656.80 Adjusted TIC - 4.1480%

NAME OF BIDDER	MATURITY (December 15)	PRICE	TRUE INTEREST RATE
PIPER SANDLER & CO. Minneapolis, Minnesota		$8,917,259.00	4.1499%
NORTHLAND SECURITIES, INC. Minneapolis, Minnesota		$8,907,933.10	4.1911%
TD SECURITIES (USA) LLC New York, New York		$9,098,667.55	4.2048%
HILLTOPSECURITIES Dallas, Texas		$8,813,502.30	4.2445%
STIFEL, NICOLAUS Birmingham, Alabama		$8,772,746.90	4.3148%

City of Ramsey, Minnesota

$8,315,000 General Obligation Bonds, Series 2023A

Issue Summary

Total Issue Sources And Uses

Dated 11/15/2023 | Delivered 11/15/2023

	TIF	Equip	Issue Summary
Sources Of Funds			
Par Amount of Bonds	$6,915,000.00	$1,400,000.00	$8,315,000.00
Reoffering Premium	230,909.70	83,221.20	314,130.90
Total Sources	**$7,145,909.70**	**$1,483,221.20**	**$8,629,130.90**
Uses Of Funds			
Total Underwriter's Discount (1.120%)	77,446.00	15,679.59	93,125.59
Costs of Issuance	68,193.63	13,806.37	82,000.00
Deposit to Project Construction Fund	7,000,270.07	1,453,735.24	8,454,005.31
Total Uses	**$7,145,909.70**	**$1,483,221.20**	**$8,629,130.90**

EHLERS
PUBLIC FINANCE ADVISORS

City of Ramsey, Minnesota

$8,315,000 General Obligation Bonds, Series 2023A

Issue Summary

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
11/15/2023	-	-	-	-	-
06/15/2024	-	-	227,146.35	227,146.35	-
12/15/2024	405,000.00	5.000%	194,696.88	599,696.88	826,843.23
06/15/2025	-	-	184,571.88	184,571.88	-
12/15/2025	455,000.00	5.000%	184,571.88	639,571.88	824,143.76
06/15/2026	-	-	173,196.88	173,196.88	-
12/15/2026	480,000.00	5.000%	173,196.88	653,196.88	826,393.76
06/15/2027	-	-	161,196.88	161,196.88	-
12/15/2027	505,000.00	5.000%	161,196.88	666,196.88	827,393.76
06/15/2028	-	-	148,571.88	148,571.88	-
12/15/2028	530,000.00	5.000%	148,571.88	678,571.88	827,143.76
06/15/2029	-	-	135,321.88	135,321.88	-
12/15/2029	560,000.00	5.000%	135,321.88	695,321.88	830,643.76
06/15/2030	-	-	121,321.88	121,321.88	-
12/15/2030	585,000.00	5.000%	121,321.88	706,321.88	827,643.76
06/15/2031	-	-	106,696.88	106,696.88	-
12/15/2031	610,000.00	5.000%	106,696.88	716,696.88	823,393.76
06/15/2032	-	-	91,446.88	91,446.88	-
12/15/2032	645,000.00	5.000%	91,446.88	736,446.88	827,893.76
06/15/2033	-	-	75,321.88	75,321.88	-
12/15/2033	675,000.00	5.000%	75,321.88	750,321.88	825,643.76
06/15/2034	-	-	58,446.88	58,446.88	-
12/15/2034	530,000.00	4.000%	58,446.88	588,446.88	646,893.76
06/15/2035	-	-	47,846.88	47,846.88	-
12/15/2035	550,000.00	4.000%	47,846.88	597,846.88	645,693.76
06/15/2036	-	-	36,846.88	36,846.88	-
12/15/2036	570,000.00	4.000%	36,846.88	606,846.88	643,693.76
06/15/2037	-	-	25,446.88	25,446.88	-
12/15/2037	595,000.00	4.125%	25,446.88	620,446.88	645,893.76
06/15/2038	-	-	13,175.00	13,175.00	-
12/15/2038	620,000.00	4.250%	13,175.00	633,175.00	646,350.00
Total	**$8,315,000.00**	-	**$3,180,662.11**	**$11,495,662.11**	-

Yield Statistics

Bond Year Dollars	$70,477.92
Average Life	8.476 Years
Average Coupon	4.5129911%
Net Interest Cost (NIC)	4.1994102%
True Interest Cost (TIC)	4.1480831%
Bond Yield for Arbitrage Purposes	3.9796200%
All Inclusive Cost (AIC)	4.2914886%

IRS Form 8038

Net Interest Cost	3.9434978%
Weighted Average Maturity	8.424 Years

City of Ramsey, Minnesota

$8,315,000 General Obligation Bonds, Series 2023A

Issue Summary

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	Net New D/S	105% of Total	TIF Revenue	Levy/(Surplus)
12/15/2023	-	-	-	-	-	-	-	-
12/15/2024	405,000.00	5.000%	421,843.23	826,843.23	826,843.23	868,185.39	678,310.40	189,875.00
12/15/2025	455,000.00	5.000%	369,143.76	824,143.76	824,143.76	865,350.95	676,613.45	188,737.50
12/15/2026	480,000.00	5.000%	346,393.76	826,393.76	826,393.76	867,713.45	674,513.45	193,200.00
12/15/2027	505,000.00	5.000%	322,393.76	827,393.76	827,393.76	868,763.45	676,875.95	191,887.50
12/15/2028	530,000.00	5.000%	297,143.76	827,143.76	827,143.76	868,500.95	678,188.45	190,312.50
12/15/2029	560,000.00	5.000%	270,643.76	830,643.76	830,643.76	872,175.95	678,450.95	193,725.00
12/15/2030	585,000.00	5.000%	242,643.76	827,643.76	827,643.76	869,025.95	677,663.45	191,362.50
12/15/2031	610,000.00	5.000%	213,393.76	823,393.76	823,393.76	864,563.45	675,825.95	188,737.50
12/15/2032	645,000.00	5.000%	182,893.76	827,893.76	827,893.76	869,288.45	678,188.45	191,100.00
12/15/2033	675,000.00	5.000%	150,643.76	825,643.76	825,643.76	866,925.95	673,988.45	192,937.50
12/15/2034	530,000.00	4.000%	116,893.76	646,893.76	646,893.76	679,238.45	679,238.45	-
12/15/2035	550,000.00	4.000%	95,693.76	645,693.76	645,693.76	677,978.45	677,978.45	-
12/15/2036	570,000.00	4.000%	73,693.76	643,693.76	643,693.76	675,878.45	675,878.45	-
12/15/2037	595,000.00	4.125%	50,893.76	645,893.76	645,893.76	678,188.45	678,188.45	-
12/15/2038	620,000.00	4.250%	26,350.00	646,350.00	646,350.00	678,667.50	678,667.50	-
Total	**$8,315,000.00**	**-**	**$3,180,662.11**	**$11,495,662.11**	**$11,495,662.11**	**$12,070,445.22**	**$10,158,570.22**	**$1,911,875.00**

Significant Dates

Dated	11/15/2023
First Coupon Date	6/15/2024

Yield Statistics

Bond Year Dollars	$70,477.92
Average Life	8.476 Years
Average Coupon	4.5129911%
Net Interest Cost (NIC)	4.1994102%
True Interest Cost (TIC)	4.1480831%
Bond Yield for Arbitrage Purposes	3.9796200%
All Inclusive Cost (AIC)	4.2914886%

City of Ramsey, Minnesota

$6,915,000 General Obligation Bonds, Series 2023A
TIF

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
11/15/2023	-	-	-	-	-
06/15/2024	-	-	186,313.02	186,313.02	-
12/15/2024	300,000.00	5.000%	159,696.88	459,696.88	646,009.90
06/15/2025	-	-	152,196.88	152,196.88	-
12/15/2025	340,000.00	5.000%	152,196.88	492,196.88	644,393.76
06/15/2026	-	-	143,696.88	143,696.88	-
12/15/2026	355,000.00	5.000%	143,696.88	498,696.88	642,393.76
06/15/2027	-	-	134,821.88	134,821.88	-
12/15/2027	375,000.00	5.000%	134,821.88	509,821.88	644,643.76
06/15/2028	-	-	125,446.88	125,446.88	-
12/15/2028	395,000.00	5.000%	125,446.88	520,446.88	645,893.76
06/15/2029	-	-	115,571.88	115,571.88	-
12/15/2029	415,000.00	5.000%	115,571.88	530,571.88	646,143.76
06/15/2030	-	-	105,196.88	105,196.88	-
12/15/2030	435,000.00	5.000%	105,196.88	540,196.88	645,393.76
06/15/2031	-	-	94,321.88	94,321.88	-
12/15/2031	455,000.00	5.000%	94,321.88	549,321.88	643,643.76
06/15/2032	-	-	82,946.88	82,946.88	-
12/15/2032	480,000.00	5.000%	82,946.88	562,946.88	645,893.76
06/15/2033	-	-	70,946.88	70,946.88	-
12/15/2033	500,000.00	5.000%	70,946.88	570,946.88	641,893.76
06/15/2034	-	-	58,446.88	58,446.88	-
12/15/2034	530,000.00	4.000%	58,446.88	588,446.88	646,893.76
06/15/2035	-	-	47,846.88	47,846.88	-
12/15/2035	550,000.00	4.000%	47,846.88	597,846.88	645,693.76
06/15/2036	-	-	36,846.88	36,846.88	-
12/15/2036	570,000.00	4.000%	36,846.88	606,846.88	643,693.76
06/15/2037	-	-	25,446.88	25,446.88	-
12/15/2037	595,000.00	4.125%	25,446.88	620,446.88	645,893.76
06/15/2038	-	-	13,175.00	13,175.00	-
12/15/2038	620,000.00	4.250%	13,175.00	633,175.00	646,350.00
Total	**$6,915,000.00**	-	**$2,759,828.78**	**$9,674,828.78**	-

Yield Statistics

Bond Year Dollars	$62,061.25
Average Life	8.975 Years
Average Coupon	4.4469436%
Net Interest Cost (NIC)	4.1996658%
True Interest Cost (TIC)	4.1605752%
Bond Yield for Arbitrage Purposes	3.9796200%
All Inclusive Cost (AIC)	4.2976535%

IRS Form 8038

Net Interest Cost	3.9717880%
Weighted Average Maturity	8.910 Years

City of Ramsey, Minnesota

$6,915,000 General Obligation Bonds, Series 2023A

TIF

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	105% of Total	TIF Revenue	Levy
12/15/2023	-	-	-	-	-	-	-
12/15/2024	300,000.00	5.000%	346,009.90	646,009.90	678,310.40	678,310.40	-
12/15/2025	340,000.00	5.000%	304,393.76	644,393.76	676,613.45	676,613.45	-
12/15/2026	355,000.00	5.000%	287,393.76	642,393.76	674,513.45	674,513.45	-
12/15/2027	375,000.00	5.000%	269,643.76	644,643.76	676,875.95	676,875.95	-
12/15/2028	395,000.00	5.000%	250,893.76	645,893.76	678,188.45	678,188.45	-
12/15/2029	415,000.00	5.000%	231,143.76	646,143.76	678,450.95	678,450.95	-
12/15/2030	435,000.00	5.000%	210,393.76	645,393.76	677,663.45	677,663.45	-
12/15/2031	455,000.00	5.000%	188,643.76	643,643.76	675,825.95	675,825.95	-
12/15/2032	480,000.00	5.000%	165,893.76	645,893.76	678,188.45	678,188.45	-
12/15/2033	500,000.00	5.000%	141,893.76	641,893.76	673,988.45	673,988.45	-
12/15/2034	530,000.00	4.000%	116,893.76	646,893.76	679,238.45	679,238.45	-
12/15/2035	550,000.00	4.000%	95,693.76	645,693.76	677,978.45	677,978.45	-
12/15/2036	570,000.00	4.000%	73,693.76	643,693.76	675,878.45	675,878.45	-
12/15/2037	595,000.00	4.125%	50,893.76	645,893.76	678,188.45	678,188.45	-
12/15/2038	620,000.00	4.250%	26,350.00	646,350.00	678,667.50	678,667.50	-
Total	**$6,915,000.00**	**-**	**$2,759,828.78**	**$9,674,828.78**	**$10,158,570.22**	**$10,158,570.22**	**-**

Significant Dates

Dated	11/15/2023
First Coupon Date	6/15/2024

Yield Statistics

Bond Year Dollars	$62,061.25
Average Life	8.975 Years
Average Coupon	4.4469436%
Net Interest Cost (NIC)	4.1996658%
True Interest Cost (TIC)	4.1605752%
Bond Yield for Arbitrage Purposes	3.9796200%
All Inclusive Cost (AIC)	4.2976535%

City of Ramsey, Minnesota

$1,400,000 General Obligation Bonds, Series 2023A

Equip

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
11/15/2023	-	-	-	-	-
06/15/2024	-	-	40,833.33	40,833.33	-
12/15/2024	105,000.00	5.000%	35,000.00	140,000.00	180,833.33
06/15/2025	-	-	32,375.00	32,375.00	-
12/15/2025	115,000.00	5.000%	32,375.00	147,375.00	179,750.00
06/15/2026	-	-	29,500.00	29,500.00	-
12/15/2026	125,000.00	5.000%	29,500.00	154,500.00	184,000.00
06/15/2027	-	-	26,375.00	26,375.00	-
12/15/2027	130,000.00	5.000%	26,375.00	156,375.00	182,750.00
06/15/2028	-	-	23,125.00	23,125.00	-
12/15/2028	135,000.00	5.000%	23,125.00	158,125.00	181,250.00
06/15/2029	-	-	19,750.00	19,750.00	-
12/15/2029	145,000.00	5.000%	19,750.00	164,750.00	184,500.00
06/15/2030	-	-	16,125.00	16,125.00	-
12/15/2030	150,000.00	5.000%	16,125.00	166,125.00	182,250.00
06/15/2031	-	-	12,375.00	12,375.00	-
12/15/2031	155,000.00	5.000%	12,375.00	167,375.00	179,750.00
06/15/2032	-	-	8,500.00	8,500.00	-
12/15/2032	165,000.00	5.000%	8,500.00	173,500.00	182,000.00
06/15/2033	-	-	4,375.00	4,375.00	-
12/15/2033	175,000.00	5.000%	4,375.00	179,375.00	183,750.00
Total	**$1,400,000.00**	**-**	**$420,833.33**	**$1,820,833.33**	**-**

Yield Statistics

Bond Year Dollars	$8,416.67
Average Life	6.012 Years
Average Coupon	5.0000000%
Net Interest Cost (NIC)	4.1975254%
True Interest Cost (TIC)	4.0639889%
Bond Yield for Arbitrage Purposes	3.9796200%
All Inclusive Cost (AIC)	4.2500861%

IRS Form 8038

Net Interest Cost	3.7437533%
Weighted Average Maturity	6.080 Years

City of Ramsey, Minnesota

$1,400,000 General Obligation Bonds, Series 2023A

Equip

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	105% Overlevy
12/15/2023	-	-	-	-	-
12/15/2024	105,000.00	5.000%	75,833.33	180,833.33	189,875.00
12/15/2025	115,000.00	5.000%	64,750.00	179,750.00	188,737.50
12/15/2026	125,000.00	5.000%	59,000.00	184,000.00	193,200.00
12/15/2027	130,000.00	5.000%	52,750.00	182,750.00	191,887.50
12/15/2028	135,000.00	5.000%	46,250.00	181,250.00	190,312.50
12/15/2029	145,000.00	5.000%	39,500.00	184,500.00	193,725.00
12/15/2030	150,000.00	5.000%	32,250.00	182,250.00	191,362.50
12/15/2031	155,000.00	5.000%	24,750.00	179,750.00	188,737.50
12/15/2032	165,000.00	5.000%	17,000.00	182,000.00	191,100.00
12/15/2033	175,000.00	5.000%	8,750.00	183,750.00	192,937.50
Total	**$1,400,000.00**	**-**	**$420,833.33**	**$1,820,833.33**	**$1,911,875.00**

Significant Dates

Dated	11/15/2023
First Coupon Date	6/15/2024

Yield Statistics

Bond Year Dollars	$8,416.67
Average Life	6.012 Years
Average Coupon	5.0000000%
Net Interest Cost (NIC)	4.1975254%
True Interest Cost (TIC)	4.0639889%
Bond Yield for Arbitrage Purposes	3.9796200%
All Inclusive Cost (AIC)	4.2500861%

IRS Form 8038

Net Interest Cost	3.7437533%
Weighted Average Maturity	6.080 Years

City of Ramsey, Minnesota

$1,400,000 General Obligation Bonds, Series 2023A
Equip

Tax Levy Schedule

Tax Levy Year	Tax Collect Year	Bond Pay Year	Total P+I	Net New D/S	P & I @105%	Net Levy
2022	2023	2023	-	-	-	-
2023	2024	2024	180,833.33	180,833.33	189,875.00	189,875.00
2024	2025	2025	179,750.00	179,750.00	188,737.50	188,737.50
2025	2026	2026	184,000.00	184,000.00	193,200.00	193,200.00
2026	2027	2027	182,750.00	182,750.00	191,887.50	191,887.50
2027	2028	2028	181,250.00	181,250.00	190,312.50	190,312.50
2028	2029	2029	184,500.00	184,500.00	193,725.00	193,725.00
2029	2030	2030	182,250.00	182,250.00	191,362.50	191,362.50
2030	2031	2031	179,750.00	179,750.00	188,737.50	188,737.50
2031	2032	2032	182,000.00	182,000.00	191,100.00	191,100.00
2032	2033	2033	183,750.00	183,750.00	192,937.50	192,937.50
Total			**$1,820,833.33**	**$1,820,833.33**	**$1,911,875.00**	**$1,911,875.00**

Bond Data

Dated Date	11/15/2023
Call Date	12/15/2032

EHLERS
PUBLIC FINANCE ADVISORS

City of Ramsey, Minnesota

$8,315,000 General Obligation Bonds, Series 2023A

Issue Summary

Detail Costs Of Issuance

Dated 11/15/2023 | Delivered 11/15/2023

COSTS OF ISSUANCE DETAIL

Municipal Advisor	$43,500.00
Bond Counsel (Taft Stettinius & Hollister)	$20,000.00
Rating Agency Fee (S&P)	$17,575.00
Paying Agent (Bond Trust Services)	$925.00
TOTAL	**$82,000.00**

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Promote economic growth and development.

Information

Title

Adopt Resolution #23-223 approving the Haviland Fields EAW, Findings of Fact, and Record of Decision

Purpose/Background:

At the September 26, 2023, meeting, the City Council directed the EAW to go back for re-review of the traffic study. Kimley-Horn staff, City staff, Presbyterian Homes staff, and Anoka County Highway Department staff met to discuss the study since the County did not provide a response to the EAW. Nowthen Boulevard (County Road 5) is the main access to the site. The County subsequently provided comments recommending modifications to the lanes on Nowthen Boulevard and changing the north access to a right-in/right-out access for better traffic flow and safety. The traffic study was updated with those recommendations. The study still recommends that traffic operations will function adequately after development. A representative from Kimley-Horn will be at the meeting to discuss the findings and answer any questions the Council may have. Additionally, the Findings of Fact and the Traffic Analysis have been updated.

As part of the proposed Haviland Fields multi-family and townhome development on excess land at Lord of Life Church (14501 Nowthen Blvd. NW), an Environmental Assessment Worksheet (EAW) is required. An EAW is a required planning tool for larger projects that is used to assess the environmental impacts of the project. In a suburban setting, these impacts are generally related to traffic, but they also look at natural resources like vegetation, wildlife, and waterbodies. The developer takes the information gathered in the EAW and prepares more detailed plans for a typical city development review process accordingly. Approval of an EAW is an acknowledgement by the City Council that the analysis reviewed all of the required components properly and provided any mitigation plan (if needed)--it is not an approval of the project nor does it provide any standing for future approval steps. Alternatively, the City Council could find that the impacts noted are great enough to warrant a more in-depth review called an Environmental Impact Statement (EIS).

The typical process of sending out a "draft" EAW for public review is to gather input from residents as well as a list of required State agencies to make sure the analysis covered the required topics and that the analysis did not miss anything. Comments were received after the 30-day review period from some of the State agencies and some residents noting questions and providing input on the document. Those comments and questions were reviewed and applicable updates were made to the "final" EAW (attached). A list of those letters and written responses are provided.

The EAW did note increased traffic in the area as a result of the project, though it noted that the existing area roadway system has the capacity to support the proposed development. It also noted the removal of several trees, though this activity is not prohibited (the City's tree planting and replacement rules will be reviewed with the development plans in the future). It also noted that the site included wetlands which could be the home of the Blanding's turtle, a threatened species in Minnesota, and will require construction techniques to safeguard the turtle.

A comment from the Metropolitan Council noted that this project, if approved, would put the City's overall density back into compliance with their Housing Policy Plan and Livable Communities Act.

Some of the comments received were from neighbors dissatisfied with the project in general. Though the

comments are not directed towards the EAW, they are included nonetheless.

For the project to move forward, a development application will need to be made. This application will include a Comprehensive Plan Amendment for the increased density, rezoning from the current R-1 MUSA-80/R-2/R-3 configuration to either a PUD or a mix of R-2/R-3/and a Public/Quasi-Public district, plat, and site plan review. This summer, the City Council denied a request for TIF assistance on the project. The developer is working on alternative financing strategies for the project and will determine if they want to make the development application (the EAW process was already in motion when the financing request was made).

Notification:

Public notification for the availability of the EAW was noticed in the Environmental Quality Board's *EQB Monitor* on August 1, 2023. A press release (attached) was provided to local media per State rules. City staff mailed a copy of the press release to properties within 700 feet (the same distance used for plat notification since the project will eventually include a plat). A social media blast was also conducted on the City's pages.

A web page on the City's website was created to share the draft EAW with the public (https://www.ci.ramsey.mn.us/989/Haviland-Fields). A paper copy was placed in the City Hall lobby as well.

Observations/Alternatives:

Alternatives to Consider:

1. Approve the EAW, Findings of Fact, and Record of Decision as presented.
2. Find that the EAW was not sufficient and order an Environmental Impact Statement. Specific items of concern must be noted.
3. Continue the EAW to a future meeting to modify certain sections or responses to comments.

Note: Denial of the EAW is not a valid option for this type of request.

Funding Source:

All costs associated with the EAW preparation and review are the responsibility of the developer, Presbyterian Homes (Senior Housing Partners).

Recommendation:

Staff recommends approval of the Haviland Fields EAW, Findings of Fact, and Record of Decision.

Action:

Motion to adopt Resolution #23-223 approving the Haviland Fields EAW, Findings of Fact, and Record of Decision.

Attachments

EAW Document
Revised Traffic Impact Analysis
Resolution #23-223
Findings of Fact and Record of Decision
Press Release

Form Review

Inbox	Reviewed By	Date
Brian Hagen	Brian Hagen	10/19/2023 07:43 AM
Form Started By: Todd Larson		Started On: 10/17/2023 10:03 AM
Final Approval Date: 10/19/2023		

Haviland Fields

Environmental Assessment Worksheet

September 2023

Prepared For:

SENIOR HOUSING PARTNERS

BKV GROUP

Prepared by:

Kimley»Horn

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December 2022 Version

Environmental Assessment Worksheet

This most recent Environmental Assessment Worksheet (EAW) form and guidance documents are available at the Environmental Quality Board's (EQB's) website at: https://www.eqb.state.mn.us. The EAW form provides information about a project that may have the potential for significant environmental effects. Guidance documents provide additional detail and links to resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item or can be addressed collectively under EAW Item 21.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation, and the need for an EIS.

1. Project Title

Haviland Fields

2. Proposer

Proposer: Senior Housing Partners
Contact Person: Sam Jagodzinski
Title: Development Manager
Address: 2823 Hamline Avenue N
City, State, ZIP: Roseville, MN 55113
Phone: 651.383.5689
Email: sjagodzinski@seniorpartners.com

3. RGU

RGU: City of Ramsey
Contact Person: Todd Larson
Title: Community Development
Address: 7550 Sunwood Drive NW
City, State, ZIP: Ramsey, MN 55303
Phone: (763) 433-9821
Email: tlarson@cityoframsey.com

4. Reason for EAW Preparation

Check one:

Required:	Discretionary:
☐EIS Scoping	☐Citizen petition
☒Mandatory EAW	☐RGU discretion
	☐Proposer initiated

If EAW or EIS is mandatory, give EQB rule category subpart number(s) and name(s):
Minnesota Rules, part 4410.4300, subpart 19: Residential development

5. Project Location

County: Anoka
City/Township: Ramsey
PLS Location (¼, ¼, Section, Township, Range): SE ¼, NW ¼, Section 25, Township 32N, Range 25W
Watershed (81 major watershed scale): Rum River
GPS Coordinates: 45.235108, -93.402587
Tax Parcel Number: 253225240059
At a minimum, attach each of the following to the EAW:

- **County map showing the general location of the project** (see Figure 1)
- **US Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries** (see Figure 2)
- **Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan** (see Figure 3 and Appendix A)

6. Project Description

a. Provide the brief project summary to be published in the *EQB Monitor* (approximately 50 words).

The Haviland Fields project is a proposed development that is anticipated to consist of 22 townhomes and three multifamily residential buildings located between MN Highway 47 (St. Francis Blvd NW) and County Rd 5 (Nowthen Blvd NW) in Ramsey, Anoka County, Minnesota. The 35.5-acre site consists of existing institutional use and two residential properties. The two existing residential buildings will be demolished.

b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion, include a description of the existing facility. Emphasize 1) construction and operation methods and features that will cause physical manipulation of the environment or will produce wastes; 2) modifications to existing equipment or industrial processes; 3) significant demolition, removal, or remodeling of existing structures; and 4) timing and duration of construction activities.

Senior Housing Partners is proposing to redevelop an approximately 35.5-acre site. See Figure 1 and Figure 2 for the project location and Figure 3 for the existing site conditions.

There are two existing residential buildings on site that would be demolished. The redevelopment would include the following:

- **Townhouse Units:** 22 townhouse units on the northern portion of the site for a total of approximately 33,000 square feet and 40 parking spaces.
- **Three Multifamily Residential Buildings:** Three residential buildings with 476 multifamily units totaling approximately 113,529 square feet of gross residential area and 579 parking spaces.
- **Institutional Building:** The existing institutional (church) building will remain in place.

The development will also include stormwater management areas throughout the site and preserved green space. Utilities will be extended to the townhomes and the multifamily residential buildings, including sanitary sewer, water, and electrical. Construction is anticipated to begin in Spring 2024 and be completed in multiple phases over the next three to four years.

c. Project magnitude

Table 1: Project Magnitude

Measure	Magnitude
Total Project Acreage	35.5 acres
Number and Type of Residential Units	22 townhome units, 476 multifamily units
Residential Building Area (square feet)	514,076 sq ft
Institutional Building Area (square feet)	86,038 sq ft (existing church)
Other Uses - Impervious Surface (square feet)	310,703 sq ft
Other Uses – Green Space (square feet)	1,002,000 sq ft of green space
Structure Height(s)	30 -55 ft for the multifamily buildings

d. Explain the project purpose. If the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The project is a private development proposed to develop the existing institutional and undeveloped parcel with two residential units into a residential development in order to provide multifamily housing to address the housing needs in Ramsey.

e. Are future stages of this development, including development on any other property, planned or likely to happen? ☐ Yes ☒ No

If yes, briefly describe future stages, relationship to present project, timeline, and plans for environmental review.

Not applicable.

f. Is this project a subsequent stage of an earlier project? ☐ Yes ☒ No

If yes, briefly describe the past development, timeline, and past environmental review.

Not applicable.

7. Climate Adaption and Resilience

a. Describe the climate trends in the general location of the project (see guidance: *Climate Adaptation and Resilience*) and how climate change is anticipated to affect that location during the life of the project.

Trends in temperature, precipitation, flood risk, and cooling degree days are described below for the general project location. Some of the climate projections summarized below use Representative Concentration Pathways (RCPs), which are greenhouse gas concentration scenarios used by the Intergovernmental Panel on Climate Change. RCP 4.5 is an intermediate scenario in which emissions decline after peaking around 2040, and RCP 8.5 is a worst-case scenario in which emissions continue to rise through the 21st century.[1]

Temperature

According to the Minnesota Climate Explorer,[2] the historical average temperature in Anoka County between 2002-2022 was approximately 44.95 °F, with the lowest average in 2014 (41.5°F) and the highest average in 2012 (47.89°F). The average annual temperature in Anoka County is projected to be 48.42°F from 2040-2059 under RCP 4.5. In 2080-2099, the average annual temperature is projected to be 50.84°F and 54.58 °F under RCP 4.5 and 8.5, respectively.

Urban Heat Island

Surfaces and structures such as roads, parking lots, and buildings absorb and re-emit more heat from the sun than natural landscapes. This can significantly raise air temperature and overall extreme heat vulnerability in urban areas where there are dense concentrations of these surfaces. This is referred to as urban heat island effect. According to the Metropolitan Council's Extreme Heat Map Tool, based on the land surface temperate at the project site during a heatwave in 2016, the site is susceptible to extreme heat.[3]

Precipitation

According to the Minnesota Climate Explorer, historic average precipitation in Anoka County between 2002-2022 was approximately 31.63 inches, with the lowest average in 2008 (25.67 inches) and the highest average in 2002 (41.01 inches). Average annual precipitation in Anoka County from 2040-2059 is projected to be 32.79 inches under RCP 4.5. From 2080-2099, average annual precipitation is projected to be 33.62 inches under RCP 4.5 and 35.87 inches under RCP 8.5.

Localized Flood Risk

The Metropolitan Council's Localized Flood Map Screening Tool[4] identifies localized flood hazards, referred to as Bluespots, which are broken into categories based on potential flood

[1] Climate Explorer Metadata. Available at https://www.dnr.state.mn.us/climate/climate-explorer-metadata.html.
[2] Minnesota Climate Explorer. Minnesota Department of Natural Resources. Available at https://arcgis.dnr.state.mn.us/ewr/climateexplorer/main/historical.
[3] Extreme Heat Map Tool. Metropolitan Council. Available at https://metrocouncil.org/Communities/Planning/Local-Planning-Assistance/CVA/Tools-Resources.aspx
[4] Localized Flood Map Screening Tool. Metropolitan Council. Available at https://metrocouncil.org/Communities/Planning/Local-Planning-Assistance/CVA/Tools-Resources.aspx.

water depth. This tool shows Primary, Secondary, and Tertiary Bluespots along throughout the site, with a maximum depth of 12.15 feet. Most Bluespots are centered around the wetland features on the site. Primary Bluespots are the first areas to fill with water, followed by Secondary.

Cooling Degree Days

As defined by the National Weather Service, degree days are based on the assumption that when the outside temperature is 65°F, heating or cooling is not needed to be comfortable. Degree days are the difference between the daily temperature mean and 65°F. If the temperature mean is above 65°F, 65 is subtracted from the mean and the result is the cooling degree days. For example, if the mean temperature over a 24-hour period is 70°F, then there have been five cooling degree days.[5] Cooling degree days are used as a proxy to estimate cooling needs for buildings.

According to Heat Vulnerability in Minnesota, [6] the number of cooling degree days in 2019 for Anoka County was 379. The number of cooling days in 2050 for Anoka County is projected to be 453 and 598 for RCP 4.5 and 8.5, respectively.

b. For each resource category in the table below, describe the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effects identified.

Table 2: Climate Considerations and Adaptations

Resource Category	Climate Considerations	Project Information	
		Climate Change Risks and Vulnerabilities	Adaptations
Project Design	Aspects of the building architecture/materials choices and site design may negatively affect urban heat island conditions in the area considering changing climate zones, temperature trends, and potential for extended heat waves.	The site is in an area with risk of urban heat island effect, increased temperature and precipitation, and increased frequency of freeze/thaw cycles.	• Landscaping and stormwater management systems will reduce runoff and urban heat island effect. • Wetlands and green spaces on site will be preserved.
Land Use	The project is proposing changing some vegetated areas to impervious surfaces.	Minnesota climate trends predict an increase in precipitation and urban heat island effects in the general project area.	• Stormwater management facilities will be designed to minimize standing water and reduce the

[5] "What Are Heating and Cooling Degree Days." National Weather Service. Available at https://www.weather.gov/key/climate_heat_cool.

[6] Heat Vulnerability in Minnesota. Minnesota Department of Health and the University of Minnesota. Available at https://maps.umn.edu/climatehealthtool/heat_app/.

Resource Category	Climate Considerations	Project Information	
		Climate Change Risks and Vulnerabilities	Adaptations
			risk of flooding on the project site. These facilities would improve water quality and stormwater runoff in the project vicinity. • Wetlands and greenspaces are to be preserved.
Water Resources	The project design proposes an increase in impermeable surface, altering surface water flow.	• Change in weather could cause higher frequency of freeze/thaw cycles, resulting in the need for increased salting. • Chlorides from salting degrade nearby water quality and impact aquatic life.	• Using native plants and perennials for landscaping and stormwater features will absorb water and reduce the water demand for irrigation. • The stormwater system will be sized for the additional impervious areas and changes in stormwater requirements.
Contamination/ Hazardous Materials/ Wastes	Current Minnesota climate trends and anticipated climate change in the general location of the project may influence the potential environmental effects of generation/use/storage of hazardous waste and materials.	Construction and the creation of additional residential units will generate an increase of emissions, particulate matter, and waste.	• Any hazardous waste products generated or stored within the proposed development will be registered and kept in accordance with Minnesota Pollution Control Agency (MPCA) requirements.
Fish, Wildlife, Plant Communities, and Sensitive Ecological	Project site contains potential suitable habitat for potentially state listed species.	The wetlands on site represent potential suitable habitat for Blanding's Turtle.	• Wetlands and greenspaces on site will be preserved.

Resource Category	Climate Considerations	Project Information	
		Climate Change Risks and Vulnerabilities	Adaptations
Resources (Rare Features)			
Green House Gases	The proposed project is project to generate an increased amount of greenhouse gases than the existing conditions.	Construction equipment and an increased number of residential units will require an increased use of energy.	• Existing on-site geothermal panels will provide a portion of the sites energy usage. • Roof solar panels to be considered in site design.

8. Cover Types

Estimate the acreage of the site with each of the following cover types before and after development.

Table 3: Cover Types

Cover Type	Before (Acres)	After (Acres)
Wetlands and Shallow Lakes (less than 2 meters deep)	3.52	3.52
Wooded/Forest	12.4	5.03
Brush/Grassland	2.4	0
Lawn/Landscaping	9.76	11.36
Green Infrastructure (total from Table 4)	0	1.56
Impervious Surface	7.3	12.47
Stormwater Pond (wet sedimentation basin)	0.12	1.56
Total	35.50	35.50

Table 4: Green Infrastructure

Green Infrastructure	Before (Acres)	After (Acres)
Constructed Infiltration Systems (infiltration basins, infiltration trenches, rainwater gardens, bioretention areas without underdrains, swales with impermeable check dams)	0	1.56
Constructed Tree Trenches and Tree Boxes	0	0
Constructed Wetlands		
Constructed Green Roofs	0	0
Constructed Permeable Pavements	0	0
Other (describe)	0	0
Total	0	1.56

Table 5: Trees

Trees	Approximate Percent	Approximate Number of Trees
Percent Tree Canopy Removed or Number of Mature Trees Removed During Development	59.4	+/-964
Number of New Trees Planted	N/A	0

Further ways to minimize tree removal, including planting new trees, will be considered as the project design advances. Tree removal will occur between November 1st and March 31st, outside of the active bat season.

9. Permits and Approvals Required

List all known local, state, and federal permits, approvals, certifications, and financial assistance for the project. Include modifications of any existing permits, governmental review of plans, and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing, and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules Chapter 4410.3100.*

Table 6: Permits and Approvals Required

Unit of Government	Type of Application	Status
Federal		
U.S. Army Corps of Engineers	Section 404 Permit	To be applied for, if needed
State		
Minnesota Department of Health	Water Extension Permit	To be applied for, if needed
Minnesota Department of Natural Resources	Water Appropriation Permit	To be applied for, if needed
	Public Waters Work Permit	To be applied for, if needed
Minnesota Pollution Control Agency	Construction Site Stormwater Permit	To be applied for, if needed
	Section 401 Water Quality Certification	To be applied for, if needed
	Sanitary Sewer Extension Permit	To be applied for, if needed
	Notice of Intent of Demolition	To be applied for, if needed
	National Pollution Discharge Elimination System (NPDES) Permit	To be applied for, if needed
Regional		
Anoka County	Access Permit	To be applied for, if needed
Metropolitan Council	Comprehensive Plan Amendment	To be applied for, if needed
Lower Rum River Watershed Management Organization	Grading, Stormwater management and Erosion/Sediment Control Permit	To be applied for, if needed

Unit of Government	Type of Application	Status
	Application for Minnesota WCA Decisions and Procedure Requirements	To be applied for, if needed
Local		
City of Ramsey	Grading Permit	To be applied for, if needed
	Excavation Permit	To be applied for, if needed
	Obstruction Permit	To be applied for, if needed
	Commercial Building Permit	To be applied for, if needed
	Residential Demolition Permit	To be applied for, if needed
	Residential New Townhouse Unit	To be applied for, if needed
	Municipal Water Connection Permit	To be applied for, if needed
	Sanitary Sewer Connection Permit	To be applied for, if needed
	Planned Unit Development	To be applied for, if needed
	Plat Application	To be applied for, if needed

10. Land Use

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks and open space, cemeteries, trails, and prime or unique farmlands.

The existing site is a church with two single family homes and undeveloped vegetated areas. Surrounding land use is largely residential, along with commercial developments, undeveloped vegetated areas, wetlands, and waterways. The nearest park or recreation area is Solstice Park, located directly north of the site. Other nearby parks include Flintwood Terrace Park (0.2-mile south), and the Rum River Nature Area (0.2-mile east). On-road trails are located along County Road 5 and MN Highway 47 adjacent to the site as shown in the city's parks and trails map.

The project site does not include prime or unique farmland.

ii. Planned land use as identified in comprehensive plans (if available) and any other applicable plan for land use, water, or resource management by a local, regional, state, or federal agency.

Ramsey's 2040 Comprehensive Plan identifies the existing land use as undeveloped, institutional, and single family detached (see Figure 4). The future land use map shows the project site as public/institutional and high density residential (see Figure 5).

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

According to the City of Ramsey Planning Department Interactive Zoning Map, existing zoning is designated as R-1 MUSA-80, R-2 Medium Density Residential, R-3 High Density Residential (see Figure 6). The R-1 zone is designated to accommodate single-family dwelling units on suitable land. The R-2 zone is designated to accommodate multiple dwellings at a density of four to seven dwelling units per acre and multiple-dwelling complexes. The R-3 zone is designated to accommodate high density residential housing at a density greater than seven units per acre but not to exceed 15 units per acre. The site is not within any overlay districts.

iv. **If any critical facilities (i.e., facilities necessary for public health and safety, those storing hazardous materials, or those housing occupants who may be insufficiently mobile) are proposed in floodplain areas and other areas identified as at risk for localized flooding, describe the risk potential considering changing precipitation and event intensity.**

No critical facilities are proposed as part of the project, and the project is not located within a FEMA 100-Year floodplain area.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 10a above, concentrating on implications for environmental effects.

The proposed residential development is generally compatible with existing and future land uses. There are three different zoning districts within the site that have differing requirements for density and building requirements.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 10b above and any risk potential.

It is anticipated that the developer will work with the city on unifying the proposed zoning through a Planned Unit Development to comply with building and design requirements for the site.

11. Geology, Soils, and Topography/Landforms

a. Geology – Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

According to the Geologic Atlas of Anoka County (2013)[7], bedrock geology of the project site consists of St. Lawrence Formation, dolomitic, feldspathic siltstone with interbedded very fine-grained sandstone and shale, and Tunnel City Group, fine- to medium grained, cross-stratified, generally friable, quartz sandstone; or very fine- to fine-grained, glauconitic, feldspathic sandstone. The estimated depth to bedrock is approximately 151-250 feet below grade. The surficial geology consists of Richfield terrace, which consists of sand and gravelly sand, and peat and much which consists of partially decomposed plant matter.

[7] Available at https://conservancy.umn.edu/handle/11299/116119

No sinkholes, unconfined/shallow aquifers, or karst conditions were identified in the project area. The geology of the project site does not result in limitations for the proposed development.

a. Soils and Topography – Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability, or other soil limitations, such as steep slopes or highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections, or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 12.b.ii.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, there are five soil types within the site, which are generally loamy sands (see Table 7).

Table 7. Soil Types

Map Unit Symbol	Map Unit Name	Acres within Project Site	Percent of Site
D90B	Nymore loamy sand, 1 to 6 percent slopes	1.7	4.7%
Mc	Marsh	3.3	9.3%
NrD	Nymore loamy coarse sand, 12 to 25 percent slopes	3.6	10.2%
NyA	Nymore loamy sand, 0 to 2 percent slopes	13.6	38.4%
NyC	Nymore loamy sand, 6 to 12 percent slopes	13.3	37.3%

The site earthwork is estimated be a net cut of 2,500 cubic yards based on the excavations for ponding, underground stormwater management, vehicle infrastructure, and building foundations.

A National Pollutant Discharge Elimination System (NPDES) permit is required because the project will disturb more than one acre of land. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared. All unpaved areas disturbed during construction will be revegetated in accordance with the standard NPDES permit requirements. In areas with steep slopes, special consideration will be given to prevent erosion during construction, such as erosion control blankets, along with vegetation establishment to permanently stabilize side slopes and any areas impacted as a result of construction.

12. Water Resources

a. Describe surface water and groundwater features on or near the site below.

i. Surface Water – lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodplain/floodway, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include the presence of aquatic invasive species and the water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

Minnesota Department of Natural Resources (DNR) Public Waters within one mile of the project site includes Rum River (M-063), Grass Lake (DNR# 61989), and 14 unnamed basins (DNR# 61648, 61991, 61619, 62546, 71459, 61990, 61997, 62788, 65935, 70837, 71329, 71541, 71612, 71579), with Unnamed Basin 70837 located within the project site (see Figure 7). Rum River is listed on the Minnesota Pollution Control Agency's (MPCA's) 303d Impaired Waters List[8]for mercury in fish tissue.

A previous on-site wetland delineation performed by Pinnacle Engineering, Inc. in 2022 identified two wetlands (Wetland 1 is 3.05 acres and Wetland 2 is 0.47 acres) within the project site (see Figure 8 and Appendix B). The wetlands general align with the NWI mapped wetlands on the eastern portion of the site.

ii. Groundwater – aquifers, springs, and seeps. Include 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; and 3) identification of any onsite and/or nearby wells, including unique numbers and well logs, if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

According to the Minnesota Hydrogeology Atlas, depth to the water table varies from 0 to 30 feet across the project site (see Figure 9). Based on the Minnesota Department of Health (MDH) Well Index, static ground water appears to be between 25 to 28 feet below the surface in the area. According to the MDH Source Water Protection Web Map Viewer, the project site is within the Minneapolis, St. Paul, and St. Cloud Priority A and Priority B Drinking Water Supply Management Areas.

According to the Well Index, there are two active domestic wells on the project site (Unique Well ID 668043 and 430267, see Figure 10). No additional wells are within 150 feet of the project site. The onsite wells will be located and abandoned during construction of this project. Well reuse for irrigation purposes may be considered. If any other wells are encountered during construction, they will be capped and sealed according to Minnesota Department of Health regulations.

[8] Available at https://www.pca.state.mn.us/air-water-land-climate/minnesotas-impaired-waters-list

Table 8. Wells

Well ID Number	Well Status	Well Name	Static Water Level (ft)	Well Depth (ft)	Entry Date	Location
430267	Active	STEENERSON, LARRY	24	187	4/15/1991	Onsite
668043	Active	LORD OF LIFE LUTHERAN CH	28	147	3/11/2002	Onsite

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects below.

i. Wastewater – For each of the following, describe the sources, quantities, and composition of all sanitary, municipal/domestic, and industrial wastewaters projected or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

The daily wastewater flow for the proposed development was calculated by utilizing the Metropolitan Council Sewer Availability Charge (SAC) Criteria Calculator to determine the equivalent number of SAC units for the proposed residential units on site. The proposed 498 units, along with the existing church, yielded a total of 536 SAC units for the proposed development. A flow of 274 gallons per day (GPD) per SAC unit (per Metropolitan Council) was used to get an estimated daily sewage flow of 146,864 GPD for the proposed development.

The property will be served by the publicly owned Metropolitan Council Metropolitan Wastewater Treatment Plan in Saint Paul. The plant currently treats an average of 172 million GPD, with a total capacity up to 251 million GPD. Based on the Twin Cities Metropolitan Council Sewer Availability Charge Guidelines, the estimated wastewater from the proposed development is anticipated to consist primarily of normal commercial sewage resulting from the proposed residential and institutional areas on site. The proposed site is expected to generate approximately 146,864 GPD (0.146 million GPD). The Metropolitan Council's Metropolitan Wastewater Treatment Plan has the capacity to treat the volume and composition of wastewater generated by the proposed project without pretreatment or other plan facility improvements. It is anticipated that the 8" stubs on the property will be able to handle the added water and waste loadings, although additional expansion or reconfiguration of existing sanitary sewers may be required.

2) If the wastewater discharge is to a subsurface sewage treatment system (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system. If septic systems are part of the project, describe the availability of septage disposal options within the region to

handle the ongoing amounts generated as a result of the project. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity, and amount with this discussion.

Not applicable.

3) **If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects.**

   Not applicable.

ii. **Stormwater – Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the project site (major downstream water bodies as well as the immediate receiving waters). Discuss environmental effects from stormwater discharges on receiving waters post-construction, including how the project will affect runoff volume, discharge rate, and change in pollutants. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity, and amount with this discussion. For projects requiring NPDES/SDS Construction Stormwater permit coverage, state the total number of acres that will be disturbed by the project and describe the stormwater pollution prevention plan (SWPPP), including specific best management practices to address soil erosion and sedimentation during and after project construction. Discuss permanent stormwater management plans, including methods of achieving volume reduction to restore or maintain the natural hydrology of the site using green infrastructure practices or other stormwater management practices. Identify any receiving waters that have construction-related water impairments or are classified as special as defined in the Construction Stormwater permit. Describe additional requirements for special and/or impaired waters.**

Prior to construction, stormwater runoff on the east of the site drains directly to the wetland on the east side of the property. Any drainage captured on the west side of the site by storm sewer is collected in a depression near the northwest entrance of the site, where the water infiltrates or overtops into swales along County Road 5. The proposed development includes five additional acres of impervious surface, increasing the runoff rate. After construction, water will be directed to one of four infiltration basins, where the water will then be directed to the same previous receiving water bodies. For ponds on the east side of the site, the eventual receiving water body will be the wetland that occupies the east side of the site. For ponds on the west side of the site, the outlet will tie into stormwater further south along County Road 5 and eventually make it to wetlands south of the site.

A SWPPP will be developed for the project in accordance with the NPDES permit administered by the MPCA. The SWPPP will cover temporary measures to prevent

pollution during construction (erosion and sediment control as well as controls to minimize spills, leaks, or other discharges of pollutants) and permanent measures to prevent stormwater pollution after construction. These BMPs may include one or more of the following: silt fencing, inlet sediment filters, sediment traps, grit chambers, temporary ditch checks, rock filter dikes, fiber logs, turf reinforcement mats, temporary seeding, riprap and erosion control blankets for disturbed areas, and seeding or placement of sod or other plant material for restoration.

Additionally, the project will comply with all City of Ramsey Erosion Control Requirements[9] and Lower Rum River Watershed Management Organization (LRRWMO) Storm Water Standards[10]. Per the City of Ramsey, an erosion control escrow must be submitted, and a silt fence (or other approved erosion control measures) must be installed prior to issuance of a building permit.

iii. **Water Appropriation – Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use, and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for the project diminish in quantity or quality, such as reuse of water, connections with another water source, or emergency connections.**

No additional permanent dewatering is expected as part of this project. A Water Use Appropriations Permit would be obtained if permanent dewatering was determined to be necessary for the final design of the project. A Water Use Appropriation Permit is required for permanent water appropriations and applies to users withdrawing more than 10,000 gallons of water per day or one million gallons per year.

If unidentified wells are found, the MPCA and MDH must be contacted to determine the course of action, which may include sealing, relocating, or preserving by a licensed well contractor according to Minnesota Rules Chapter 4725.

There are existing wells that serve the Church and residence and the proposed plan is to abandon and seal per MPCA/MDH requirements and connect to the City water system. The water supply will be obtained from the City of Ramsey's water system, which is a groundwater based public water supply. The water supply will be obtained from the existing City groundwater wells that currently supply the City of Ramsey

[9] Available at: https://www.ci.ramsey.mn.us/DocumentCenter/View/1590/Erosion-Control--EDITED-2-PDF

[10] Available at: https://lrrwmo.org/wp-content/uploads/2018/04/AppendixE_SW_standards_revised_4_2018.pdf

water system. The existing groundwater wells draw water from 7 municipal wells ranging from 120 to 213 feet deep that draw water from the Tunnel City, Tunnel City-Eau Claire, and Tunnel City-Wonewoc aquifers.

Water mains to service the site area provided within adjacent roadway right-of-way, and a preliminary review indicates that the existing infrastructure is sufficient for the anticipated development. For the proposed development, the estimated demand needed to support the new development is 146,864 gallons per day (based on the proposed 498 units, along with the existing church, yielded a total of 536 MCES SAC units for the proposed development). Assuming 2-acres or irrigated landscape will require 1-inch of water per week will require approximately 7,760-GPD. Using native plants and perennials for landscaping and stormwater features will absorb water and reduce the water demand for irrigation.

Based upon the estimated demand, the existing city water supply is capable of handling the new development. Water appropriation for new wells or an increase in authorized volume is not anticipated for the project as the city's current system can accommodate the development.

iv. Surface Waters

1) **Wetlands – Describe any anticipated physical effects or alterations to wetland features, such as draining, filling, permanent inundation, dredging, and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed and identify those probable locations.**

   The City of Ramsey requires a 16.5-foot buffer around all wetlands and stormwater ponds. The wetlands must be protected from disturbance and erosion during the construction process. Post construction, certain activities shall be prohibited within 16.5 feet of the wetland edge. The freshwater emergent wetlands on the site will be avoided, maintaining the existing function and value of the wetlands.

   If designs would change to impact wetlands, any wetland impacted would require Minnesota Wetland Conservation Act (WCA) approval with the City of Ramsey as the WCA LGU, and an US Army Corps of Engineers (USACE) Section 404 of the Clean Water Act permit. Wetland impacts would be mitigated based on current rules and requirements from the City and USACE.

2) **Other surface waters – Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent**

channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal, and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

No alternations to other surface waters are anticipated.

13. Contamination/Hazardous Materials/Wastes

a. Pre-project Site Conditions – Describe existing contamination or potential environmental hazards on or in close proximity to the project site, such as soil or groundwater contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize, or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

MPCA's What's In My Neighborhood (WIMN) database was reviewed to determine if any known contaminated properties or potential environmental hazards are located on the project site or within 150 feet of the project site. The database includes one site within the project site, and one site within 150 feet (see Table 9 and Figure 11).

Using the following criteria established by the Minnesota Department of Transportation (MnDOT), the sites were classified into high, medium, and low risk sites:

- **High risk:** In general, sites with high environmental risks are properties that have documented releases of chemicals or hazardous or regulated substances (e.g., active and inactive state and federal cleanup sites, active and inactive dump sites, and active leaking underground storage tank sites), strong evidence of contamination (e.g., soil staining, stressed vegetation), or storage of large volumes of petroleum or other chemicals (e.g., bulk storage tank facilities).
- **Medium risk:** Sites of medium environmental risk are properties where smaller volumes of petroleum, chemicals, or hazardous materials are frequently stored and used (e.g., registered underground and aboveground storage tanks, vehicle repair facilities, metal working shops), but at which no evidence of spills or releases exists, or properties with documented releases that have been "closed" (signifying no further cleanup actions deemed necessary) by the MPCA. Closed sites, such as closed leaking underground storage tank sites, are considered medium risks because

residual soil or groundwater contamination may exist.

- **Low risk:** Low environmental risk sites include properties where minor volumes of chemicals or hazardous materials have been used or stored (e.g., hazardous waste generators, and possibly some farmsteads and residences).

Table 9. MPCA WIMN Sites Within 150 Feet of the Project Site

Site ID	Site Name	Activity	Risk Level	Status
26494	Oil Change Anywhere Inc	Hazardous Waste, Very small quantity generator	Low	Active
140834	Stoney River	Construction Stormwater	Low	Inactive

b. Project Related Generation/Storage of Solid Wastes – Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage, and disposal. Identify measures to avoid, minimize, or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

Construction Generated Waste

Demolition debris and earth materials will be generated during demolition of the existing residential structures. The solid wastes generated during demolition will be recycled or disposed of at a state-permitted landfill.

Asbestos-containing materials (ACM) will require management prior to any demolition, renovation, or operations and maintenance work that might disturb identified or assumed asbestos materials. If ACM is discovered during renovation/demolition activities, disturbance work will immediately stop until a determination regarding asbestos content within the material is discovered.

Construction of the proposed development will generate construction-related waste materials such as wood, packaging, excess materials, and other wastes, which will either be recycled or disposed of in the proper facilities in accordance with state regulations and guidelines.

Operationally Generated Waste

The proposed development would generate new demands on solid waste management and sanitation services provided in the project site. Based on the proposed area of 215,290 square feet, it is estimated that the residential waste stream will be around 2,321 tons per year. Hazardous waste products are not anticipated to be produced or stored within the proposed development.

c. Project Related Use/Storage of Hazardous Materials – Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location, and size of any new above or below

ground tanks to store petroleum or other materials. Indicate the number, location, size, and age of existing tanks on the property that the project will use. Discuss potential environmental effects from accidental spills or releases of hazardous materials. Identify measures to avoid, minimize, or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

One 265-gallon underground storage tank and one 300-gallon aboveground storage tank were identified on-site during a 2022 survey. The underground storage tank is a heating oil tank located to the northeast of the existing single-family homes. The aboveground storage tank is a propane tank and is located to the northwest of the existing single-family homes. Based on the age of the 265-gallon heating oil underground storage tank (50+ years) and that it has been 24 years since the subsurface investigation was completed, there is an inherent risk of release and leakage associated with the tank. The 2022 survey recommended a Phase II Subsurface Investigation to assess potential impacts associated with the active 265-gallon tank.

Any hazardous waste materials used/stored during construction and/or operation of the project will be disposed of in the manner specified by local or state regulation or by the manufacturer. A spill prevention plan will be developed, and proper spill prevention controls will be in place for any vehicle refueling or maintenance that occurs on site during construction.

d. Project Related Generation/Storage of Hazardous Wastes – Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize, or mitigate adverse effects from the generation/storage of hazardous wastes including source reduction and recycling.

Regulated material and/or waste will be managed in accordance with state requirements. No known toxic or hazardous wastes are anticipated to be generated on site. If any toxic or hazardous waste is generated on the site, it will be properly handled to current state and federal regulations. Toxic or hazardous wastes to be stored on site during construction will include fuel and oil necessary for maintaining and running heavy construction equipment and during operations may include commercial cleaning supplies. The MPCA regulates asbestos management activities and disposal activities. Any disposal of asbestos regulated waste will be in accordance with MPCA rules.

14. Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)

a. Describe fish and wildlife resources as well as habitats and vegetation on or near the site.

One DNR Public Watercourse, Rum River, is located within one mile of the site and is not classified as a trout stream. One Unnamed Public Water Basin is located within the site, and

14 Public Water Basins are located within one mile of the site (see Figure 7). The wetlands on site, along with the waterbodies adjacent to the site, could provide suitable fish habitat.

Potential wildlife habitat is located primarily within the eastern portion of the project site within the green space and wetlands. Adjacent land uses include residential, road right-of-way, and parks, which provide potential wildlife habitat. Given the urban setting of the project site, wildlife including white-tailed deer, small mammals, and bird species that are currently using the project site for potential habitat are well adapted to highly disturbed suburban environments.

Three Minnesota Biological Survey Sites of Biodiversity Significance and nine Regionally Significant Ecological Areas are located within one mile of the project site. According to 2022 DNR Native Plant Communities database, no native plant communities are within or adjacent to the project site. According to the City of Ramsey's 2007 Natural Resources Inventory (NRI), there are two moderate quality native plant communities (Aspen Forest and Oak Woodland-Brushland) and one good quality native plant community (Wet Meadow) located in the forested area on the northeast side of the site.

b. Describe rare features such as state-listed (endangered, threatened, or special concern) species, native plant communities, Minnesota Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-1074) and/or correspondence number (MCE____) from which the data were obtained and attach the Natural Heritage Review letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe results.

State-Listed Threatened and Endangered Species
A review of the DNR Natural Heritage Inventory System (LA-1074) database was conducted for the project site and the area within one mile of the project site. This review identified two species within one mile of the project site and one species within the project site itself.

A record for the Blanding's Turtle (*Emys blandingii*), a state-listed threatened species, is located within the project site. Three records for the Blanding's Turtle are located within one mile of the project site. Blanding's Turtles prefer wetland complexes and adjacent sandy uplands, including calm, shallow waters associated with river and stream. In southeastern Minnesota, open marshes and bottomland wetlands provide summer and winter habitat. Ephemeral wetlands are utilized in spring and early summer, while deeper marshes and backwater pools are utilized in both the summer and winter.

A record for the Creek Heelsplitter (*Lasmigona compressa*), a state-listed species of special concern, is located within one mile of the project site. The Creek Heelsplitter prefers creeks, small rivers, and the upstream portions of large rivers. The wetlands on site do not represent suitable habitat; therefore, no long-term adverse impacts to Creek Heelsplitters are anticipated.

Federally Listed Threatened and Endangered Species
A review of the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) tool was completed for Anoka County. This review identified two federally listed endangered or proposed endangered species that may be present within the project site.

A record for the Northern Long-Eared Bat, a federally endangered species, was identified within Anoka County. During the summer, Northern Long-Eared Bats roost singly or in colonies underneath bark, in cavities, or crevices of both live and dead trees. The bat uses tree species based on suitability to retain bark or provide cavities or crevices. It has also been found, rarely, roosting in structures like barns or sheds. Tree stands in the eastern portion of the project site may present suitable habitat for the Northern Long-Eared Bat.

A record for the Tricolored Bat, a proposed federally endangered species, was identified within Anoka County. During the summer, Tricolored Bats roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees Tree stands in the eastern portion of the project site may present suitable habitat for the Tricolored Bat.

Other Sensitive Ecological Resources
The identified Sites of Biodiversity Significance and Regionally Significant Ecological Areas are not within the project site, therefore; no adverse impacts in these areas are anticipated.

c. Discuss how the identified fish, wildlife, plant communities, rare features, and ecosystems may be affected by the project, including how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

Effects to Wildlife Habitat and Sensitive Ecological Resources
Minimal tree removal will be required as part of the project; however, most trees will be preserved and a tree replacement plan will be developed and implemented per city code requirements. Limited tree removal is anticipated on the northeast side of the site where the City of Ramsey's 2007 survey identifies native plant species. Effective erosion prevention and sediment control practices will be implemented and maintained near the water resources on site throughout the duration of the project. Redevelopment will not have a significant adverse impact to any wildlife currently utilizing the site or the surrounding area.

Wildlife currently using the site are highly adaptive and should not be adversely affected by the project. Invasive species will be controlled on site during construction, and turf grass and other ornamental landscape plants will be used on the site and may provide some additional habitat for songbirds, small mammals, and insects.

Impacts to Threatened and Endangered Species
The wetlands within the project site are likely to be suitable habitat for Blanding's Turtle. Development is not proposed within the wetland areas; therefore, no long-term adverse impacts to Blanding's Turtle are anticipated.

Adverse impacts are not anticipated to the Creek Heelsplitter due to the lack of suitable habitat within the project site or the likelihood that the species is present in the area given the historical observation dates for the species.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

Invasive Species

The proposed project would not result in the introduction of invasive species. Disturbed areas would be reestablished using appropriate native and stabilization seed mix. Invasive species will be controlled on site during construction, and proposed landscaping will not include any DNR-identified invasive species. Additionally, best management practices will be followed when relocating construction equipment from other sites (see correspondence in Appendix C).

Threatened and Endangered Species

If Blanding's turtles are found on the project site, state law and rules prohibit the destruction of threatened or endangered species, except under certain prescribed conditions. The DNR provided several required avoidance measures in their NHIS correspondence:

- Avoid wetland and aquatic impacts during hibernation season, between September 15th and April 15th, if the area is suitable for hibernation.
- The use of erosion control blankets shall be limited to "bio-netting" or "natural-netting" types, and specifically not products containing plastic mesh netting or other plastic components. Be aware that hydro mulch products may contain small synthetic (plastic) fibers. Review mulch products and do not allow materials with synthetic (plastic) fiber additives in areas that drains into Public Waters.
- Construction areas should be thoroughly checked for turtles before the use of heavy equipment or any ground disturbance. If turtles are in imminent danger, they should be moved out of harm's way. Otherwise, they should be left undisturbed.

A Blanding's turtle fact sheet that describes the habitat use and life history of the species along with two lists of recommendations for avoiding and minimizing impacts to the turtles is included in Appendix C.

If tree clearing or structure demolition is anticipated, it is recommended to occur from November 1st-March 31st, which is outside of the active bat season.

Wildlife Habitat and Sensitive Ecological Resources

The developer will prepare a tree replacement plan to meet city code as site planning progresses.

15. Historic Properties

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include 1) historic designations; 2) known artifact areas; and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

A search of the Minnesota State Historic Preservation Office's (SHPO) Statewide Inventory was requested to identify known historic properties and archaeological sites in the vicinity of the project (see Appendix C). Within Section 25, Township 32, Range 25 three archaeological records and one historic property record was identified. The historic property, District No. 28 School, is

listed on the National Register of Historic places and is within a half-mile of the project site. None of the sites or property will be impacted by the development.

It is not anticipated that unknown archaeological sites will be uncovered during the construction of this project as the site has been previously disturbed. However, if cultural materials are encountered during construction, unanticipated discovery protocols will be followed.

16. Visual

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The site includes existing institutional and residential land that is not near any unique designated scenic views or vistas. Future development would conform with the zoning regulations for building height, building form, landscape screening, and lighting would be in conformance with city ordinances. Adverse visual effects are not anticipated.

17. Air

a. **Stationary Source Emissions – Describe the type, sources, quantities, and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants and criteria pollutants. Discuss effects to air quality including any sensitive receptors, human health, or applicable regulatory criteria. Include a discussion of any methods used to assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.**

   No stationary source air emissions are anticipated; therefore, no mitigation is required.

b. **Vehicle Emissions – Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g., traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.**

   Motor vehicles emit a variety of air pollutants including carbon monoxide (CO), hydrocarbons, nitrogen oxides, and particulates. The primary pollutant of concern is CO, which is a byproduct of the combustion process of motor vehicles. CO concentrations are highest where vehicles idle for extended periods of time. For this reason, CO concentrations are generally highest in the vicinity of signalized intersections where vehicles are delayed and emitting CO. Generally, concentrations approaching state air quality standards are found within about 100 feet of a roadway source. Further from the road, the CO in the air is dispersed by the wind such that concentrations rapidly decrease.

   The Minnesota Department of Transportation (MnDOT) has developed a screening method designed to identify intersections that will not cause a carbon monoxide (CO) impact above state standards. MnDOT has demonstrated that even the 10 highest traffic volume

intersections in the Twin Cities do not experience CO impacts. Therefore, intersections with traffic volumes lower than these 10 highest intersections will not cause a CO impact above state standards. MnDOT's screening method demonstrates that intersections with total daily approaching traffic volumes below 82,300 vehicles per day will not have the potential for causing CO air pollution problems. None of the intersections impacted by the project exceed the criteria that would lead to a violation of the air quality standards

c. Dust and Odors – Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under Item 17a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

The project may generate temporary fugitive dust emissions during construction. These emissions would be controlled by sweeping, watering, or sprinkling, as appropriate or as prevailing weather and soil conditions dictate. Dust emissions are not anticipated during operations as all surfaces will either be impervious or vegetated.

The construction and operation of the project are not expected to generate objectionable odors.

18. Greenhouse Gas (GHG) Emissions/Carbon Footprint

a. GHG Quantification – For all proposed projects, provide quantification and discussion of project GHG emissions. Include additional rows in the tables as necessary to provide project-specific emission sources. Describe the methods used to quantify emissions. If calculation methods are not readily available to quantify GHG emissions for a source, describe the process used to cometo that conclusion and any GHG emission sources not included in the total calculation.

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

The primary GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and

leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming.[11]

This section includes an estimated quantification of the following GHG emissions associated with the proposed project:

- Carbon Dioxide (CO_2)
- Nitrous Oxide (N_2O)
- Methane (CH_4)

The projected GHG emissions are provided on an average annual basis using the CO_2 equivalent (CO_2e) and include the proposer's best estimate of average annual emissions over the proposed life/design service life of the project. Emissions were estimated using the US Environmental Protection Agency's Simplified GHG Emissions Calculator (Version 7 June 2021)[12] and are summarized in Appendix D and Table 10 and Table 11 by project phase (i.e., construction and operations) and source type (e.g., combustion from mobile equipment, off-site electricity (see Appendix D for background analysis).

Construction emissions are based on length of construction and are from mobile equipment including passenger cars, light-duty trucks, medium and heavy-duty trucks, and construction equipment (both gasoline and diesel). Emissions associated with construction materials were not analyzed, as these are outside the scope of this analysis.

Emissions from cooling and refrigeration systems are not accounted for in this operational emissions analysis as GHGs from refrigerants are approximately less than 5 percent of the total GHG emissions of a building.[13] The project does not include any owned or leased vehicles anticipated to be used by the organization during operation, plans to purchase gases during operation, or land use conversions.

Table 10: Existing Operational Emissions

Scope	Emission Type	Emission Sub-Type	CO_{2e} Emissions (tons/year)
Scope 1	Combustion	Stationary equipment	838
Scope 2	Off-site electricity	Grid-based	48
Scope 3	Off-site waste management[14]	Area	2,084
Total			**2,970**

Table 11: Construction Emissions

Scope	Emission Type	Emission Sub-Type	Project-Related CO_{2e} Emissions (total)

[11] Summarized from U.S. EPA, Overview of Greenhouse Gases: https://www.epa.gov/ghgemissions/overview-greenhouse-gases

[12] Source: https://www.epa.gov/climateleadership/simplified-ghg-emissions-calculator

[13] Source: https://practicegreenhealth.org/sites/default/files/2019-06/PracticeGreenhealth_GHG_Toolkit_0.pdf

[14] Based on calculations from CalRecycle's website titled "Estimated Solid Waste Generation Rates," available at https://www2.calrecycle.ca.gov/wastecharacterization/general/rates.

Scope 1	Combustion	Mobile equipment	1,145
Total			**1,145**

Table 12: Proposed Emissions

Scope	Emission Type	Emission Sub-Type	Proposed CO_{2e} Emissions (tons/year)
Scope 1	Combustion	Stationary equipment	1,295
Scope 2	Off-site electricity	Grid-based	1,423
Scope 3	Off-site waste management	Area	2,373
Total			**5,091**

b. GHG Assessment

i. Describe any mitigation considered to reduce the project's GHG emissions.

Design strategies and other sustainability measures anticipated to be implemented in the proposed development to reduce emissions include:

- Energy end-use efficient appliances and equipment.
- Energy efficient lighting.
- Energy efficient building shells (i.e, a well insulated building).
- On-site geothermal energy use. There is an existing geothermal system on site and one or multiple of the cells that may continue to be used as an energy source that provides energy that can be extracted without burning fossil fuels.

ii. Describe and quantify reductions from selected mitigation, if proposed to reduce the project's GHG emissions. Explain why the selected mitigation was preferred.

The proposed mitigation listed in Item 18.b.i. includes best management practices for new construction and reducing GHG emissions where practicable during operations. Additionally, the project will develop a travel demand management plan to reduce use of single occupancy motor vehicles, and increase walking, bicycling, and transit as primary modes of travel to reduce GHG emissions from mobile sources.

iii. Quantify the proposed project's predicted net lifetime GHG emissions (total tons per number of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.

The Next Generation Energy Act requires the state to reduce greenhouse gas emissions in the state by 80 percent between 2005 and 2050, while supporting clean energy, energy efficiency, and supplementing other renewable energy standards in Minnesota. The MPCA's biennial GHG emissions reduction report from 2021[15]

[15] Available at https://www.pca.state.mn.us/air/state-and-regional-initiatives

identifies strategies for reducing emissions in the three economic sectors with the highest emissions – transportation, electricity generation, and agriculture, forestry, and land use.

The expected lifespan of the project is 50 years, which equates to an estimated 255,695 CO_2e metric tons over the lifetime of the building (including both construction and operations phases). The proposer is committed to implementing the sustainability measures listed in Item 18.b.i. to reduce operational emissions to the extent practicable. The proposed project will be built in compliance with state regulations and City of Ramsey code.

19. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area; 2) nearby sensitive receptors; 3) conformance to state noise standards; and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

Existing Noise

The project site is in an urban area, and existing noise at the site is largely from the surrounding roadways. Nearby sensitive receptors include residences to the west and north.

Construction Noise

Typical construction noise will be temporarily generated by construction activities. The City of Ramsey Code of Ordinances regulates both the hours of operation for construction equipment and allowable noise levels. Construction of the project will adhere to requirements identified in City of Ramsey Code of Ordinance, Sec. 105-1, which states "It shall be unlawful to engage in or conduct any activity in the construction of any building or structure, or the laying of any pavement, including but not limited to the making of any excavation, clearing of surface land and loading or unloading material, equipment or supplies in any residential district of the city, except between the hours of 7:00 a.m. and 10:00 p.m. Monday through Saturday." A permit will be obtained from the City for work outside these hours. Additionally, all equipment shall be maintained and operated in such a manner to minimize noises as far as practicable.

Operational Noise

The City of Ramsey Code of Ordinances and the MPCA regulate noise. A noise study will be completed as part of the City's entitlement process to understand the existing and proposed noise conditions and identify any potential mitigation that may be needed so the proposed project complies with the local and state regulations.

20. Transportation

a. Describe traffic-related aspects of project construction and operation. Include 1) existing and proposed additional parking spaces; 2) estimated total average daily traffic generated; 3) estimated maximum peak hour traffic generated and time of occurrence; 4) source of trip generation rates used in the estimates; and 5) availability of transit and/or other alternative transportation modes.

For the sake of making a high-end estimate regarding the site's generated traffic, it was advised that the number of units should be estimated 10% higher than the current design includes.

Parking

The proposed project is anticipated to include approximately 619 new parking stalls for the residential developments and the existing church parking is unchanged.

Traffic Generation

It is estimated that the development will generate 153 new trips during the AM peak hour (40 entering, 113 exiting), 168 new trips during the PM peak hour (100 entering, 68 exiting), 161 new trips in the Sunday peak hour (86 entering, 75 exiting), and 1,849 daily trips. Trip generation estimates were based on Land Use Code (LUC) 221 (Multifamily Housing), ITE LUC 251 (Senior Adult Housing – Single-Family), and ITE LUC 252 (Senior Adult Housing – Multi-Family) in the ITE Trip Generation Manual, 11th Edition.

Table 7: Trip Generation Forecast

Land Use Description	Intensity	Daily	AM Peak Hour			SUN Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Multifamily Housing	303 Units	1,376	26	86	112	53	44	97	72	46	118
Senior Adult Housing – Townhomes	22 Units	94	2	4	6	3	2	5	4	3	7
Senior Adult Housing – Multi-Family	173 Units	561	12	23	35	30	29	59	24	19	43
Total Trip Generation		**1,849**	**40**	**113**	**153**	**86**	**75**	**161**	**100**	**68**	**168**

Pedestrians and Bicycles

There are existing pedestrian facilities/trails on both sides of Sunwood Dr, Dysprosium Rd and County Road 5. MN Highway 47 has a pedestrian/bicycle path on its east side only. There are marked crosswalks at all intersections that the pedestrian paths cross, as well as push-buttons at both of the stoplight controlled intersections. Internal walkways will connect buildings to each other; connections will be made with the existing trails along County Road 5.

Transit Service

There are no transit routes within a mile of the proposed site.

a. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of*

Transportation's Access Management Manual, Chapter 5 (available at: http://www.dot.state.mn.us/accessmanagement/resources.html) or a similar local guidance.

A traffic impact study will be completed for this project based on the projected trip generation of the site (see Appendix E). The area's transportation network is expected to support the development within the project site with current intersection geometry. Metrics for traffic analysis include intersection delay as measured by level of service (LOS) and 95th percentile queue lengths. LOS grades range from A to F, with LOS A being the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F being the lowest (oversaturated conditions). LOS D or better is generally considered acceptable operating conditions.

The traffic impact study will include intersection capacity analyses for intersections adjacent to the project site along County Road 5, MN Highway 47, and Sunwood Drive. Based on the results of the traffic impact study capacity analysis, all intersections are anticipated to operate with acceptable LOS in all analysis scenarios. Table 8 shows the LOS for the project site intersections in each analysis scenario.

Table 8: LOS Summary

Scenario			Intersection							
			CSAH 5 & Sunwood Drive	Sunwood Drive & Cobalt Street	MN-47 & Sunwood Road	CSAH 5 & 146th Avenue	CSAH 5 & Lord of Life Access	CSAH 5 & Iodine Street	CSAH 5 & Dysprosium Street	MN-47 & CSAH 5
Existing Year (2023)	AM	Delay (s)	13.9	4.5	7.2	10	2.3	10.1	15.2	16.8
		LOS	B	A	A	A	A	B	C	B
	PM	Delay (s)	28.6	4.5	13.1	4.6	2.4	40.2	8.4	20.4
		LOS	D	A	B	A	A	E	A	C
	Sunday	Delay (s)	8.5	2.1	7.1	4.3	2.6	6.1	8.4	17.3
		LOS	A	A	A	A	A	A	A	B
Opening Year (2027) No-Build	AM	Delay (s)	11.8	4.4	8.7	9.8	1.4	8.9	14.1	17.1
		LOS	B	A	A	A	A	A	B	B
	PM	Delay (s)	20.2	2	12.7	14.5	0.8	7	18.7	21.5
		LOS	C	B	B	B	A	A	C	C
	Sunday	Delay (s)	7.8	2	7	4.2	5.5	9.8	4.6	20
		LOS	A	A	A	A	A	A	A	B
Opening Year (2027) Build	AM	Delay (s)	13	4.6	8.8	6.4	10	24.5	25.2	17.6
		LOS	B	A	A	A	A	C	D	B
	PM	Delay (s)	20.6	4.6	8.5	19.2	0.7	26.8	18.5	21.7
		LOS	C	A	A	C	A	D	C	C
	Sunday	Delay (s)	19.2	4.1	8.4	15.3	2.5	19.5	25.1	17.3
		LOS	C	A	A	C	A	C	D	B
Horizon Year (2040) No-Build	AM	Delay (s)	15.4	4.2	8.2	10.6	3.1	25	18.1	17.7
		LOS	C	A	A	B	A	C	C	B
	PM	Delay (s)	15.8	4.1	14	10.7	14.1	15.4	17	22.7
		LOS	C	A	B	B	B	C	C	C

Scenario			Intersection							
			CSAH 5 & Sunwood Drive	Sunwood Drive & Cobalt Street	MN-47 & Sunwood Road	CSAH 5 & 146th Avenue	CSAH 5 & Lord of Life Access	CSAH 5 & Iodine Street	CSAH 5 & Dysprosium Street	MN-47 & CSAH 5
	Sunday	Delay (s)	7.8	2.5	6.5	6	5.8	15.3	6.5	17.6
		LOS	A	A	A	A	A	C	A	B
Horizon Year (2040) Build	AM	Delay (s)	15.5	4.4	8.3	60.2	10	31.5	35.7	19.6
		LOS	C	A	A	F	A	D	E	B
	PM	Delay (s)	19.3	2.9	14.7	17.5	14.1	18.5	20.4	25
		LOS	C	A	B	C	B	C	C	C
	Sunday	Delay (s)	7.5	2.3	6.9	6.9	5.7	11.1	7	19.3
		LOS	A	A	A	A	A	B	A	B

b. Identify measures that will be taken to minimize or mitigate project related transportation effects.

In all five analysis conditions, the study intersections generally operate at acceptable LOS, with only a few minor side street movements operating at a LOS worse than D. Additionally, all queues were maintained within their allotted storage areas. Since the conditions are acceptable in all scenarios, there are no mitigation changes recommended for this project.

21. Cumulative Potential Effects

a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

Cumulative potential effects are defined as "the effect on the environment that results from the incremental effects of a project in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects actually planned or for which a basis of expectation has been laid, regardless of what person undertakes the other projects or what jurisdictions have authority over the projects."[16] The geographic areas considered for cumulative potential effects are those near the project site (within approximately one-half mile), and the timeframe considered includes projects that would be constructed in the reasonably foreseeable future.

[16] Minnesota Rules, part 4410.0200, subpart 11a

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

According to the Anoka County Highway Department Construction Finder[17], there are no foreseeable future projects within a half mile.

c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

If reasonably foreseeable future projects are identified, potential impacts of these projects will be addressed as required by regulatory permitting and approval processes, minimizing the potential for cumulative effects.

22. Other Potential Environmental Effects

If the project may cause any additional environmental effects not addressed by Items 1 to 21, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

All known potentially adverse environmental impacts are addressed in the preceding EAW items.

[17] Available at http://gis.anokacountymn.gov/highway/

RGU Certification

*The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages, or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively,
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature  Date July 24, 2023

Title Todd A. Larson, Planning Manager

Figures

Figure 1. County Map



Figure 2. USGS Topographic Map

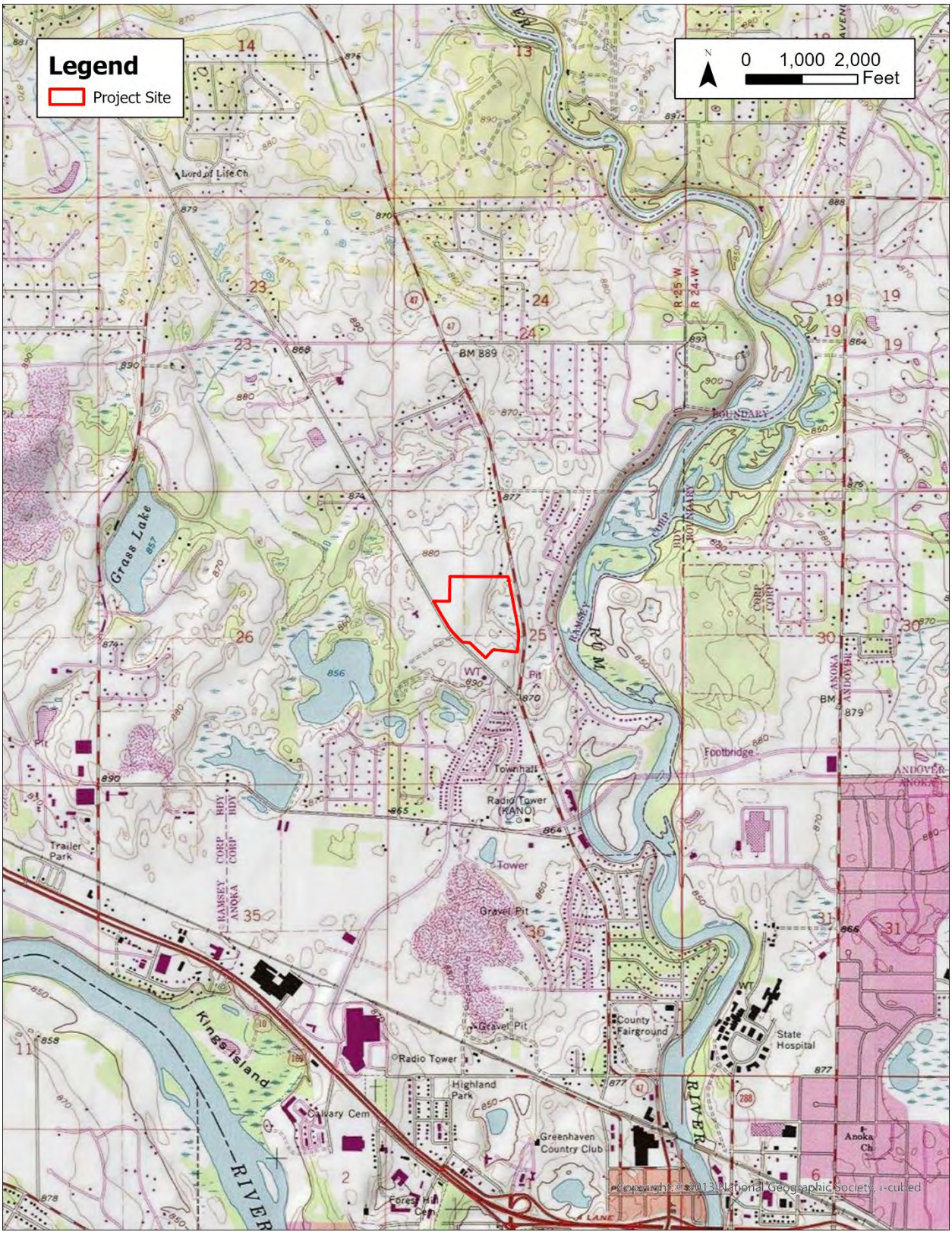


Figure 3: Existing Conditions



Figure 4. Existing Land Use

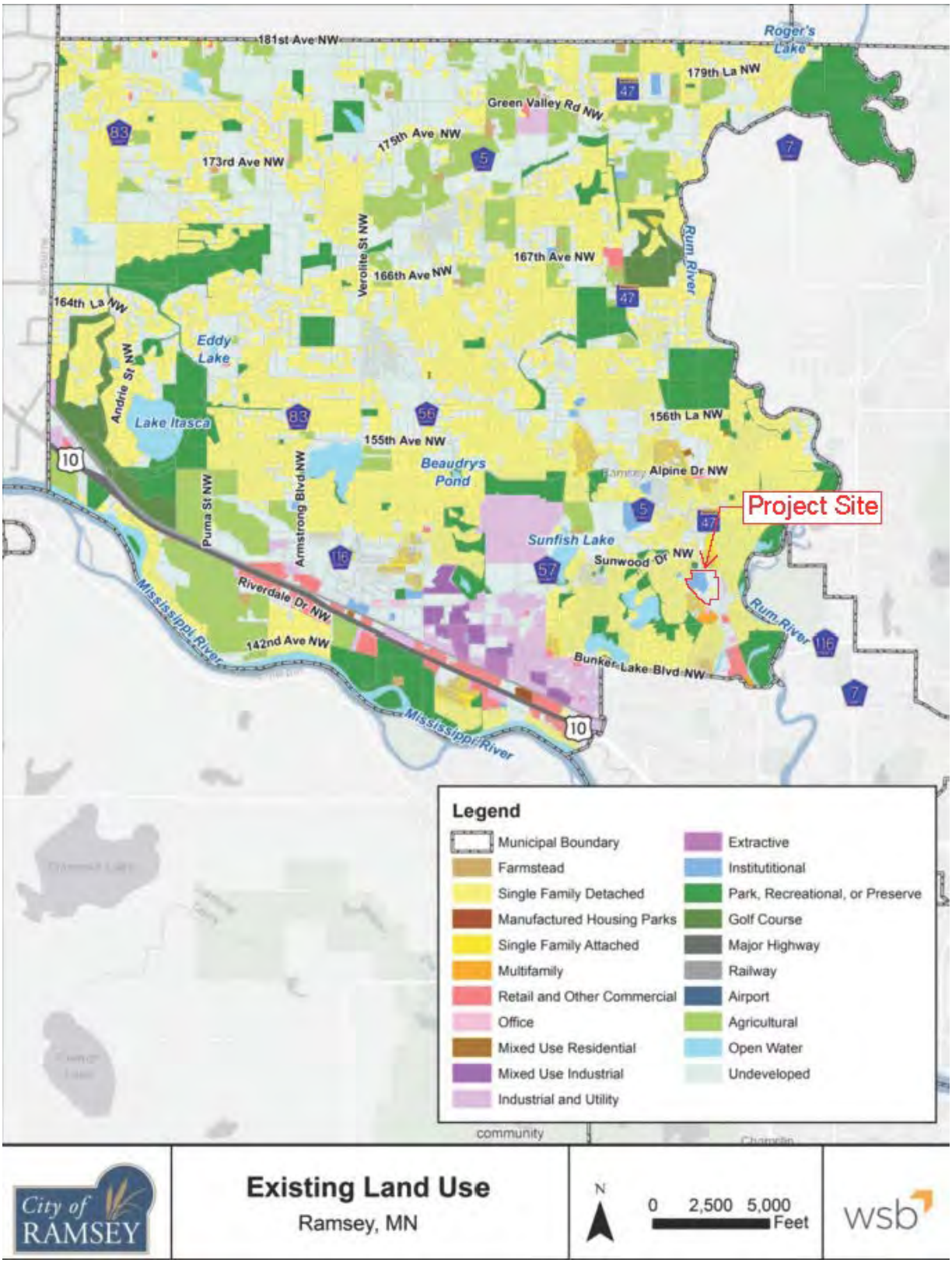


Figure 5. Future Land Use

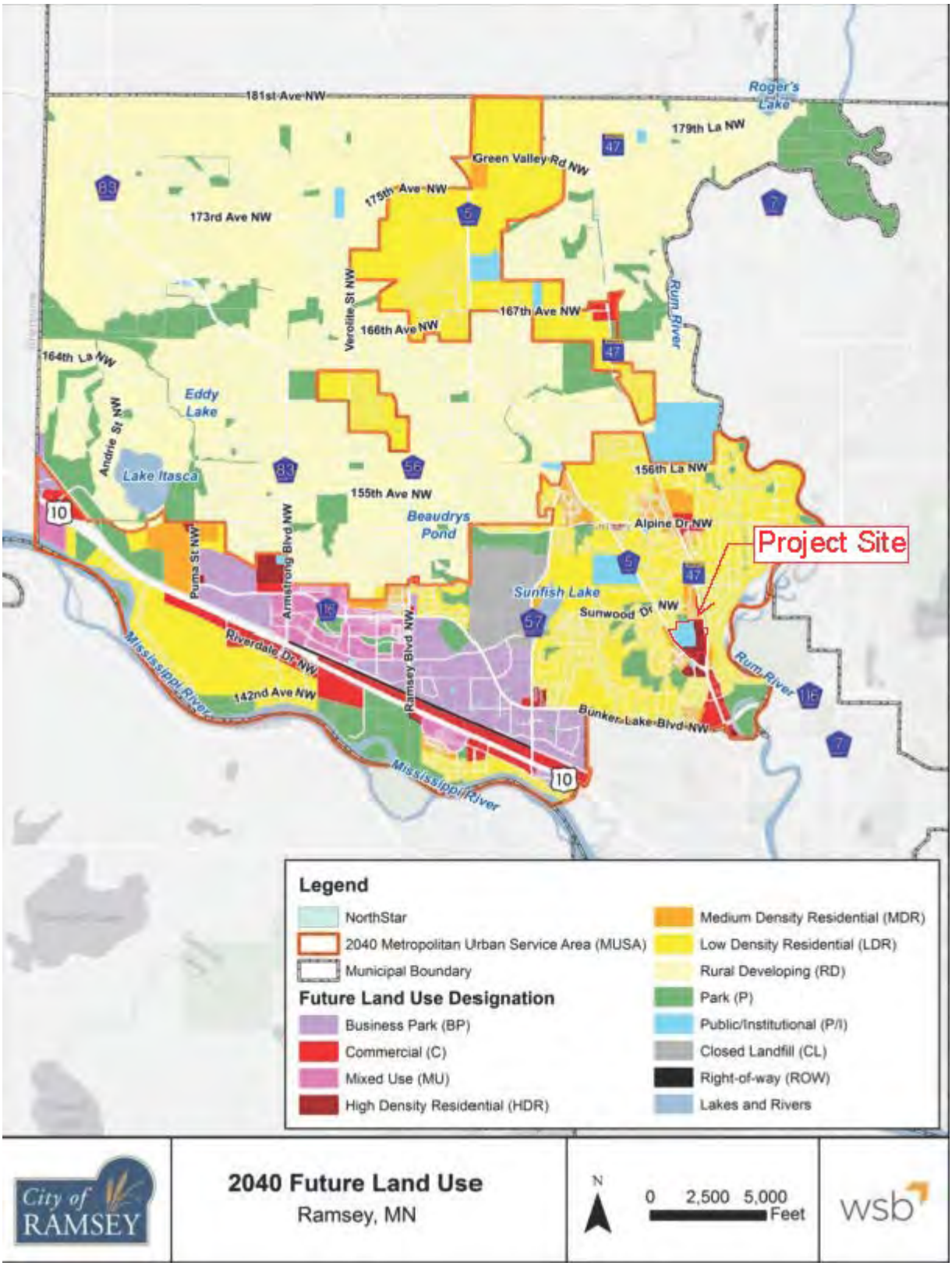


Figure 6. Existing Zoning

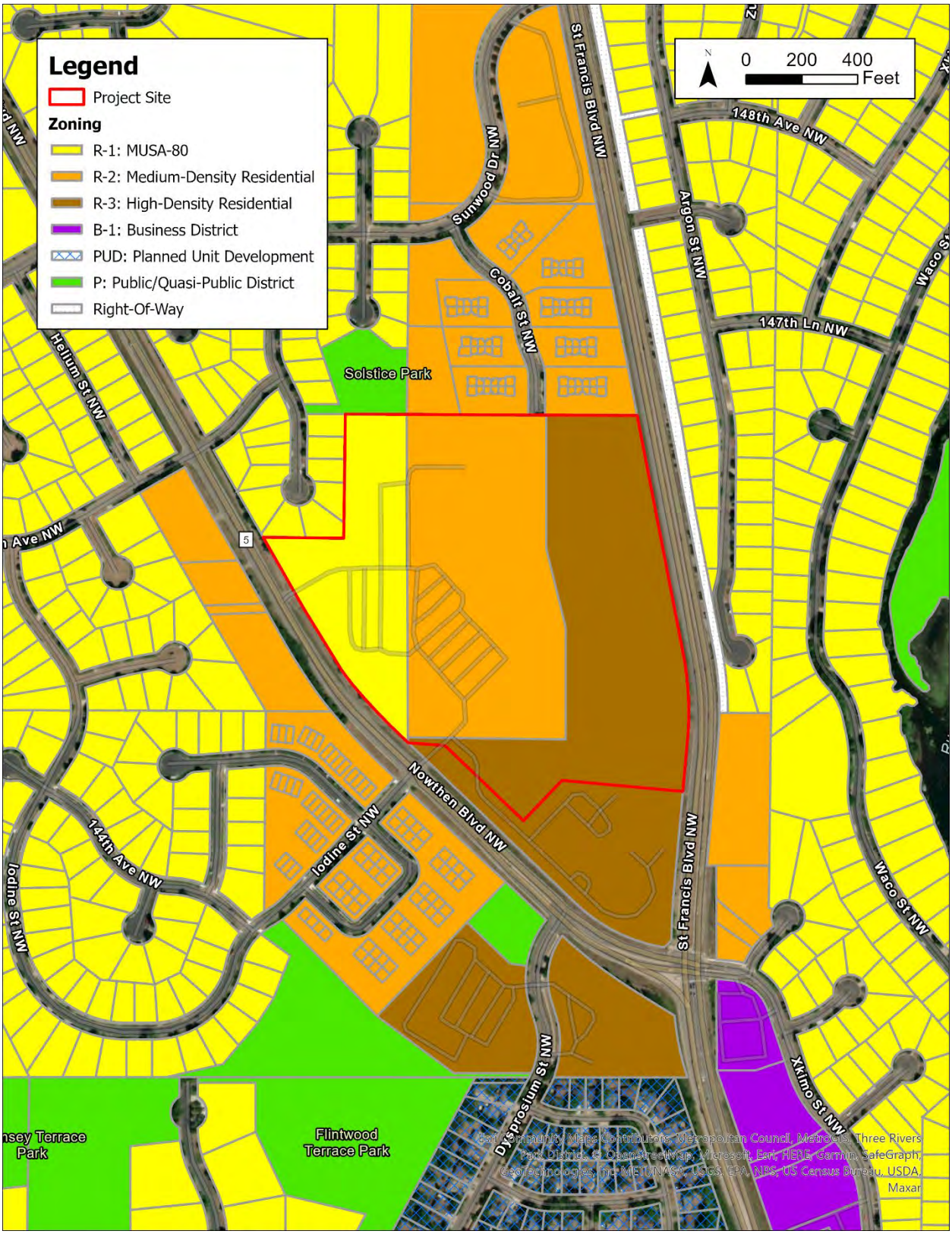


Figure 7. MnDNR Public Waters

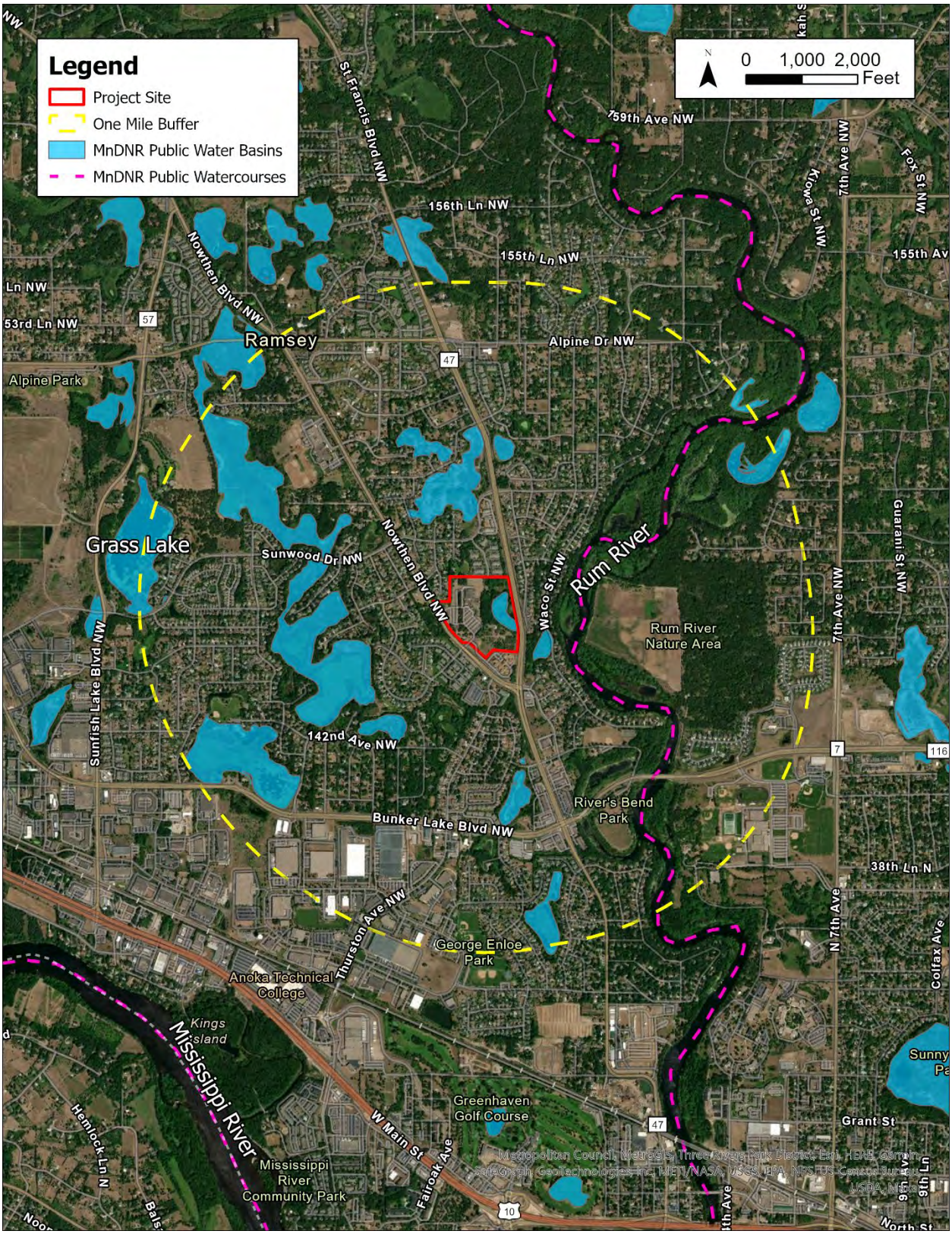


Figure 8. Delineated Wetlands



Figure 9. Depth to Water Table

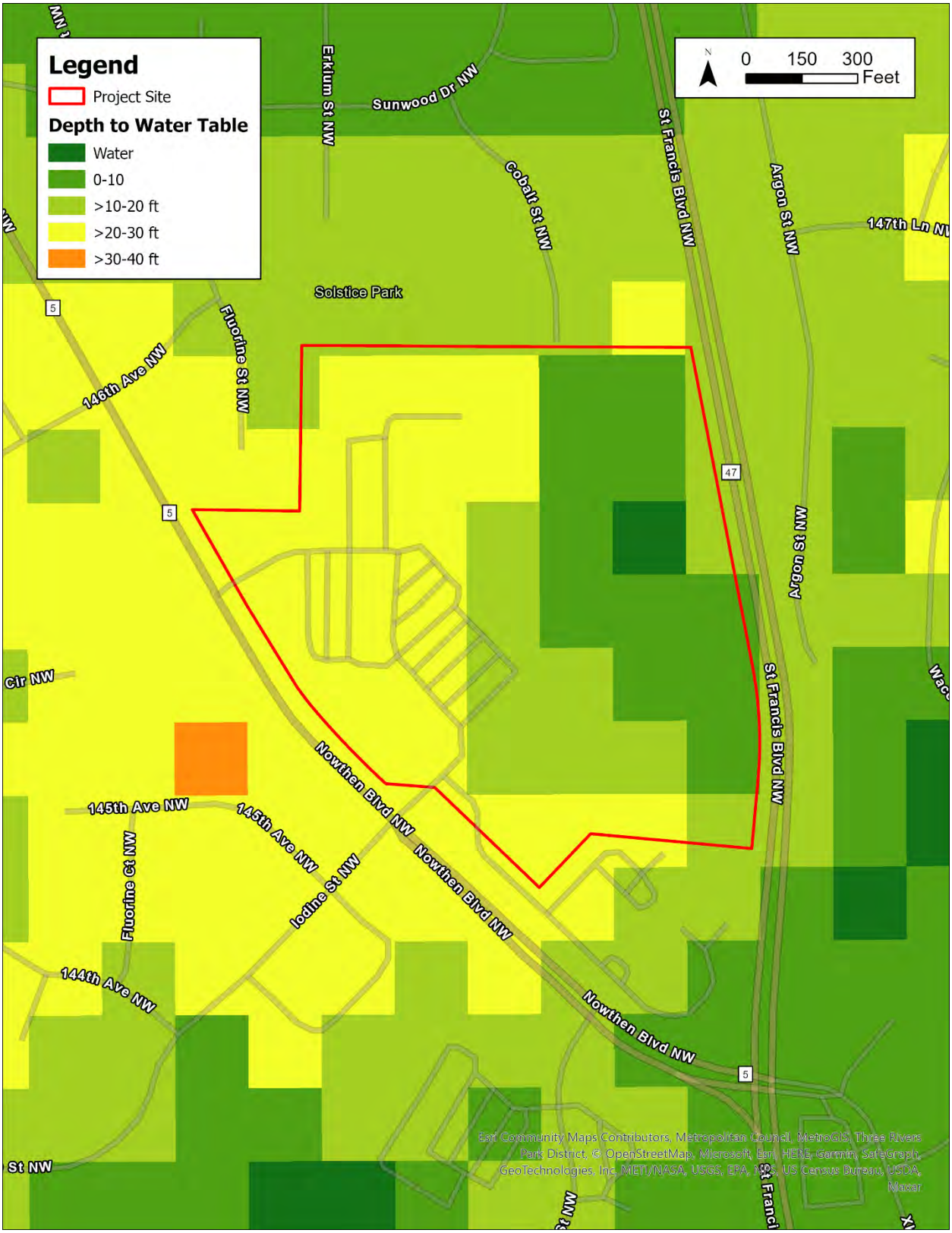


Figure 10. Minnesota Well Index



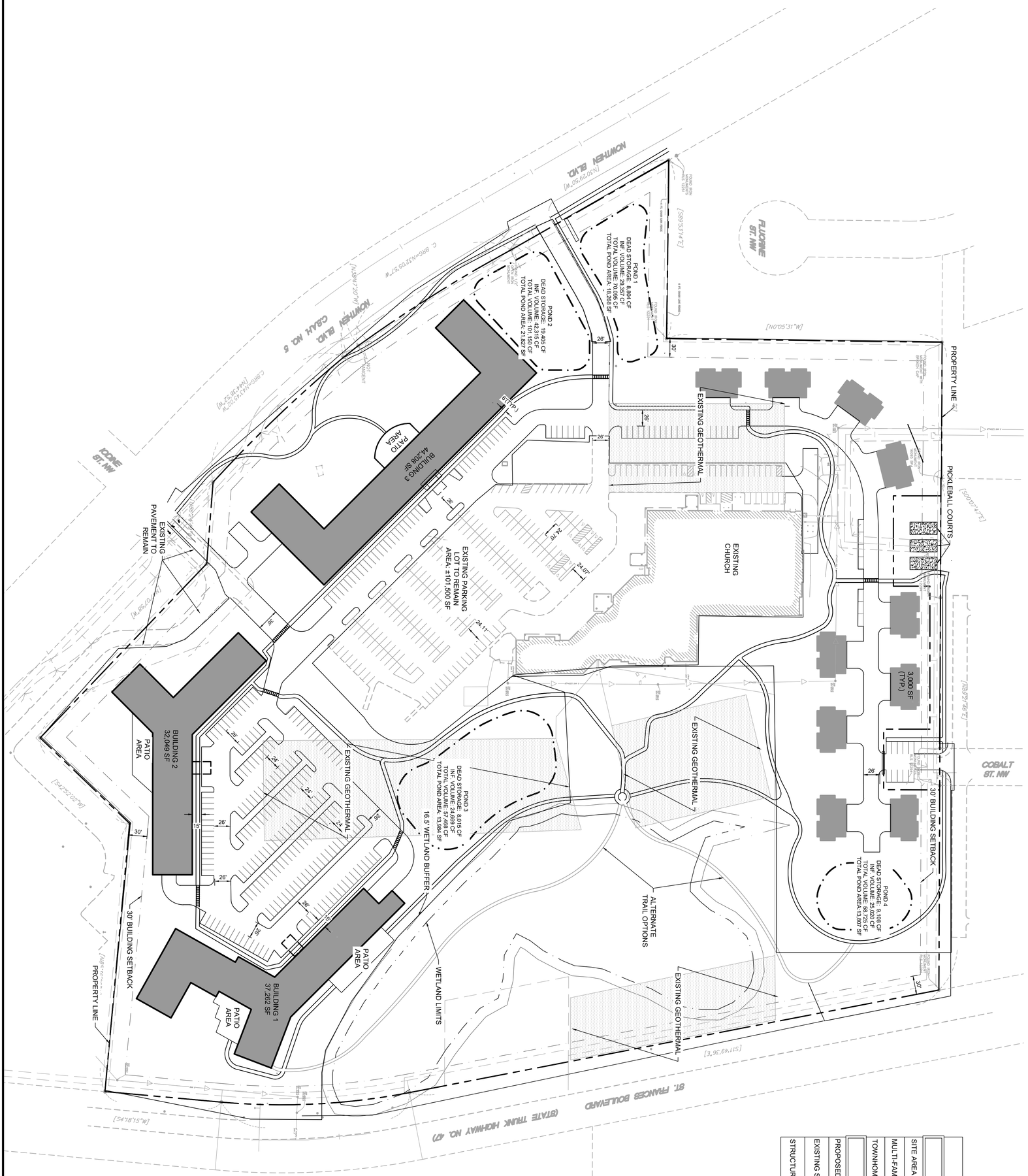
Figure 11. What's In My Neighborhood



Appendix A

Site Plan

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



BUILDING DATA SUMMARY

AREAS	
SITE AREA	35.53 AC
MULTI-FAMILY UNITS	476
TOWNHOME UNITS	22

PARKING	
PROPOSED SURFACE PARKING	263 STALLS
EXISTING SURFACE PARKING	231 STALLS
STRUCTURED PARKING	350 STALLS

GRAPHIC SCALE IN FEET 0 40 80 160

NORTH

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

PRELIMINARY - NOT FOR CONSTRUCTION

SHEET NUMBER C400

HAVILAND FIELDS

PREPARED FOR
BKV & SENIOR HOUSING PARTNERS
RAMSEY MN

CONCEPT SITE PLAN

KHA PROJECT	12345678
DATE	06/14/2023
SCALE	AS SHOWN
DESIGNED BY	RBW
DRAWN BY	GAR
CHECKED BY	MGC

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
767 EUSTIS STREET, SUITE 100, ST. PAUL, MN 55114
PHONE: 651-645-4197
WWW.KIMLEY-HORN.COM

No.	REVISIONS	DATE	BY

Appendix B

Delineation Report

Pinnacle Engineering
Owning Challenges. Winning Trust.

MINNEAPOLIS, MN
763.315.4501
11541 95th Ave N
Minneapolis, MN 55369

July 26, 2022

Mr. Jon Fletcher
Vice President
Presbyterian Homes & Services and Senior Housing Partners
2823 Hamline Avenue N, Roseville, MN 55113

RE: Level 2 Wetland Delineation Services
Lord of Life Lutheran Church
14501 Nowthen Blvd. NW
Ramsey, MN 55303
Pinnacle Project No.: EM20225225

Dear Mr. Fletcher:

Presbyterian Homes & Services and Senior Housing Partners retained Pinnacle Engineering, Inc. (Pinnacle) to conduct a Level 2, On-Site, Wetland Delineation of the Lord of Life Lutheran Church located at 14501 Nowthen Blvd. NW in Ramsey, Anoka County, Minnesota (Site). The wetland delineation was conducted as part of a potential Site improvements.

It was determined that two wetland areas are present at the Site. The determination was conducted in substantial conformance with the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and consisted of a Level 2 On-Site Wetland Determination utilizing soil surveys, wetland inventory maps, topographic maps, and climatic records. The determination will be reviewed by a representative of the Army Corps of Engineers. The delineation will also be reviewed by the Lower Rum River watershed Management Organization (LRRWMO) which is the Local Governmental Unit (LGU) administering the Minnesota Wetland Conservation Act (WCA). The following report documents the methods and findings of the determination.

If you have any questions or wish to discuss any aspect of the project, please contact me at (612) 432-5590. We look forward to being of continued service to you.

Sincerely,
PINNACLE ENGINEERING, INC.

Scott Thelen
Staff Scientist, Certified Wetland Scientist #1249

WETLAND DETERMINATION and DELINEATION REPORT

FOR:

LORD OF LIFE LUTHERAN CHURCH
14501 NOWTHEN BLVD. NW
RAMSEY, MN 55303

Prepared For:

Presbyterian Homes & Services
and Senior Housing Partners
2823 Hamline Avenue N
Roseville, MN 55113

PREPARED BY:

Pinnacle Engineering, Inc.
11541 95th Avenue North
Maple Grove, Minnesota 55369

July 26, 2022

Pinnacle Project Number: EM20225225

Pinnacle Engineering
Owning Challenges. Winning Trust.

11541 95th Avenue N
Minneapolis, MN 55369
Phone: 763.315.4501

Offices in Minneapolis, MN • Bismarck, ND • Omaha, NE
Rochester, MN • Omaha, NE • Billings, MT • Helena, MT

WETLAND DETERMINATION AND DELINEATION

FOR:

LORD OF LIFE LUTHERAN CHURCH
14501 NOWTHEN BLVD. NW
RAMSEY, MN 55303

PREPARED FOR:

PRESBYTERIAN HOMES & SERVICES AND SENIOR HOUSING PARTNERS
2823 HAMLINE AVENUE N
ROSEVILLE, MN 55113

PREPARED BY:

PINNACLE ENGINEERING, INC.
11541 95th AVENUE NORTH
MAPLE GROVE, MINNESOTA 55369

PINNACLE PROJECT NUMBER: EM20225225

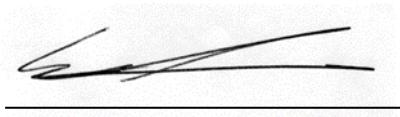
July 26, 2022

Prepared By:



Scott Thelen
Senior Scientist
MN Wetland Delineator #1249

Reviewed By:



Eric Simonson
Senior Scientist

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1.0 INTRODUCTION

1.1 Introduction

Presbyterian Homes & Services and Senior Housing Partners retained Pinnacle Engineering, Inc. (Pinnacle) to conduct a Level 2, On-Site, Wetland Delineation of the Lord of Life Lutheran Church located at 14501 Nowthen Blvd. NW, Ramsey, Anoka County, Minnesota (Site). The Site consists of one parcel of land approximately 35.5 acres in size. The Site is within the SE ¼ of the NW ¼ of Section 25, Township 32N, Range 25W (Lat: 45.235659°, Long: -93.403106°). The Site includes the Lord of Life Lutheran Church, two houses, parking lots, fallow areas, uplands, and wetlands.

The purpose of the wetland delineation was to determine the presence of wetland areas on the Site. The Level 2 wetland delineation was conducted in substantial conformance with the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual, updated February 25, 1997, and utilizes the Midwest Regional Supplement. This report documents the methods and findings of the delineation. The local governmental unit (LGU) is the Lower Rum River Watershed Management Organization (LRRWMO).

1.2 Scope

Pinnacle conducted a Level 2 Onsite Wetland Determination and Delineation in accordance with the criteria established in the 1987 U. S. Army Corps of Engineers (ACOE) Wetland Delineation Manual, updated in 1997, utilizing the Midwest Regional Supplement. The work included the following items:

- Review of County Soil Surveys, USGS topographic maps, National Wetland Inventory (NWI) Maps, Public Water Inventory (PWI) maps, and aerial photographs.
- A site reconnaissance to determine if and where wetlands exist.
- Delineation of the identified wetlands within the area of interest boundaries.
- Preparation and submittal of this report summarizing the findings of our work.

2.0 BACKGROUND INFORMATION

2.1 Site Location and Use

The Site consists of one parcel approximately 35.5-acres in size, is within the SE ¼ of NW ¼ of Section 25, Township 32N, Range 25W (Lat: 45.235659°, Long: -93.403106°). The Site contains portions of the Lord of Life Lutheran church, parking lots, fallow areas, and wetlands. The property totals approximately 35.5-acres in size with property identification number (PID) 25-32-25-24-0059. Figure 1 shows the Site location and its current configuration.

2.2 Surveys and Maps

Pinnacle conducted a review of the Natural Resource Conservation Soil Survey, topographic maps, NWI, and PWI maps for the vicinity of the Site. The following sections summarize the information available at the time of this review.

2.2.1 Topographic Maps

The central property featuring the church building and parking lot appears to have an elevation of 886 elevation above mean sea level (AMSL). The Site appears to drain to the east and the west with elevations of 856 AMSL and 880 AMSL, respectively. The Site generally slopes to the wetland areas in the east and to a suspect wetland area in the western portion of the Site. Topographic contours are shown on Figure 2.

2.2.2 Soil Survey

The Natural Resources Conservation Service (NRCS) Web Soil Survey map, which is included as Figure 3, was reviewed for information pertaining to the Site soils. The Soil Survey indicated the Site soil units consist of:

- Nymore loamy sand, 1 to 6 percent slopes (D90B)
- Marsh (Mc)
- Nymore loamy coarse sand, 12 to 25 percent slopes (NrD)
- Nymore loamy sand, 0 to 2 percent slopes (NyA)
- Nymore loamy sand, 6 to 12 percent slopes (NyC)

Of the identified soil types, Marsh is considered a hydric soil.

2.2.3 Wetland Inventory Maps

The United States Fish and Wildlife Service (USFWS) NWI map for the Site area (Figure 4) depicted three wetland basins and four wetland types, as follows:

- Two wetland areas consisting of palustrine, emergent, persistent, temporary flooded, (PEM1A) wetlands.
- Two wetland areas consisting of palustrine, emergent, persistent, seasonally flooded, (PEM1C) wetlands.
- One wetland area consists of a palustrine, emergent, persistent, semi-permanently flooded, (PEM1F) wetland.
- One wetland area consists of a palustrine, unconsolidated bottom, semi-permanently flooded, (PUBF) wetland.

NWI maps generally show the approximate location of wetlands as of the time of publication.

2.2.4 Public Waters Inventory

The Minnesota Department of Natural Resources Public Waters Inventory (PWI) produces a map of the protected wetlands and waters of the State. The PWI map, which is included as Figure 5, identified a PWI protected basin number 02066500 within the Site. No PWI watercourses were identified within the Site boundaries.

3.0 WETLAND DETERMINATION

3.1 Methodology

The wetland determination was made utilizing the techniques of the Routine Level 2 Onsite Method, as described in the 1987 U. S. Army Corps of Engineers Wetland Delineation Manual, updated February 25, 1997 and utilizing the Midwest Regional Supplement. Determination of hydric soils, site hydrology, and hydrophytic vegetation were made according to the procedures and guidelines described in the manual. Sampling locations were selected to be representative of wetland/upland transition areas.

Scott Thelen of Pinnacle assessed the wetlands within the project area on July 19, 2022. The assessment included probing the soils to observe the color and moisture, as well as other available hydric soil indicators, such as mottling, gleying, and oxidized root channels. The characteristics noted for each sampling location are documented in the data forms, which are included in Appendix A. Potential wetland boundaries were collected using a handheld GPS unit and were flagged for survey by Sunde. The wetland areas are depicted on Figure 2. The wetland delineation was conducted at the beginning of the growing season with some remnant dormant vegetation present.

The 2022 seasonal antecedent rainfall amounts were below the normal precipitation amounts for this area. Precipitation amounts of 0.26 inches of rain occurred the fourteen days prior to the wetland delineation field visit. Hydrology was not anticipated to be present during the field visit.

3.2 Wetland Descriptions

Pinnacle identified two wetlands within the Site as depicted on Figure 2. NWI descriptions of the wetland classifications and types are found below. Table 3.2.1 below summarizes the findings of the field investigation. Data forms for the field investigation can be found in Appendix A and photographs in Appendix C.

Table 3.2.1
Wetlands Table
14501 Nowthen Blvd. NW,
Ramsey, Minnesota

Wetland ID	Delineated Wetland Type	Wetland Size ac/sf		NWI Wetland Type	Dominant Wetland Vegetation	Hydric Soil Indicator	Hydrology
W-1	PEM1C	3.05	132,858	PEM1C/PEM1F/ PEM1A	Cattails, et al.	Redox Dark Surface (F6)	Saturation (A3), Geomorphic Position ((D2)
W2	PEM1C/PUBF	0.47	20,473	PEM1C/PUBF	Cattails, et al.	Redox Dark Surface (F6)	Saturation (A3), Geomorphic Position ((D2)

Wetland Type PEM1A

The NWI Cowardin wetland classification system identifies the PEM1A label for a wetland that consists of a palustrine basin, dominated by persistent emergent vegetation, consisting of erect, rooted, herbaceous hydrophyte species that normally remain standing at least until the beginning of the next growing season, that is temporarily flooded. Surface water is present for brief periods during the growing season, but the water table usually lies well below the ground surface for most of the season. The NWI map for the Site area indicated two PEM1A wetlands, including one isolated wetland located in the west central portion of the Site, in the location of Suspect Area-1 (SA-1), and the other located in the southern portion of Wetland 1. The soils survey did not indicate hydric soils located within the SA-1 aera. The soil survey indicated hydric soils were present in the area of Wetland 1. The SA-1 area is most likely an excavated infiltration pond with a large culvert draining into it.

Wetland Type PEM1C

The NWI Cowardin wetland classification system identifies the PEM1C label for a wetland that consists of a palustrine basin, dominated by persistent emergent vegetation, consisting of erect, rooted, herbaceous hydrophyte species that normally remain standing at least until the beginning of the next growing season, that is seasonally flooded. Surface water is present for extended periods especially early in the growing season but is absent by the end of the growing season in most years. The water table, after flooding ceases, is variable, extending from saturated to the surface to a water table well below the ground surface. The NWI map for the Site area indicated two PEM1C wetlands contained within the Site boundaries. One of the these depicted areas corresponds to the northern portion of Wetland 1 and the other corresponds to the fringe of Wetland 2. The soils survey did

indicate hydric soils located within the Wetland 1 area. The soil survey did not depict hydric soils within the Wetland 2 area.

Wetland Type PUBF

The NWI Cowardin wetland classification system identifies the PUBF label for a wetland that consists of a palustrine basin, with an unconsolidated bottom that is semi-permanently flooded. This means that surface water persists throughout the growing season in most years, however when surface water is absent, the water table is usually at or very near the land surface. The NWI map for the Site area does indicates the PBUF wetland corresponds to Wetland 2. The soil survey did not indicate hydric soils are located within the Wetland 2 area. The Wetland 2 basin is most likely an excavated stormwater pond used to treat surficial runoff prior to entering the regional stormwater system .

4.0 DISCUSSION

Pinnacle performed a Level 2, On-Site, Wetland Delineation of the Lord of Life Lutheran Church located at 14501 Nowthen Blvd. NW, Ramsey, Anoka County, Minnesota (Site). The Site of approximately 35.5 acres consists of one parcel of land within the SE ¼ of NW ¼ of Section 25, Township 32N, Range 25W (Lat: 45.235659°, Long: -93.403106°). The underlying property contains the Lord of Life Lutheran Church, parking lots, fallow areas, and wetlands. The Site area has the PID of 25-32-25-24-0059. The Level 2 delineation was conducted in substantial conformance with the 1987 U.S. ACOE Wetland Delineation Manual, updated February 25, 1997, and utilized the Midwest Regional Supplement.

Site elevations range from approximately 886 feet AMSL to elevations of 856 feet AMSL and 880 feet AMSL in the east and the west areas of the Site. The NWI map indicated three wetland basins within the Site. The Soil Survey indicated hydric soils are located in the area of Wetland 2. The PWI map did not identify any PWI watercourses, however it did identify one PWI basin, number 02066500, within the Site.

The 2022 seasonal antecedent rainfall amounts were drier the normal precipitation amounts for this area. Precipitation amounts 0.26 inches of rain occurred the fourteen days prior to the wetland delineation field visit.

Wetland 1 is a depressional basin located in the north central portion of the Site. Under the Cowardin system a portion of Wetland 1 would be considered a palustrine, emergent, seasonally flooded (PEM1C) basin. Wetland 1 consists of a wetland area receiving drainage from the surrounding upland area. Under the Circular 39 system, the emergent portion of the wetland would be considered a type 3 wetland. Wetland 1 is dominated by hydrophytes comprised primarily of cattails. Hydric soils were found to be present. Hydrology appeared to be present and was based on saturation and standing water in the wetland basin. The wetland edge was determined along the edge of the wetland and

followed a distinct topographical and vegetation change. A weir connects Wetland 1 and Wetland 2. Wetland 1 is a public wetland basin (Basin number 02066500) protected by the Minnesota Department of Natural Resources.

Wetland 2 is a basin located in the east central portion of the Site. Under the Cowardin system portions of Wetland 2 would be considered a palustrine, emergent, seasonally flooded, (PEM1Cd) drained basin. The emergent portion of the wetland is surrounded in places by scrub shrub and forested wetlands and uplands. Wetland 2 consists of a depressional area receiving drainage from the surrounding upland area, from Wetland 1 through a weir, and a culvert appears to drain the wetland to the east. Under the Circular 39 system, the emergent portion of the wetland would be considered a type 3 wetland fringed with wetland types 6 and 7. Wetland 2 is dominated by hydrophytes comprised primarily of cattails. Hydric soils were found to be present. Hydrology appeared to be present and was based on saturation and standing water in the wetland basin. The wetland edge was determined along the edge of the wetland and followed a topography and vegetation change.

SA-1 is a basin located in the west central portion of the Site. SA-1 consists of a depressional area receiving drainage from the surrounding upland area and a large culvert in the northwest that appears adjacent to the parking lot. The SA-1 basin is depicted on the NWI map as an emergent wetland (PEM1A). SA-1 is not dominated by hydrophytes but is dominated by upland plants. Hydric soils and hydrology were not found to be present.

SA-2 is a basin located in the southwest portion of the Site. SA-2 consists of a depressional area receiving drainage from the surrounding upland area and a drainage from the adjacent the parking lot. SA-2 is not dominated by hydrophytes but is dominated by upland plants. Hydric soils and hydrology were not found to be present.

5.0 CONCLUSION

Pinnacle conducted a Level 2, On-Site, Wetland Delineation at the Lord of Life Lutheran Church located at 14501 Nowthen Blvd. NW, Ramsey, Anoka County, Minnesota. The approximately 35.5-acre Site contains the Lord of Life Lutheran Church, two houses, parking lots, fallow areas, uplands, and wetlands.

During the field assessment, it was determined that two areas within the Site met all three of the mandatory criteria of a wetland, and the wetland boundaries were recorded utilizing a handheld GPS device and were flagged for survey by others. One of the wetlands appears to be a storm water pond. The delineation will be reviewed by the Lower Rum River Watershed Management Organization which serves as the LGU administering Minnesota's Wetland Conservation Act and the U.S. Army Corps of Engineers, which administers the Clean Water Act.

6.0 STANDARD OF CARE

Environmental services performed by Pinnacle for the project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by environmental professionals currently practicing in this area under similar budget and time constraints. Recommendations or opinions contained in this report represent our professional judgment and are generally based upon available information and currently accepted practices for environmental professionals. Other than this, no other warranty is implied nor is it expressed.

7.0 REFERENCES

Eggers, Steve D. and Reed, Donald M., Wetland Plants and Plant Communities of Minnesota and Wisconsin, 1997, U. S. Army Corps of Engineers, St. Paul District.

Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, January 2012, Washington, D. C.

Lyon, John Grimson, Practical Handbook for Wetland Identification and Delineation, 1993, Lewis Publishers, Boca Raton, Florida.

Minnesota Board of Water and Soil Resources <https://bwsr.state.mn.us/sites/default/files/2018-12/WETLANDS_Delin_Guidance_for_Offsite_Hydrology_and_Wetland_Determinations.pdf> (July 15, 2022).

Minnesota Geospatial Commons (https://gisdata.mn.gov/dataset/water-mn-public-waters), NWI data (https://gisdata.mn.gov/dataset/water-nat-wetlands-inv-2009-2014), generated by Scott Thelen using <https://gisdata.mn.gov/>, July 15, 2022.

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U.S Fish and Wildlife Service National Wetlands Inventory http:/www.fws.gov/wetlands/data/WebMapServices.html > (July 15, 2022).

U. S. Army Corps of Engineers, U. S. Army Corps of Engineers Wetland Delineation Manual, 1987, updated on February 25, 1997, Washington, D. C.

Anoka County GIS. <https://gis.anokacountymn.gov/propertysearch/> (July 15, 2022).

FIGURE 1

Site Location Map

WETLAND DETERMINATION AND DELINEATION



Pinnacle Engineering
11541 95th Ave N.
Minneapolis, MN 55369
(763) 315-4501
www.pineng.com

PROJECT NUMBER: EM20225225 | DRAWN: ST | REVIEWED: ES | DATE: 07/14/2022

Figure 1.
Site Location

Lord of Life Lutheran Church
14501 Nowthen Blvd. NW
Ramsey, MN 55303

LEGEND
Site
Site Boundary

File: Figure 1 - Site Location.mxd

FIGURE 2

Site Layout

WETLAND DETERMINATION AND DELINEATION



Pinnacle Engineering

11541 95th Ave N.
Minneapolis, MN 55369
(763) 315-4501
www.pineng.com

PROJECT NUMBER: EM20225225
DRAWN: ST
REVIEWED: ES
DATE: 07/20/2022

Figure 2.
Site Layout

Lord of Life Lutheran Church
14501 Nowthen Blvd. NW
Ramsey, MN 55303

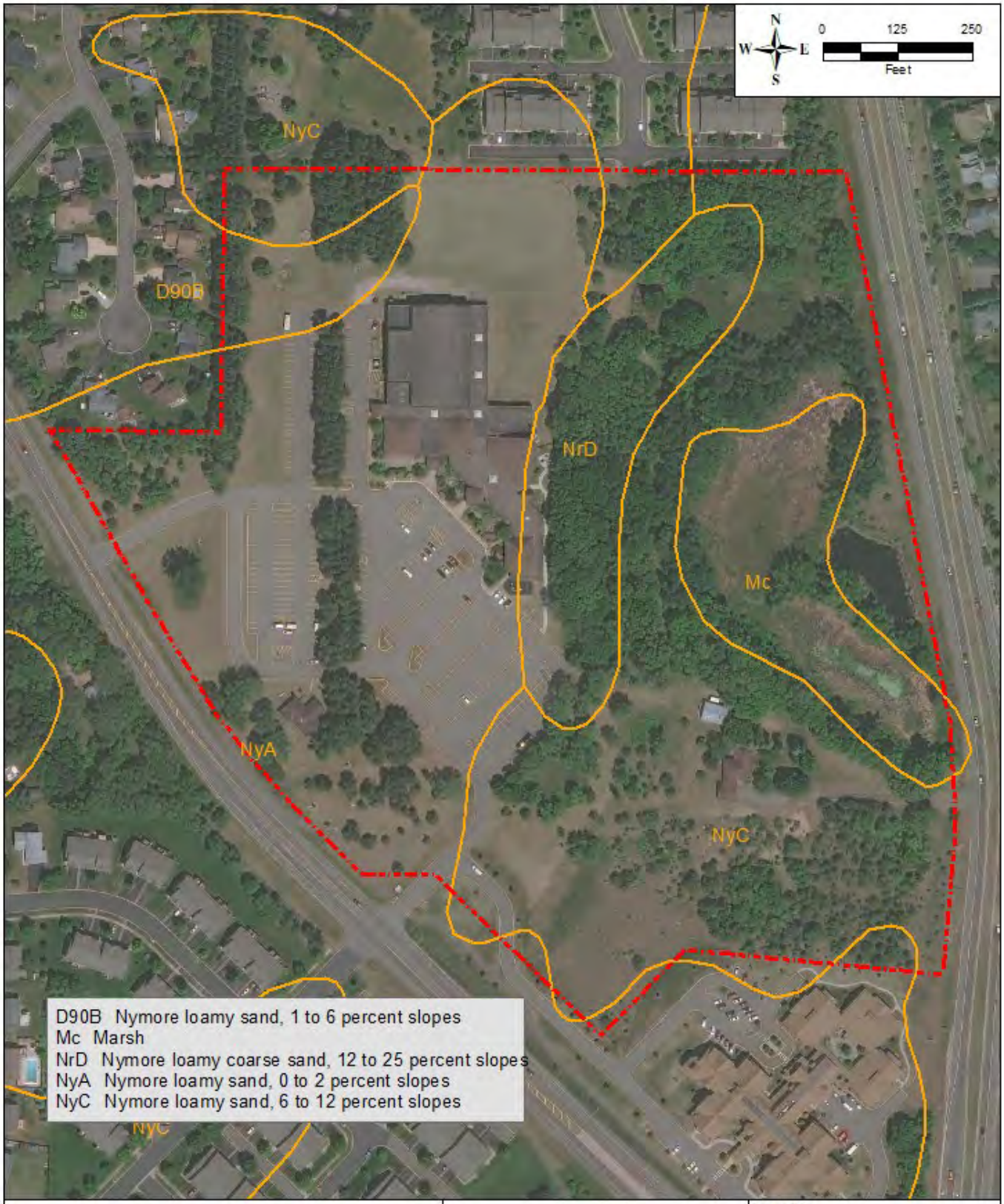
LEGEND
- Site Boundary
- Suspect Area
- 2ft Contour
- Wetland
- Sampling Point
- Transect

File: Figure 2 - Site Layout.mxd

FIGURE 3

Soil Survey

WETLAND DETERMINATION AND DELINEATION



Pinnacle Engineering

11541 95th Ave N.
Minneapolis, MN 55369
(763) 315-4501
www.pineng.com

PROJECT NUMBER: EM20225225 | DRAWN: ST | REVIEWED: ES | DATE: 07/14/2022

Figure 3.
NCRS Soils Map

Lord of Life Lutheran Church
14501 Nowthen Blvd. NW
Ramsey, MN 55303

LEGEND
Site Boundary
NCRS Soils

File: Figure 3 - Soils.mxd

FIGURE 4

National Wetland Inventory

WETLAND DETERMINATION AND DELINEATION



File: Figure 4 - NWI.mxd

Pinnacle Engineering

11541 95th Ave N.
Minneapolis, MN 55369
(763) 315-4501
www.pineng.com

PROJECT NUMBER: EM20225225

DRAWN: ST
REVIEWED: ES

DATE: 07/14/2022

Figure 4.
NWI Map

Lord of Life Lutheran Church
14501 Nowthen Blvd. NW
Ramsey, MN 55303

LEGEND

Site Boundary

FIGURE 5

Public Waters Inventory

WETLAND DETERMINATION AND DELINEATION



File: Figure 5 - PWI.mxd

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Minneapolis, MN 55369
(763) 315-4501
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PROJECT NUMBER: EM20225225 | DRAWN: ST | REVIEWED: ES | DATE: 07/14/2022

Figure 5.
PWI Map

Lord of Life Lutheran Church
14501 Nowthen Blvd. NW
Ramsey, MN 55303

LEGEND
- Site Boundary
- PWI Basins
- PWI Watercourses

FIGURE 6

Wetland Communities

WETLAND DETERMINATION AND DELINEATION



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11541 95th Ave N.
Minneapolis, MN 55369
(763) 315-4501
www.pineng.com

PROJECT NUMBER: EM20225225 | DRAWN: ST | REVIEWED: ES | DATE: 07/20/2022

Figure 6.
Wetland Communities

Lord of Life Lutheran Church
14501 Nowthen Blvd. NW
Ramsey, MN 55303

LEGEND
- Site Boundary
- Emergent
- Scrub Shrub
- Forested

File: Figure 6 - Wetland Communities.mxd

APPENDICES

APPENDIX A

Midwest Region Data Forms

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Lord of Life Church City/County: Anoka/Anoka Sampling Date: 2022-07-19

Applicant/Owner: Presbyterian Homes State: MN Sampling Point: W1-1U

Investigator(s): Scott Thelen Section, Township, Range: S25, T32N, R25W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 3-7 Lat: 45.235996 Long: -93.401184 Datum: WGS84

Soil Map Unit Name: Nymore, loamy sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus tremuloides*	30	Y	FAC
2. *Quercus alba*	20	Y	FACU
3.			
4.			
5.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Lonicera tatarica*	20	Y	FACU
2. *Cornus racemosa*	10	Y	FAC
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Solidago canadensis*	20	Y	FACU
2. *Galium boreale*	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	_____	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	50.00	x 3 =	150.00
FACU species	60.00	x 4 =	240.00
UPL species	0.00	x 5 =	0.00
Column Totals:	110.00 (A)		390.00 (B)

Prevalence Index = B/A = 3.55

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-1U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					LS	
10-16	10YR 4/3	100					LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Lord of Life Church City/County: Anoka/Anoka Sampling Date: 2022-07-19

Applicant/Owner: Presbyterian Homes State: MN Sampling Point: W1-1W

Investigator(s): Scott Thelen Section, Township, Range: S25, T32N, R25W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 3-7 Lat: 45.235996 Long: -93.401184 Datum: WGS84

Soil Map Unit Name: Nymore, loamy sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus tremuloides*	30	Y	FAC
2. *Fraxinus pennsylvanica*	10	Y	FACW
3.			
4.			
5.			
	40 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus racemosa*	20	Y	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Typha latifolia*	30	Y	OBL
2. *Carex lacustris*	20	Y	OBL
3. *Solidago canadensis*	10	N	FACU
4. *Onoclea sensibilis*	10	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50.00	x 1 =	50.00
FACW species	20.00	x 2 =	40.00
FAC species	50.00	x 3 =	150.00
FACU species	10.00	x 4 =	40.00
UPL species	0.00	x 5 =	0.00
Column Totals:	130.00 (A)		280.00 (B)

Prevalence Index = B/A = 2.15

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-1W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					LS	
10-15	10YR 4/1	95	10YR 4/6	5			LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ✓ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 6

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Lord of Life Church City/County: Anoka/Anoka Sampling Date: 2022-07-19

Applicant/Owner: Presbyterian Homes State: MN Sampling Point: W1-2U

Investigator(s): Scott Thelen Section, Township, Range: S25, T32N, R25W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 3-7 Lat: 45.235996 Long: -93.401184 Datum: WGS84

Soil Map Unit Name: Nymore, loamy sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	20	Y	FACU
2. *Quercus alba*	20	Y	FACU
3.			
4.			
5.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	20	Y	FAC
2. *Lonicera tatarica*	10	Y	FACU
3. *Cornus racemosa*	10	Y	FAC
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Solidago canadensis*	20	Y	FACU
2. *Galium boreale*	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1. ***Vitis riparia***	5	Y	FACW
2.			
	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	5.00	x 2 =	10.00
FAC species	40.00	x 3 =	120.00
FACU species	70.00	x 4 =	280.00
UPL species	0.00	x 5 =	0.00
Column Totals:	115.00 (A)		410.00 (B)

Prevalence Index = B/A = 3.57

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-2U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					LS	
8-15	10YR 5/4	100					LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Lord of Life Church City/County: Anoka/Anoka Sampling Date: 2022-07-19

Applicant/Owner: Presbyterian Homes State: MN Sampling Point: W1-2W

Investigator(s): Scott Thelen Section, Township, Range: S25, T32N, R25W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 3-7 Lat: 45.235996 Long: -93.401184 Datum: WGS84

Soil Map Unit Name: Nymore, loamy sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus alba*	10	Y	FACU
2. *Fraxinus pennsylvanica*	10	Y	FACW
3.			
4.			
5.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	30	Y	FAC
2. *Cornus racemosa*	20	Y	FAC
3.			
4.			
5.			
	50	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Typha latifolia*	20	Y	OBL
2. *Onoclea sensibilis*	10	Y	FACW
3. *Solidago canadensis*	10	Y	FACU
4. *Carex lacustris*	10	Y	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30.00	x 1 =	30.00
FACW species	20.00	x 2 =	40.00
FAC species	50.00	x 3 =	150.00
FACU species	20.00	x 4 =	80.00
UPL species	0.00	x 5 =	0.00
Column Totals:	120.00 (A)		300.00 (B)

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-2W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					LS	
8-16	10YR 4/1	95	10YR 4/6	5			LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ✓ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 8

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Lord of Life Church City/County: Anoka/Anoka Sampling Date: 2022-07-19

Applicant/Owner: Presbyterian Homes State: MN Sampling Point: W2-1U

Investigator(s): Scott Thelen Section, Township, Range: S25, T32N, R25W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 0-2 Lat: 45.235996 Long: -93.401184 Datum: WGS84

Soil Map Unit Name: Nymore, loamy sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus racemosa*	10	Y	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Solidago canadensis*	20	Y	FACU
2. *Dactylis glomerata*	20	Y	FACU
3. *Rudbeckia hirta*	10	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1. ***Vitis riparia***	5	Y	FACW
2.			
	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	5.00	x 2 =	10.00
FAC species	10.00	x 3 =	30.00
FACU species	50.00	x 4 =	200.00
UPL species	0.00	x 5 =	0.00
Column Totals:	65.00 (A)		240.00 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W2-1U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					LS	
10-18	10YR 4/3	100					LCOS	
12-16	10YR 4/1	100					LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Lord of Life Church City/County: Anoka/Anoka Sampling Date: 2022-07-19

Applicant/Owner: Presbyterian Homes State: MN Sampling Point: W2-1W

Investigator(s): Scott Thelen Section, Township, Range: S25, T32N, R25W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 0-2 Lat: 45.235996 Long: -93.401184 Datum: WGS84

Soil Map Unit Name: Nymore, loamy sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix interior*	40	Y	FACW
2. *Fraxinus pennsylvanica*	5	N	FACW
3.			
4.			
5.			
	45	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix interior*	30	Y	FACW
2.			
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Typha latifolia*	20	Y	OBL
2. *Carex lacustris*	10	Y	OBL
3. *Onoclea sensibilis*	10	Y	FACW
4. *Lycopus americanus*	10	Y	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40.00	x 1 =	40.00
FACW species	85.00	x 2 =	170.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	125.00 (A)		210.00 (B)

Prevalence Index = B/A = 1.68

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W2-1W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					LS	
6-12	10YR 4/1	95	10YR 4/6	5			LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ✓ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 8

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Standing water in middle of wetland.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Lord of Life Church City/County: Anoka/Anoka Sampling Date: 2022-07-19

Applicant/Owner: Presbyterian Homes State: MN Sampling Point: SA-1

Investigator(s): Scott Thelen Section, Township, Range: S25, T32N, R25W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 3-7 Lat: 45.235996 Long: -93.401184 Datum: WGS84

Soil Map Unit Name: Nymore, loamy sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	20	Y	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	20	Y	FAC
2. *Digitaria ischaemum*	20	Y	FACU
3. *Ambrosia artemisiifolia*	10	N	FACU
4. *Taraxacum officinale*	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	40.00	x 3 =	120.00
FACU species	35.00	x 4 =	140.00
UPL species	0.00	x 5 =	0.00
Column Totals:	75.00 (A)		260.00 (B)

Prevalence Index = B/A = 3.47

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SA-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					LS	
6-16	10YR 3/1	100					LS	
16-24	10YR 4/4	100					LCOS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Lord of Life Church City/County: Anoka/Anoka Sampling Date: 2022-07-19

Applicant/Owner: Presbyterian Homes State: MN Sampling Point: SA-2

Investigator(s): Scott Thelen Section, Township, Range: S25, T32N, R25W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 0-2 Lat: 45.235996 Long: -93.401184 Datum: WGS84

Soil Map Unit Name: Nymore, loamy sand NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rubus idaeus*	10	Y	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Bromus inermis*	60	Y	FACU
2. *Asclepias syriaca*	10	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	80.00	x 4 =	320.00
UPL species	0.00	x 5 =	0.00
Column Totals:	80.00 (A)		320.00 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SA-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					LS	
4-16	10YR 5/4	100					LS	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX B

Wetland Boundary Applications

Project Name and/or Number:

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Presbyterian Homes & Services and Senior Housing Partners, 553
Mailing Address: 2823 Hamline Avenue N, Roseville, MN 55113
Phone: 651.383.5689
E-mail Address: jfletcher@seniorpartners.com

Authorized Contact (do not complete if same as above): Pinnacle Engineering, Inc.
Mailing Address: 11541 95th Avenue North, Maple Grove, MN 55369
Phone: 612-432-5590
E-mail Address: sthelen@pineng.com

Agent Name: Scott Thelen
Mailing Address: 11541 95th Avenue North, Maple Grove, MN 55369
Phone: 612.432.5590
E-mail Address: sthelen@pineng.com

PART TWO: Site Location Information

County: Anoka County **City/Township:** Ramsey
Parcel ID and/or Address: 25-32-25-24-0059
Legal Description (Section, Township, Range): Section 25, Township 32N, Range 25W
Lat/Long (decimal degrees): Lat: 45.235659°, Long: -93.403106°
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): 35.5 acre

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted ***prior to*** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

Potential grounds improvement project.

Project Name and/or Number:

PART FOUR: Aquatic Resource Impact[1] Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	**Aquatic Resource Type** (wetland, lake, tributary etc.)	**Type of Impact** (fill, excavate, drain, or remove vegetation)	**Duration of Impact** Permanent (P) or Temporary (T)[1]	**Size of Impact**[2]	**Overall Size of Aquatic Resource** [3]	**Existing Plant Community Type(s)** in Impact Area[4]	**County, Major Watershed #, and Bank Service Area #** of Impact Area[5]

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are, and the circumstances associated with each:

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: _____ July 26, 2022

I hereby authorize _____ to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

[1] The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Project Name and/or Number:

Attachment A
Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☐ **Wetland Type Confirmation**

☒ **Delineation Concurrence**. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination**. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination**. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).
http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx

Lower Rum River WMO

Permit # _____

APPLICATION FOR MINNESOTA WETLAND CONSERVATION ACT (WCA) DECISIONS AND PROCEDURE REQUIREMENTS

A $75.00 LRRWMO initial application fee and the appropriate escrow deposits (determined in accordance with Attachment W3) must accompany this permit application for any Wetland Conservation Act (WCA) decisions. These are separate and in addition to permit and escrow fees for Grading, Stormwater Management, and Erosion/Sediment Control permit application, if applicable.

Permits are to be processed at the same time as the site plan, preliminary plat or other city land use or building application submitted to the city in which the work or project is located.

Wetland permit processing takes longer than other permit processing. The permit application and supporting documentation should be submitted to the LRRWMO AT LEAST 60 DAYS PRIOR TO THE REGULARLY SCHEDULED MONTHLY LRRWMO MEETING AT WHICH A DECISION IS REQUESTED. A PERMIT NUMBER WILL NOT BE ASSIGNED UNTIL CITY AUTHORIZATION IS RECEIVED.

Project Name: Presbyterian Homes & Services and Senior Housing Partners/Lord of Life Lutheran Church

Address/Location: 14501 Nowthen Blvd. NW, Ramsey, Anoka County, Minnesota

Project Description/Purpose: Potential grounds improvement project.

Lord of Life Lutheran Church	Jon Fletcher Presbyterian Homes & Services and Senior Housing Partners
Name of Applicant (Site Owner or Property Owner)	**Applicant's Contact Organization Name**
14501 Nowthen Blvd	2823 Hamline Avenue N,
Address	**Address**
Ramsey, MN 55303	Roseville, MN 55113
City, State, Zip	**City, State, Zip**
	651.383.5689
Phone Fax	**Phone Fax**
	jfletcher@seniorpartners.com
Email	**Email**

Submittal Requirements

Complete applications are to be submitted as per LRRWMO attachments W1 (Permit Requirements), W2 (Office Procedure), and W3 (Fees, Deposit, and Sureties for Wetland Conservation Act) included with this application. Projects may also require a LRRWMO Grading, Stormwater Management, and Erosion/Sediment Control Permit (separate application and fee/escrow amounts)

PROJECT SUBMITTALS (check all that apply):

- [X] **WETLAND BOUNDARY DELINEATION AND TYPE CONCURRENCE**
- [ ] **REQUEST FOR NO LOSS OR EXEMPTION UNDER THE WETLAND CONSERVATION ACT (WCA)**
- [ ] **WETLAND REPLACEMENT PLAN AND/OR SEQUENCING**
- [ ] **WETLAND BANKING PLAN**
- [ ] **OTHER**

Lower Rum River WMO

START OF PROJECT: _____ EST. COMPLETION DATE: _____ APPROVAL DATE: _____

By signing this Permit Application, the undersigned consents and agrees on behalf of the Applicant that:

1. The permit application fee is non-refundable. Escrow deposits will be held by the LRRWMO until the project has been completed and all conditions of issuance of the permit are satisfied. The Applicant is responsible for all expenses incurred by the LRRWMO in the processing, administration and enforcement of the permit application and permit. The escrow deposit will be used to reimburse the LRRWMO for all expenses incurred by the LRRWMO in processing, administering and enforcing the permit application and permit, including engineering, legal and other consultant costs. If such expenses exceed the escrow deposit, the LRRWMO will bill the Applicant or Permittee for such excess amount and payment will be due within twenty (20) days of mailing the invoice. Timely payment of such invoices is a condition of all permits and work may be stopped on the project for failure to make payments when due.
2. The undersigned, its agents, principal, assigns and/or representatives (hereinafter "Permittee") shall abide by all the standard conditions and special terms and conditions of the LRRWMO.
3. Any work that violates the terms of the permit may result in the LRRWMO or the City in which the work is being done immediately causing the work on the project relating to the permit to cease and desist. All work on the project shall cease until the permit conditions are met and approved by the LRRWMO and/or the City in which the work is being done.
4. The Permittee agrees to be bound by the terms of the LRRWMO permit requirements, final permit, standard conditions, and special conditions required by the LRRWMO for approval of the permit. The undersigned has the authority to bind the permit holder, the owner of the property and/or any entity performing work on the property pursuant to the terms of LRRWMO permit, and shall be responsible for complying with terms of the LRRWMO permit.

"I certify that I have thoroughly read and understand the above information."

Signature of property owner or designated Agent (no agent without a letter of authority)	Date	Signature of applicant if different from property owner	Date
Print Signer's name		Print Signer's name	

Application Acknowledged by City:

Name of City Official	City	Date

SIGNATURE OF LRRWMO CHAIRMAN: **

NOTE: Subject to conditions as designated in the WCA Notice of Decision as recommended by the Technical Evaluation Panel and Barr Engineering (see attached)

PERMIT IS NOT VALID IF PROJECT HAS NOT STARTED WITHIN ONE YEAR FROM DATE OF APPROVAL

LRRWMO Attachment W1

PERMIT REQUIREMENTS

APPLICATION DEADLINE: Third Thursday of the month for consideration at the following regularly scheduled monthly LRRWMO board meeting on third Thursday of month.

REQUIRED SUBMITTALS:

1. Completed Permit Application Form (attached)
2. $75 LRRWMO initial application fee plus an escrow deposit determined in accordance with Attachment W3 for any Wetland Conservation Act (WCA) decisions.
3. Wetland Permitting Information
   a. The permit applicant is responsible for ensuring wetland applications are in complete compliance with the Wetland Conservation Act of 1991 and applicable documentation is provided as listed on the Minnesota Board of Water and Soil Resources (BWSR) website:

      http://www.bwsr.state.mn.us/.

      Permit applicants shall refer to the BWSR website for sample application forms and check lists. These forms will be used for reviewing wetland applications. Failure to provide a complete application will result in delays in permit review.

   b. When working near DNR public waters, applicants shall submit information indicating the OHW (ordinary high water) level and the wetland boundary according to the WCA of 1991. Availability of OHW information is available from the MDNR Area Hydrologist. When working in DNR Public Waters, an online Minnesota DNR Permitting and Reporting System (MPARS) application may also be required by the DNR.

SUBMITTAL NOTES:

- Permit applicants shall submit the attached Joint Application Form for Activities Affecting Water Resources in Minnesota (Attachment W4).
- Failure to fully follow the application requirements of the Wetland Conservation Act will result in delays in permit review.
- Applicants can expect a 60-day review period provided all applicable materials have been submitted and reviews are completed within the growing season, if applicable.

Lower Rum River WMO

LRRWMO Attachment W2

OFFICE PROCEDURE

Procedure to Accept LRRWMO Permit:

1. Complete LRRWMO Permit Application for Minnesota Wetland Conservation Act (WCA) Decisions and Procedure Requirements form. Requires signature of acknowledgement from City official prior to submittal to LRRWMO. For appropriate City contact information refer to the LRRWMO website at www.lrrwmo.org/
   NOTE: See "PROJECT SUBMITTALS" section of Application

2. Submit Application, $75 initial application fee plus an escrow deposit* in accordance with LRRWMO Attachment W3 for Wetland Conservation Act applications, as applicable, payable to the Lower Rum River WMO, and one (1) set of plan submittals (electronic) to:

   Lower Rum River WMO
   City of Anoka
   2015 First Street N.
   Anoka, MN 55303
   763-576-2773

   (This set of plans is for LRRWMO file copy) **escrow deposits: The LRRWMO costs related to the project will be charged to permit escrow fund. Funds remaining in the permit escrow account when the project is closed will be returned to the applicant.*

3. Forward electronic copy of Application and associated submittals to:

   Karen Wold
   Barr Engineering Co.
   kwold@barr.com

4. Wetland permit decisions are usually made within 60 days from receipt of a complete application.

Procedure to Request Return of Permit Fund Balance:

1. When project reaches status of 100% completion (as contained in Quarterly Report), the respective City prepares a written request to LRRWMO for return of escrow deposit balance with copy to Anoka's Finance Department. The request must be submitted prior to the third Thursday of each month to meet the next month regular meeting agenda deadline.

Lower Rum River WMO

LRRWMO ATTACHMENT W3

Fees, Deposit and Sureties for Wetland Conservation Act (WCA) Applications

Updated ***April 2011***

FEES

Activity		**Fee**
Initial WCA Application Fee		***$75***
Office and Field Review of Wetland Boundary Delineation or Type Determination (Applicant is responsible for submitting a complete Wetland Delineation Report, according to BWSR guidance).	Evaluation Area < 10 acres and less than 3 wetlands being evaluated	$1,000 ***Escrow***
	Evaluation Area < 100 acres and < 6 wetlands being evaluated	$1,500 ***Escrow***
	Evaluation Area =/> 100 acres and/or =/> 6 wetlands being evaluated	$2,000 ***Escrow***
Review of WCA exemptions and No Loss requests.		$1,000 ***Escrow***
Review of Wetland ***Replacement Plans*** (needed for all projects requiring replacement for wetland impacts).		$1,000 ***Escrow*** plus $100/acre of wetland plus $5,000/acre of wetland impact plus $5,000 for mitigation monitoring review
Creating a Wetland Bank		$15,000

Note: escrow amounts are cumulative if more than activity is being reviewed.

Cash Surety Deposit for Performance

For Wetland Replacement Plans:
The Permittee or owner shall provide a cash surety ***(or an automatically renewable Letter of Credit from a bank approved by the Treasurer of the LRRWMO)*** in an amount determined by the LRRWMO, so that, if needed, a third party has the funds to create, manage, and monitor the wetland replacement area should the applicant fail to comply with the required creation of the wetland mitigation site. If the Letter of Credit is not honored by the issuer, the LRRWMO may choose litigation to obtain the necessary funds or to obtain a court order to require the permittee or owner to create the wetland mitigation area. The LRRWMO will determine a cash surety ***(or letter of credit)*** amount in addition to the permit application fee and escrow deposit.

Proposed WCA LRRWMO Surety Amount

Activity	Performance Surety Amount
Wetland Replacement	***$1 per sq. ft. of mitigation with a minimum of $5,000 unless a higher or lower amount is deemed necessary by the LRRWMO.***

- The permit application, fee escrow deposit and cash surety deposit may be in one check payable to the Lower Rum River Watershed Management Organization.
- Only actual work done by the LRRWMO or its consultants will be charged against the escrow deposit or performance security.
- The performance surety may be waived if approved wetland banking credits are purchased for fulfilling the required mitigation provisions of the permit.

Joint Application Form for Activities Affecting Water Resources in Minnesota

This joint application form is the accepted means for initiating review of proposals that may affect a water resource (wetland, tributary, lake, etc.) in the State of Minnesota under state and federal regulatory programs. Applicants for Minnesota Department of Natural Resources (DNR) Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. Applicants can use the information entered into MPARS to substitute for completing parts of this joint application form (see the paragraph on MPARS at the end of the joint application form instructions for additional information). This form is only applicable to the water resource aspects of proposed projects under state and federal regulatory programs; other local applications and approvals may be required. Depending on the nature of the project and the location and type of water resources impacted, multiple authorizations may be required as different regulatory programs have different types of jurisdiction over different types of resources.

Regulatory Review Structure

Federal

The St. Paul District of the U.S. Army Corps of Engineers (Corps) is the federal agency that regulates discharges of dredged or fill material into waters of the United States (wetlands, tributaries, lakes, etc.) under Section 404 of the Clean Water Act (CWA) and regulates work in navigable waters under Section 10 of the Rivers and Harbors Act. Applications are assigned to Corps project managers who are responsible for implementing the Corps regulatory program within a particular geographic area.

State

There are three state regulatory programs that regulate activities affecting water resources. The Wetland Conservation Act (WCA) regulates most activities affecting wetlands. It is administered by local government units (LGUs) which can be counties, townships, cities, watershed districts, watershed management organizations or state agencies (on state-owned land). The Minnesota DNR Division of Ecological and Water Resources issues permits for work in specially-designated public waters via the Public Waters Work Permit Program (DNR Public Waters Permits). The Minnesota Pollution Control Agency (MPCA) under Section 401 of the Clean Water Act certifies that discharges of dredged or fill material authorized by a federal permit or license comply with state water quality standards. One or more of these regulatory programs may be applicable to any one project.

Required Information

Prior to submitting an application, applicants are **strongly encouraged** to seek input from the Corps Project Manager and LGU staff to identify regulatory issues and required application materials for their proposed project. Project proponents can request a pre-application consultation with the Corps and LGU to discuss their proposed project by providing the information required in Sections 1 through 5 of this joint application form to facilitate a meaningful discussion about their project. Many LGUs provide a venue (such as regularly scheduled technical evaluation panel meetings) for potential applicants to discuss their projects with multiple agencies prior to submitting an application. Contact information is provided below.

The following bullets outline the information generally required for several common types of determinations/authorizations.

- For delineation approvals and/or jurisdictional determinations, submit Parts 1, 2 and 5, and Attachment A.
- For activities involving CWA/WCA exemptions, WCA no-loss determinations, and activities not requiring mitigation, submit Parts 1 through 5, and Attachment B.
- For activities requiring compensatory mitigation/replacement plan, submit Parts 1 thru 5, and Attachments C and D.
- For local road authority activities that qualify for the state's local road wetland replacement program, submit Parts 1 through 5, and Attachments C, D (if applicable), and E to both the Corps and the LGU.

Submission Instructions

Send the completed joint application form and all required attachments to:

U.S Army Corps of Engineers. Applications may be sent directly to the appropriate Corps Office. For a current listing of areas of responsibilities and contact information, visit the St. Paul District's website at: http://www.mvp.usace.army.mil/Missions/Regulatory.aspx and select "Minnesota" from the contact Information box. Alternatively, applications may be sent directly to the St. Paul District Headquarters and the Corps will forward them to the appropriate field office.

Section 401 Water Quality Certification: Applicants do not need to submit the joint application form to the MPCA unless specifically requested. The MPCA will request a copy of the completed joint application form directly from an applicant when they determine an individual 401 water quality certification is required for a proposed project.

Wetland Conservation Act Local Government Unit: Send to the appropriate Local Government Unit. If necessary, contact your county Soil and Water Conservation District (SWCD) office or visit the Board of Water and Soil Resources (BWSR) web site (www.bwsr.state.mn.us) to determine the appropriate LGU.

DNR Public Waters Permitting: In 2014 the DNR will begin using the Minnesota DNR Permitting and Reporting System (MPARS) for submission of Public Waters permit applications (https://webapps11.dnr.state.mn.us/mpars/public/authentication/login). Applicants for Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. To avoid duplication and to streamline the application process among the various resource agencies, applicants can use the information entered into MPARS to substitute for completing parts of this joint application form. The MPARS print/save function will provide the applicant with a copy of the Public Waters permit application which, at a minimum, will satisfy Parts one and two of this joint application. For certain types of activities, the MPARS application may also provide all of the necessary information required under Parts three and four of the joint application. However, it is the responsibility of the Applicant to make sure that the joint application contains all of the required information, including identification of all aquatic resources impacted by the project (see Part four of the joint application). After confirming that the MPARS application contains all of the required information in Parts one and two the Applicant may attach a copy to the joint application and fill in any missing information in the remainder of the joint application.

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name:
Mailing Address:
Phone:
E-mail Address:

Authorized Contact (do not complete if same as above):
Mailing Address:
Phone:
E-mail Address:

Agent Name:
Mailing Address:
Phone:
E-mail Address:

PART TWO: Site Location Information

County: **City/Township:**
Parcel ID and/or Address:
Legal Description (Section, Township, Range):
Lat/Long (decimal degrees):
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet):

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted ***prior to*** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

Project Name and/or Number:

PART FOUR: Aquatic Resource Impact[1] Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	**Aquatic Resource Type** (wetland, lake, tributary etc.)	**Type of Impact** (fill, excavate, drain, or remove vegetation)	**Duration of Impact** Permanent (P) or Temporary (T)[1]	**Size of Impact**[2]	**Overall Size of Aquatic Resource** [3]	**Existing Plant Community Type(s)** in Impact Area[4]	**County, Major Watershed #, and Bank Service Area #** of Impact Area[5]

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: _____ Date:

I hereby authorize to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

[1] **The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.**

Project Name and/or Number:

Attachment A
Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☐ **Wetland Type Confirmation**

☐ **Delineation Concurrence**. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination**. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination**. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).
http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx

Project Name and/or Number:

Attachment B
Supporting Information for Applications Involving Exemptions, No Loss Determinations, and Activities Not Requiring Mitigation

Complete this part ***if*** you maintain that the identified aquatic resource impacts in Part Four do not require wetland replacement/compensatory mitigation OR ***if*** you are seeking verification that the proposed water resource impacts are either exempt from replacement or are not under CWA/WCA jurisdiction.

Identify the specific exemption or no-loss provision for which you believe your project or site qualifies:

Provide a detailed explanation of how your project or site qualifies for the above. Be specific and provide and refer to attachments and exhibits that support your contention. Applicants should refer to rules (e.g. WCA rules), guidance documents (e.g. BWSR guidance, Corps guidance letters/public notices), and permit conditions (e.g. Corps General Permit conditions) to determine the necessary information to support the application. Applicants are strongly encouraged to contact the WCA LGU and Corps Project Manager prior to submitting an application if they are unsure of what type of information to provide:

Attachment C
Avoidance and Minimization

Project Purpose, Need, and Requirements. Clearly state the purpose of your project and need for your project. Also include a description of any specific requirements of the project as they relate to project location, project footprint, water management, and any other applicable requirements. Attach an overhead plan sheet showing all relevant features of the project (buildings, roads, etc.), aquatic resource features (impact areas noted) and construction details (grading plans, storm water management plans, etc.), referencing these as necessary:

Avoidance. Both the CWA and the WCA require that impacts to aquatic resources be avoided if practicable alternatives exist. Clearly describe all on-site measures considered to avoid impacts to aquatic resources and discuss at least two project alternatives that avoid all impacts to aquatic resources on the site. These alternatives may include alternative site plans, alternate sites, and/or not doing the project. Alternatives should be feasible and prudent (see MN Rules 8420.0520 Subp. 2 C). Applicants are encouraged to attach drawings and plans to support their analysis:

Minimization. Both the CWA and the WCA require that all unavoidable impacts to aquatic resources be minimized to the greatest extent practicable. Discuss all features of the proposed project that have been modified to minimize the impacts to water resources (see MN Rules 8420.0520 Subp. 4):

Off-Site Alternatives. An off-site alternatives analysis is not required for all permit applications. If you know that your proposal will require an individual permit (standard permit or letter of permission) from the U.S. Army Corps of Engineers, you may be required to provide an off-site alternatives analysis. The alternatives analysis is not required for a complete application but must be provided during the review process in order for the Corps to complete the evaluation of your application and reach a final decision. Applicants with questions about when an off-site alternatives analysis is required should contact their Corps Project Manager.

Project Name and/or Number:

Attachment D
Replacement/Compensatory Mitigation

Complete this part ***if*** your application involves wetland replacement/compensatory mitigation not associated with the local road wetland replacement program. Applicants should consult Corps mitigation guidelines and WCA rules for requirements.

Replacement/Compensatory Mitigation via Wetland Banking. Complete this section if you are proposing to use credits from an existing wetland bank (with an account number in the State wetland banking system) for all or part of your replacement/compensatory mitigation requirements.

Wetland Bank Account #	**County**	**Major Watershed #**	**Bank Service Area #**	**Credit Type** (if applicable)	**Number of Credits**

Applicants should attach documentation indicating that they have contacted the wetland bank account owner and reached at least a tentative agreement to utilize the identified credits for the project. This documentation could be a signed purchase agreement, signed application for withdrawal of credits or some other correspondence indicating an agreement between the applicant and the bank owner. *However, applicants are advised not to enter into a binding agreement to purchase credits until the mitigation plan is approved by the Corps and LGU.*

Project-Specific Replacement/Permittee Responsible Mitigation. Complete this section if you are proposing to pursue actions (restoration, creation, preservation, etc.) to generate wetland replacement/compensatory mitigation credits for this proposed project.

WCA Action Eligible for Credit[1]	**Corps Mitigation Compensation Technique**[2]	**Acres**	**Credit % Requested**	**Credits Anticipated**[3]	**County**	**Major Watershed #**	**Bank Service Area #**

[1]Refer to the name and subpart number in MN Rule 8420.0526.
[2]Refer to the technique listed in *St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota*.
[3]If WCA and Corps crediting differs, then enter both numbers and distinguish which is Corps and which is WCA.

Explain how each proposed action or technique will be completed (e.g. wetland hydrology will be restored by breaking the tile……) and how the proposal meets the crediting criteria associated with it. Applicants should refer to the Corps mitigation policy language, WCA rule language, and all associated Corps and WCA guidance related to the action or technique:

Attach a site location map, soils map, recent aerial photograph, and any other maps to show the location and other relevant features of each wetland replacement/mitigation site. Discuss in detail existing vegetation, existing landscape features, land use (on and surrounding the site), existing soils, drainage systems (if present), and water sources and movement. Include a topographic map showing key features related to hydrology and water flow (inlets, outlets, ditches, pumps, etc.):

Project Name and/or Number:

Attach a map of the existing aquatic resources, associated delineation report, and any documentation of regulatory review or approval. Discuss as necessary:

For actions involving construction activities, attach construction plans and specifications with all relevant details. Discuss and provide documentation of a hydrologic and hydraulic analysis of the site to define existing conditions, predict project outcomes, identify specific project performance standards and avoid adverse offsite impacts. Plans and specifications should be prepared by a licensed engineer following standard engineering practices. Discuss anticipated construction sequence and timing:

For projects involving vegetation restoration, provide a vegetation establishment plan that includes information on site preparation, seed mixes and plant materials, seeding/planting plan (attach seeding/planting zone map), planting/seeding methods, vegetation maintenance, and an anticipated schedule of activities:

For projects involving construction or vegetation restoration, identify and discuss goals and specific outcomes that can be determined for credit allocation. Provide a proposed credit allocation table tied to outcomes:

Provide a five-year monitoring plan to address project outcomes and credit allocation:

Discuss and provide evidence of ownership or rights to conduct wetland replacement/mitigation on each site:

Quantify all proposed wetland credits and compare to wetland impacts to identify a proposed wetland replacement ratio. Discuss how this replacement ratio is consistent with Corps and WCA requirements:

By signature below, the applicant attests to the following (only required if application involves project-specific/permittee responsible replacement):

- All proposed replacement wetlands were not:
  - Previously restored or created under a prior approved replacement plan or permit
  - Drained or filled under an exemption during the previous 10 years
  - Restored with financial assistance from public conservation programs
  - Restored using private funds, other than landowner funds, unless the funds are paid back with interest to the individual or organization that funded the restoration and the individual or organization notifies the local government unit in writing that the restored wetland may be considered for replacement.
- The wetland will be replaced before or concurrent with the actual draining or filling of a wetland.
- An irrevocable bank letter of credit, performance bond, or other acceptable security will be provided to guarantee successful completion of the wetland replacement.
- Within 30 days of either receiving approval of this application or beginning work on the project, I will record the Declaration of Restrictions and Covenants on the deed for the property on which the replacement wetland(s) will be located and submit proof of such recording to the LGU and the Corps.

Applicant or Representative: Title:

Signature: _____ Date:

Project Name and/or Number:

Attachment E
Local Road Replacement Program Qualification

Complete this part ***if*** you are a local road authority (county highway department, city transportation department, etc.) seeking verification that your project (or a portion of your project) qualifies for the MN Local Government Road Wetland Replacement Program (LGRWRP). If portions of your project are not eligible for the LGRWRP, then Attachment D should be completed and attached to your application.

Discuss how your project is a repair, rehabilitation, reconstruction, or replacement of a currently serviceable road to meet state/federal design or safety standards/requirements. Applicants should identify the specific road deficiencies and how the project will rectify them. Attach supporting documents and information as applicable:

Provide a map, plan, and/or aerial photograph accurately depicting wetland boundaries within the project area. Attach associated delineation/determination report or otherwise explain the method(s) used to identify and delineate wetlands. Also attach and discuss any type of review or approval of wetland boundaries or other aspects of the project by a member or members of the local Technical Evaluation Panel (TEP) or Corps of Engineers:

In the table below, identify only the wetland impacts from Part 4 that the road authority has determined should qualify for the LGRWRP.

Wetland Impact ID (as noted on overhead view)	**Type of Impact** (fill, excavate, drain)	**Size of Impact** (square feet or acres to 0.01)	**Existing Plant Community Type(s)** in Impact Area[1]	**County, Major Watershed #, and Bank Service Area #** of Impact[2]

[1]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[2]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

Discuss the feasibility of providing onsite compensatory mitigation/replacement for important site-specific wetland functions:

Please note that under the MN Wetland Conservation Act, projects with less than 10,000 square feet of wetland impact are allowed to commence prior to submission of this notification so long as the notification is submitted within 30 days of the impact. The Clean Water Act has no such provision and requires that permits be obtained prior to any regulated discharges into water of the United States. To avoid potential unauthorized activities, road authorities must, at a minimum, provide a complete application to the Corps and receive a permit prior to commencing work.

By signature below, the road authority attests that they have followed the process in MN Rules 8420.0544 and have determined that the wetland impacts identified in Part 4 are eligible for the MN Local Government Road Wetland Replacement Program.

Road Authority Representative: Title:

Signature: _____ Date:

Technical Evaluation Panel Concurrence: Project Name and/or Number:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

Upon approval and signature by the TEP, application must be sent to: **Wetland Bank Administration**
Minnesota Board of Water & Soil Resources
520 Lafayette Road North
Saint Paul, MN 55155

APPENDIX C

Wetland Photographs



View of Wetland 1 looking east.



View of Wetland 1 looking south.



Weir between wetland 1 and Wetland 2.



View of Wetland 2 looking southeast.



View of Wetland 2 looking south near sampling point.



View of Wetland 2 culvert.



View of SA-1 looking north.



View of SA-2 looking north.

Appendix C

SHPO and NHIS Correspondence

Minnesota Department of Natural Resources
Division of Ecological & Water Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155-4025

July 7, 2023
Correspondence # MCE 2023-00323

Cole Kiernan
Kimley-Horn and Associates, Inc.

RE: Natural Heritage Review of the proposed Lord of Life Church Campus,
T32N R25W Section 25; Anoka County

Dear Cole Kiernan,

As requested, the Minnesota Natural Heritage Information System has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

State-listed Species

- Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been documented in the vicinity of the proposed project. Blanding's turtles use upland areas up to and over a mile distant from wetlands, waterbodies, and watercourses. Uplands are used for nesting, basking, periods of dormancy, and traveling between wetlands. Factors believed to contribute to the decline of this species include collisions with vehicles, wetland drainage and degradation, and the development of upland habitat. Any added mortality can be detrimental to populations of Blanding's turtles, as these turtles have a low reproduction rate that depends upon a high survival rate to maintain population levels.

  This project has the potential to impact this rare turtle through direct fatalities and habitat disturbance/destruction due to excavation, fill, and other construction activities associated with the project. Minnesota's Endangered Species Statute (*Minnesota Statutes*, section 84.0895) and associated Rules (*Minnesota Rules*, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. As such, **the following avoidance measures are required**:

- Avoid wetland and aquatic impacts during hibernation season, between September 15th and April 15th, if the area is suitable for hibernation.
- The use of erosion control blanket shall be limited to 'bio-netting' or 'natural-netting' types, and specifically not products containing plastic mesh netting or other plastic components.
    - Also, be aware that hydro-mulch products may contain small synthetic (plastic) fibers to aid in their matrix strength. These loose fibers could potentially re-suspend and make their way into Public Waters. As such, please review mulch products and do not allow any materials with synthetic (plastic) fiber additives in areas that drain into Public Waters.
- Construction areas, especially aquatic or wetland areas, should be thoroughly checked for turtles before the use of heavy equipment or any ground disturbance.
    - The Blanding's turtle flyer must be given to all contractors working in the area.
    - Monitor for turtles during construction and report any sightings to the DNR Nongame Specialist, Erica Hoaglund (Erica.Hoaglund@state.mn.us).
    - If turtles are in imminent danger they must be moved by hand out of harm's way, otherwise, they are to be left undisturbed.

If following the above avoidance measures is not possible, please contact NHIS.Review@state.mn.us as further action may be needed.

For additional information, see the Blanding's turtle fact sheet, which describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. **Please refer to both lists of recommendations and apply those that are relevant to your project.** For further assistance regarding the Blanding's turtle, please contact the DNR Regional Nongame Specialist, Erica Hoaglund.

- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Even if there are no bat records listed nearby, all seven of Minnesota's bats, including the federally endangered northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, the DNR recommends that tree removal be avoided from June 1 through August 15.

- Please visit the DNR Rare Species Guide for more information on the habitat use of these species and recommended measures to avoid or minimize impacts. For further assistance with these species, please contact the appropriate DNR Regional Nongame Specialist or Regional Ecologist.

Federally Protected Species

- To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) tool.

Environmental Review and Permitting

- The Environmental Assessment Worksheet should address whether the proposed project has the potential to adversely affect the above rare features and, if so, it should identify specific measures that will be taken to avoid or minimize disturbance. Sufficient information should be provided so the DNR can determine whether a takings permit will be needed for any of the above protected species.

- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

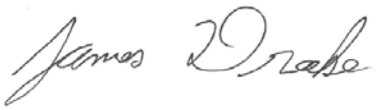
The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and project description provided with the request. If project details change or the project has not occurred within one year, please resubmit the project for review within one year of initiating project activities.

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare features. Visit the Natural Heritage Review website for additional information regarding this process, survey guidance, and other related information. For information on the environmental review process or other natural resource concerns, you may contact your DNR Regional Environmental Assessment Ecologist.

Thank you for consulting us on this matter and for your interest in preserving Minnesota's rare natural resources.

Sincerely,



James Drake
Natural Heritage Review Specialist
James.F.Drake@state.mn.us

Cc: Melissa Collins

Environmental Review Fact Sheet Series

Endangered, Threatened, and Special Concern Species of Minnesota

Blanding's Turtle

(*Emydoidea blandingii*)

Minnesota Status:	Threatened	State Rank[1]:	S2
Federal Status:	none	Global Rank[1]:	G4

HABITAT USE

Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Also, the warmer water of these shallower areas probably aids in the development of eggs within the female turtle. Nesting occurs in open (grassy or brushy) sandy uplands, often some distance from water bodies. Frequently, nesting occurs in traditional nesting grounds on undeveloped land. Blanding's turtles have also been known to nest successfully on residential property (especially in low density housing situations), and to utilize disturbed areas such as farm fields, gardens, under power lines, and road shoulders (especially of dirt roads). Although Blanding's turtles may travel through woodlots during their seasonal movements, shady areas (including forests and lawns with shade trees) are not used for nesting. Wetlands with deeper water are needed in times of drought, and during the winter. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing.

LIFE HISTORY

Individuals emerge from overwintering and begin basking in late March or early April on warm, sunny days. The increase in body temperature which occurs during basking is necessary for egg development within the female turtle. Nesting in Minnesota typically occurs during June, and females are most active in late afternoon and at dusk. Nesting can occur as much as a mile from wetlands. The nest is dug by the female in an open sandy area and 6-15 eggs are laid. The female turtle returns to the marsh within 24 hours of laying eggs. After a development period of approximately two months, hatchlings leave the nest from mid-August through early-October. Nesting females and hatchlings are often at risk of being killed while crossing roads between wetlands and nesting areas. In addition to movements associated with nesting, all ages and both sexes move between wetlands from April through November. These movements peak in June and July and again in September and October as turtles move to and from overwintering sites. In late autumn (typically November), Blanding's turtles bury themselves in the substrate (the mud at the bottom) of deeper wetlands to overwinter.

IMPACTS / THREATS / CAUSES OF DECLINE

- loss of wetland habitat through drainage or flooding (converting wetlands into ponds or lakes)
- loss of upland habitat through development or conversion to agriculture
- human disturbance, including collection for the pet trade* and road kills during seasonal movements
- increase in predator populations (skunks, racoons, etc.) which prey on nests and young

*It is illegal to possess this threatened species.

RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS

These recommendations apply to typical construction projects and general land use within Blanding's turtle habitat, and are provided to help local governments, developers, contractors, and homeowners minimize or avoid detrimental impacts to Blanding's turtle populations. **List 1** describes minimum measures which we recommend to prevent harm to Blanding's turtles during construction or other work within Blanding's turtle habitat. **List 2** contains recommendations which offer even greater protection for Blanding's turtles populations; this list should be used *in addition to the first list* in areas which are known to be of state-wide importance to Blanding's turtles (contact the DNR's Natural Heritage and Nongame Research Program if you wish to determine if your project or home is in one of these areas), or in any other area where greater protection for Blanding's turtles is desired.

List 1. Recommendations for all areas inhabited by Blanding's turtles.	**List 2. *Additional* recommendations for areas known to be of state-wide importance to Blanding's turtles.**
GENERAL	
A flyer with an illustration of a Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.	Turtle crossing signs can be installed adjacent to road-crossing areas used by Blanding's turtles to increase public awareness and reduce road kills.
Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed.	Workers in the area should be aware that Blanding's turtles nest in June, generally after 4pm, and should be advised to minimize disturbance if turtles are seen.
If a Blanding's turtle nests in your yard, do not disturb the nest.	If you would like to provide more protection for a Blanding's turtle nest on your property, see "Protecting Blanding's Turtle Nests" on page 3 of this fact sheet.
Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.	Construction in potential nesting areas should be limited to the period between September 15 and June 1 (this is the time when activity of adults and hatchlings in upland areas is at a minimum).
WETLANDS	
Small, vegetated temporary wetlands (Types 2 & 3) should not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer).	Shallow portions of wetlands should not be disturbed during prime basking time (mid morning to mid- afternoon in May and June). A wide buffer should be left along the shore to minimize human activity near wetlands (basking Blanding's turtles are more easily disturbed than other turtle species).
Wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.	Wetlands should be protected from road, lawn, and other chemical run-off by a vegetated buffer strip at least 50' wide. This area should be left unmowed and in a natural condition.
ROADS	
Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).	Tunnels should be considered in areas with concentrations of turtle crossings (more than 10 turtles per year per 100 meters of road), and in areas of lower density if the level of road use would make a safe crossing impossible for turtles. Contact your DNR Regional Nongame Specialist for further information on wildlife tunnels.
Roads should be ditched, not curbed or below grade. If curbs must be used, 4 inch high curbs at a 3:1 slope are preferred (Blanding's turtles have great difficulty climbing traditional curbs; curbs and below grade roads trap turtles on the road and can cause road kills).	Roads should be ditched, not curbed or below grade.

ROADS cont.	
Culverts between wetland areas, or between wetland areas and nesting areas, should be 36 inches or greater in diameter, and elliptical or flat-bottomed.	Road placement should avoid separating wetlands from adjacent upland nesting sites, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details).
Wetland crossings should be bridged, or include raised roadways with culverts which are 36 in or greater in diameter and flat-bottomed or elliptical (raised roadways discourage turtles from leaving the wetland to bask on roads).	Road placement should avoid bisecting wetlands, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details). This is especially important for roads with more than 2 lanes.
Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.	Roads crossing streams should be bridged.
UTILITIES	
Utility access and maintenance roads should be kept to a minimum (this reduces road-kill potential).	
Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.	
LANDSCAPING AND VEGETATION MANAGEMENT	
Terrain should be left with as much natural contour as possible.	As much natural landscape as possible should be preserved (installation of sod or wood chips, paving, and planting of trees within nesting habitat can make that habitat unusable to nesting Blanding's turtles).
Graded areas should be revegetated with native grasses and forbs (some non-natives form dense patches through which it is difficult for turtles to travel).	Open space should include some areas at higher elevations for nesting. These areas should be retained in native vegetation, and should be connected to wetlands by a wide corridor of native vegetation.
Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).	Ditches and utility access roads should not be mowed or managed through use of chemicals. If vegetation management is required, it should be done mechanically, as infrequently as possible, and fall through spring (mowing can kill turtles present during mowing, and makes it easier for predators to locate turtles crossing roads).

Protecting Blanding's Turtle Nests: Most predation on turtle nests occurs within 48 hours after the eggs are laid. After this time, the scent is gone from the nest and it is more difficult for predators to locate the nest. Nests more than a week old probably do not need additional protection, unless they are in a particularly vulnerable spot, such as a yard where pets may disturb the nest. Turtle nests can be protected from predators and other disturbance by covering them with a piece of wire fencing (such as chicken wire), secured to the ground with stakes or rocks. The piece of fencing should measure at least 2 ft. x 2 ft., and should be of medium sized mesh (openings should be about 2 in. x 2 in.). It is ***very important*** that the fencing be **removed before August 1st** so the young turtles can escape from the nest when they hatch!

REFERENCES

[1]Association for Biodiversity Information. "Heritage Status: Global, National, and Subnational Conservation Status Ranks." NatureServe. Version 1.3 (9 April 2001). http://www.natureserve.org/ranking.htm (15 April 2001).

Coffin, B., and L. Pfannmuller. 1988. Minnesota's Endangered Flora and Fauna. University of Minnesota Press, Minneapolis, 473 pp.

REFERENCES (cont.)

Moriarty, J. J., and M. Linck. 1994. Suggested guidelines for projects occurring in Blanding's turtle habitat. Unpublished report to the Minnesota DNR. 8 pp.

Oldfield, B., and J. J. Moriarty. 1994. Amphibians and Reptiles Native to Minnesota. University of Minnesota Press, Minneapolis, 237 pp.

Sajwaj, T. D., and J. W. Lang. 2000. Thermal ecology of Blanding's turtle in central Minnesota. Chelonian Conservation and Biology 3(4):626-636.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Project information

NAME

Haviland Fields

LOCATION

Anoka County, Minnesota



DESCRIPTION

None

Local office

Minnesota-Wisconsin Ecological Services Field Office

(952) 858-0793
(952) 646-2873

3815 American Blvd East
Bloomington, MN 55425-1659

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of

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Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

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Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON

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Bald Eagle Haliaeetus leucocephalus — Breeds Dec 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Black Tern Chlidonias niger — Breeds May 15 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3093

Black-billed Cuckoo Coccyzus erythropthalmus — Breeds May 15 to Oct 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9399

Bobolink Dolichonyx oryzivorus — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Canada Warbler Cardellina canadensis — Breeds May 20 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Cerulean Warbler Dendroica cerulea — Breeds Apr 22 to Jul 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/2974

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Eastern Whip-poor-will Antrostomus vociferus — Breeds May 1 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden-winged Warbler Vermivora chrysoptera — Breeds May 1 to Jul 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8745

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Henslow's Sparrow Ammodramus henslowii — Breeds May 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3941

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Ruddy Turnstone Arenaria interpres morinella — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Rusty Blackbird Euphagus carolinus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

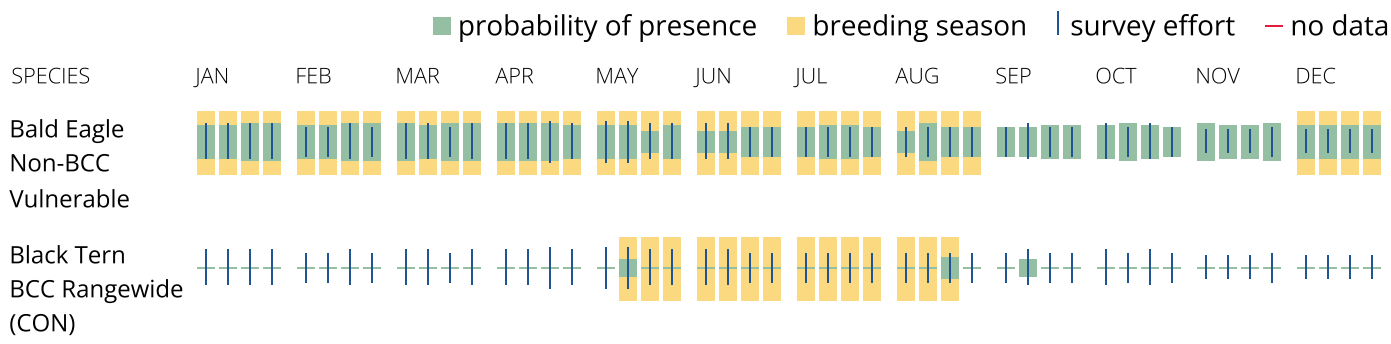
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

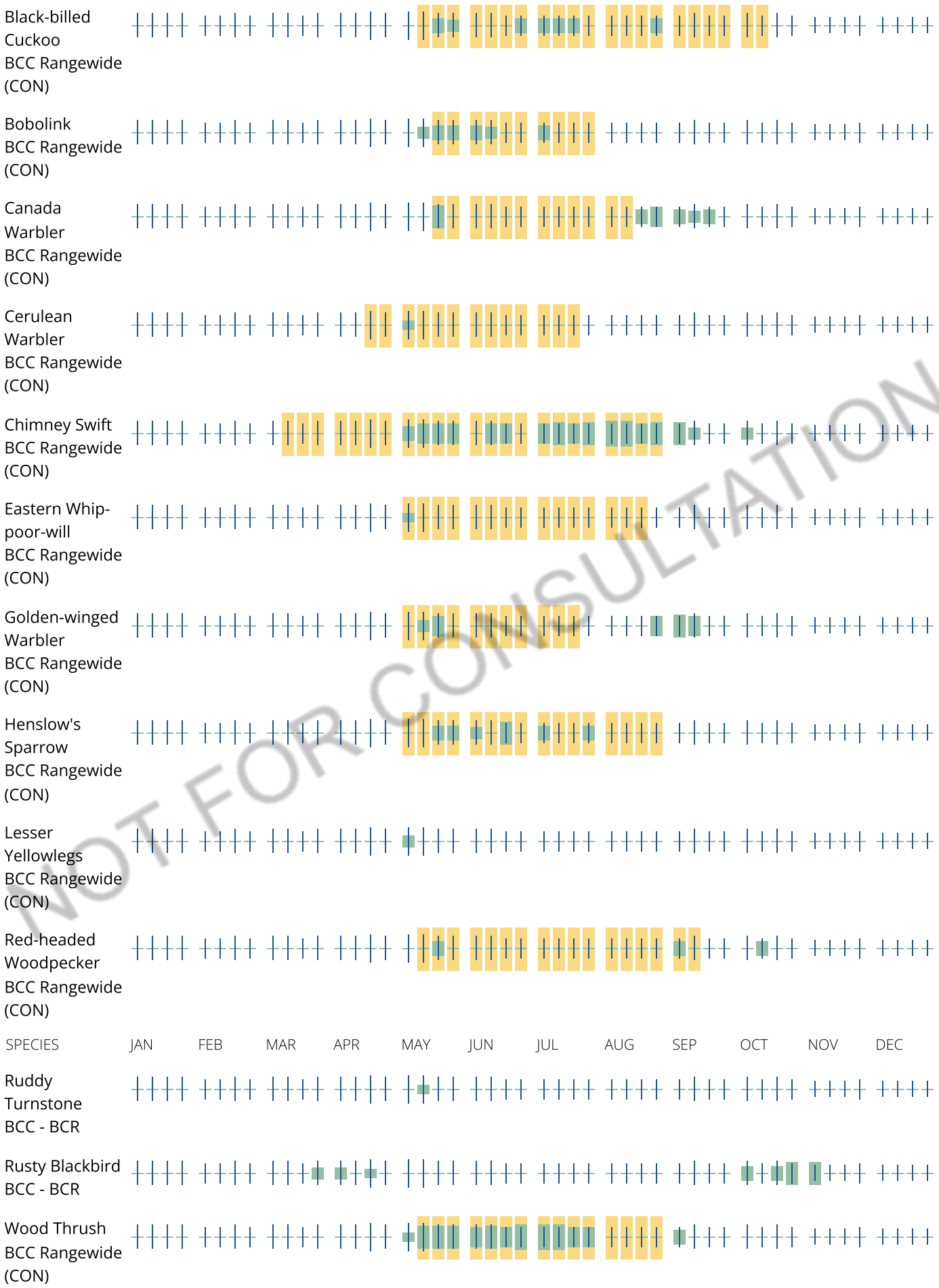
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

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1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn

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more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

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The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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SHPO Historical Properties in Section 25 T32N R25W										
COUNTY	CITYTWP	PROPNAME	ADDRESS	TWNSHP	RANGE	SECT	QUARTERS	USGS	NRH	INVENTNUM
Anoka	Ramsey	District No. 28 School	14100 St. Francis Blvd. NW	32	25	25	SW-SW-SE	Anoka	Y	AN-RMC-001

SHPO Archaeology Surveys in Section 25 T32N R25W											
COUNTY	SITENUM	TOWNSHIP	RANGE	SECTION	XQUARTERS	ACRES	WORKTYPE	DESCRIPT	TRADITION	CONTEXT	ReportNum
Anoka											
	21AN0144	32	25	25	NW-SE-NE,NE-SW-NE	1.3	1	AS	W-1		
	21AN0145	32	25	25	SE-NE-NE	0.8	1	AS	W-1		AN-97-04
	21AN0146	32	25	25	W-SE-E-NE	0.8	1	AS		RA-1	

Appendix D

Greenhouse Gas Analysis

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U.S. Environmental Protection Agency

Emissions Summary

Guidance

The total GHG emissions from each source category are provided below. You may also use this summary sheet to fill out the *Annual GHG Inventory Summary and Goal Tracking Form* as this calculator only quantifies one year of emissions at a time.

https://www.epa.gov/climateleadership/center-corporate-climate-leadership-annual-ghg-inventory-summary-and-goal-tracking

By entering the data below into the appropriate cell of the *Annual GHG Inventory Summary and Goal Tracking Form,* you will be able to compare multiple years of data.

If you have multiple Calculator files covering sub-sets of your inventory for a particular reporting period, sum each of the emission categories (e.g. Stationary Combustion) to an organizational total, which then can be entered into the *Annual GHG Inventory Summary and Goal Tracking Form* .

(A) Enter organization information into the orange cells. Other cells on this sheet will be automatically calculated from the data entered in the sheets in this workbook. Blue cells indicate required emission sources if applicable. Green cells indicate scope 3 emission sources and offsets, which organizations may optionally include in their inventory.

(B) The "Go To Sheet" buttons can be used to navigate to the data entry sheets.

Organizational Information:

Organization Name:	Senior Housing Partners
Organization Address:	14501 Nowthen Blvd NW, Ramsey, MN 55303
Inventory Reporting Period:	*Existing Conditions*
Start:	*2024*
End:	*2028*
Name of Preparer:	Kimley-Horn
Phone Number of Preparer:	612-400-9099
Date Prepared:	2023

Summary of Organization's Emissions:

Scope 1 Emissions

Go To Sheet	Stationary Combustion	838	CO_2-e (metric tons)
Go To Sheet	Mobile Sources	0	CO_2-e (metric tons)
Go To Sheet	Refrigeration / AC Equipment Use	0	CO_2-e (metric tons)
Go To Sheet	Fire Suppression	0	CO_2-e (metric tons)
Go To Sheet	Purchased Gases	0	CO_2-e (metric tons)

Location-Based Scope 2 Emissions

Go To Sheet	Purchased and Consumed Electricity	48	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)

Market-Based Scope 2 Emissions

Go To Sheet	Purchased and Consumed Electricity	48	CO_2-e (metric tons)

Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)

Total organization Emissions

Total Scope 1 & Location-Based Scope 2	886	CO_2-e (metric tons)
Total Scope 1 & Market-Based Scope 2	886	CO_2-e (metric tons)

Reductions

Go To Sheet	Offsets	0	CO_2-e (metric tons)

Net Scope 1 and 2 Location-Based Emissions	886	CO_2-e (metric tons)
Net Scope 1 and 2 Market-Based Emissions	886	CO_2-e (metric tons)

Scope 3 Emissions

Go To Sheet	Employee Business Travel	0	CO_2-e (metric tons)
Go To Sheet	Employee Commuting	0	CO_2-e (metric tons)
Go To Sheet	Product Transport	0	CO_2-e (metric tons)
Go To Sheet	Waste	2,084	CO_2-e (metric tons)

Required Supplemental Information

Go To Sheet	Biomass CO_2 Emissions from Stationary Sources	0	CO_2-e (metric tons)
Go To Sheet	Biomass CO_2 Emissions from Mobile Sources	0	CO_2-e (metric tons)

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Scope 1 Emissions from Stationary Combustion Sources

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U.S. Environmental Protection Agency

Guidance

(A) Enter annual data for each combustion unit, facility, or site (by fuel type) in ORANGE cells on **Table 1**. Example entry is shown in first row (*GREEN Italics*).

- Select "Fuel Combusted" from drop down box.
- Enter "Quantity Combusted" and choose the appropriate units from the drop down box in the unit column. If it's necessary to convert units, common heat contents can be found on the "Heat Content" sheet and unit conversions on the "Unit Conversion" sheet.

(B) If fuel is consumed in a facility but stationary fuel consumption data are not available, an estimate should be made for completeness. See the "Items to Note" section of the Help sheet for suggested estimation approaches.

(C) Biomass CO_2 emissions are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Stationary Source Fuel Combustion

Source ID	Source Description	Source Area (sq ft)	Fuel Combusted	Quantity Combusted	Units
BLR-012	*East Power Plant*	*12,517*	*Natural Gas*	*10,000*	*MMBtu*
Institutional	Natural Gas Use	557,568	Natural Gas	15,668	MMBtu
Single Fam	Natural Gas Use	2	Natural Gas	115	MMBtu

GHG Emissions

Total Organization-Wide Stationary Source Combustion by Fuel Type

Fuel Type	Quantity Combusted	Units
Anthracite Coal	0	short tons
Bituminous Coal	0	short tons
Sub-bituminous Coal	0	short tons

Lignite Coal	0	short tons
Natural Gas	15,382,710	scf
Distillate Fuel Oil No. 2	0	gallons
Residual Fuel Oil No. 6	0	gallons
Kerosene	0	gallons
Liquefied Petroleum Gases (LPG)	0	gallons
Wood and Wood Residuals	0	short tons
Landfill Gas	0	scf

Total Organization-Wide CO_2, CH_4 and N_2O Emissions from Stationary Source Fuel Combustion

Fuel Type	CO_2 (kg)	CH_4 (g)	N_2O (g)
Anthracite Coal	0.0	0.0	0.0
Bituminous Coal	0.0	0.0	0.0
Sub-bituminous Coal	0.0	0.0	0.0
Lignite Coal	0.0	0.0	0.0
Natural Gas	837,434.8	15,844.2	1,538.3
Distillate Fuel Oil No. 2	0.0	0.0	0.0
Residual Fuel Oil No. 6	0.0	0.0	0.0
Kerosene	0.0	0.0	0.0
Liquefied Petroleum Gases (LPG)	0.0	0.0	0.0
Total Fossil Fuel Emissions	**837,434.8**	**15,844.2**	**1,538.3**
Wood and Wood Residuals	0.0	0.0	0.0
Landfill Gas	0.0	0.0	0.0
Total Non-Fossil Fuel Emissions	**0.0**	**0.0**	**0.0**
Total Emissions for all Fuels	**837,434.8**	**15,844.2**	**1,538.3**

Total CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**838.3**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**0.0**

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Scope 2 Emissions from Purchase of Electricity

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U.S. Environmental Protection Agency

Guidance

The Indirect Emissions from Purchased Electricity Guidance document provides guidance for quantifying two scope 2 emissions totals, using a **location-based method** and a **market-based method**. The organization should quantify and report both totals in its GHG inventory. The location-based method considers average emission factors for the electricity grids that provide electricity. The market-based method considers contractual arrangements under which the organization procures electricity from specific sources, such as renewable energy.

(A) Enter total annual electricity purchased in kWh and each eGRID subregion for each facility or site in ORANGE cells of **Table 1**.
(B) If electricity consumption data are not available for a facility, an estimate should be made for completeness.
See the "Items to Note" section of the Help sheet for suggested estimation approaches.
(C) Select "eGRID subregion" from drop box and enter "Electricity Purchased."
- Use map (Figure 1) at bottom of sheet to determine appropriate eGRID subregion. If subregion cannot be determined from the map, find the correct subregion by entering the location's zip code into EPA's Power Profiler:
https://www.epa.gov/egrid/power-profiler#/
(D) See the market-based emission factor hierarchy on the market-based method Help sheet. If any of the first four types of emission factors are applicable, enter the factors in the yellow cells marked as "<enter factor>". If not, leave the yellow cells as is, and eGRID subregion factors will be used for market-based emissions.
Example entry is shown in first row (*GREEN Italics*) for a facility that purchases RECs for 100% of its consumption, and therefore has a market-based emission factor of 0.

Help - Market-Based Method

Tips: Enter electricity usage by location and then look up the eGRID subregion for each location.
If you purchase renewable energy that is less than 100% of your site's electricity, see the example in the market-based method Help sheet.

Table 1. Total Amount of Electricity Purchased by eGRID Subregion

					Market-Based						Location-Based		
					Use these cells to enter applicable market-based emission factors								
					Emission Factors			Emissions			Emissions		
Source ID	Source Description	Source Area (sq ft)	eGRID Subregion *where electricity is consumed*	Electricity Purchased (kWh)	CO_2 Emissions (lb/MWh)	CH_4 Emissions (lb/MWh)	N_2O Emissions (lb/MWh)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)
Bldg-012	*East Power Plant*	*12,517*	*HIMS (HICC Miscellaneous)*	*200,000*	*0*	*0*	*0*	*0.0*	*0.0*	*0.0*	*237,120.0*	*28.6*	*4.4*
Institutional	Electricity Use	557,568	MROW (MRO West)	78,880	<enter factor>	<enter factor>	<enter factor>	86,641.8	9.4	1.3	86,641.8	9.4	1.3
Single Fami	Electricity Use	2	MROW (MRO West)	16,084	<enter factor>	<enter factor>	<enter factor>	17,666.7	1.9	0.3	17,666.7	1.9	0.3
					<enter factor>	<enter factor>	<enter factor>					

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Scope 3 Emissions from Waste

Guidance

(A) Enter annual waste data in ORANGE cells. Example entry is shown in first row (*GREEN Italics*).

(B) Choose the appropriate material and disposal method from the drop down options. For the average-data method, use one of the mixed material types, such as mixed MSW. If the exact waste material is not available, consider an appropriate proxy. For example, dimensional lumber can be used as a proxy for wood furniture.

(C) Choose an appropriate disposal method. Note that not all disposal methods are available for all materials. If there is a #NA or # Value error in the emissions column, you must pick a new material type or appropriate disposal method.

Table 1. Waste Disposal Weight by Waste Material and Disposal Method (CO_2, CH_4 and N_2O)

Source ID	Source Description	Waste Material	Disposal Method	Weight	Unit	CO_2e Emissions (kg)
Bldg-012	*East Power Plant Finished Goods*	*Steel Cans*	*Landfilled*	*1,000*	*metric ton*	*22,040*
Nonresidential Buildings	Nonresidential Waste	Mixed MSW municipal solid waste	Combusted	3,345	metric ton	*1,585,062*
Residential	Residential Waste	Mixed MSW municipal solid waste	Combusted	2	metric ton	*948*
Nonresidential Buildings	Nonresidential Waste	Mixed Recyclables	Recycled	5,018	metric ton	*497,685*
Residential	Residential Waste	Mixed Recyclables	Recycled	3	metric ton	*298*

GHG Emissions

Total Emissions by Disposal Method

Waste Material	CO_2e (kg)
Recycled	497,983
Landfilled	-
Combusted	1,586,009
Composted	-
Anaerobically Digested (Dry Digestate with Curing)	-
Anaerobically Digested (Wet Digestate with Curing)	-

Total CO_2 Equivalent Emissions (metric tons) - Waste	**2,084.0**

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Emissions Summary

Guidance

The total GHG emissions from each source category are provided below. You may also use this summary sheet to fill out the *Annual GHG Inventory Summary and Goal Tracking Form* as this calculator only quantifies one year of emissions at a time.

https://www.epa.gov/climateleadership/center-corporate-climate-leadership-annual-ghg-inventory-summary-and-goal-tracking

By entering the data below into the appropriate cell of the *Annual GHG Inventory Summary and Goal Tracking Form,* you will be able to compare multiple years of data.

If you have multiple Calculator files covering sub-sets of your inventory for a particular reporting period, sum each of the emission categories (e.g. Stationary Combustion) to an organizational total, which then can be entered into the *Annual GHG Inventory Summary and Goal Tracking Form* .

(A) Enter organization information into the orange cells. Other cells on this sheet will be automatically calculated from the data entered in the sheets in this workbook. Blue cells indicate required emission sources if applicable. Green cells indicate scope 3 emission sources and offsets, which organizations may optionally include in their inventory.

(B) The "Go To Sheet" buttons can be used to navigate to the data entry sheets.

Organizational Information:

Organization Name:	Senior Housing Partners
Organization Address:	14501 Nowthen Blvd NW, Ramsey, MN 55303
Inventory Reporting Period:	*Proposed Development*
Start:	*2024*
End:	*2028*
Name of Preparer:	Kimley-Horn
Phone Number of Preparer:	612-400-9099
Date Prepared:	2023

Summary of Organization's Emissions:

Scope 1 Emissions

Go To Sheet	Stationary Combustion	1,295	CO_2-e (metric tons)
Go To Sheet	Mobile Sources	1,145	CO_2-e (metric tons)
Go To Sheet	Refrigeration / AC Equipment Use	0	CO_2-e (metric tons)
Go To Sheet	Fire Suppression	0	CO_2-e (metric tons)
Go To Sheet	Purchased Gases	0	CO_2-e (metric tons)

Location-Based Scope 2 Emissions

Go To Sheet	Purchased and Consumed Electricity	1,423	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)

Market-Based Scope 2 Emissions

Go To Sheet	Purchased and Consumed Electricity	1,423	CO_2-e (metric tons)

Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)

Total organization Emissions

Total Scope 1 & Location-Based Scope 2	3,863	CO_2-e (metric tons)
Total Scope 1 & Market-Based Scope 2	3,863	CO_2-e (metric tons)

Reductions

Go To Sheet	Offsets	0	CO_2-e (metric tons)

Net Scope 1 and 2 Location-Based Emissions	3,863	CO_2-e (metric tons)
Net Scope 1 and 2 Market-Based Emissions	3,863	CO_2-e (metric tons)

Scope 3 Emissions

Go To Sheet	Employee Business Travel	0	CO_2-e (metric tons)
Go To Sheet	Employee Commuting	0	CO_2-e (metric tons)
Go To Sheet	Product Transport	0	CO_2-e (metric tons)
Go To Sheet	Waste	2,373	CO_2-e (metric tons)

Required Supplemental Information

Go To Sheet	Biomass CO_2 Emissions from Stationary Sources	0	CO_2-e (metric tons)
Go To Sheet	Biomass CO_2 Emissions from Mobile Sources	0	CO_2-e (metric tons)

Back to Intro | Back to Summary | Heat Content | Help

Scope 1 Emissions from Stationary Combustion Sources

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Guidance

(A) Enter annual data for each combustion unit, facility, or site (by fuel type) in ORANGE cells on **Table 1**. Example entry is shown in first row (*GREEN Italics*).

- Select "Fuel Combusted" from drop down box.
- Enter "Quantity Combusted" and choose the appropriate units from the drop down box in the unit column. If it's necessary to convert units, common heat contents can be found on the "Heat Content" sheet and unit conversions on the "Unit Conversion" sheet.

(B) If fuel is consumed in a facility but stationary fuel consumption data are not available, an estimate should be made for completeness. See the "Items to Note" section of the Help sheet for suggested estimation approaches.

(C) Biomass CO_2 emissions are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Stationary Source Fuel Combustion

Source ID	Source Description	Source Area (sq ft)	Fuel Combusted	Quantity Combusted	Units
BLR-012	*East Power Plant*	*12,517*	*Natural Gas*	*10,000*	*MMBtu*
Institutional	Natural Gas Use	557,568	Natural Gas	15,668	MMBtu
Multifamily	Natural Gas Use	146,529	Natural Gas	8,715	MMBtu

GHG Emissions

Total Organization-Wide Stationary Source Combustion by Fuel Type

Fuel Type	Quantity Combusted	Units
Anthracite Coal	0	short tons
Bituminous Coal	0	short tons
Sub-bituminous Coal	0	short tons

Lignite Coal	0	short tons
Natural Gas	23,764,777	scf
Distillate Fuel Oil No. 2	0	gallons
Residual Fuel Oil No. 6	0	gallons
Kerosene	0	gallons
Liquefied Petroleum Gases (LPG)	0	gallons
Wood and Wood Residuals	0	short tons
Landfill Gas	0	scf

Total Organization-Wide CO_2, CH_4 and N_2O Emissions from Stationary Source Fuel Combustion

Fuel Type	CO_2 (kg)	CH_4 (g)	N_2O (g)
Anthracite Coal	0.0	0.0	0.0
Bituminous Coal	0.0	0.0	0.0
Sub-bituminous Coal	0.0	0.0	0.0
Lignite Coal	0.0	0.0	0.0
Natural Gas	1,293,754.4	24,477.7	2,376.5
Distillate Fuel Oil No. 2	0.0	0.0	0.0
Residual Fuel Oil No. 6	0.0	0.0	0.0
Kerosene	0.0	0.0	0.0
Liquefied Petroleum Gases (LPG)	0.0	0.0	0.0
Total Fossil Fuel Emissions	**1,293,754.4**	**24,477.7**	**2,376.5**
Wood and Wood Residuals	0.0	0.0	0.0
Landfill Gas	0.0	0.0	0.0
Total Non-Fossil Fuel Emissions	**0.0**	**0.0**	**0.0**
Total Emissions for all Fuels	**1,293,754.4**	**24,477.7**	**2,376.5**

Total CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**1,295.1**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**0.0**

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Scope 1 Emissions from Mobile Sources

Guidance

(A) Enter annual data for each vehicle or group of vehicles (grouped by vehicle type, vehicle year, and fuel type) in ORANGE cells in **Table 1**. Example entry is shown in first row (GREEN *Italics*). Only enter vehicles owned or leased by your organization on this sheet. All other vehicle use such as employee commuting or business travel is considered a scope 3 emissions source and should be reported in the corresponding scope 3 sheets.

- Select "On-Road" or "Non-Road" from drop down box to determine the Vehicle Types available.
- Select "Vehicle Type" from drop down box (closest type available).
- Enter "Fuel Usage" in appropriate units (units appear when vehicle type is selected).
- If mileage or fuel usage is unknown, estimate using approximate fuel economy values (see **Reference Table** below).
- Vehicle year and Miles traveled are not necessary for non-road equiment.

(B) When using biofuels, typically the biofuel (biodiesel or ethanol) is mixed with a petroleum fuel (diesel or gasoline) for use in vehicles. Enter the biodiesel and ethanol percentages of the fuel if known, or leave default values.

Biodiesel Percent:	20	%
Ethanol Percent:	80	%

(C) Biomass CO_2 emissions from biodiesel and ethanol are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Mobile Source Fuel Combustion and Miles Traveled

Source ID	Source Description	On-Road or Non-Road?	Vehicle Type	Vehicle Year	Fuel Usage	Units	Miles Traveled
Fleet-012	*HQ Fleet*	*NonRoad*	*Ships and Boats - Diesel*	*1990*	*500*	*gal*	*3,670*
Construction Equipment (non-road g	Construction Equipment	NonRoad	Construction/Mining Equipment - Gasoline (2 stroke)	2007	24,750	gal	0
Passenger Cars	Construction Equipment	OnRoad	Passenger Cars - Gasoline	2007	84	gal	4,368
Construction Equipment (non-road d	Construction Equipment	NonRoad	Construction/Mining Equipment - Diesel	2007	88,391	gal	0
Medium- and Heavy- Duty Trucks	Construction Equipment	OnRoad	Medium- and Heavy-Duty Vehicles - Diesel	2007	177	gal	1,560
Light Trucks	Construction Equipment	OnRoad	Light-Duty Trucks - Gasoline	2007	165	gal	1,560

Reference Table: Average Fuel Economy by Vehicle Type

Vehicle Type	Average Fuel Economy (mpg)
Passenger Cars	24.1
Motorcycles	44.0
Diesel Buses (Diesel Heavy-Duty Vehicles)	7.3
Other 2-axle, 4-Tire Vehicles	17.6
Single unit 2-Axle 6-Tire or More Trucks	7.5
Combination Trucks	6.1

GHG Emissions

Total Organization-Wide Mobile Source Fuel Usage and CO_2 Emissions (On-Road and Off-Road Vehicles)

Fuel Type	Fuel Usage	Units	CO_2 (kg)	
Motor Gasoline	24,999	gallons	219,491.2	
Diesel Fuel	88,568	gallons	904,279.3	
Residual Fuel Oil	0	gallons	0.0	
Aviation Gasoline	0	gallons	0.0	
Kerosene-Type Jet Fuel	0	gallons	0.0	
Liquefied Petroleum Gas (LPG)	0	gallons	0.0	
Ethanol	0	gallons	0.0	*Note: emissions here are only for the g*
Biodiesel	0	gallons	0.0	*Note: emissions here are only for the d*
Liquefied Natural Gas (LNG)	0	gallons	0.0	
Compressed Natural Gas (CNG)	0	scf	0.0	

Total Organization-Wide On-Road Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Gasoline	1984-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	4,368	31.4	22.7
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Light-Duty Trucks - Gasoline (Vans, Pickup Trucks, SUVs)	1987-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	1,560	16.1	9.5
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Heavy-Duty Vehicles - Gasoline	1985-86	0	0.0	0.0
	1987	0	0.0	0.0
	1988-1989	0	0.0	0.0
	1990-1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	0	0.0	0.0
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Motorcycles - Gasoline	1960-1995	0	0.0	0.0
	1996-present	0	0.0	0.0

Total Organization-Wide On-Road Non-Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0
		1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Light-Duty Trucks - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0

Light-Duty Trucks - Diesel	Diesel	1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Medium- and Heavy-Duty Vehicles -	Diesel	1960-2006	0	0.0	0.0
		2007-2018	1,560	14.8	67.2
Light-Duty Cars	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Light-Duty Trucks	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Medium-Duty Trucks	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Heavy-Duty Trucks	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Buses	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0

Total Organization-Wide Non-Road Mobile Source Fuel Usage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Fuel Usage (gallons)	CH_4 (g)	N_2O (g)
Ships and Boats	Residual Fuel Oil	-	-	-
	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Locomotives	Diesel	-	-	-
Aircraft	Jet Fuel	-	-	-
	Aviation Gasoline	-	-	-
Agricultural Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Agricultural Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Construction/Mining Equipment	Gasoline (2 stroke)	24,750	307,395	1,733
	Gasoline (4 stroke)	-	-	-
	Diesel	88,391	17,678	41,544
	LPG	-	-	-
Construction/Mining Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Lawn and Garden Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Airport Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Industrial/Commercial Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Logging Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Railroad Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Recreational Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-

Total CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**1,144.8**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**0.0**

Notes:

1. Average mpg values from the U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2019 (Nov 2020), Table VM-1.

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Scope 2 Emissions from Purchase of Electricity

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Guidance

The Indirect Emissions from Purchased Electricity Guidance document provides guidance for quantifying two scope 2 emissions totals, using a **location-based method** and a **market-based method**. The organization should quantify and report both totals in its GHG inventory. The location-based method considers average emission factors for the electricity grids that provide electricity. The market-based method considers contractual arrangements under which the organization procures electricity from specific sources, such as renewable energy.

(A) Enter total annual electricity purchased in kWh and each eGRID subregion for each facility or site in ORANGE cells of **Table 1**.
(B) If electricity consumption data are not available for a facility, an estimate should be made for completeness.
See the "Items to Note" section of the Help sheet for suggested estimation approaches.
(C) Select "eGRID subregion" from drop box and enter "Electricity Purchased."
- Use map (Figure 1) at bottom of sheet to determine appropriate eGRID subregion. If subregion cannot be determined from the map, find the correct subregion by entering the location's zip code into EPA's Power Profiler:
https://www.epa.gov/egrid/power-profiler#/
(D) See the market-based emission factor hierarchy on the market-based method Help sheet. If any of the first four types of emission factors are applicable, enter the factors in the yellow cells marked as "<enter factor>". If not, leave the yellow cells as is, and eGRID subregion factors will be used for market-based emissions.
Example entry is shown in first row (*GREEN Italics*) for a facility that purchases RECs for 100% of its consumption, and therefore has a market-based emission factor of 0.

Help - Market-Based Method

Tips: Enter electricity usage by location and then look up the eGRID subregion for each location.
If you purchase renewable energy that is less than 100% of your site's electricity, see the example in the market-based method Help sheet.

Table 1. Total Amount of Electricity Purchased by eGRID Subregion

					Market-Based *Use these cells to enter applicable market-based emission factors*						**Location-Based**		
					Emission Factors			**Emissions**			**Emissions**		
Source ID	**Source Description**	**Source Area (sq ft)**	**eGRID Subregion** *where electricity is consumed*	**Electricity Purchased (kWh)**	**CO_2 Emissions (lb/MWh)**	**CH_4 Emissions (lb/MWh)**	**N_2O Emissions (lb/MWh)**	**CO_2 Emissions (lb)**	**CH_4 Emissions (lb)**	**N_2O Emissions (lb)**	**CO_2 Emissions (lb)**	**CH_4 Emissions (lb)**	**N_2O Emissions (lb)**
Bldg-012	*East Power Plant*	*12,517*	*HIMS (HICC Miscellaneous)*	*200,000*	*0*	*0*	*0*	*0.0*	*0.0*	*0.0*	*237,120.0*	*28.6*	*4.4*
Institutional	Electricity Use	557,568	MROW (MRO West)	78,880	<enter factor>	<enter factor>	<enter factor>	86,641.8	9.4	1.3	86,641.8	9.4	1.3
Multifamily h	Electricity Use	146,529	MROW (MRO West)	2,756,928	<enter factor>	<enter factor>	<enter factor>	3,028,209.7	328.1	46.9	3,028,209.7	328.1	46.9
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
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					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
Total Emissions for All Sources				2,835,808				3,114,851.5	337.5	48.2	3,114,851.5	337.5	48.2

GHG Emissions

CO_2 Equivalent Emissions (metric tons)	
Location-Based Electricity Emissions	**1,423.2**
Market-Based Electricity Emissions	**1,423.2**

Notes:
1. CO_2, CH_4 and N_2O emissions are estimated using methodology provided in EPA's Center for Corporate Climate Leadership Greenhouse Gas Inventory Guidance - Indirect Emissions from Purchased Electricity (January 2016).

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EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Scope 3 Emissions from Waste

Guidance

(A) Enter annual waste data in ORANGE cells. Example entry is shown in first row (*GREEN Italics*).

(B) Choose the appropriate material and disposal method from the drop down options. For the average-data method, use one of the mixed material types, such as mixed MSW. If the exact waste material is not available, consider an appropriate proxy. For example, dimensional lumber can be used as a proxy for wood furniture.

(C) Choose an appropriate disposal method. Note that not all disposal methods are available for all materials. If there is a #NA or # Value error in the emissions column, you must pick a new material type or appropriate disposal method.

Table 1. Waste Disposal Weight by Waste Material and Disposal Method (CO_2, CH_4 and N_2O)

Source ID	Source Description	Waste Material	Disposal Method	Weight	Unit	CO_2e Emissions (kg)
Bldg-012	*East Power Plant Finished Goods*	*Steel Cans*	*Landfilled*	*1,000*	*metric ton*	*22,040*
Nonresidential Buildings	Nonresidential Waste	Mixed MSW municipal solid waste	Combusted	3,345	metric ton	*1,585,062*
Residential	Residential Waste	Mixed MSW municipal solid waste	Combusted	467	metric ton	*221,293*
Nonresidential Buildings	Nonresidential Recycling	Mixed Recyclables	Recycled	5,018	metric ton	*497,696*
Residential	Residential Recycling	Mixed Recyclables	Recycled	700	metric ton	*69,426*

Total Emissions by Disposal Method

Waste Material	CO_2e (kg)
Recycled	567,122
Landfilled	-
Combusted	1,806,354
Composted	-
Anaerobically Digested (Dry Digestate with Curing)	-
Anaerobically Digested (Wet Digestate with Curing)	-

Total CO_2 Equivalent Emissions (metric tons) - Waste	**2,373.5**

Appendix E

Traffic Analysis

TRAFFIC IMPACT ANALYSIS

HAVILAND FIELDS

RAMSEY, MINNESOTA

Prepared for:

Senior Housing Partners

Prepared By:

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JULY 2023

Kimley»Horn

TRAFFIC IMPACT ANALYSIS

HAVILAND FIELDS

RAMSEY, MINNESOTA

REPORT CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



Jacob Rojer, P.E., PTOE

License No. 56767

July 17, 2023

Date

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APPENDIX

A. Exhibits

B. Turning Movement Counts

C. Site Layout Exhibit

D. SimTraffic Analysis Results

INTRODUCTION

Presbyterian Homes is proposing a new residential development on the +/- 35-acre Lord of Life Church site in Ramsey, MN. The development would include includes 303 multifamily housing (Mid-rise) units, 22 senior adult housing – single family units and 173 senior adult housing – multi-family units for a total of 498 units. The existing church will remain on site. **Exhibit 1** shows the proposed project location. All exhibits are included in **Appendix A.**

EXISTING ROADWAY CONDITIONS

The proposed development is located on the northwest corner of MN-47 and CSAH 5. The following intersections will be included in the traffic capacity analysis:

- MN-47 (St Francis Blvd) & Nowthen Blvd NW
- MN-47 (St Francis Blvd) & Sunwood Dr NW
- CSAH 5 (Nowthen Blvd) & Dysprosium St NW
- CSAH 5 (Nowthen Blvd) & Iodine St NW
- CSAH 5 (Nowthen Blvd) & Lord of Life Church Access
- CSAH 5 (Nowthen Blvd) & 146th Ave NW
- CSAH 5 (Nowthen Blvd) & Sunwood Dr
- Sunwood Dr & Cobalt St NW

The study intersection locations are shown in **Exhibit 1**.

EXISTING ROADWAYS

The following provides a detailed description of the major surrounding roadways.

MN-47 (St Francis Blvd) is a north-south, two-lane, divided highway, with a single through lane and turn lanes provided at all accesses. The MnDOT Functional Classification Map classifies MN-47 as A-Minor Connector. The MnDOT Traffic Mapping Application reports an annual average daily traffic (AADT) of 22,000 vehicles per day (vpd) in 2019 south of CSAH 5 and 12,100 vpd in 2021 north of CSAH 5. The posted speed limit is 45 mph south of CSAH 5 and 55 mph north of CSAH 5.

CSAH 5 (Nowthen Blvd) is a two-lane County Road with a single through lane in each direction and right turn lanes provided at all studied intersections. The highway is divided from MN-47 to Dysprosium St. The roadway runs in a southeast-northwest direction within the study area. The MnDOT Functional Classification Map Classifies CSAH 5 as A-Minor Expander. The MnDOT Traffic Mapping Application reports an AADT of 8,700 vpd in 2021, between MN-47 and Dysprosium St NW. The posted speed limit on CSAH 5 is 30 mph east of MN-47, and 50 mph to the west.

Sunwood Dr NW is an east-west two-lane undivided road with one travel lane in each direction. The Anoka County 2040 Functional Classification Map classifies Sunwood Dr as a local road. The MnDOT Traffic Mapping Application reports that the AADT ranges from 730 (west of MN-47) to

1,950 (east of CSAH 5). The posted speed limit on Sunwood Dr is 30 mph except west of CSAH 5, where it is 35 mph.

Dysprosium St NW is a two-lane north-south roadway with one lane in each direction. Dysprosium St NW is classified as a local Road according to the Anoka Functional Classification Map. In 2021, Dysprosium St NW had an AADT of 3100 vpd, according to the MnDOT Traffic Mapping Application. The current posted speed limit on Dysprosium St NW is 30 mph.

All other roadways are one-lane roadways with no turn lanes. They are all considered to be local roads by Anoka County, have no MnDOT count data, and have a speed limit of 30 mph.

EXISTING TRAFFIC VOLUMES

To analyze the traffic operations at the study intersection, weekday and weekend peak period turning movement counts were collected. The weekend data was collected on 1/29/2023 while the weekday data was collected on 1/27/2023 except for the intersection of CSAH 5 & Sunwood Dr which was collected on 1/30/2023. Weekday and weekend data collection occurred on a typical weekday and typical Sunday when church was in service. **Exhibit 2** provides a summary of the weekday AM and PM peak hour turning traffic volumes. The turning movement count data is provided in **Appendix B**.

The network AM peak hour was determined to be 7:00 AM to 8:00 AM and the network PM peak hour was determined to be 4:30 PM to 5:30 PM. The Sunday peak hours were determined to be 12:00pm to 1:00pm.

BACKGROUND GROWTH AND COMMITTED TRAFFIC

The growth rates were calculated using the forecast in the City of Ramsey's 2040 comprehensive plan. The growth rate was found to be 0.6 % for MN-47, and 0.9% for CSAH 5. These were used to forecast the peak hour traffic at intersections along these corridors in 2027 and 2040. The rest of the roadways in the study area are local/fully developed and are thus considered to have a growth rate of 0%.

Exhibit 4 shows the Opening Year No-Build (2027) turning movement volumes and **Exhibit 5** shows the Horizon Year No-Build (2040) turning movement volumes.

PEDESTRIANS AND BICYCLES

There are existing pedestrian facilities/trails on both sides of Sunwood Dr, Dysprosium Rd and CSAH 5. MN-47 has a pedestrian/bicycle path on its east side only. There are marked crosswalks at all intersections that the pedestrian paths cross, as well as push-buttons at both of the stoplight controlled intersections.

PROPOSED DEVELOPMENT

SITE TRIP GENERATION

The trip-generating potential of the proposed development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, Eleventh Edition*. Standard ITE trip rates were used to develop the anticipated total trips generated by the site.

The average rate for ITE Land Use Code (LUC) 221 (Multifamily Housing), ITE LUC 251 (Senior Adult Housing – Single-Family), and ITE LUC 252 (Senior Adult Housing – Multi-Family) were used to calculate the trip generation potential of the site. **Table 1** provides a summary of the number of trips anticipated to be generated during the weekday AM and PM peak hours, including internal capture and pass-by reduction.

As shown, the site is anticipated to generate 153 new trips during the AM peak hour (40 entering, 113 exiting), 168 new trips during the PM peak hour (100 entering, 68 exiting), and 161 new trips in the Sunday peak hour (86 entering, 75 exiting).

Table 1 – Site Trip Generation

Land Use Description	Intensity	Daily	AM Peak Hour			SUN Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Multifamily Housing	303 Units	1,376	26	86	112	53	44	97	72	46	118
Senior Adult Housing – Single-Family (Twin homes)	22 Units	94	2	4	6	3	2	5	4	3	7
Senior Adult Housing – Multi-Family	173 Units	561	12	23	35	30	29	59	24	19	43
Total Vehicle Trips		1,849	40	113	153	86	75	161	100	68	168

For this analysis, it was assumed that all site trips would be new trips and no mode split reductions for trips via transit, bike or walking were used.

SITE TRIP DISTRIBUTION

The site trips were distributed to the adjacent roadways based on the current traffic patterns in the area and a general assessment of the major regional roadways surrounding the study area. In general, the following global trip distribution was assumed for the development:

- 70% to/from the south on MN-47
- 15% to/from the north on MN-47
- 10% to/from the north on CSAH 5
- 5% to/from the south on Dysprosium Road NW

The trip distribution for the primary site-generated traffic is shown in **Exhibit 5.**

SITE ACCESSES AND ASSIGNMENT

The site will include three (3) accesses. The northern access will be via Cobalt St to the north. The Cobalt St access is expected to only be used by vehicles destined to/from the north. The north access along CSAH 5 which leads to the north of the parking lot for the residential and church. All of the residential parking garages would be located closer to the access further to the south on CSAH 5, it is expected that most of the traffic to this access would come from the north along CSAH 5, with only a small percentage of the traffic originating from MN-47 choosing this access. The third access is across from Iodine St on CSAH 5, this access is expected to be the busiest of the three. The two accesses on CSAH 5 are in the same locations as the existing accesses and the Cobalt St access would be an extension of the current dead end road.

The proposed site plan is included in **Appendix C**. The primary site trips were assigned to the study intersections as shown in **Exhibit 6**. The total site-generated trips are depicted in **Exhibit 7.**

CAPACITY ANALYSIS

A capacity analysis was performed to quantify the delay and level of service at the study intersections during the weekday AM and PM peak hours. The capacity analysis was performed using Synchro/SimTraffic. Existing signal timings used in the analysis were used in the 2020 Center Village Traffic Study.

The capacity of an intersection quantifies its ability to accommodate traffic volumes and is measured in average delay per vehicle. It is expressed in terms of level of service (LOS) which ranges from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM), quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 2**. The range of control delay for each rating (as detailed in the HCM) is also shown in Table 2. Because signalized intersections are expected to carry a larger volume of vehicles and stopping is required during red time, higher delays are tolerated for the corresponding LOS ratings.

Table 2 – Level of Service Information

Level of Service	Average Control Delay (seconds/vehicle)	Description
A	0-10 (Unsignalized); 0-10 (Signalized)	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	>10-15 (Unsignalized); >10-20 (Signalized)	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	>15-25 (Unsignalized); >20-35 (Signalized)	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	>25-35 (Unsignalized); >35-55 (Signalized)	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	>35-50 (Unsignalized); >55-80 (Signalized)	High control delay; average travel speed no more than 33 percent of free flow speed.
F	>50 (Unsignalized); >80 (Signalized)	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

Traffic models for each scenario were developed using Synchro/SimTraffic, and the delay and queueing were evaluated for each scenario. The scenarios that were analyzed are as follows:

- Existing Year (2023)
- Opening Year (2027) No-Build
- Opening Year (2027) Build
- Design Year (2040) No-Build
- Design Year (2040) Build

EXISTING YEAR (2023) CONDITIONS

A capacity analysis was performed for Existing Year (2023) conditions in order to develop baseline operating conditions for the current year. The analysis was performed using Synchro/SimTraffic. The three site accesses were modeled with the existing geometry and intersection control. The four study intersections were also modeled with the existing geometry and intersection control as summarized in Exhibit 2. Signal timings were obtained from MnDOT. The traffic volumes are provided in Exhibit 3.

The results of the analysis are provided in **Table 3**.

Table 3 – Existing Year (2023) Intersection Analysis

Lord of Life SimTraffic Delay Summary - Existing AM Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	Delay (sec/veh)	LOS	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	13.7	B	11.0	B	6.9	A	13.9	B
		WB	13.9	B	11.1	B	1.5	A		
		NB	2.0	A	0.8	A	0.2	A		
		SB	-	-	1.3	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	2.1	A	2.4	A	4.5	B
		WB	1.7	A	0.6	A	0.0	A		
		NB	4.5	A	-	-	2.3	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	44.8	D	45.0	D	6.3	A	7.2	A
		WB	40.1	D	41.8	D	5.8	A		
		NB	51.8	D	5.8	A	3.5	A		
		SB	63.6	E	3.5	A	1.6	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	5.1	A	0.0	A	10.0	A	10.0	A
		WB	2.2	A	-	-	-	-		
		NB	0.4	A	0.1	A	1.3	A		
		SB	-	-	0.4	A	1.4	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	2.3	A
		WB	-	-	-	-	2.3	A		
		NB	-	-	0.4	A	-	-		
		SB	-	-	0.7	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	10.1	B	-	-	6.3	A	10.1	B
		WB	-	-	-	-	-	-		
		NB	6.1	A	0.7	A	0.2	A		
		SB	0.7	A	1.3	A	0.2	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.2	A	0.8	A	15.2	C
		WB	11.3	B	1.3	A	-	-		
		NB	15.2	C	-	-	5.1	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	23.2	C	34.5	C	3.5	A	16.8	B
		WB	42.1	D	32.8	C	6.6	A		
		NB	46.3	D	6.6	A	1.4	A		
		SB	45.7	D	18.5	B	6.8	A		

Table 3 – Existing Year (2023) Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - Existing PM Peak Hour										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	21.0	C	9.0	A	2.2	A	28.6	D
		WB	28.6	D	15.8	C	1.4	A		
		NB	1.8	A	2.8	A	1.7	A		
		SB	1.2	A	1.1	A	0.3	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	0.0	A	0.0	A	4.5	A
		WB	0.0	A	0.0	A	0.0	A		
		NB	1.1	A	0.3	A	0.7	A		
		SB	4.5	A	2.4	A	1.8	A		
MN-47 & Sunwood Drive	Signal	EB	49.3	D	0.2	A	3.4	A	13.1	B
		WB	59.1	E	72.1	E	0.0	A		
		NB	31.3	C	13.4	B	7.7	A		
		SB	20.1	C	2.9	A	0.0	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	4.6	A	0.0	A	-	-	4.6	A
		WB	-	-	0.0	A	-	-		
		NB	0.3	A	0.5	A	0.0	A		
		SB	-	-	0.5	A	0.1	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	2.4	A
		WB	-	-	-	-	2.4	A		
		NB	-	-	0.4	A	-	-		
		SB	-	-	0.4	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	40.2	E	-	-	2.8	A	40.2	E
		WB	-	-	-	-	-	-		
		NB	-	-	1.3	A	0.0	A		
		SB	7.9	A	0.5	A	-	-		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.4	A	0.3	A	8.4	A
		WB	3.4	A	1.9	A	-	-		
		NB	8.4	A	-	-	3.6	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	58.1	E	26.8	C	1.6	A	20.4	C
		WB	58.3	E	55.6	E	39.3	D		
		NB	40.2	D	9.6	A	2.2	A		
		SB	34.3	C	13.7	B	12.9	B		

Table 3 – Existing Year (2023) Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - Existing Sunday Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	5.2	A	7.2	A	2.5	A	8.5	A
		WB	5.5	A	8.5	A	1.5	A		
		NB	1.4	A	1.2	A	0.1	A		
		SB	-	-	0.8	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.4	A	1.6	A	2.1	A
		WB	1.9	A	1.1	A	0.0	A		
		NB	-	-	-	-	2.1	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	36.6	D	16.1	B	5.6	A	7.1	A
		WB	44.1	D	36.8	D	5.7	A		
		NB	30.1	C	5.7	A	3.2	A		
		SB	31.5	C	2.9	A	0.1	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	4.3	A	0.0	A	2.5	A	4.3	A
		WB	4.2	A	0.0	A	-	-		
		NB	0.4	A	0.6	A	0.1	A		
		SB	-	-	0.4	A	0.6	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	2.6	A
		WB	6.3	A	-	-	2.6	A		
		NB	-	-	0.5	A	-	-		
		SB	-	-	0.3	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	-	-	6.1	A	2.8	A	6.1	A
		WB	4.8	A	5.7	A	2.5	A		
		NB	1.7	A	0.7	A	0.1	A		
		SB	3.2	A	0.6	A	0.1	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.0	A	0.1	A	8.4	A
		WB	4.4	A	1.4	A	-	-		
		NB	8.4	A	-	-	2.6	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	64.2	E	41.1	D	2.0	A	17.3	B
		WB	51.4	D	37.6	D	21.7	C		
		NB	46.7	D	5.2	A	1.4	A		
		SB	68.5	E	14.6	B	3.3	A		

Based on the Existing Year (2023) capacity analysis, the study intersections are anticipated to operate at LOS B or better in the morning and C or better at the evening peak hour. The SimTraffic reports are provided in **Appendix D.** All 95th percentile queues are anticipated to remain within their respective storage bays. All individual movements are anticipated to operate at LOS D or better, except for the following:

During the morning peak hours, the northbound through movement of MN-47 operates at LOS E. This is likely due to the signal timing favoring the southbound through/left movement which sees around four times as much traffic at this time. At the same intersection, the westbound left and through movements are also operating at LOS E in the PM peak hours. Finally, the eastbound left and southbound left intersections operate at LOS E in the Sunday peak, these movements are low volume and are not anticipated to have queuing issues.

All movements at stop-controlled intersections operate at LOS D or better except the eastbound left movement at CSAH 5 & Iodine St which operates at LOS E. Queues for the movement are minimal and delays are expected for minor side street movements along a corridor like CSAH 5.

OPENING YEAR (2027) NO-BUILD CONDITIONS

A capacity analysis was performed for Opening Year (2027) No-Build conditions in order to develop baseline operating conditions for the opening year. The analysis was performed using Synchro/SimTraffic. The three site accesses were modeled with the existing geometry and intersection control. The four study intersections were also modeled with the existing geometry and intersection control. The traffic volumes are provided in **Exhibit 4**. The results of the analysis are provided in **Table 4**.

Table 4 – Opening Year (2027) No-Build Intersection Analysis

Lord of Life SimTraffic Delay Summary - 2027 AM No Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	8.5	A	11.6	B	6.2	A	11.8	B
		WB	11.3	B	11.8	B	2.6	A		
		NB	4.4	A	0.8	A	0.2	A		
		SB	0.7	A	1.3	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	2.3	A	1.5	A	4.4	A
		WB	-	-	1.0	A	0.0	A		
		NB	4.4	A	-	-	2.2	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	46.6	D	50.1	D	7.6	A	8.7	A
		WB	44.2	D	48.4	D	5.4	A		
		NB	38.8	D	5.4	A	3.1	A		
		SB	50.9	D	4.3	A	1.1	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	5.1	A	0.0	A	9.8	A	9.8	A
		WB	3.2	A	-	-	-	-		
		NB	0.6	A	0.0	A	1.3	A		
		SB	-	-	0.4	A	1.5	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	1.4	A
		WB	-	-	-	-	1.4	A		
		NB	-	-	0.3	A	-	-		
		SB	-	-	0.7	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	8.9	A	-	-	7.5	A	8.9	A
		WB	-	-	-	-	-	-		
		NB	6.0	A	0.6	A	0.2	A		
		SB	1.8	A	1.3	A	0.2	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.2	A	0.8	A	14.1	B
		WB	8.8	A	1.2	A	-	-		
		NB	14.1	B	-	-	6.0	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	39.0	D	37.0	D	3.6	A	17.1	B
		WB	48.5	D	34.9	C	8.5	A		
		NB	47.3	D	6.0	A	1.6	A		
		SB	44.0	D	18.2	B	6.4	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 4 – Opening Year (2027) No-Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary – 2027 No Build PM Peak Hour										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	20.2	C	20.0	C	6.9	A	20.2	C
		WB	19.5	C	5.6	A	-	-		
		NB	3.5	A	4.3	A	1.3	A		
		SB	3.9	A	1.0	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	2.0	A	1.3	A	2.0	A
		WB	0.0	A	0.0	A	0.0	A		
		NB	-	-	-	-	2.0	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	16.7	B	74.5	E	3.9	A	12.7	B
		WB	66.3	E	0.0	A	3.2	A		
		NB	-	-	13.8	B	6.9	A		
		SB	35.3	D	1.6	A	-	-		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	6.7	A	0.0	A	3.3	A	14.5	B
		WB	14.5	B	0.0	A	-	-		
		NB	0.6	A	1.6	A	-	-		
		SB	0.2	A	0.6	A	-	-		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	0.8	A
		WB	-	-	-	-	-	-		
		NB	-	-	0.8	A	-	-		
		SB	-	-	0.6	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	-	-	-	-	5.0	A	7.0	A
		WB	-	-	-	-	5.5	A		
		NB	-	-	1.7	A	0.8	A		
		SB	7.0	A	0.8	A	-	-		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.8	A	0.3	A	18.7	C
		WB	3.0	A	2.3	A	-	-		
		NB	18.7	C	-	-	3.7	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	59.2	E	42.2	D	2.2	A	21.5	C
		WB	24.6	C	53.4	D	27.1	C		
		NB	40.1	D	11.6	B	2.0	A		
		SB	42.2	D	20.6	C	2.2	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Lord of Life SimTraffic Delay Summary - Sunday 2027 No Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	4.5	A	7.8	A	1.6	A	7.8	A
		WB	6.4	A	6.5	A	1.4	A		
		NB	1.7	A	1.3	A	0.5	A		
		SB	-	-	0.6	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.3	A	1.3	A	2.0	A
		WB	2.0	A	0.9	A	0.0	A		
		NB	-	-	-	-	2.0	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	76.4	E	48.8	D	4.0	A	7.0	A
		WB	36.0	D	57.2	E	3.1	A		
		NB	45.6	D	5.4	A	2.6	A		
		SB	29.3	C	3.7	A	0.8	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	-	-	0.0	A	2.7	A	4.2	A
		WB	4.2	A	0.0	A	-	-		
		NB	0.5	A	0.8	A	0.1	A		
		SB	-	-	0.4	A	0.1	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	5.5	A
		WB	5.5	A	-	-	3.5	A		
		NB	-	-	0.6	A	-	-		
		SB	-	-	0.2	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	-	-	9.8	A	2.5	A	9.8	A
		WB	4.4	A	-	-	-	-		
		NB	1.6	A	0.9	A	0.0	A		
		SB	2.7	A	0.4	A	0.0	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.0	A	0.2	A	4.6	A
		WB	4.1	A	1.9	A	-	-		
		NB	4.6	A	-	-	1.6	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	58.6	E	32.2	C	1.7	A	20.0	B
		WB	55.0	D	43.2	D	11.1	B		
		NB	55.5	E	7.5	A	1.4	A		
		SB	56.4	E	15.1	B	6.0	A		

With the addition of background traffic growth, the study area intersections are projected to experience very little change in delay with the majority of movements and approaches projected to operate at the same LOS as compared to existing conditions. All intersections operate at the same level of service as the existing conditions and no movement has significantly worsened delay.

The SimTraffic reports are provided in **Appendix D.** All 95th percentile queues are anticipated to remain within their respective storage bays.

OPENING YEAR (2027) BUILD CONDITIONS

Opening Year (2027) Build conditions were analyzed to determine any traffic impacts from the addition of the site traffic to the study intersections. The site accesses were modeled as side street stop control. Opening Year (2027) Build turning movement volumes were developed by adding the site trips in **Exhibit 8** to the Opening Year (2027) No-Build turning movement volumes in **Exhibit 4**. The Opening Year (2027) Build turning movement volumes are shown in **Exhibit 8**. The results of the analysis are provided in **Table 5**.

Table 5 – Opening Year (2027) Build Intersection Analysis

Lord of Life SimTraffic Delay Summary - 2027 AM Build Peak Traffic											
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	7.3	A	10.9	B	6.3	A	13.0	B
		WB	12.6	B	13.0	B	2.9	A		
		NB	3.1	A	0.8	A	0.1	A		
		SB	0.5	A	1.3	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	2.2	A	2.0	A	4.6	A
		WB	1.9	A	1.1	A	0.0	A		
		NB	4.6	A	-	-	2.6	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	31.2	C	43.4	D	6.5	A	8.8	A
		WB	44.3	D	44.9	D	8.6	A		
		NB	48.3	D	5.3	A	2.9	A		
		SB	44.1	D	4.5	A	1.4	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	6.4	A	0.0	A	8.1	A	6.4	A
		WB	2.7	A	-	-	-	-		
		NB	0.5	A	0.0	A	1.4	A		
		SB	-	-	0.8	A	1.5	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	10.0	A
		WB	10.0	A	-	-	3.0	A		
		NB	-	-	0.4	A	0.0	A		
		SB	1.0	A	0.8	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	11.6	B	-	-	15.5	C	24.5	C
		WB	24.5	C	-	-	18.2	C		
		NB	9.6	A	0.7	A	0.4	A		
		SB	1.7	A	2.1	A	0.4	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.7	A	1.1	A	25.2	D
		WB	12.6	B	1.2	A	-	-		
		NB	25.2	D	-	-	10.7	B		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	36.8	D	37.7	D	4.0	A	17.6	B
		WB	46.7	D	34.5	C	9.1	A		
		NB	45.8	D	5.9	A	1.2	A		
		SB	46.8	D	18.9	B	7.1	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 5 – Opening Year (2027) Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - 2027 Build PM Peak Hour										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	13.0	B	12.9	B	7.1	A	20.6	C
		WB	20.6	C	12.8	B	2.7	A		
		NB	3.9	A	0.9	A	0.2	A		
		SB	1.3	A	1.8	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	0.9	A	1.3	A	4.6	A
		WB	0.0	A	1.0	A	0.0	A		
		NB	4.6	A	-	-	2.1	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	48.1	D	2.3	A	13.3	B	8.5	A
		WB	49.1	D	63.2	E	10.2	B		
		NB	70.3	E	7.3	A	2.8	A		
		SB	37.2	E	4.1	A	0.6	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	19.2	C	0.0	A	5.0	A	19.2	C
		WB	8.4	A	0.0	A	-	-		
		NB	2.3	A	0.3	A	0.0	A		
		SB	-	-	1.5	A	1.0	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	0.7	A
		WB	-	-	-	-	-	-		
		NB	-	-	0.3	A	-	-		
		SB	0.3	A	0.7	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	26.8	D	-	-	18.5	C	26.8	D
		WB	23.8	C	-	-	14.6	B		
		NB	5.2	A	0.6	A	0.3	A		
		SB	2.8	A	1.9	A	0.4	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.6	A	1.1	A	18.5	C
		WB	7.6	A	1.0	A	-	-		
		NB	18.5	C	-	-	8.2	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	51.2	D	41.5	D	3.5	A	21.7	C
		WB	52.8	D	46.0	D	21.1	C		
		NB	45.6	D	7.6	A	1.3	A		
		SB	64.2	E	30.0	C	7.6	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Lord of Life SimTraffic Delay Summary - Sunday 2027 Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	15.5	C	17.0	C	5.8	A	19.2	C
		WB	19.2	C	13.6	B	1.7	A		
		NB	4.3	A	1.1	A	0.2	A		
		SB	1.3	A	1.8	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.1	A	0.3	A	4.1	A
		WB	0.0	A	0.8	A	0.0	A		
		NB	4.1	A	-	-	2.3	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	43.6	D	33.6	C	4.8	A	8.4	A
		WB	40.3	D	41.0	D	10.0	A		
		NB	28.4	C	4.1	A	1.1	A		
		SB	77.1	E	5.6	A	0.6	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	8.1	A	0.0	A	6.2	A	15.3	C
		WB	15.3	C	0.0	A	-	-		
		NB	4.7	A	0.6	A	0.0	A		
		SB	-	-	1.6	A	0.0	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	2.5	A
		WB	-	-	-	-	2.5	A		
		NB	-	-	0.3	A	0.0	A		
		SB	0.3	A	0.8	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	5.5	A	-	-	17.7	C	19.5	C
		WB	19.5	C	-	-	7.6	A		
		NB	8.1	A	0.6	A	0.4	A		
		SB	2.1	A	2.1	A	0.4	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.8	A	1.2	A	25.1	D
		WB	15.8	C	1.1	A	-	-		
		NB	25.1	D	-	-	6.5	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	65.5	E	47.9	D	4.2	A	17.3	B
		WB	45.6	D	39.2	D	4.2	A		
		NB	52.4	D	7.2	A	1.0	A		
		SB	58.1	E	16.1	B	6.4	A		

With the addition of site-generated traffic, the study area intersections are projected to experience very little change in delay with all of the intersections and almost all movements operating at the same level of service. A few of the left turn movements do however operate very close to level of service F which is not ideal but is considered acceptable for low volume movements.

The SimTraffic reports are provided in **Appendix D**.

HORIZON YEAR (2040) NO-BUILD CONDITIONS

A capacity analysis was performed for Horizon Year (2040) No-Build conditions in order to develop baseline operating conditions for the design year. The two site accesses were modeled with the existing geometry and intersection control. The traffic volumes are provided in Exhibit 5. The results of the analysis are provided in **Table 6.**

Table 6 – Horizon Year (2040) No-Build Intersection Analysis

Lord of Life SimTraffic Delay Summary - 2040 AM No Build Peak Traffic											
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	13.6	B	12.3	B	7.6	A	15.4	C
		WB	13.6	B	15.4	C	2.1	A		
		NB	5.0	A	1.2	A	0.2	A		
		SB	0.5	A	1.4	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.8	A	1.9	A	4.2	A
		WB	-	-	1.1	A	0.0	A		
		NB	4.2	A	-	-	2.4	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	44.9	D	38.0	D	7.3	A	8.2	A
		WB	48.9	D	39.6	D	5.2	A		
		NB	59.5	E	5.7	A	3.2	A		
		SB	53.5	D	4.2	A	0.9	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	7.8	A	0.0	A	10.6	B	10.6	B
		WB	4.2	A	-	-	-	-		
		NB	0.6	A	0.0	A	1.5	A		
		SB	-	-	0.4	A	1.7	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	3.1	A
		WB	-	-	-	-	3.1	A		
		NB	-	-	0.4	A	-	-		
		SB	-	-	0.7	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	25.0	C	-	-	9.5	A	25.0	C
		WB	-	-	-	-	-	-		
		NB	6.0	A	0.7	A	0.2	A		
		SB	1.7	A	1.5	A	0.3	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.6	A	1.0	A	18.1	C
		WB	13.2	B	1.3	A	-	-		
		NB	18.1	C	-	-	7.4	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	36.9	D	34.9	C	4.0	A	17.7	B
		WB	50.4	D	32.5	C	5.9	A		
		NB	46.1	D	6.4	A	1.6	A		
		SB	47.3	D	19.1	B	6.2	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 6 – Horizon Year (2040) No-Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - 2040 PM No Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	11.4	B	15.8	C	3.8	A	15.8	C
		WB	14.3	B	13.4	B	3.5	A		
		NB	4.3	A	4.4	A	1.3	A		
		SB	2.7	A	1.3	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.2	A	1.1	A	4.1	A
		WB	3.0	A	1.2	A	0.0	A		
		NB	4.1	A	-	-	1.9	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	60.1	E	64.7	E	14.1	B	14.0	B
		WB	58.6	E	57.1	E	15.5	B		
		NB	60.0	E	13.7	B	8.5	A		
		SB	64.9	E	3.8	A	1.0	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	3.9	A	0.0	A	10.7	B	10.7	B
		WB	2.1	A	-	-	-	-		
		NB	1.3	A	0.1	A	3.8	A		
		SB	1.0	A	0.5	A	1.3	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	14.1	B
		WB	14.1	B	-	-	5.4	A		
		NB	-	-	0.9	A	-	-		
		SB	-	-	0.6	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	12.5	B	-	-	3.5	A	15.4	C
		WB	15.4	C	-	-	10.6	B		
		NB	-	-	1.8	A	0.3	A		
		SB	5.5	A	0.8	A	0.2	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.8	A	0.2	A	17.0	C
		WB	7.0	A	3.0	A	-	-		
		NB	17.0	C	-	-	5.5	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	55.2	E	37.3	D	2.5	A	22.7	C
		WB	46.4	D	45.2	D	29.6	C		
		NB	50.9	D	11.9	B	2.3	A		
		SB	50.9	D	20.8	C	5.3	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Lord of Life SimTraffic Delay Summary - 2040 SUN No Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	5.4	A	7.8	A	2.2	A	7.8	A
		WB	5.7	A	7.9	A	2.4	A		
		NB	1.2	A	1.2	A	0.2	A		
		SB	-	-	0.7	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.2	A	1.5	A	2.5	A
		WB	2.5	A	0.7	A	0.0	A		
		NB	2.1	A	-	-	1.6	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	37.4	D	29.8	C	6.3	A	6.5	A
		WB	39.7	D	31.1	C	2.0	A		
		NB	43.7	D	5.2	A	3.4	A		
		SB	39.3	D	3.2	A	0.5	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	2.8	A	0.0	A	6.0	A	6.0	A
		WB	1.2	A	-	-	-	-		
		NB	0.6	A	0.1	A	0.5	A		
		SB	-	-	0.3	A	0.7	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	5.8	A
		WB	5.8	A	-	-	3.2	A		
		NB	-	-	0.4	A	-	-		
		SB	-	-	0.3	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	8.8	A	3.3	A	2.9	A	15.3	C
		WB	6.8	A	15.3	C	2.3	A		
		NB	2.1	A	0.7	A	0.1	A		
		SB	1.7	A	0.5	A	0.1	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.0	A	0.2	A	6.5	A
		WB	4.3	A	1.5	A	-	-		
		NB	6.5	A	-	-	2.2	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	46.8	D	42.2	D	2.0	A	17.6	B
		WB	55.5	E	45.7	D	11.9	B		
		NB	50.6	D	5.7	A	1.3	A		
		SB	62.0	E	13.1	B	4.9	A		

With additional background traffic growth, the study area intersections are projected to experience some change in delay, with some of movements and approaches projected to operate at a lower LOS as compared to the Opening Year (2027) No-Build Conditions. The network is expected to need new signal timings in order to operate at an acceptable level of service. Specifically, the stoplight at MN-47 & Sunwood Drive may need protected left turn phases in order for the left turn movements to operate at a LOS of D or better.

The SimTraffic reports are provided in **Appendix D**.

HORIZON YEAR (2040) BUILD CONDITIONS

The Horizon Year (2040) Build traffic volumes were developed from the addition of the Horizon Year (2040) No-Build volumes in Exhibit 5 and the Site Trips in Exhibit 7. **Exhibit 9** shows the Horizon Year (2040) Build turning movement volumes. The site accesses were modeled as side street stop control. The results of the analysis are provided in **Table 7**.

Table 7 – Horizon Year (2040) Build Intersection Analysis

Lord of Life SimTraffic Delay Summary - AM 2040 Build Peak Traffic											
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	15.5	C	11.7	B	6.4	A	15.5	C
		WB	10.4	B	11.3	B	2.8	A		
		NB	4.2	A	1.1	A	0.2	A		
		SB	0.3	A	1.5	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.7	A	2.0	A	4.4	A
		WB	2.7	A	0.7	A	0.0	A		
		NB	4.4	A	-	-	2.4	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	49.0	D	40.7	D	4.5	A	8.3	A
		WB	39.9	D	37.0	D	2.3	A		
		NB	39.3	D	4.4	A	2.7	A		
		SB	65.7	E	5.3	A	0.9	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	60.2	F	0.0	A	5.9	A	60.2	F
		WB	9.9	A	0.0	A	-	-		
		NB	6.2	A	1.2	A	0.0	A		
		SB	-	-	1.4	A	0.5	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	10.0	A
		WB	10.0	A	-	-	2.3	A		
		NB	-	-	0.4	A	0.0	A		
		SB	-	-	0.8	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	12.7	B	-	-	30.8	D	31.5	D
		WB	31.5	D	-	-	8.4	A		
		NB	6.8	A	0.8	A	0.3	A		
		SB	1.7	A	2.1	A	0.7	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	3.1	A	1.1	A	35.7	E
		WB	15.3	C	1.3	A	-	-		
		NB	35.7	E	-	-	16.2	C		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	36.4	D	32.3	C	4.7	A	19.6	B
		WB	41.4	D	35.4	D	14.2	B		
		NB	62.9	E	6.3	A	2.2	A		
		SB	53.1	D	21.1	C	8.1	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 7 – Design Year (2040) Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - SUN 2040 Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	4.7	A	9.2	A	2.7	A	7.5	A
		WB	7.5	A	6.1	A	1.8	A		
		NB	1.5	A	1.3	A	0.4	A		
		SB	-	-	0.7	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.3	A	0.9	A	2.3	A
		WB	2.1	A	0.7	A	0.0	A		
		NB	-	-	-	-	2.3	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	38.1	D	27.7	C	4.8	A	6.9	A
		WB	41.8	D	70.0	E	8.7	A		
		NB	38.3	D	5.9	A	3.8	A		
		SB	65.5	E	3.0	A	0.6	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	2.9	A	0.0	A	6.9	A	6.9	A
		WB	1.1	A	-	-	-	-		
		NB	0.8	A	0.1	A	0.5	A		
		SB	-	-	0.2	A	0.7	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	5.7	A
		WB	5.7	A	-	-	3.2	A		
		NB	-	-	0.7	A	0.1	A		
		SB	2.6	A	0.4	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	-	-	11.1	B	3.6	A	11.1	B
		WB	7.9	A	6.0	A	3.3	A		
		NB	2.3	A	1.0	A	0.5	A		
		SB	1.3	A	0.8	A	1.7	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.4	A	0.3	A	7.0	A
		WB	5.3	A	1.3	A	-	-		
		NB	7.0	A	-	-	3.0	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	55.4	E	34.0	C	2.1	A	19.3	B
		WB	52.4	D	50.0	D	14.7	B		
		NB	47.2	D	6.8	A	1.2	A		
		SB	61.7	E	16.3	B	5.4	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 7 – Design Year (2040) Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - PM 2040 Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	18.4	C	14.1	B	3.1	A	19.3	C
		WB	19.3	C	17.1	C	3.9	A		
		NB	5.0	A	5.5	A	1.6	A		
		SB	1.0	A	1.1	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.4	A	0.5	A	2.9	A
		WB	2.6	A	1.2	A	0.0	A		
		NB	-	-	-	-	2.9	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	67.0	E	57.6	E	7.6	A	14.7	B
		WB	59.4	E	59.9	E	10.5	B		
		NB	76.1	E	13.0	B	7.1	A		
		SB	62.4	E	5.2	A	0.4	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	17.5	C	0.0	A	3.0	A	17.5	C
		WB	11.3	B	0.0	A	-	-		
		NB	2.1	A	1.2	A	0.4	A		
		SB	1.5	A	0.8	A	0.1	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	14.1	B
		WB	14.1	B	-	-	3.6	A		
		NB	-	-	1.1	A	0.7	A		
		SB	3.8	A	0.7	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	13.5	B	-	-	5.1	A	18.5	C
		WB	18.5	C	-	-	6.5	A		
		NB	0.2	A	2.1	A	0.7	A		
		SB	6.9	A	1.1	A	0.0	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.1	A	0.6	A	20.4	C
		WB	8.2	A	3.1	A	-	-		
		NB	20.4	C	-	-	5.3	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	70.1	E	38.3	D	2.7	A	25.0	C
		WB	51.2	D	48.0	D	29.7	C		
		NB	50.7	D	11.8	B	2.5	A		
		SB	51.6	D	26.6	C	6.6	A		

With additional site traffic and background traffic growth, the study area intersections are projected to experience some change in delay, with some of movements and approaches projected to operate at a lower LOS as compared to Opening Year (2027) Build Conditions. The network is not expected to need significant mitigations along the corridor in order to operate at acceptable levels. Some minor changes at

the two signal-controlled intersections might be necessary, especially regarding timing. The signal timings were optimized when the 2040 builds were run but the phasing and cycle length were unchanged.

The LOS of the intersections is the same as in the 2040 no build scenario and the delays saw only a slight increase at most intersections as a result of the build. The LOS of the EBL and WBL turning movements worsened as a result of the project, both from LOS D to LOS E. The stoplight may need a protected left phase at the PM peak hour for these movements similar to what the NBL and SBL movements already have.

The project could also exacerbate the aforementioned issue with the left turns at the MN-47 & Sunwood Dr intersection, since these movements show higher delays and in some cases LOS when compared to the 2040 No Build Scenario.

The SimTraffic reports are provided in **Appendix D**.

TURN LANE WARRANTS AT NORTH SITE ACCESS

While the operations at the north site access are acceptable in all analysis scenarios, turn lane warrants were analyzed for the intersection in the build condition as the access is proposed to be converted from an exit only to full access. The necessity of southbound left turn lane and northbound right turn lane at CSAH 5 and the north site access was analyzed using NCHRP Report 457 – Evaluating Intersection Improvements: An Engineering Study Guide. CSAH 5 has a posted speed limit of 50 mph

The guidelines from NCHRP Report 457 recommend that if the plotted volumes are to the right of the curves for the speed of the major road listed, a right turn lane be considered. The PM Peak hour is the highest of the three peak hours in terms of volumes at the intersection. **Table 8** summarizes the results from Figure 2-6 from NCHRP Report 457. A northbound right turn lane is not warranted in 2027 or 2040.

Table 8 – Right-Turn Lane Warrants

Condition	Major Road Volume (veh/h)	Right Turn Volume (veh/h)	Limiting Right Turn Volume (veh/h)	Right Turn Warranted yes/no?
2027 – PM Peak Hour	442	5	28	No
2040 – PM Peak Hour	496	5	25	No

The guidelines from NCHRP Report 457 recommend that if the plotted volumes are to the right of the curves for the speed of the major road listed, a left turn lane be considered. The PM Peak hour is the highest of the three peak hours in terms of volumes at the intersection **Table 9** summarizes the results from Figure 2-5 from NCHRP Report 457. A southbound left turn lane is not warranted in 2027 or 2040.

Table 9 – Left-Turn Lane Warrants

Year of Build Condition	85th Percentile Speed (mph)	Percent Left in Advancing Volume	Advancing Volume (veh/h)	Opposing Volume (veh/h)	Left Turn Warranted yes/no?
2027	50	1	464	442	No
2040	50	1	520	496	No

CONCLUSIONS AND RECOMMENDATIONS

Presbyterian Homes is proposing a residential development consisting of 303 total Multifamily Housing Units, 173 units of Senior Adult Multifamily Housing building, and 22 Senior Single-family housing units. For a total of 498 housing units on site. The development is located on the block northwest of MN-47 (St Francis Blvd) & CSAH 5 (Nowthen Blvd) which is the area around the Lord of Life Church. The church will remain on site. The site is anticipated to generate 153 new trips during the AM peak hour (40 entering, 113 exiting), 168 new trips during the PM peak hour (100 entering, 68 exiting), and 161 new trips in the Sunday peak hour (86 entering, 75 exiting).

The site will include three (3) accesses. The northern access will be via Cobalt St to the north. The north access along CSAH 5 which leads to the north of the parking lot for the residential and church. The third access is across from Iodine St on CSAH 5, this access is expected to be the busiest of the three. The two accesses on CSAH 5 are in the same locations as the existing accesses and the Cobalt St access would be an extension of the current dead-end road.

A capacity analysis was performed for Existing Year (2023), Opening Year (2027) No-Build, Opening Year (2027) Build, Horizon Year (2040) No-Build, and Horizon Year (2040) Build. In all scenarios, the study intersections are anticipated to operate at LOS D or better in the weekday AM and PM peak hours as well as the Sunday peak hours. Analysis showed that the build conditions have minimal impacts on the LOS at the study area intersections. It is anticipated that all intersections will operate at acceptable LOS in the build conditions. There are some longer delays (LOS E/F) for minor side street movements at intersections along CSAH 5, however there is minimal queuing and anticipated delays are not uncommon on a higher volume corridor like CSAH 5.

No changes to the road geometry are necessary based on the operational analysis results with the addition of development traffic. Side-street stop control is adequate at the site accesses.

APPENDIX

A. Exhibits

B. Turning Movement Counts

C. Site Layout Exhibit

D. SimTraffic Analysis Results

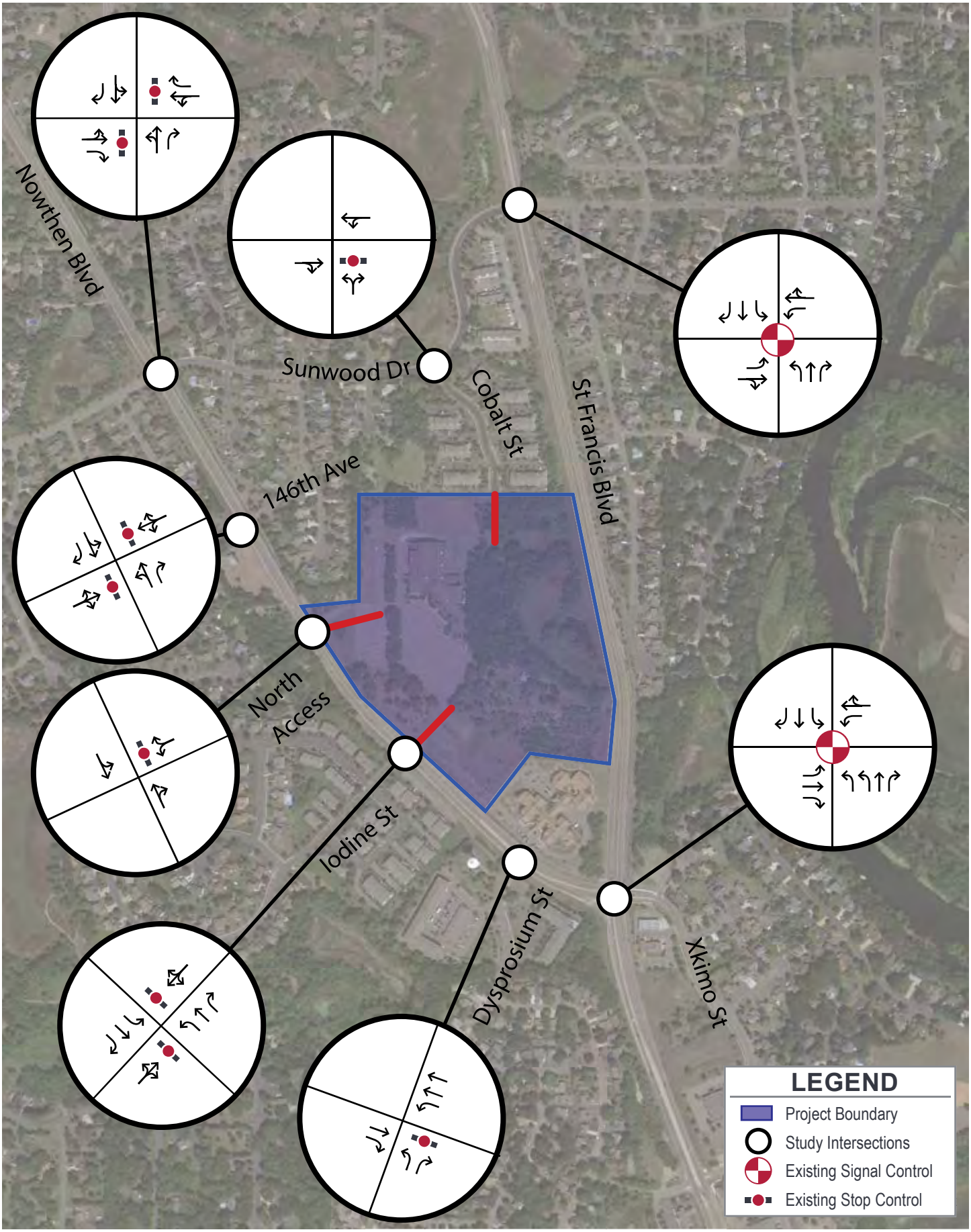
A. Exhibits



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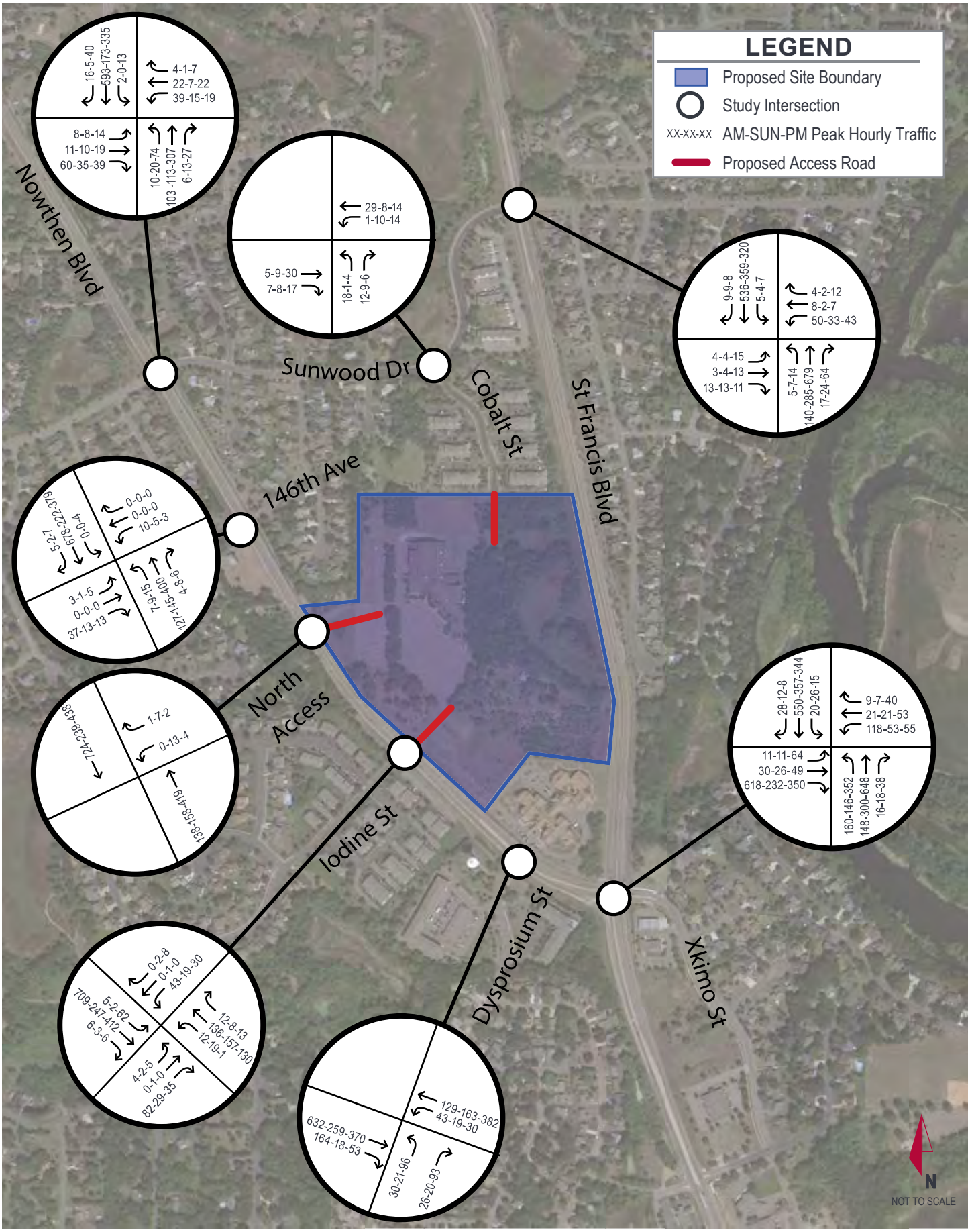
EXHIBIT 1

PROJECT LOCATION MAP



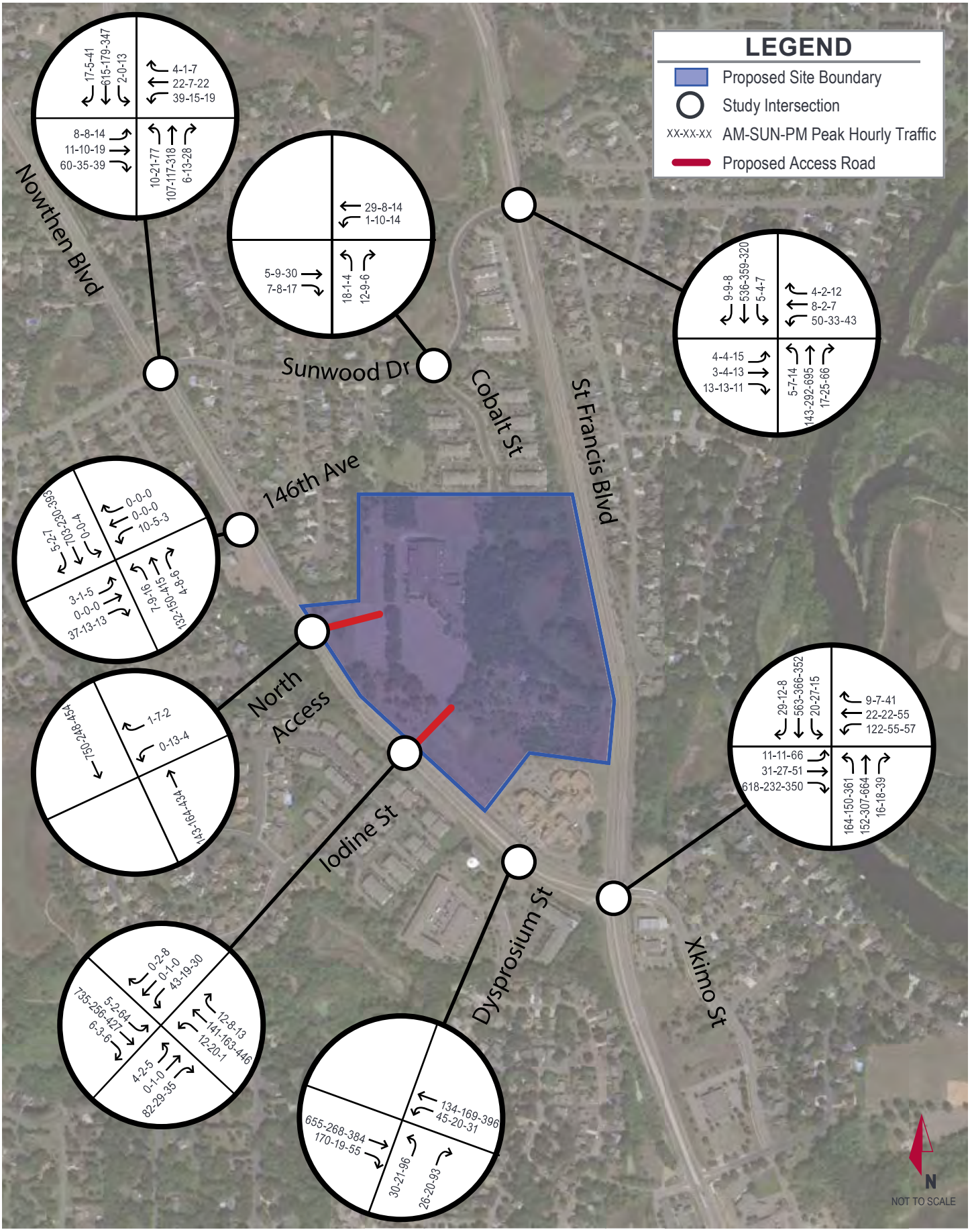
Kimley»Horn

EXHIBIT 2
EXISTING GEOMETRY AND INTERSECTION CONTROL



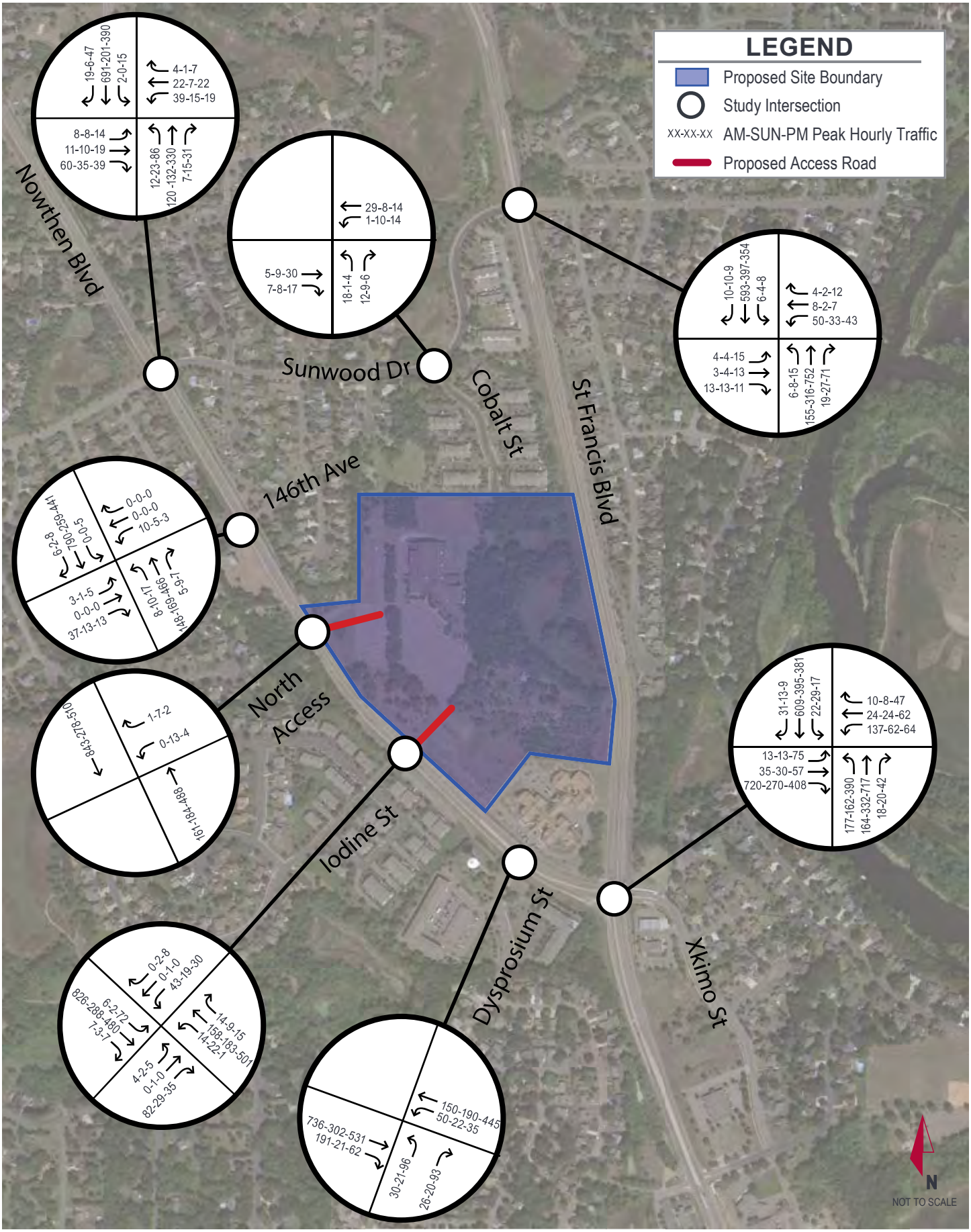
Kimley»Horn

EXHIBIT 3
EXISTING TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 4
NO BUILD SCENARIO 2027
TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 5

NO BUILD SCENARIO 2040

TRAFFIC VOLUMES

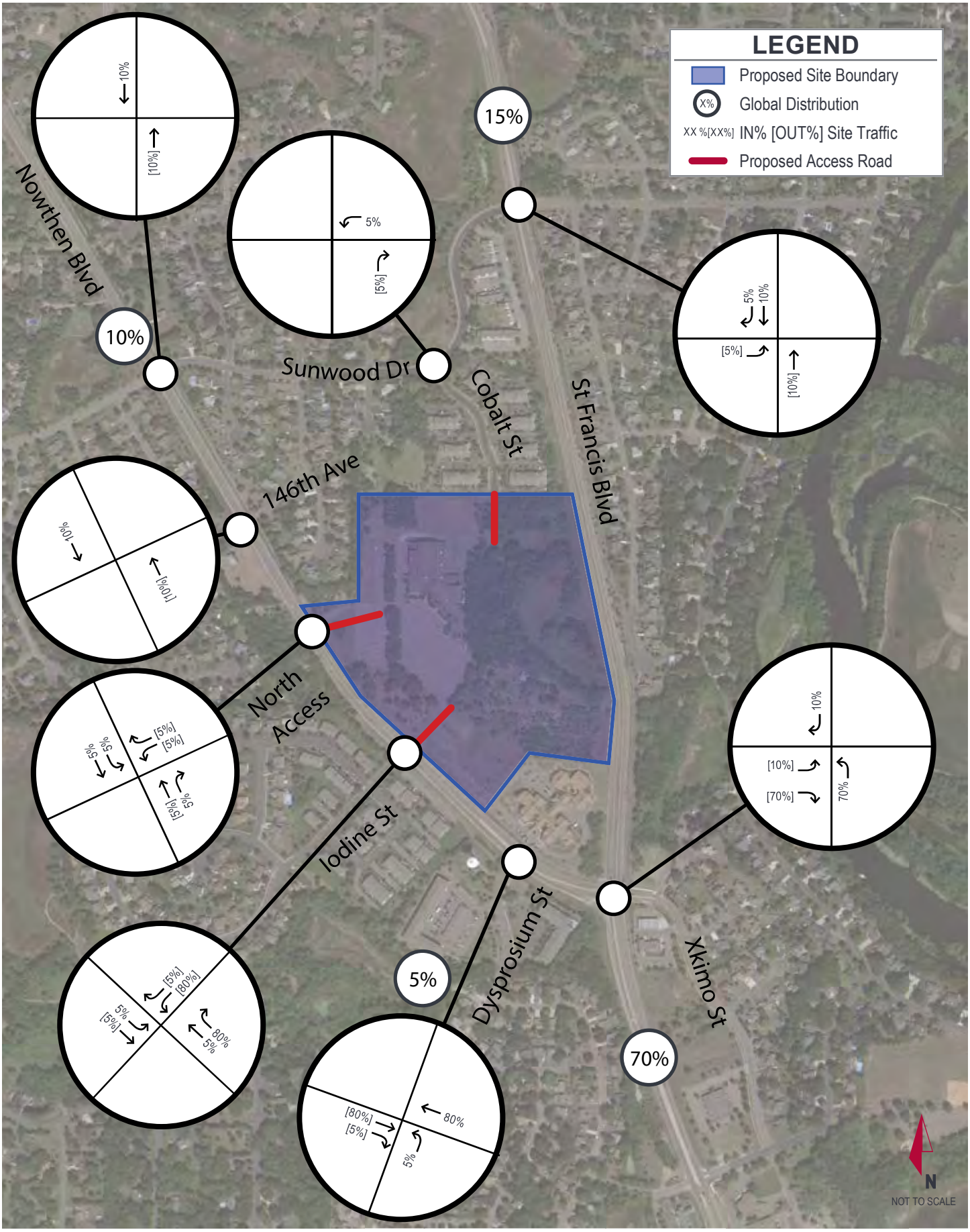
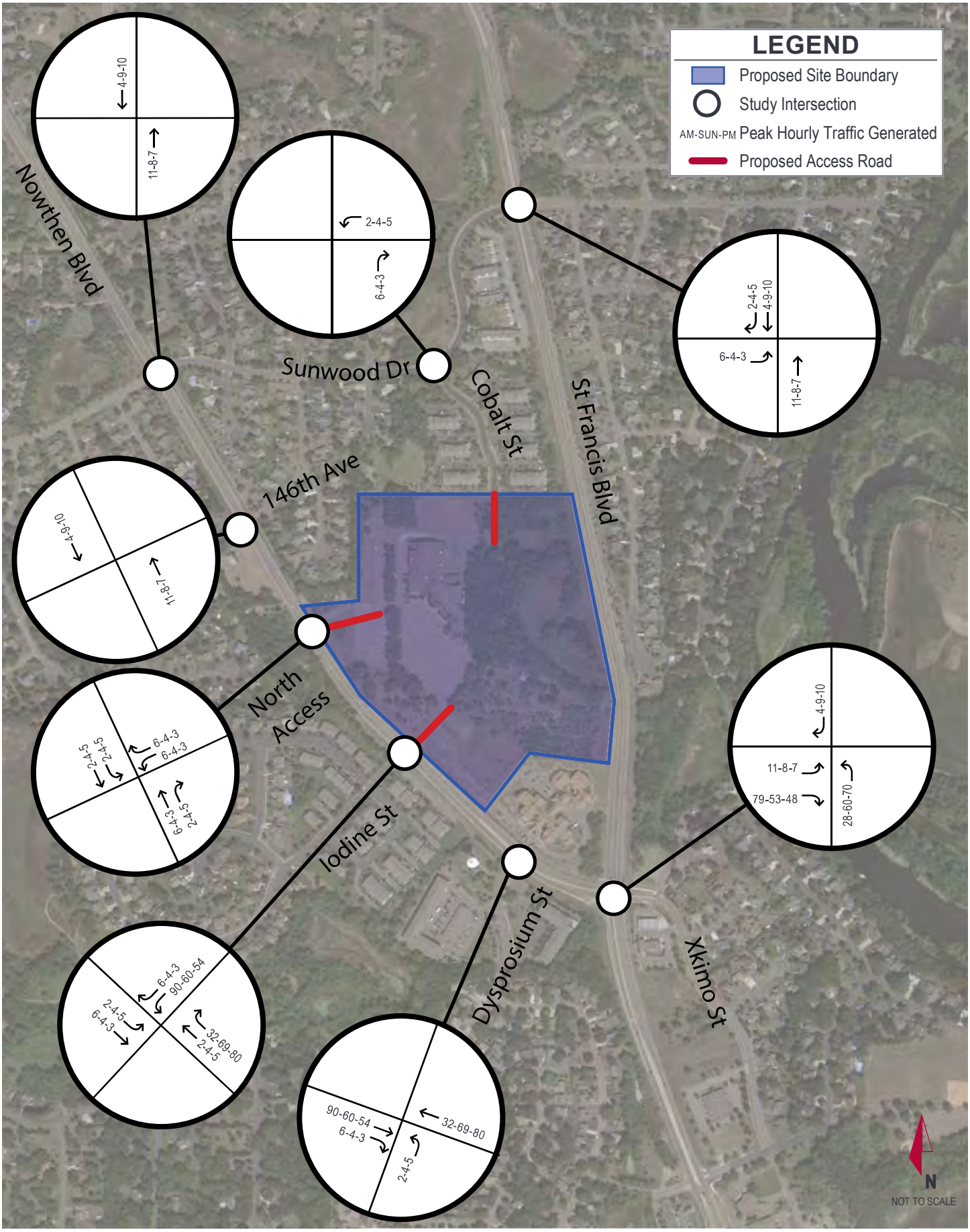


EXHIBIT 6

PROJECT TRIP DISTRIBUTION

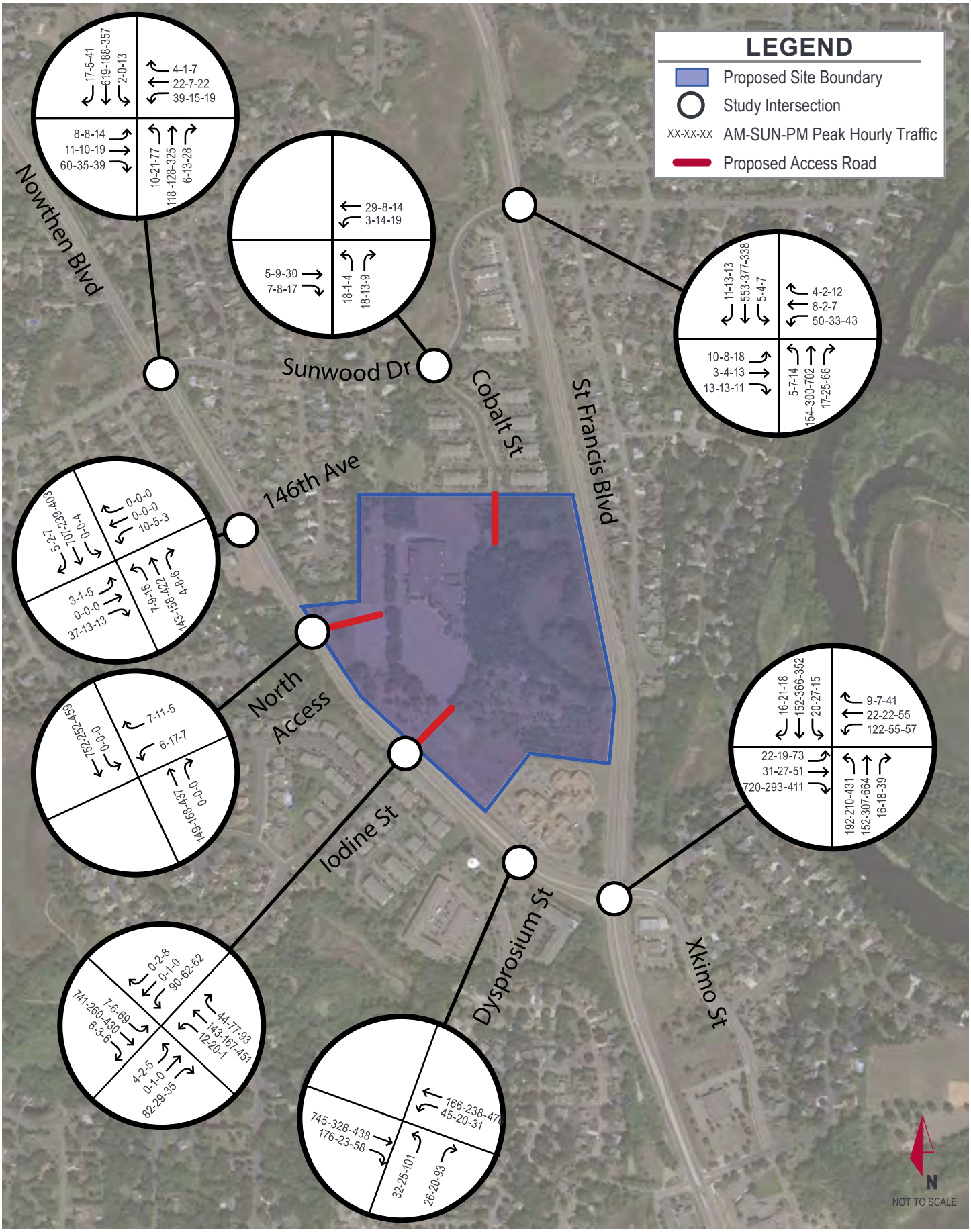
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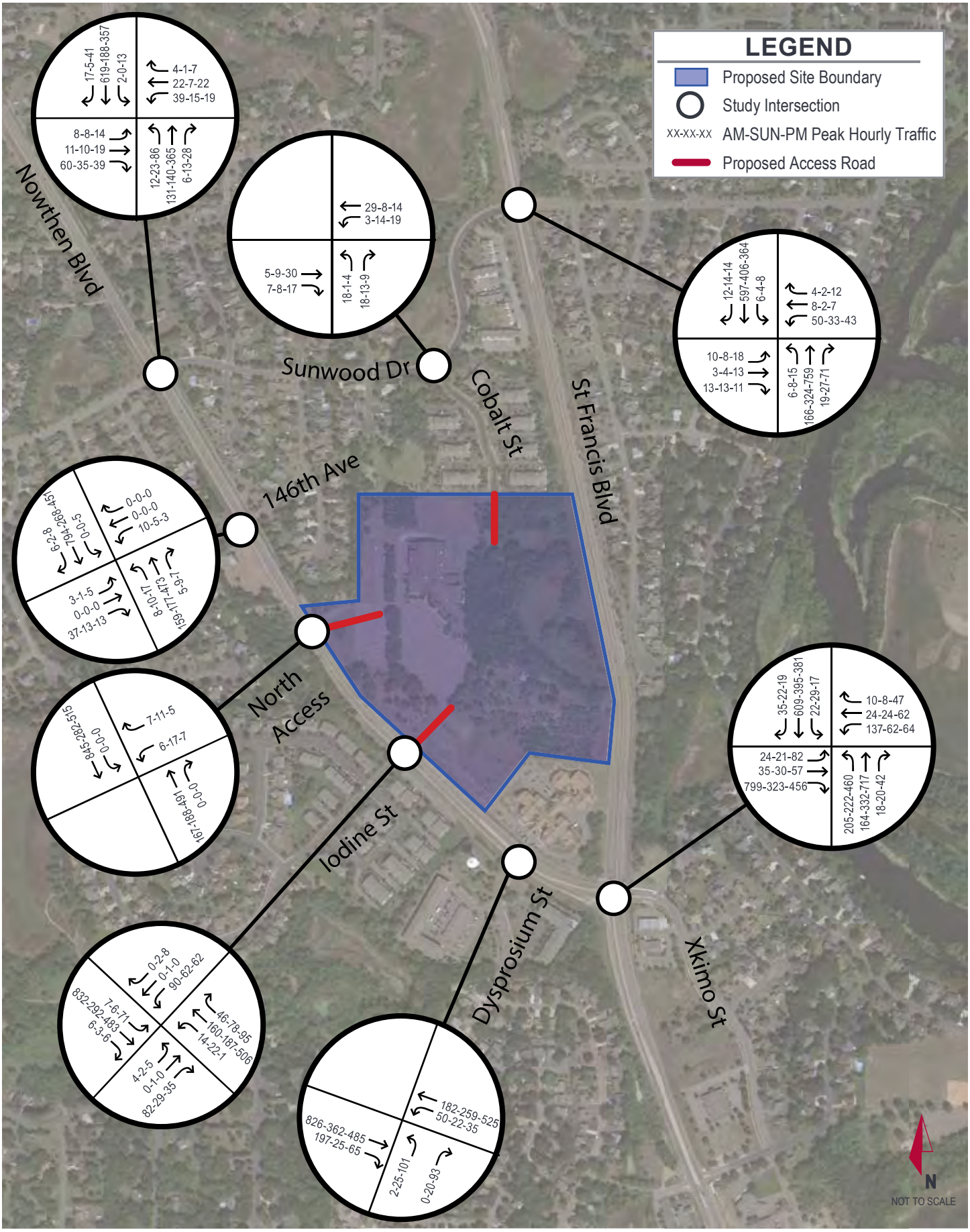
EXHIBIT 7

TOTAL SITE GENERATED TRIPS



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EXHIBIT 8
BUILD SCENARIO 2027
TRAFFIC VOLUMES



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EXHIBIT 9
BUILD SCENARIO 2040 TRAFFIC VOLUMES

B. Turning Movement Counts

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023

Turning Movement Data

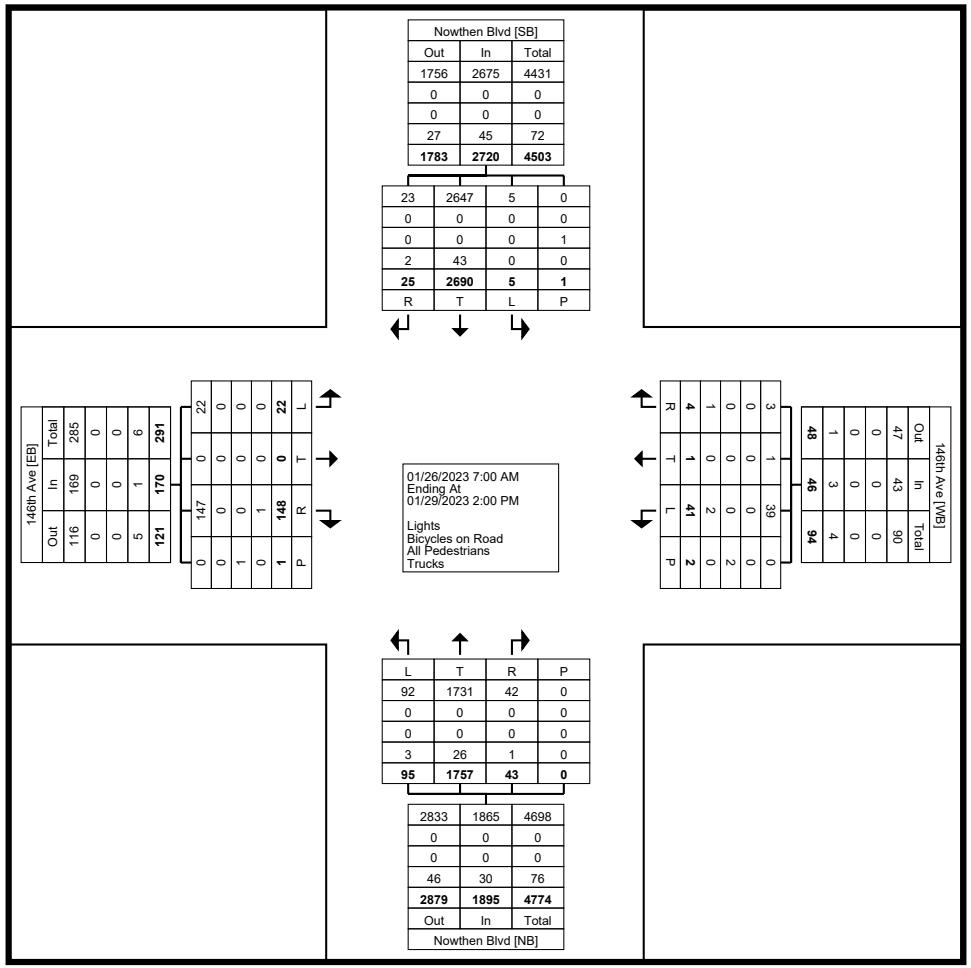
Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	1	0	9	0	10	4	0	0	0	4	1	14	0	0	15	0	212	2	0	214	243
7:15 AM	1	0	15	0	16	3	0	0	0	3	1	32	1	0	34	0	190	1	0	191	244
7:30 AM	1	0	6	0	7	2	0	0	0	2	4	45	2	0	51	0	142	2	0	144	204
7:45 AM	0	0	7	0	7	1	0	0	0	1	1	36	1	0	38	0	134	0	0	134	180
Hourly Total	3	0	37	0	40	10	0	0	0	10	7	127	4	0	138	0	678	5	0	683	871
8:00 AM	0	0	8	0	8	2	0	0	0	2	0	55	0	0	55	0	103	0	0	103	168
8:15 AM	2	0	4	0	6	2	0	0	0	2	0	49	2	0	51	0	97	1	0	98	157
8:30 AM	2	0	2	0	4	2	0	0	0	2	2	34	1	0	37	0	87	0	0	87	130
8:45 AM	0	0	3	0	3	2	0	0	1	2	1	38	0	0	39	0	91	1	0	92	136
Hourly Total	4	0	17	0	21	8	0	0	1	8	3	176	3	0	182	0	378	2	0	380	591
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:00 PM	1	0	7	0	8	1	0	0	0	1	1	82	1	0	84	3	119	4	0	126	219
4:15 PM	2	0	2	0	4	0	0	0	0	0	7	101	3	0	111	0	88	2	0	90	205
4:30 PM	2	0	3	0	5	1	0	0	1	1	1	121	2	0	124	1	74	1	0	76	206
4:45 PM	0	0	1	0	1	1	0	0	0	1	6	96	0	0	102	0	98	0	0	98	202
Hourly Total	5	0	13	0	18	3	0	0	1	3	15	400	6	0	421	4	379	7	0	390	832
5:00 PM	1	0	4	1	5	1	0	0	0	1	6	115	2	0	123	0	87	2	1	89	218
5:15 PM	0	0	5	0	5	1	0	2	0	3	7	87	1	0	95	0	93	1	0	94	197
5:30 PM	0	0	4	0	4	2	0	0	0	2	4	81	3	0	88	0	78	1	0	79	173
5:45 PM	2	0	4	0	6	1	0	0	0	1	9	113	0	0	122	0	64	0	0	64	193
Hourly Total	3	0	17	1	20	5	0	2	0	7	26	396	6	0	428	0	322	4	1	326	781
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	7	0	7	2	0	0	0	2	2	27	1	0	30	0	53	0	0	53	92
10:15 AM	1	0	4	0	5	3	0	0	0	3	1	32	0	0	33	0	76	1	0	77	118
10:30 AM	0	0	5	0	5	0	0	0	0	0	1	28	0	0	29	0	64	0	0	64	98
10:45 AM	1	0	4	0	5	0	0	0	0	0	1	28	1	0	30	0	70	0	0	70	105
Hourly Total	2	0	20	0	22	5	0	0	0	5	5	115	2	0	122	0	263	1	0	264	413
11:00 AM	0	0	1	0	1	2	0	0	0	2	3	26	1	0	30	0	39	0	0	39	72
11:15 AM	0	0	5	0	5	0	0	0	0	0	3	37	2	0	42	0	49	1	0	50	97
11:30 AM	1	0	4	0	5	0	0	0	0	0	0	42	4	0	46	0	55	1	0	56	107
11:45 AM	0	0	3	0	3	3	0	0	0	3	3	40	1	0	44	0	79	0	0	79	129
Hourly Total	1	0	13	0	14	5	0	0	0	5	9	145	8	0	162	0	222	2	0	224	405

12:00 PM	1	0	4	0	5	0	0	0	0	0	5	44	0	0	49	0	53	0	0	53	107
12:15 PM	0	0	4	0	4	0	0	0	0	0	4	45	1	0	50	0	74	1	0	75	129
12:30 PM	1	0	4	0	5	0	0	0	0	0	6	53	2	0	61	0	60	1	0	61	127
12:45 PM	0	0	2	0	2	2	0	0	0	2	3	54	1	0	58	0	46	0	0	46	108
Hourly Total	2	0	14	0	16	2	0	0	0	2	18	196	4	0	218	0	233	2	0	235	471
1:00 PM	0	0	7	0	7	0	0	0	0	0	3	31	1	0	35	0	48	0	0	48	90
1:15 PM	0	0	3	0	3	1	0	1	0	2	3	60	3	0	66	0	71	1	0	72	143
1:30 PM	2	0	3	0	5	1	0	1	0	2	1	61	6	0	68	1	47	1	0	49	124
1:45 PM	0	0	4	0	4	1	1	0	0	2	5	49	0	0	54	0	49	0	0	49	109
Hourly Total	2	0	17	0	19	3	1	2	0	6	12	201	10	0	223	1	215	2	0	218	466
Grand Total	22	0	148	1	170	41	1	4	2	46	95	1757	43	0	1895	5	2690	25	1	2720	4831
Approach %	12.9	0.0	87.1	-	-	89.1	2.2	8.7	-	-	5.0	92.7	2.3	-	-	0.2	98.9	0.9	-	-	-
Total %	0.5	0.0	3.1	-	3.5	0.8	0.0	0.1	-	1.0	2.0	36.4	0.9	-	39.2	0.1	55.7	0.5	-	56.3	-
Lights	22	0	147	-	169	39	1	3	-	43	92	1731	42	-	1865	5	2647	23	-	2675	4752
% Lights	100.0	-	99.3	-	99.4	95.1	100.0	75.0	-	93.5	96.8	98.5	97.7	-	98.4	100.0	98.4	92.0	-	98.3	98.4
Bicycles on Road	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
All Pedestrians	-	-	-	1	-	-	-	-	2	-	-	-	-	0	-	-	-	-	1	-	-
% All Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-
Trucks	0	0	1	-	1	2	0	1	-	3	3	26	1	-	30	0	43	2	-	45	79
% Trucks	0.0	-	0.7	-	0.6	4.9	0.0	25.0	-	6.5	3.2	1.5	2.3	-	1.6	0.0	1.6	8.0	-	1.7	1.6

Kimley-Horn and Associates, Inc.
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Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023



Turning Movement Data Plot

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Count Name: Nowthen Blvd & 146th Ave
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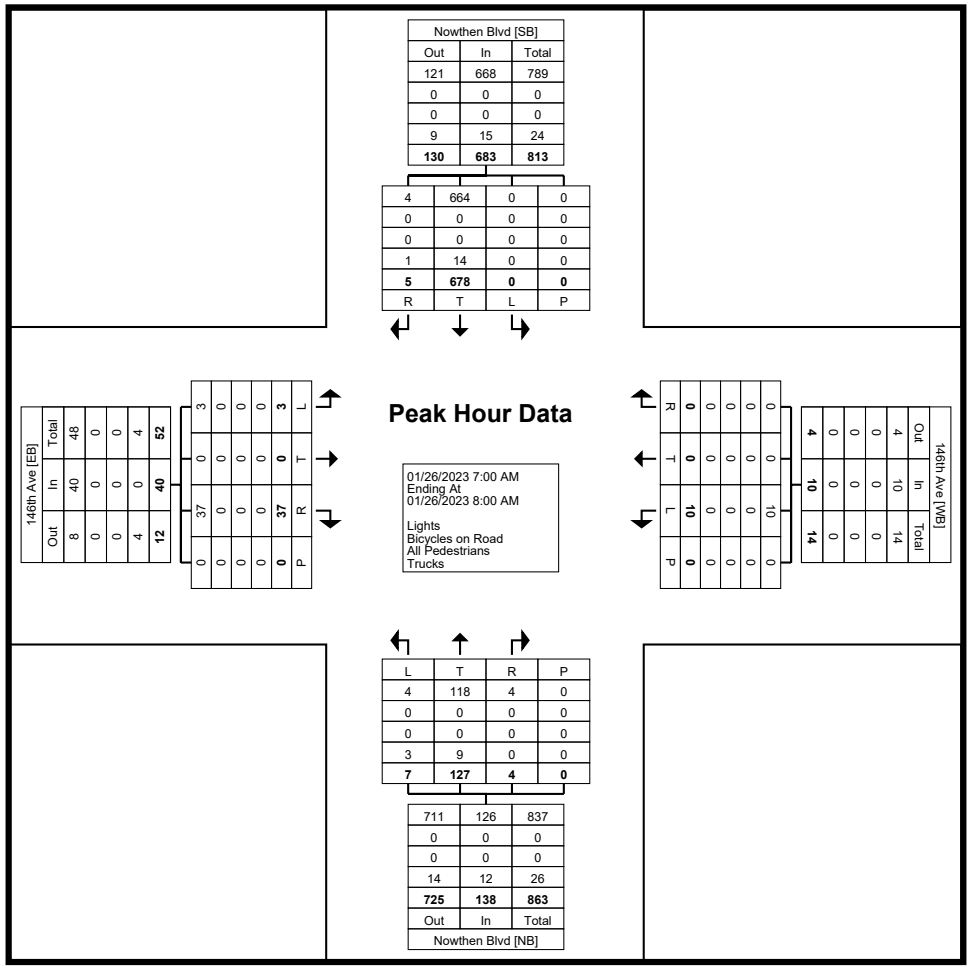
Turning Movement Peak Hour Data (7:00 AM)

Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	1	0	9	0	10	4	0	0	0	4	1	14	0	0	15	0	212	2	0	214	243
7:15 AM	1	0	15	0	16	3	0	0	0	3	1	32	1	0	34	0	190	1	0	191	244
7:30 AM	1	0	6	0	7	2	0	0	0	2	4	45	2	0	51	0	142	2	0	144	204
7:45 AM	0	0	7	0	7	1	0	0	0	1	1	36	1	0	38	0	134	0	0	134	180
Total	3	0	37	0	40	10	0	0	0	10	7	127	4	0	138	0	678	5	0	683	871
Approach %	7.5	0.0	92.5	-	-	100.0	0.0	0.0	-	-	5.1	92.0	2.9	-	-	0.0	99.3	0.7	-	-	-
Total %	0.3	0.0	4.2	-	4.6	1.1	0.0	0.0	-	1.1	0.8	14.6	0.5	-	15.8	0.0	77.8	0.6	-	78.4	-
PHF	0.750	0.000	0.617	-	0.625	0.625	0.000	0.000	-	0.625	0.438	0.706	0.500	-	0.676	0.000	0.800	0.625	-	0.798	0.892
Lights	3	0	37	-	40	10	0	0	-	10	4	118	4	-	126	0	664	4	-	668	844
% Lights	100.0	-	100.0	-	100.0	100.0	-	-	-	100.0	57.1	92.9	100.0	-	91.3	-	97.9	80.0	-	97.8	96.9
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	3	9	0	-	12	0	14	1	-	15	27
% Trucks	0.0	-	0.0	-	0.0	0.0	-	-	-	0.0	42.9	7.1	0.0	-	8.7	-	2.1	20.0	-	2.2	3.1

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Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (7:00 AM)

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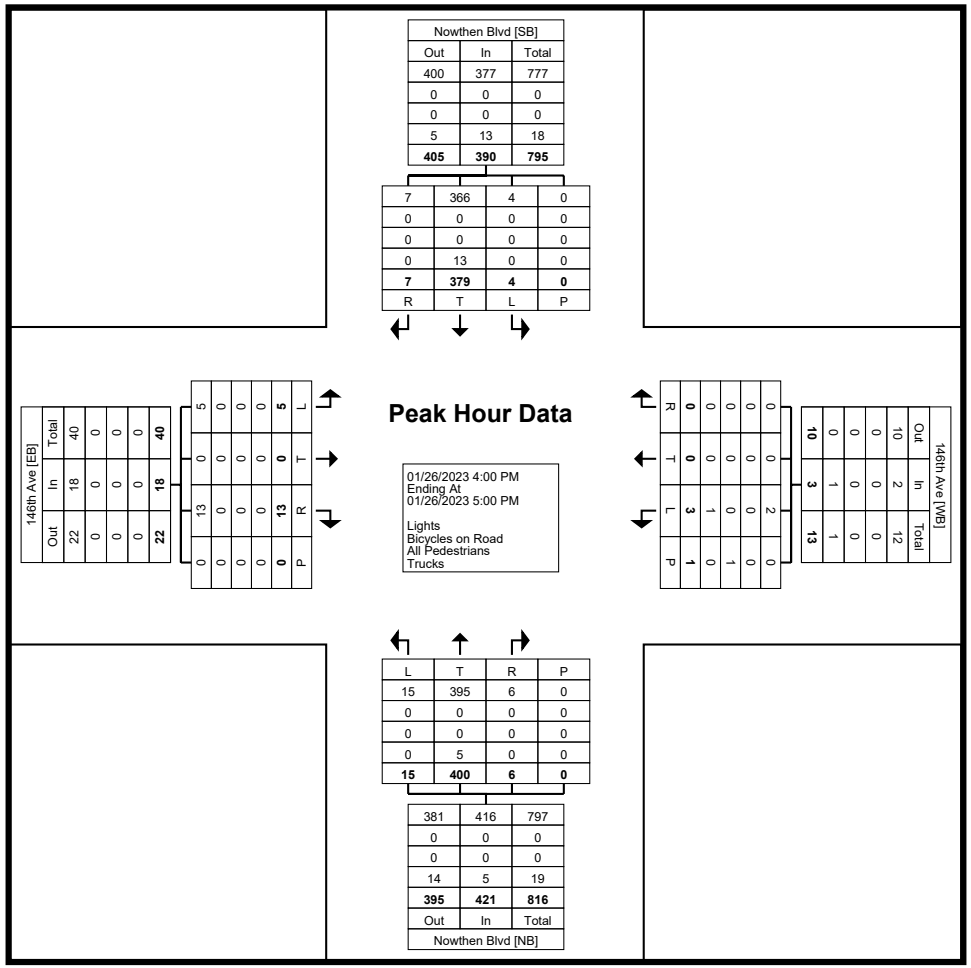
Turning Movement Peak Hour Data (4:00 PM)

Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	1	0	7	0	8	1	0	0	0	1	1	82	1	0	84	3	119	4	0	126	219
4:15 PM	2	0	2	0	4	0	0	0	0	0	7	101	3	0	111	0	88	2	0	90	205
4:30 PM	2	0	3	0	5	1	0	0	1	1	1	121	2	0	124	1	74	1	0	76	206
4:45 PM	0	0	1	0	1	1	0	0	0	1	6	96	0	0	102	0	98	0	0	98	202
Total	5	0	13	0	18	3	0	0	1	3	15	400	6	0	421	4	379	7	0	390	832
Approach %	27.8	0.0	72.2	-	-	100.0	0.0	0.0	-	-	3.6	95.0	1.4	-	-	1.0	97.2	1.8	-	-	-
Total %	0.6	0.0	1.6	-	2.2	0.4	0.0	0.0	-	0.4	1.8	48.1	0.7	-	50.6	0.5	45.6	0.8	-	46.9	-
PHF	0.625	0.000	0.464	-	0.563	0.750	0.000	0.000	-	0.750	0.536	0.826	0.500	-	0.849	0.333	0.796	0.438	-	0.774	0.950
Lights	5	0	13	-	18	2	0	0	-	2	15	395	6	-	416	4	366	7	-	377	813
% Lights	100.0	-	100.0	-	100.0	66.7	-	-	-	66.7	100.0	98.8	100.0	-	98.8	100.0	96.6	100.0	-	96.7	97.7
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	1	0	0	-	1	0	5	0	-	5	0	13	0	-	13	19
% Trucks	0.0	-	0.0	-	0.0	33.3	-	-	-	33.3	0.0	1.3	0.0	-	1.2	0.0	3.4	0.0	-	3.3	2.3

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Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (4:00 PM)

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Site Code:
Start Date: 01/26/2023

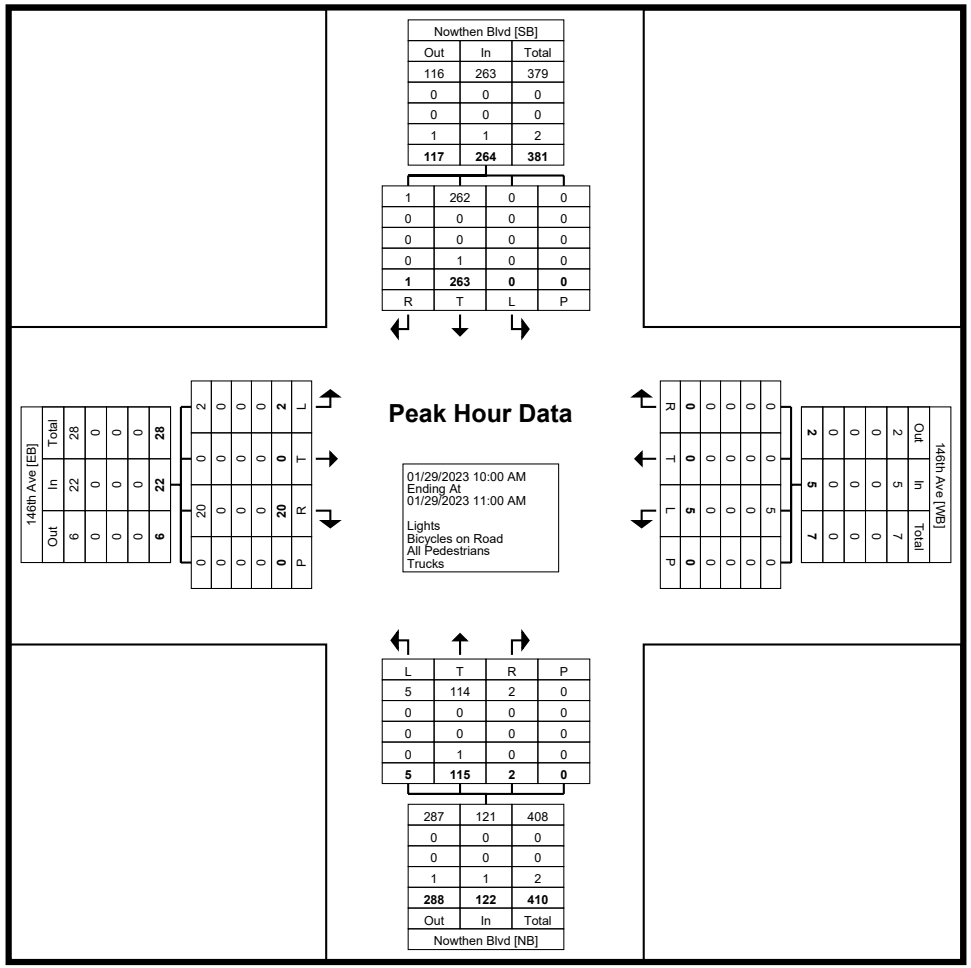
Turning Movement Peak Hour Data (10:00 AM)

Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
10:00 AM	0	0	7	0	7	2	0	0	0	2	2	27	1	0	30	0	53	0	0	53	92
10:15 AM	1	0	4	0	5	3	0	0	0	3	1	32	0	0	33	0	76	1	0	77	118
10:30 AM	0	0	5	0	5	0	0	0	0	0	1	28	0	0	29	0	64	0	0	64	98
10:45 AM	1	0	4	0	5	0	0	0	0	0	1	28	1	0	30	0	70	0	0	70	105
Total	2	0	20	0	22	5	0	0	0	5	5	115	2	0	122	0	263	1	0	264	413
Approach %	9.1	0.0	90.9	-	-	100.0	0.0	0.0	-	-	4.1	94.3	1.6	-	-	0.0	99.6	0.4	-	-	-
Total %	0.5	0.0	4.8	-	5.3	1.2	0.0	0.0	-	1.2	1.2	27.8	0.5	-	29.5	0.0	63.7	0.2	-	63.9	-
PHF	0.500	0.000	0.714	-	0.786	0.417	0.000	0.000	-	0.417	0.625	0.898	0.500	-	0.924	0.000	0.865	0.250	-	0.857	0.875
Lights	2	0	20	-	22	5	0	0	-	5	5	114	2	-	121	0	262	1	-	263	411
% Lights	100.0	-	100.0	-	100.0	100.0	-	-	-	100.0	100.0	99.1	100.0	-	99.2	-	99.6	100.0	-	99.6	99.5
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	0	1	0	-	1	2
% Trucks	0.0	-	0.0	-	0.0	0.0	-	-	-	0.0	0.0	0.9	0.0	-	0.8	-	0.4	0.0	-	0.4	0.5

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Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023

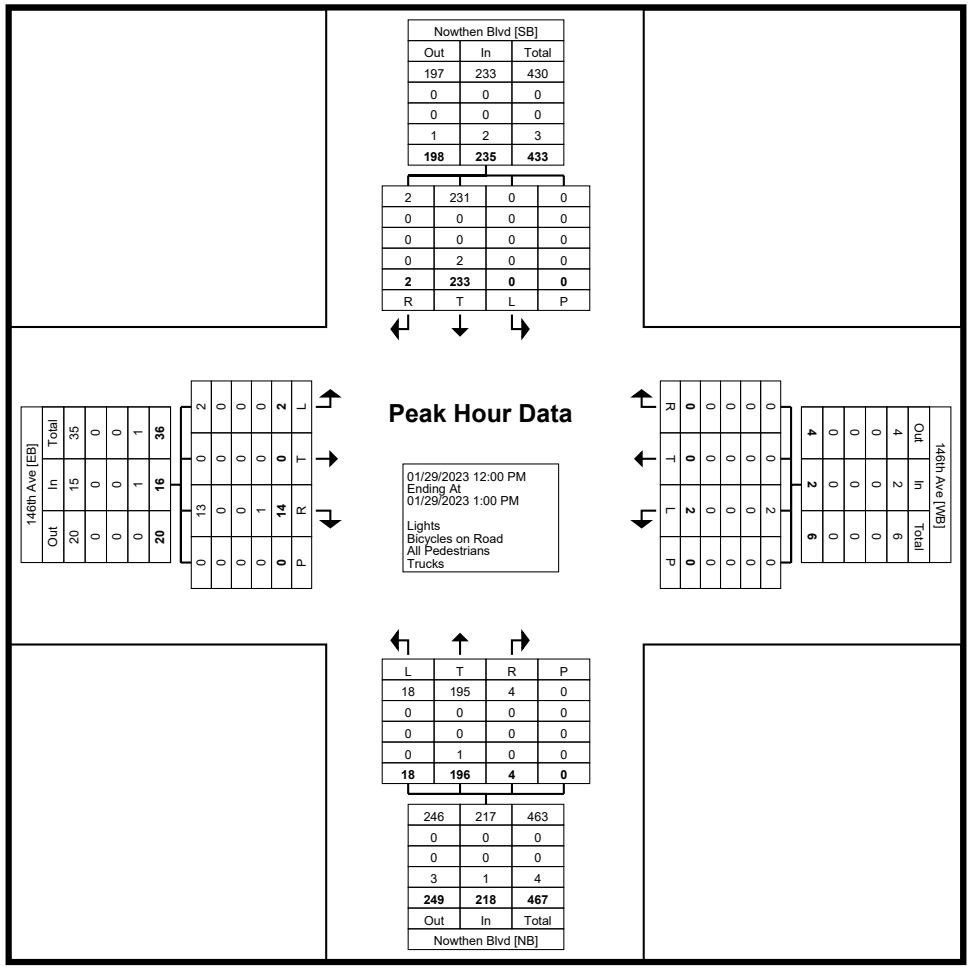
Turning Movement Peak Hour Data (12:00 PM)

Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 PM	1	0	4	0	5	0	0	0	0	0	5	44	0	0	49	0	53	0	0	53	107
12:15 PM	0	0	4	0	4	0	0	0	0	0	4	45	1	0	50	0	74	1	0	75	129
12:30 PM	1	0	4	0	5	0	0	0	0	0	6	53	2	0	61	0	60	1	0	61	127
12:45 PM	0	0	2	0	2	2	0	0	0	2	3	54	1	0	58	0	46	0	0	46	108
Total	2	0	14	0	16	2	0	0	0	2	18	196	4	0	218	0	233	2	0	235	471
Approach %	12.5	0.0	87.5	-	-	100.0	0.0	0.0	-	-	8.3	89.9	1.8	-	-	0.0	99.1	0.9	-	-	-
Total %	0.4	0.0	3.0	-	3.4	0.4	0.0	0.0	-	0.4	3.8	41.6	0.8	-	46.3	0.0	49.5	0.4	-	49.9	-
PHF	0.500	0.000	0.875	-	0.800	0.250	0.000	0.000	-	0.250	0.750	0.907	0.500	-	0.893	0.000	0.787	0.500	-	0.783	0.913
Lights	2	0	13	-	15	2	0	0	-	2	18	195	4	-	217	0	231	2	-	233	467
% Lights	100.0	-	92.9	-	93.8	100.0	-	-	-	100.0	100.0	99.5	100.0	-	99.5	-	99.1	100.0	-	99.1	99.2
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	1	-	1	0	0	0	-	0	0	1	0	-	1	0	2	0	-	2	4
% Trucks	0.0	-	7.1	-	6.3	0.0	-	-	-	0.0	0.0	0.5	0.0	-	0.5	-	0.9	0.0	-	0.9	0.8

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Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (12:00 PM)

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023

Turning Movement Data

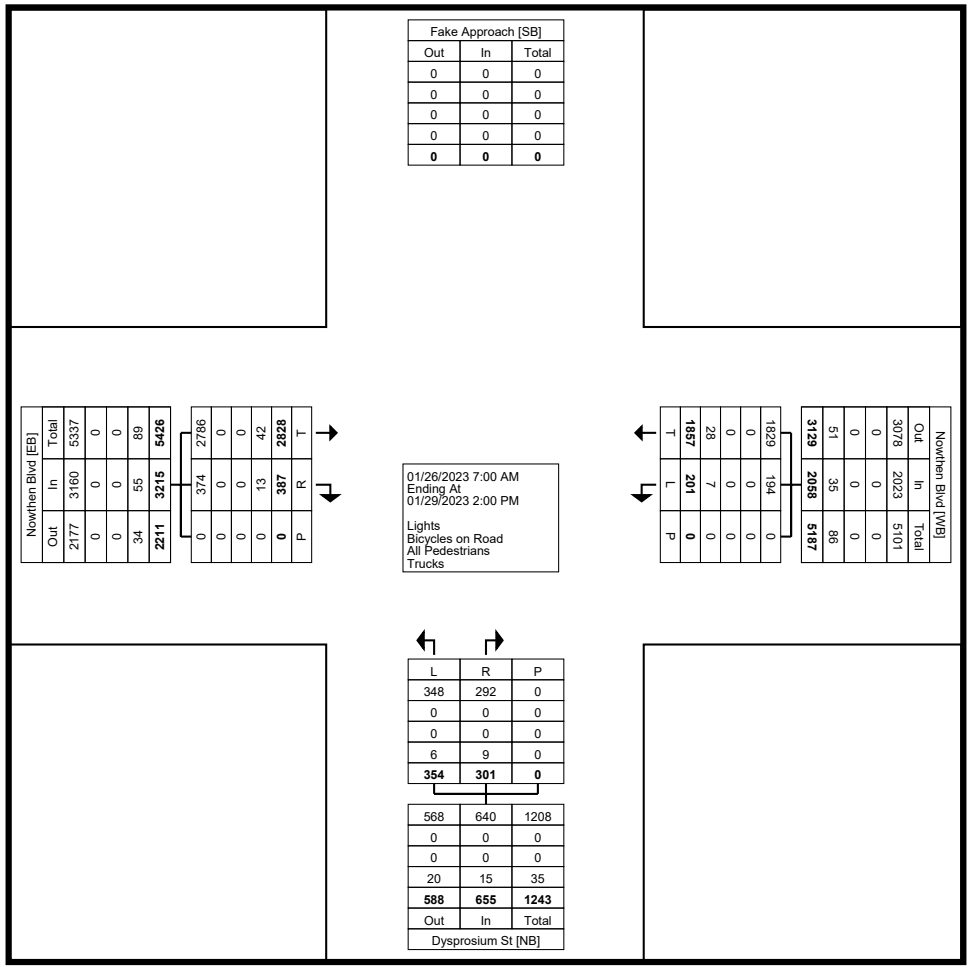
Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00 AM	188	52	0	240	1	15	0	16	3	6	0	9	265
7:15 AM	190	48	0	238	12	30	0	42	11	6	0	17	297
7:30 AM	123	35	0	158	16	52	0	68	7	6	0	13	239
7:45 AM	131	29	0	160	14	32	0	46	9	8	0	17	223
Hourly Total	632	164	0	796	43	129	0	172	30	26	0	56	1024
8:00 AM	101	15	0	116	9	53	0	62	9	8	0	17	195
8:15 AM	95	12	0	107	8	48	0	56	11	11	0	22	185
8:30 AM	84	17	0	101	3	36	0	39	8	4	0	12	152
8:45 AM	87	8	0	95	7	44	0	51	8	4	0	12	158
Hourly Total	367	52	0	419	27	181	0	208	36	27	0	63	690
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	114	19	0	133	10	84	0	94	19	21	0	40	267
4:15 PM	79	13	0	92	2	104	0	106	21	18	0	39	237
4:30 PM	83	7	0	90	9	103	0	112	37	37	0	74	276
4:45 PM	94	14	0	108	9	91	0	100	19	17	0	36	244
Hourly Total	370	53	0	423	30	382	0	412	96	93	0	189	1024
5:00 PM	84	8	0	92	7	128	0	135	26	20	0	46	273
5:15 PM	108	7	0	115	6	99	0	105	17	10	0	27	247
5:30 PM	106	8	0	114	11	88	0	99	19	11	0	30	243
5:45 PM	73	11	0	84	3	109	0	112	15	12	0	27	223
Hourly Total	371	34	0	405	27	424	0	451	77	53	0	130	986
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	68	3	0	71	1	26	0	27	4	6	0	10	108
10:15 AM	77	10	0	87	4	38	0	42	13	8	0	21	150
10:30 AM	70	5	0	75	4	42	0	46	5	4	0	9	130
10:45 AM	72	10	0	82	6	38	0	44	5	6	0	11	137
Hourly Total	287	28	0	315	15	144	0	159	27	24	0	51	525
11:00 AM	49	0	0	49	5	29	0	34	2	4	0	6	89
11:15 AM	59	6	0	65	5	51	0	56	4	4	0	8	129
11:30 AM	58	3	0	61	5	39	0	44	10	8	0	18	123
11:45 AM	93	9	0	102	4	44	0	48	5	4	0	9	159
Hourly Total	259	18	0	277	19	163	0	182	21	20	0	41	500

12:00 PM	62	10	0	72	4	40	0	44	13	5	0	18	134
12:15 PM	83	1	0	84	5	54	0	59	9	5	0	14	157
12:30 PM	62	7	0	69	4	57	0	61	8	11	0	19	149
12:45 PM	59	3	0	62	9	63	0	72	8	7	0	15	149
Hourly Total	266	21	0	287	22	214	0	236	38	28	0	66	589
1:00 PM	63	3	0	66	2	35	0	37	8	7	0	15	118
1:15 PM	86	7	0	93	3	60	0	63	8	5	0	13	169
1:30 PM	66	3	0	69	5	61	0	66	6	7	0	13	148
1:45 PM	61	4	0	65	8	64	0	72	7	11	0	18	155
Hourly Total	276	17	0	293	18	220	0	238	29	30	0	59	590
Grand Total	2828	387	0	3215	201	1857	0	2058	354	301	0	655	5928
Approach %	88.0	12.0	-	-	9.8	90.2	-	-	54.0	46.0	-	-	-
Total %	47.7	6.5	-	54.2	3.4	31.3	-	34.7	6.0	5.1	-	11.0	-
Lights	2786	374	-	3160	194	1829	-	2023	348	292	-	640	5823
% Lights	98.5	96.6	-	98.3	96.5	98.5	-	98.3	98.3	97.0	-	97.7	98.2
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	42	13	-	55	7	28	-	35	6	9	-	15	105
% Trucks	1.5	3.4	-	1.7	3.5	1.5	-	1.7	1.7	3.0	-	2.3	1.8

Kimley-Horn and Associates, Inc.
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Warrenville, Illinois, United States 60555
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Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023



Turning Movement Data Plot

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Count Name: Nowthen Blvd & Dysprosium St
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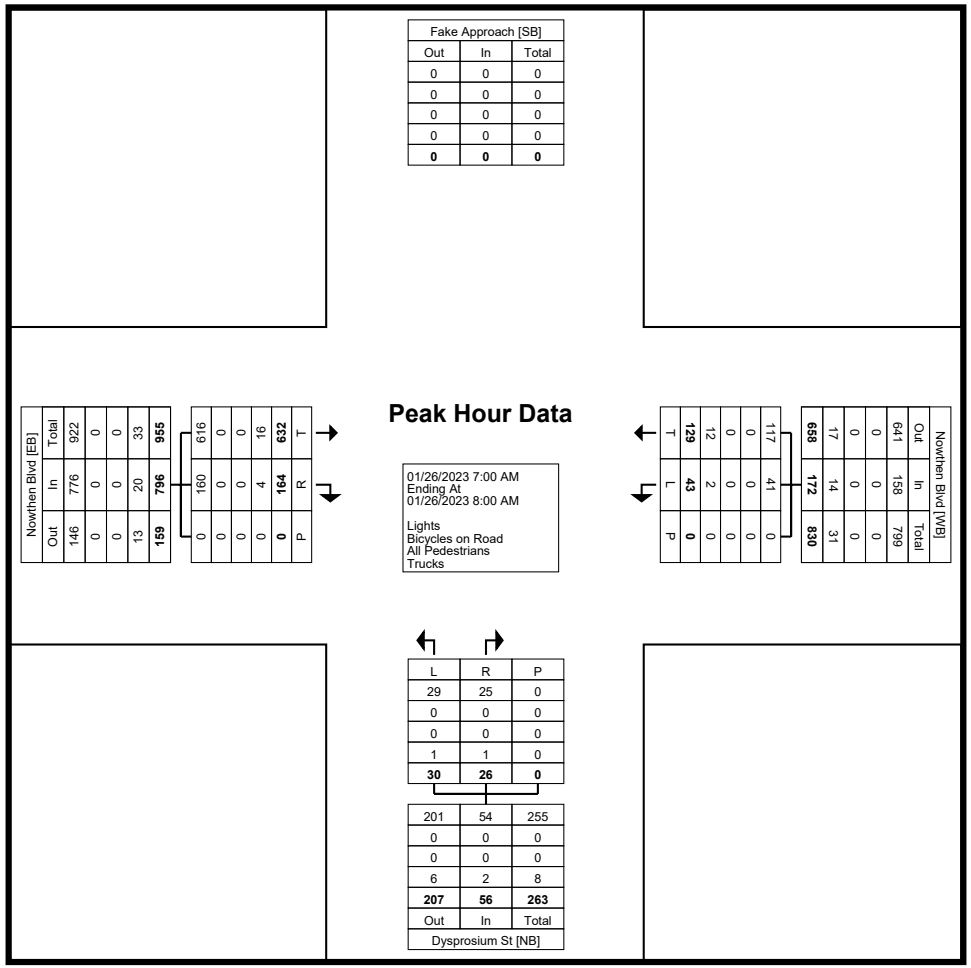
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00 AM	188	52	0	240	1	15	0	16	3	6	0	9	265
7:15 AM	190	48	0	238	12	30	0	42	11	6	0	17	297
7:30 AM	123	35	0	158	16	52	0	68	7	6	0	13	239
7:45 AM	131	29	0	160	14	32	0	46	9	8	0	17	223
Total	632	164	0	796	43	129	0	172	30	26	0	56	1024
Approach %	79.4	20.6	-	-	25.0	75.0	-	-	53.6	46.4	-	-	-
Total %	61.7	16.0	-	77.7	4.2	12.6	-	16.8	2.9	2.5	-	5.5	-
PHF	0.832	0.788	-	0.829	0.672	0.620	-	0.632	0.682	0.813	-	0.824	0.862
Lights	616	160	-	776	41	117	-	158	29	25	-	54	988
% Lights	97.5	97.6	-	97.5	95.3	90.7	-	91.9	96.7	96.2	-	96.4	96.5
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	16	4	-	20	2	12	-	14	1	1	-	2	36
% Trucks	2.5	2.4	-	2.5	4.7	9.3	-	8.1	3.3	3.8	-	3.6	3.5

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Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (7:00 AM)

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Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023

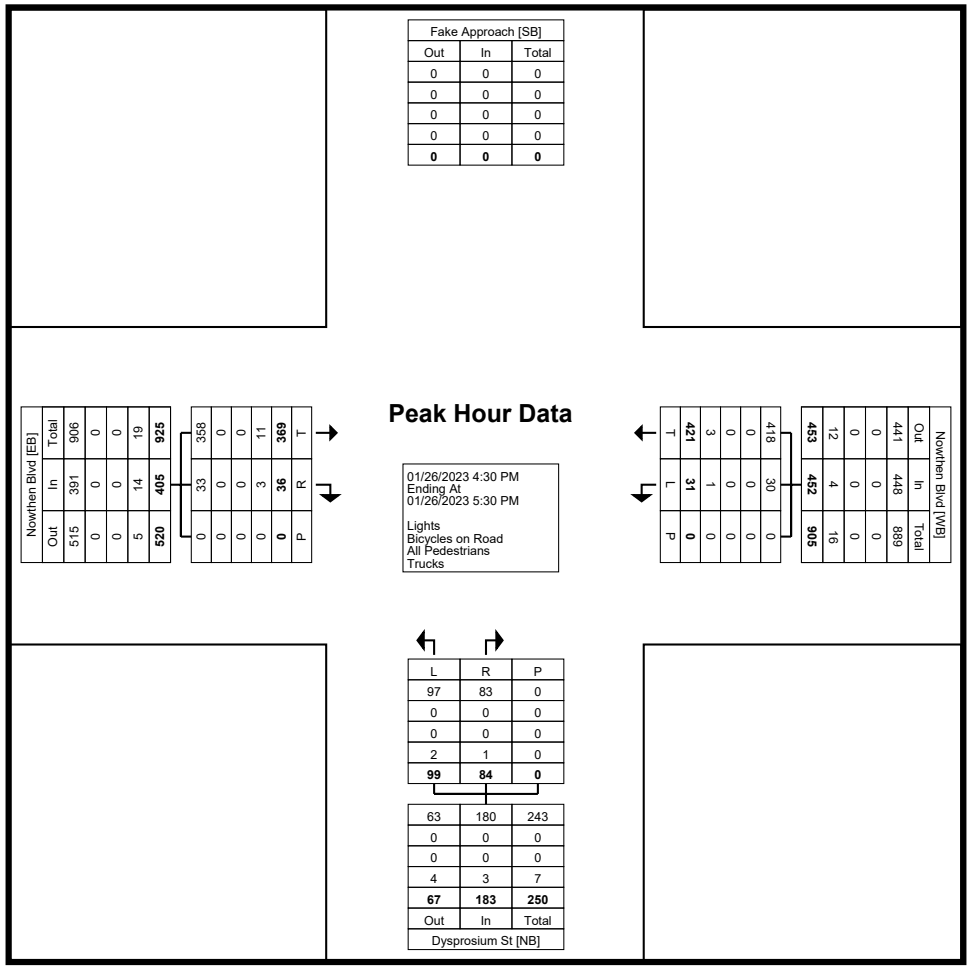
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
4:30 PM	83	7	0	90	9	103	0	112	37	37	0	74	276
4:45 PM	94	14	0	108	9	91	0	100	19	17	0	36	244
5:00 PM	84	8	0	92	7	128	0	135	26	20	0	46	273
5:15 PM	108	7	0	115	6	99	0	105	17	10	0	27	247
Total	369	36	0	405	31	421	0	452	99	84	0	183	1040
Approach %	91.1	8.9	-	-	6.9	93.1	-	-	54.1	45.9	-	-	-
Total %	35.5	3.5	-	38.9	3.0	40.5	-	43.5	9.5	8.1	-	17.6	-
PHF	0.854	0.643	-	0.880	0.861	0.822	-	0.837	0.669	0.568	-	0.618	0.942
Lights	358	33	-	391	30	418	-	448	97	83	-	180	1019
% Lights	97.0	91.7	-	96.5	96.8	99.3	-	99.1	98.0	98.8	-	98.4	98.0
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	11	3	-	14	1	3	-	4	2	1	-	3	21
% Trucks	3.0	8.3	-	3.5	3.2	0.7	-	0.9	2.0	1.2	-	1.6	2.0

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Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (4:30 PM)

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023

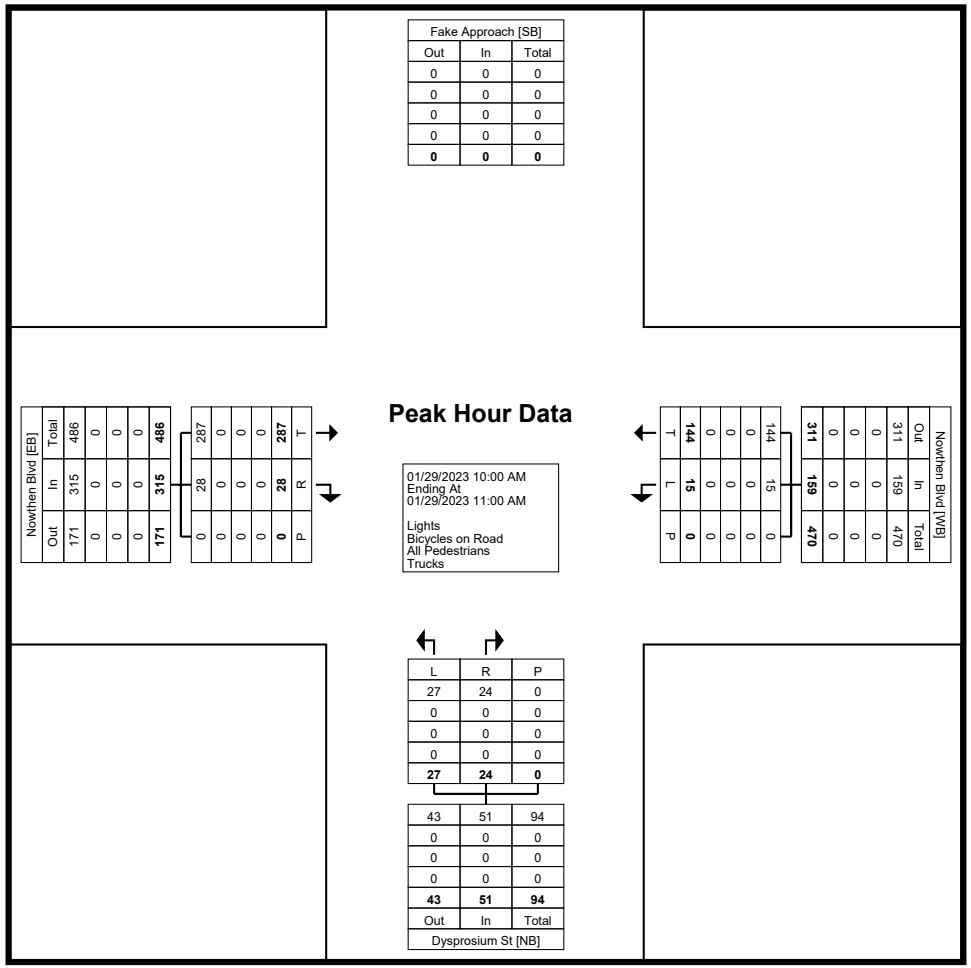
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
10:00 AM	68	3	0	71	1	26	0	27	4	6	0	10	108
10:15 AM	77	10	0	87	4	38	0	42	13	8	0	21	150
10:30 AM	70	5	0	75	4	42	0	46	5	4	0	9	130
10:45 AM	72	10	0	82	6	38	0	44	5	6	0	11	137
Total	287	28	0	315	15	144	0	159	27	24	0	51	525
Approach %	91.1	8.9	-	-	9.4	90.6	-	-	52.9	47.1	-	-	-
Total %	54.7	5.3	-	60.0	2.9	27.4	-	30.3	5.1	4.6	-	9.7	-
PHF	0.932	0.700	-	0.905	0.625	0.857	-	0.864	0.519	0.750	-	0.607	0.875
Lights	287	28	-	315	15	144	-	159	27	24	-	51	525
% Lights	100.0	100.0	-	100.0	100.0	100.0	-	100.0	100.0	100.0	-	100.0	100.0
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	-	0	0	0	-	0	0	0	-	0	0
% Trucks	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0

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Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023

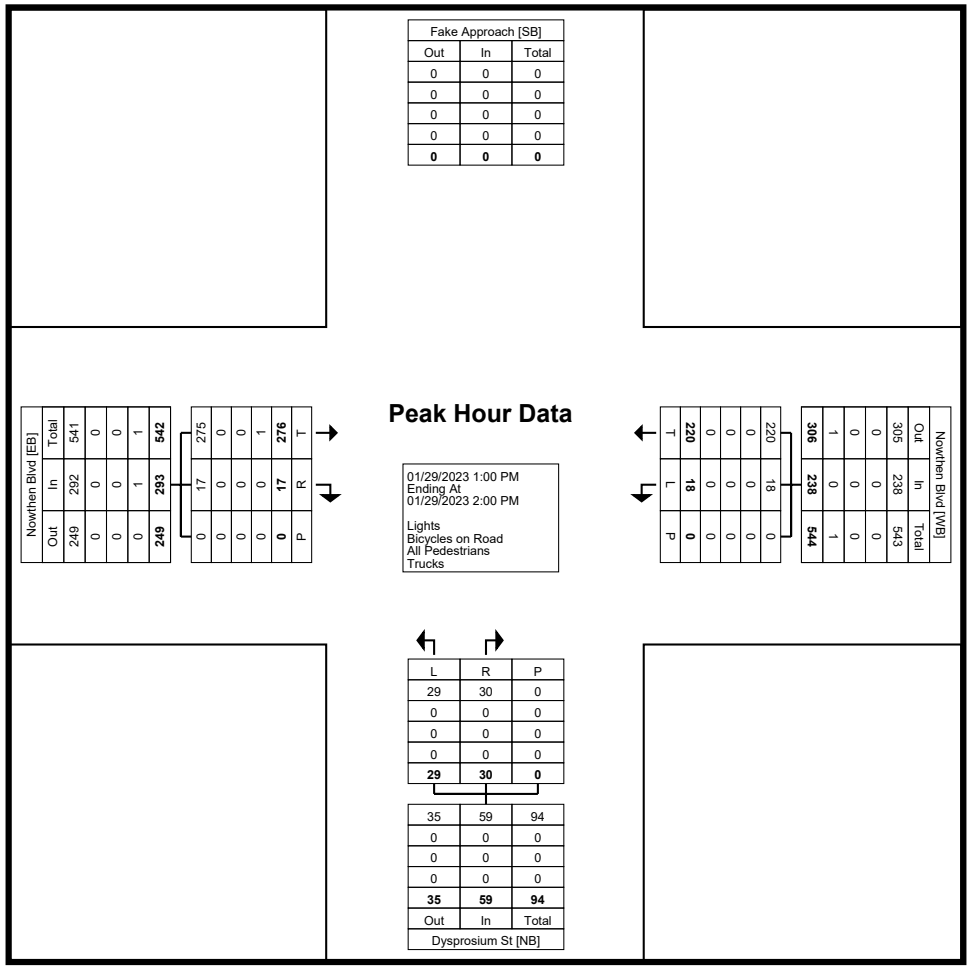
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
1:00 PM	63	3	0	66	2	35	0	37	8	7	0	15	118
1:15 PM	86	7	0	93	3	60	0	63	8	5	0	13	169
1:30 PM	66	3	0	69	5	61	0	66	6	7	0	13	148
1:45 PM	61	4	0	65	8	64	0	72	7	11	0	18	155
Total	276	17	0	293	18	220	0	238	29	30	0	59	590
Approach %	94.2	5.8	-	-	7.6	92.4	-	-	49.2	50.8	-	-	-
Total %	46.8	2.9	-	49.7	3.1	37.3	-	40.3	4.9	5.1	-	10.0	-
PHF	0.802	0.607	-	0.788	0.563	0.859	-	0.826	0.906	0.682	-	0.819	0.873
Lights	275	17	-	292	18	220	-	238	29	30	-	59	589
% Lights	99.6	100.0	-	99.7	100.0	100.0	-	100.0	100.0	100.0	-	100.0	99.8
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	1	0	-	1	0	0	-	0	0	0	-	0	1
% Trucks	0.4	0.0	-	0.3	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.2

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Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (1:00 PM)

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Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023

Turning Movement Data

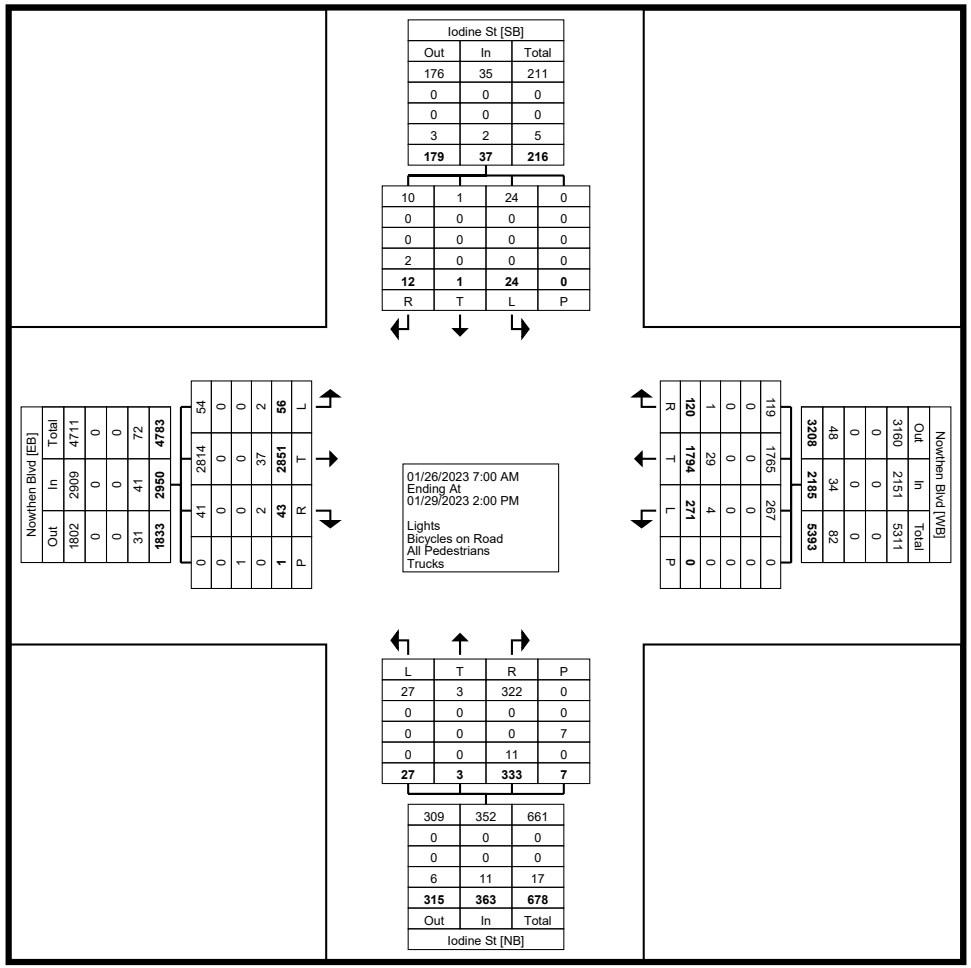
Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	216	0	0	216	3	15	1	0	19	2	0	23	0	25	0	0	0	0	0	260
7:15 AM	1	210	1	0	212	3	32	6	0	41	1	0	27	0	28	0	0	0	0	0	281
7:30 AM	2	140	2	0	144	5	52	1	0	58	0	0	17	0	17	0	0	0	0	0	219
7:45 AM	2	143	3	0	148	1	37	4	0	42	1	0	15	0	16	0	0	0	0	0	206
Hourly Total	5	709	6	0	720	12	136	12	0	160	4	0	82	0	86	0	0	0	0	0	966
8:00 AM	4	109	0	0	113	3	53	7	0	63	0	0	7	0	7	0	0	0	0	0	183
8:15 AM	2	98	2	0	102	4	49	6	0	59	3	0	8	0	11	0	0	0	0	0	172
8:30 AM	2	86	0	1	88	6	33	2	0	41	1	0	13	1	14	0	0	0	0	0	143
8:45 AM	9	86	1	0	96	3	39	11	0	53	0	0	9	0	9	0	0	0	0	0	158
Hourly Total	17	379	3	1	399	16	174	26	0	216	4	0	37	1	41	0	0	0	0	0	656
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	128	3	0	131	12	85	3	0	100	1	0	3	0	4	1	0	0	0	1	236
4:15 PM	0	80	6	0	86	11	117	1	0	129	2	0	8	0	10	2	0	0	0	2	227
4:30 PM	1	78	0	0	79	25	114	1	0	140	2	0	13	0	15	4	0	2	0	6	240
4:45 PM	0	94	4	0	98	14	96	1	0	111	0	0	11	0	11	1	0	0	0	1	221
Hourly Total	1	380	13	0	394	62	412	6	0	480	5	0	35	0	40	8	0	2	0	10	924
5:00 PM	7	81	3	0	91	21	125	2	0	148	0	0	11	1	11	1	0	0	0	1	251
5:15 PM	8	102	0	0	110	13	77	16	0	106	0	0	10	2	10	0	0	1	0	1	227
5:30 PM	2	95	4	0	101	17	81	11	0	109	1	0	17	0	18	2	0	1	0	3	231
5:45 PM	0	68	1	0	69	15	108	4	0	127	1	0	12	1	13	4	0	2	0	6	215
Hourly Total	17	346	8	0	371	66	391	33	0	490	2	0	50	4	52	7	0	4	0	11	924
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	64	0	0	64	0	24	3	0	27	0	0	6	0	6	0	0	0	0	0	97
10:15 AM	4	84	0	0	88	7	29	5	0	41	0	0	5	0	5	0	0	0	0	0	134
10:30 AM	4	64	0	0	68	5	24	13	0	42	4	1	8	0	13	1	0	1	0	2	125
10:45 AM	2	75	2	0	79	7	27	4	0	38	2	1	8	0	11	0	0	0	0	0	128
Hourly Total	10	287	2	0	299	19	104	25	0	148	6	2	27	0	35	1	0	1	0	2	484
11:00 AM	0	40	2	0	42	1	30	0	0	31	0	0	9	0	9	0	0	0	0	0	82
11:15 AM	0	59	0	0	59	7	44	4	0	55	1	1	6	0	8	0	1	0	0	1	123
11:30 AM	2	56	0	0	58	5	41	4	0	50	0	0	4	1	4	1	0	1	0	2	114
11:45 AM	0	92	1	0	93	6	42	0	0	48	1	0	10	0	11	1	0	0	0	1	153
Hourly Total	2	247	3	0	252	19	157	8	0	184	2	1	29	1	32	2	1	1	0	4	472
12:00 PM	0	65	0	0	65	9	44	2	0	55	0	0	4	0	4	1	0	0	0	1	125
12:15 PM	1	76	3	0	80	10	53	0	0	63	0	0	10	0	10	0	0	0	0	0	153

12:30 PM	0	64	0	0	64	9	54	0	0	63	0	0	8	0	8	1	0	1	0	2	137
12:45 PM	0	49	2	0	51	9	60	4	0	73	1	0	9	1	10	2	0	0	0	2	136
Hourly Total	1	254	5	0	260	37	211	6	0	254	1	0	31	1	32	4	0	1	0	5	551
1:00 PM	1	54	1	0	56	6	36	1	0	43	0	0	14	0	14	0	0	0	0	0	113
1:15 PM	1	84	1	0	86	10	55	3	0	68	2	0	8	0	10	1	0	1	0	2	166
1:30 PM	1	59	0	0	60	11	59	0	0	70	1	0	9	0	10	0	0	2	0	2	142
1:45 PM	0	52	1	0	53	13	59	0	0	72	0	0	11	0	11	1	0	0	0	1	137
Hourly Total	3	249	3	0	255	40	209	4	0	253	3	0	42	0	45	2	0	3	0	5	558
Grand Total	56	2851	43	1	2950	271	1794	120	0	2185	27	3	333	7	363	24	1	12	0	37	5535
Approach %	1.9	96.6	1.5	-	-	12.4	82.1	5.5	-	-	7.4	0.8	91.7	-	-	64.9	2.7	32.4	-	-	-
Total %	1.0	51.5	0.8	-	53.3	4.9	32.4	2.2	-	39.5	0.5	0.1	6.0	-	6.6	0.4	0.0	0.2	-	0.7	-
Lights	54	2814	41	-	2909	267	1765	119	-	2151	27	3	322	-	352	24	1	10	-	35	5447
% Lights	96.4	98.7	95.3	-	98.6	98.5	98.4	99.2	-	98.4	100.0	100.0	96.7	-	97.0	100.0	100.0	83.3	-	94.6	98.4
Bicycles on Road	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
All Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	7	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-
Trucks	2	37	2	-	41	4	29	1	-	34	0	0	11	-	11	0	0	2	-	2	88
% Trucks	3.6	1.3	4.7	-	1.4	1.5	1.6	0.8	-	1.6	0.0	0.0	3.3	-	3.0	0.0	0.0	16.7	-	5.4	1.6

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023



Turning Movement Data Plot

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023

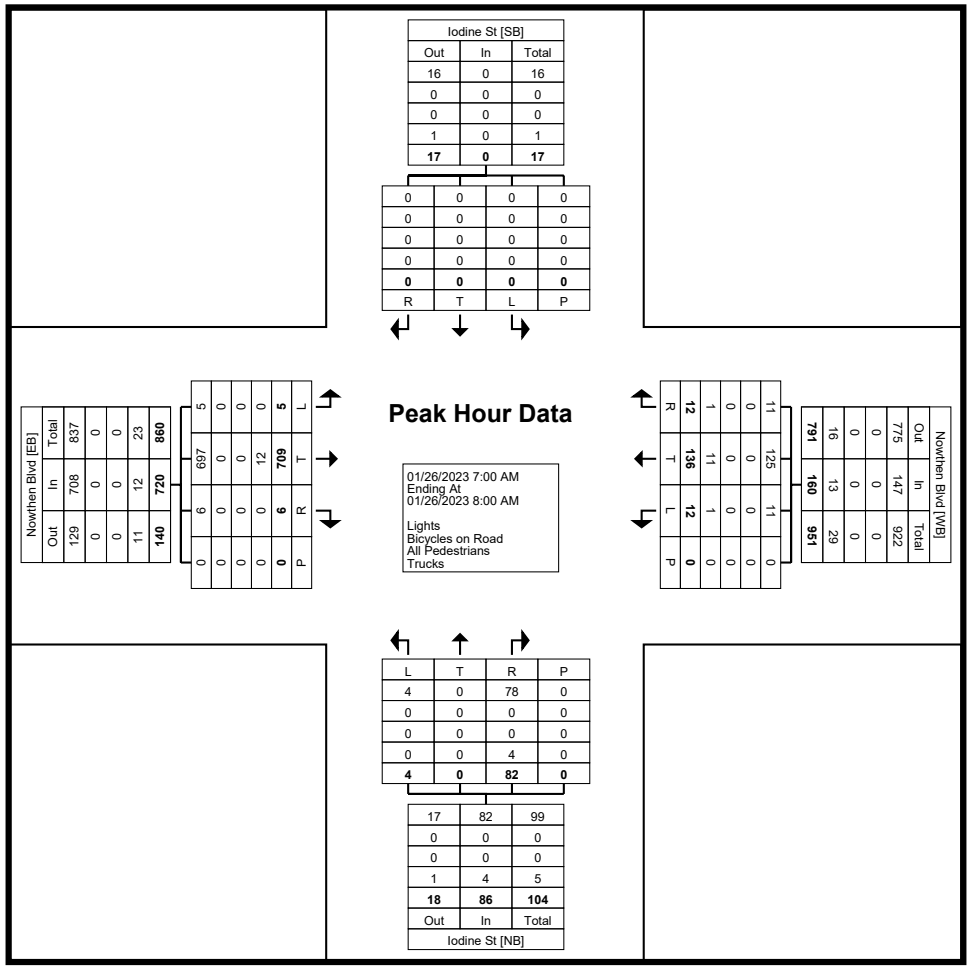
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	216	0	0	216	3	15	1	0	19	2	0	23	0	25	0	0	0	0	0	260
7:15 AM	1	210	1	0	212	3	32	6	0	41	1	0	27	0	28	0	0	0	0	0	281
7:30 AM	2	140	2	0	144	5	52	1	0	58	0	0	17	0	17	0	0	0	0	0	219
7:45 AM	2	143	3	0	148	1	37	4	0	42	1	0	15	0	16	0	0	0	0	0	206
Total	5	709	6	0	720	12	136	12	0	160	4	0	82	0	86	0	0	0	0	0	966
Approach %	0.7	98.5	0.8	-	-	7.5	85.0	7.5	-	-	4.7	0.0	95.3	-	-	0.0	0.0	0.0	-	-	-
Total %	0.5	73.4	0.6	-	74.5	1.2	14.1	1.2	-	16.6	0.4	0.0	8.5	-	8.9	0.0	0.0	0.0	-	0.0	-
PHF	0.625	0.821	0.500	-	0.833	0.600	0.654	0.500	-	0.690	0.500	0.000	0.759	-	0.768	0.000	0.000	0.000	-	0.000	0.859
Lights	5	697	6	-	708	11	125	11	-	147	4	0	78	-	82	0	0	0	-	0	937
% Lights	100.0	98.3	100.0	-	98.3	91.7	91.9	91.7	-	91.9	100.0	-	95.1	-	95.3	-	-	-	-	-	97.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	12	0	-	12	1	11	1	-	13	0	0	4	-	4	0	0	0	-	0	29
% Trucks	0.0	1.7	0.0	-	1.7	8.3	8.1	8.3	-	8.1	0.0	-	4.9	-	4.7	-	-	-	-	-	3.0

Kimley-Horn and Associates, Inc.
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Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (7:00 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023

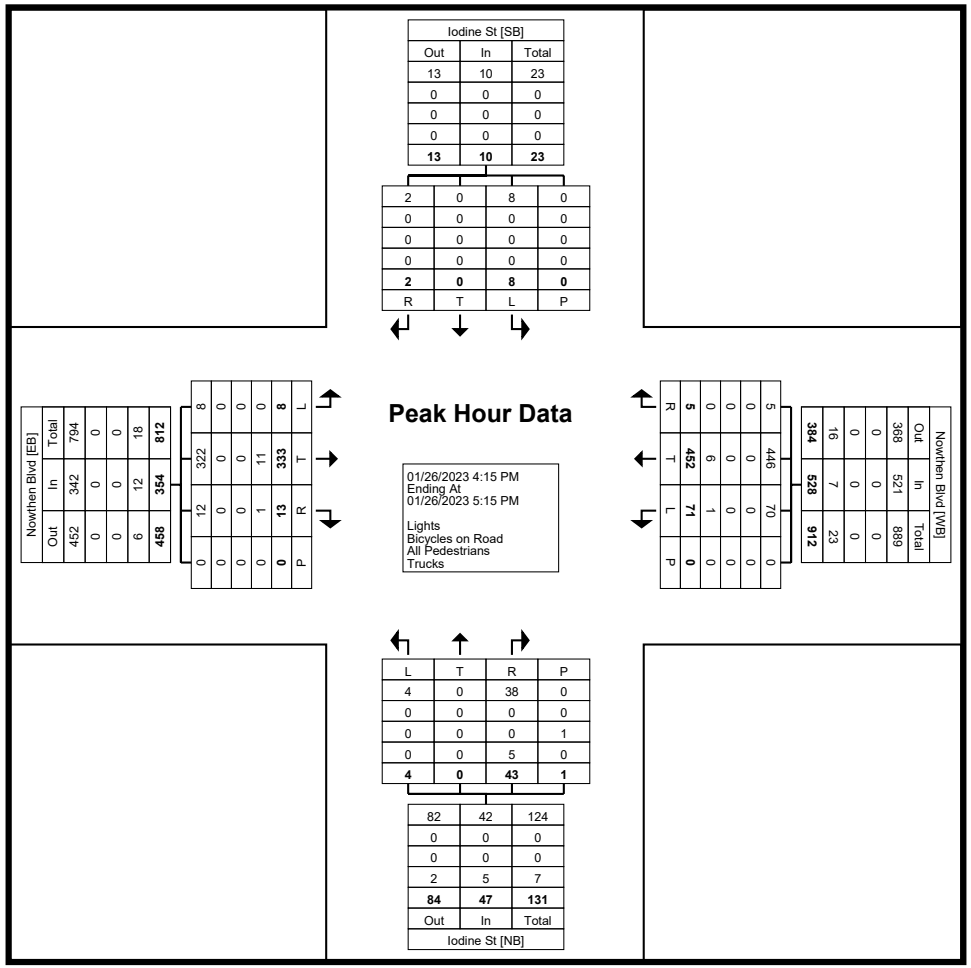
Turning Movement Peak Hour Data (4:15 PM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:15 PM	0	80	6	0	86	11	117	1	0	129	2	0	8	0	10	2	0	0	0	2	227
4:30 PM	1	78	0	0	79	25	114	1	0	140	2	0	13	0	15	4	0	2	0	6	240
4:45 PM	0	94	4	0	98	14	96	1	0	111	0	0	11	0	11	1	0	0	0	1	221
5:00 PM	7	81	3	0	91	21	125	2	0	148	0	0	11	1	11	1	0	0	0	1	251
Total	8	333	13	0	354	71	452	5	0	528	4	0	43	1	47	8	0	2	0	10	939
Approach %	2.3	94.1	3.7	-	-	13.4	85.6	0.9	-	-	8.5	0.0	91.5	-	-	80.0	0.0	20.0	-	-	-
Total %	0.9	35.5	1.4	-	37.7	7.6	48.1	0.5	-	56.2	0.4	0.0	4.6	-	5.0	0.9	0.0	0.2	-	1.1	-
PHF	0.286	0.886	0.542	-	0.903	0.710	0.904	0.625	-	0.892	0.500	0.000	0.827	-	0.783	0.500	0.000	0.250	-	0.417	0.935
Lights	8	322	12	-	342	70	446	5	-	521	4	0	38	-	42	8	0	2	-	10	915
% Lights	100.0	96.7	92.3	-	96.6	98.6	98.7	100.0	-	98.7	100.0	-	88.4	-	89.4	100.0	-	100.0	-	100.0	97.4
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-
Trucks	0	11	1	-	12	1	6	0	-	7	0	0	5	-	5	0	0	0	-	0	24
% Trucks	0.0	3.3	7.7	-	3.4	1.4	1.3	0.0	-	1.3	0.0	-	11.6	-	10.6	0.0	-	0.0	-	0.0	2.6

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Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (4:15 PM)

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Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023

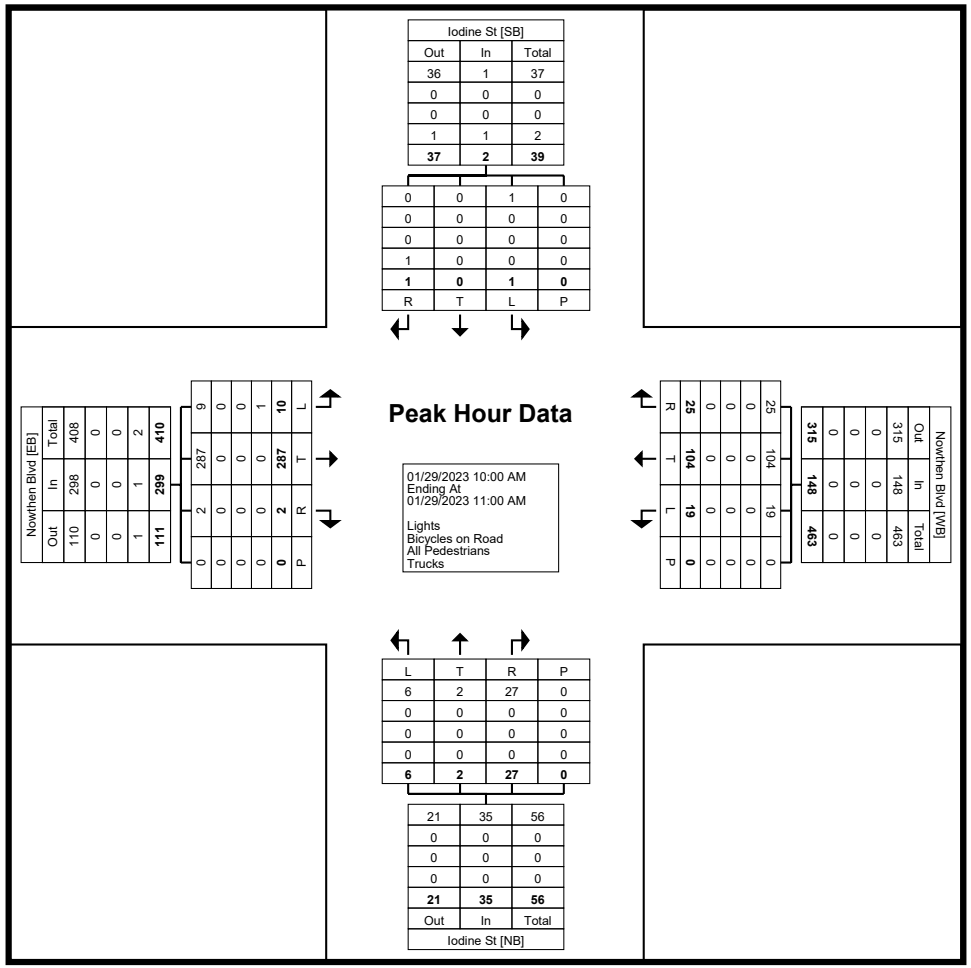
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
10:00 AM	0	64	0	0	64	0	24	3	0	27	0	0	6	0	6	0	0	0	0	0	97
10:15 AM	4	84	0	0	88	7	29	5	0	41	0	0	5	0	5	0	0	0	0	0	134
10:30 AM	4	64	0	0	68	5	24	13	0	42	4	1	8	0	13	1	0	1	0	2	125
10:45 AM	2	75	2	0	79	7	27	4	0	38	2	1	8	0	11	0	0	0	0	0	128
Total	10	287	2	0	299	19	104	25	0	148	6	2	27	0	35	1	0	1	0	2	484
Approach %	3.3	96.0	0.7	-	-	12.8	70.3	16.9	-	-	17.1	5.7	77.1	-	-	50.0	0.0	50.0	-	-	-
Total %	2.1	59.3	0.4	-	61.8	3.9	21.5	5.2	-	30.6	1.2	0.4	5.6	-	7.2	0.2	0.0	0.2	-	0.4	-
PHF	0.625	0.854	0.250	-	0.849	0.679	0.897	0.481	-	0.881	0.375	0.500	0.844	-	0.673	0.250	0.000	0.250	-	0.250	0.903
Lights	9	287	2	-	298	19	104	25	-	148	6	2	27	-	35	1	0	0	-	1	482
% Lights	90.0	100.0	100.0	-	99.7	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	-	0.0	-	50.0	99.6
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	1	0	0	-	1	0	0	0	-	0	0	0	0	-	0	0	0	1	-	1	2
% Trucks	10.0	0.0	0.0	-	0.3	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	-	100.0	-	50.0	0.4

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Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023

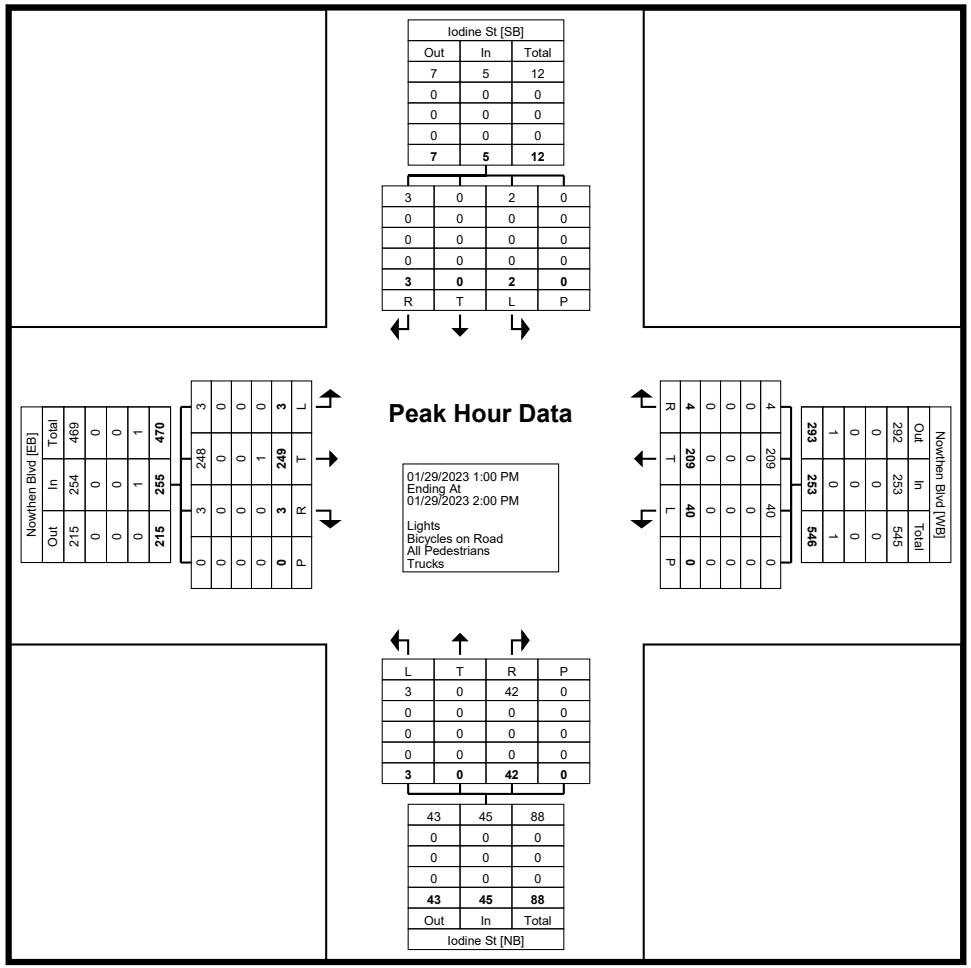
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	1	54	1	0	56	6	36	1	0	43	0	0	14	0	14	0	0	0	0	0	113
1:15 PM	1	84	1	0	86	10	55	3	0	68	2	0	8	0	10	1	0	1	0	2	166
1:30 PM	1	59	0	0	60	11	59	0	0	70	1	0	9	0	10	0	0	2	0	2	142
1:45 PM	0	52	1	0	53	13	59	0	0	72	0	0	11	0	11	1	0	0	0	1	137
Total	3	249	3	0	255	40	209	4	0	253	3	0	42	0	45	2	0	3	0	5	558
Approach %	1.2	97.6	1.2	-	-	15.8	82.6	1.6	-	-	6.7	0.0	93.3	-	-	40.0	0.0	60.0	-	-	-
Total %	0.5	44.6	0.5	-	45.7	7.2	37.5	0.7	-	45.3	0.5	0.0	7.5	-	8.1	0.4	0.0	0.5	-	0.9	-
PHF	0.750	0.741	0.750	-	0.741	0.769	0.886	0.333	-	0.878	0.375	0.000	0.750	-	0.804	0.500	0.000	0.375	-	0.625	0.840
Lights	3	248	3	-	254	40	209	4	-	253	3	0	42	-	45	2	0	3	-	5	557
% Lights	100.0	99.6	100.0	-	99.6	100.0	100.0	100.0	-	100.0	100.0	-	100.0	-	100.0	100.0	-	100.0	-	100.0	99.8
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	1
% Trucks	0.0	0.4	0.0	-	0.4	0.0	0.0	0.0	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.2

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Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (1:00 PM)

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023

Turning Movement Data

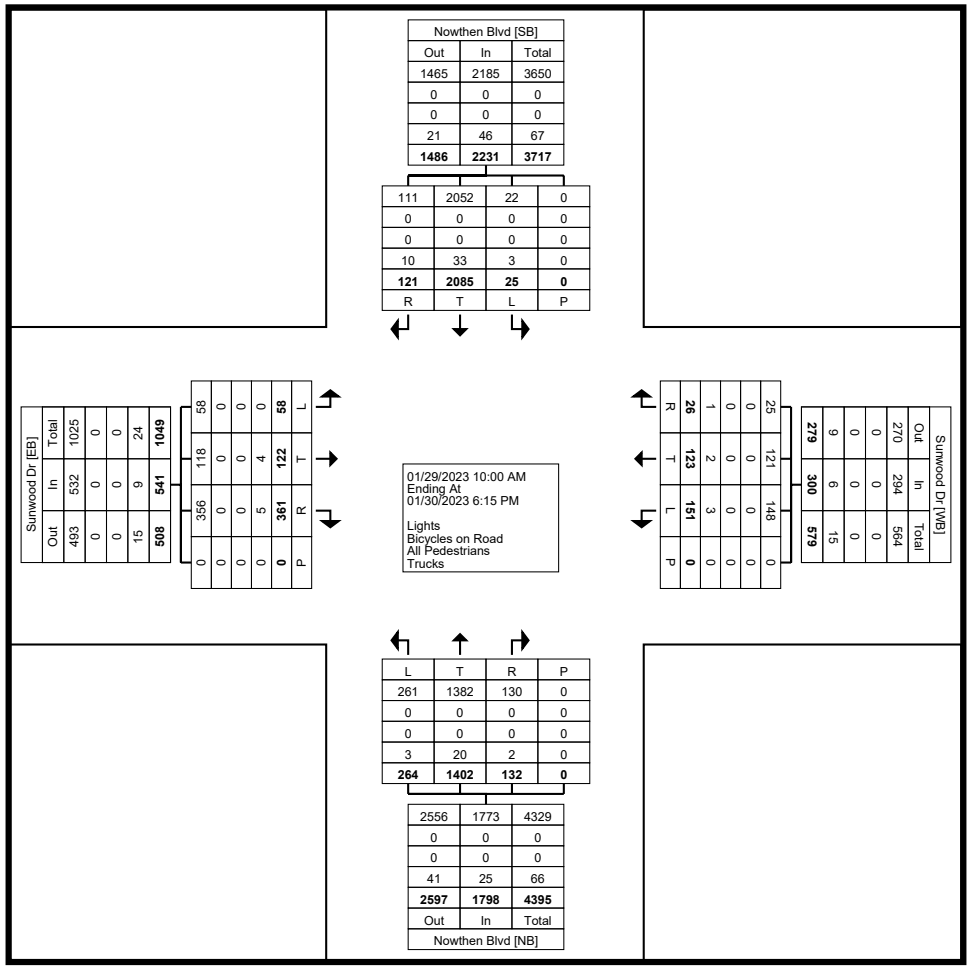
Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
10:00 AM	1	2	11	0	14	2	1	0	0	3	2	21	4	0	27	0	41	0	0	41	85
10:15 AM	0	4	14	0	18	6	3	0	0	9	4	26	3	0	33	0	58	0	0	58	118
10:30 AM	1	2	7	0	10	5	1	2	0	8	5	22	1	0	28	0	52	0	0	52	98
10:45 AM	1	2	14	0	17	5	7	0	0	12	2	24	3	0	29	0	50	0	0	50	108
Hourly Total	3	10	46	0	59	18	12	2	0	32	13	93	11	0	117	0	201	0	0	201	409
11:00 AM	2	3	6	0	11	1	1	0	0	2	6	15	3	0	24	0	33	2	0	35	72
11:15 AM	4	1	6	0	11	2	1	1	0	4	5	30	4	0	39	0	41	0	0	41	95
11:30 AM	1	3	6	0	10	4	3	0	0	7	6	32	5	0	43	0	46	1	0	47	107
11:45 AM	1	3	17	0	21	8	2	0	0	10	3	36	1	0	40	0	53	2	0	55	126
Hourly Total	8	10	35	0	53	15	7	1	0	23	20	113	13	0	146	0	173	5	0	178	400
12:00 PM	1	3	10	0	14	4	6	1	0	11	11	30	5	0	46	0	41	3	0	44	115
12:15 PM	0	7	10	0	17	1	4	1	0	6	5	35	4	0	44	0	63	2	0	65	132
12:30 PM	1	7	7	0	15	4	1	2	0	7	7	44	4	0	55	0	50	1	0	51	128
12:45 PM	1	7	7	0	15	1	5	1	0	7	9	40	7	0	56	1	39	1	0	41	119
Hourly Total	3	24	34	0	61	10	16	5	0	31	32	149	20	0	201	1	193	7	0	201	494
1:00 PM	1	3	10	0	14	0	1	0	0	1	7	24	1	0	32	0	38	2	0	40	87
1:15 PM	2	4	15	0	21	8	3	0	0	11	16	39	5	0	60	1	50	2	0	53	145
1:30 PM	0	1	12	0	13	4	7	1	0	12	7	51	7	0	65	0	34	2	0	36	126
1:45 PM	0	3	10	0	13	4	2	0	0	6	8	32	8	0	48	0	33	4	0	37	104
Hourly Total	3	11	47	0	61	16	13	1	0	30	38	146	21	0	205	1	155	10	0	166	462
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	4	12	0	16	12	9	2	0	23	3	15	2	0	20	0	127	5	0	132	191
7:15 AM	2	3	17	0	22	10	1	0	0	11	2	29	2	0	33	0	105	1	0	106	172
7:30 AM	3	1	6	0	10	12	6	0	0	18	3	31	3	0	37	2	108	6	0	116	181
7:45 AM	3	6	17	0	26	6	6	3	0	15	3	34	0	0	37	0	126	5	0	131	209
Hourly Total	8	14	52	0	74	40	22	5	0	67	11	109	7	0	127	2	466	17	0	485	753
8:00 AM	6	2	21	0	29	9	3	1	0	13	4	46	5	0	55	3	140	3	0	146	243
8:15 AM	4	3	14	0	21	7	6	1	0	14	3	56	2	0	61	2	100	4	0	106	202
8:30 AM	3	4	5	0	12	6	4	0	0	10	7	37	5	0	49	0	53	1	0	54	125
8:45 AM	1	2	15	0	18	4	4	0	0	8	6	25	3	0	34	0	57	3	0	60	120
Hourly Total	14	11	55	0	80	26	17	2	0	45	20	164	15	0	199	5	350	11	0	366	690
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4:00 PM	6	5	6	0	17	2	5	4	0	11	21	84	12	0	117	11	120	37	0	168	313
4:15 PM	2	1	14	0	17	3	4	0	0	7	15	60	5	0	80	2	71	5	0	78	182
4:30 PM	4	7	15	0	26	8	6	1	0	15	24	82	6	0	112	3	77	3	0	83	236
4:45 PM	2	11	6	0	19	8	7	2	0	17	14	84	4	0	102	0	62	3	0	65	203
Hourly Total	14	24	41	0	79	21	22	7	0	50	74	310	27	0	411	16	330	48	0	394	934
5:00 PM	3	6	12	0	21	0	2	2	0	4	21	82	3	0	106	0	69	5	0	74	205
5:15 PM	0	5	14	0	19	2	6	0	0	8	11	96	4	0	111	0	55	8	0	63	201
5:30 PM	1	3	14	0	18	1	3	1	0	5	10	77	7	0	94	0	48	5	0	53	170
5:45 PM	1	4	11	0	16	2	3	0	0	5	14	63	3	0	80	0	45	5	0	50	151
Hourly Total	5	18	51	0	74	5	14	3	0	22	56	318	17	0	391	0	217	23	0	240	727
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Grand Total	58	122	361	0	541	151	123	26	0	300	264	1402	132	0	1798	25	2085	121	0	2231	4870
Approach %	10.7	22.6	66.7	-	-	50.3	41.0	8.7	-	-	14.7	78.0	7.3	-	-	1.1	93.5	5.4	-	-	-
Total %	1.2	2.5	7.4	-	11.1	3.1	2.5	0.5	-	6.2	5.4	28.8	2.7	-	36.9	0.5	42.8	2.5	-	45.8	-
Lights	58	118	356	-	532	148	121	25	-	294	261	1382	130	-	1773	22	2052	111	-	2185	4784
% Lights	100.0	96.7	98.6	-	98.3	98.0	98.4	96.2	-	98.0	98.9	98.6	98.5	-	98.6	88.0	98.4	91.7	-	97.9	98.2
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	4	5	-	9	3	2	1	-	6	3	20	2	-	25	3	33	10	-	46	86
% Trucks	0.0	3.3	1.4	-	1.7	2.0	1.6	3.8	-	2.0	1.1	1.4	1.5	-	1.4	12.0	1.6	8.3	-	2.1	1.8

Kimley-Horn and Associates, Inc.
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Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023



Turning Movement Data Plot

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Count Name: Nowthen Blvd & Sunwood Dr
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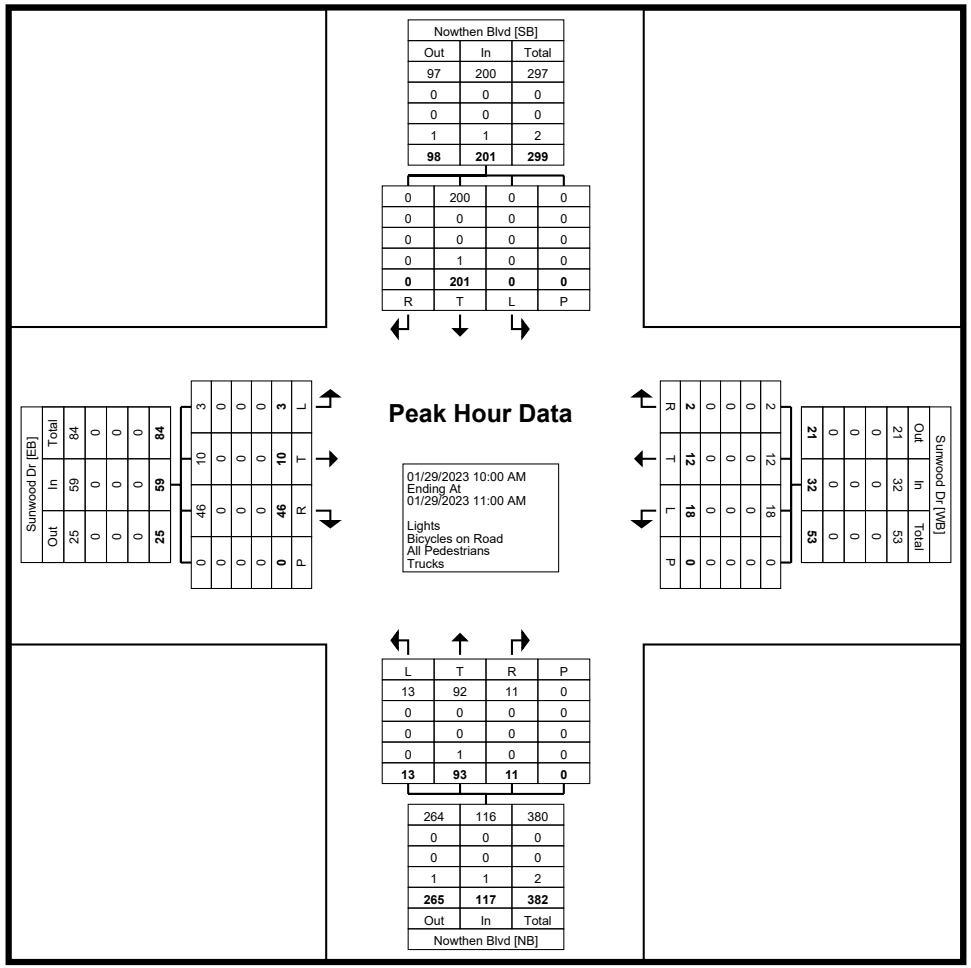
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
10:00 AM	1	2	11	0	14	2	1	0	0	3	2	21	4	0	27	0	41	0	0	41	85
10:15 AM	0	4	14	0	18	6	3	0	0	9	4	26	3	0	33	0	58	0	0	58	118
10:30 AM	1	2	7	0	10	5	1	2	0	8	5	22	1	0	28	0	52	0	0	52	98
10:45 AM	1	2	14	0	17	5	7	0	0	12	2	24	3	0	29	0	50	0	0	50	108
Total	3	10	46	0	59	18	12	2	0	32	13	93	11	0	117	0	201	0	0	201	409
Approach %	5.1	16.9	78.0	-	-	56.3	37.5	6.3	-	-	11.1	79.5	9.4	-	-	0.0	100.0	0.0	-	-	-
Total %	0.7	2.4	11.2	-	14.4	4.4	2.9	0.5	-	7.8	3.2	22.7	2.7	-	28.6	0.0	49.1	0.0	-	49.1	-
PHF	0.750	0.625	0.821	-	0.819	0.750	0.429	0.250	-	0.667	0.650	0.894	0.688	-	0.886	0.000	0.866	0.000	-	0.866	0.867
Lights	3	10	46	-	59	18	12	2	-	32	13	92	11	-	116	0	200	0	-	200	407
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	98.9	100.0	-	99.1	-	99.5	-	-	99.5	99.5
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	0	1	0	-	1	2
% Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	1.1	0.0	-	0.9	-	0.5	-	-	0.5	0.5

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Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

Kimley-Horn and Associates, Inc.
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Count Name: Nowthen Blvd & Sunwood Dr
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Start Date: 01/29/2023

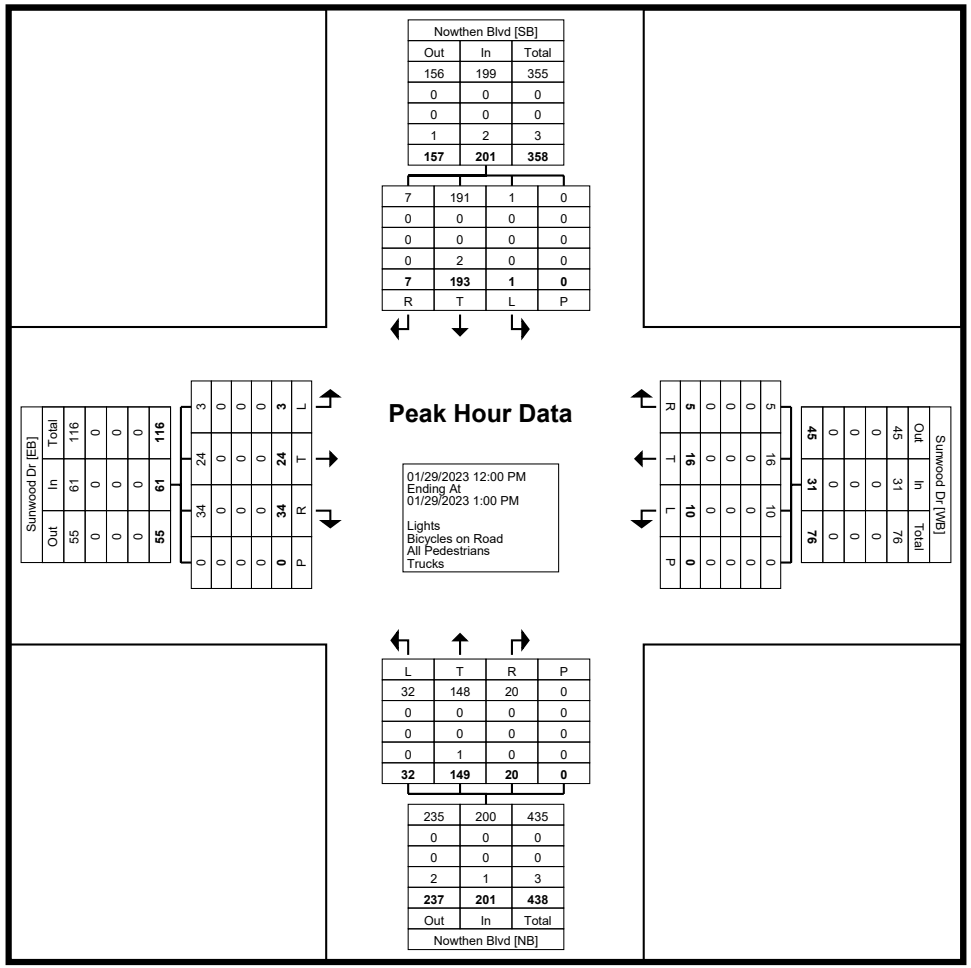
Turning Movement Peak Hour Data (12:00 PM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 PM	1	3	10	0	14	4	6	1	0	11	11	30	5	0	46	0	41	3	0	44	115
12:15 PM	0	7	10	0	17	1	4	1	0	6	5	35	4	0	44	0	63	2	0	65	132
12:30 PM	1	7	7	0	15	4	1	2	0	7	7	44	4	0	55	0	50	1	0	51	128
12:45 PM	1	7	7	0	15	1	5	1	0	7	9	40	7	0	56	1	39	1	0	41	119
Total	3	24	34	0	61	10	16	5	0	31	32	149	20	0	201	1	193	7	0	201	494
Approach %	4.9	39.3	55.7	-	-	32.3	51.6	16.1	-	-	15.9	74.1	10.0	-	-	0.5	96.0	3.5	-	-	-
Total %	0.6	4.9	6.9	-	12.3	2.0	3.2	1.0	-	6.3	6.5	30.2	4.0	-	40.7	0.2	39.1	1.4	-	40.7	-
PHF	0.750	0.857	0.850	-	0.897	0.625	0.667	0.625	-	0.705	0.727	0.847	0.714	-	0.897	0.250	0.766	0.583	-	0.773	0.936
Lights	3	24	34	-	61	10	16	5	-	31	32	148	20	-	200	1	191	7	-	199	491
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	99.3	100.0	-	99.5	100.0	99.0	100.0	-	99.0	99.4
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	0	2	0	-	2	3
% Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.7	0.0	-	0.5	0.0	1.0	0.0	-	1.0	0.6

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Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023



Turning Movement Peak Hour Data Plot (12:00 PM)

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Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023

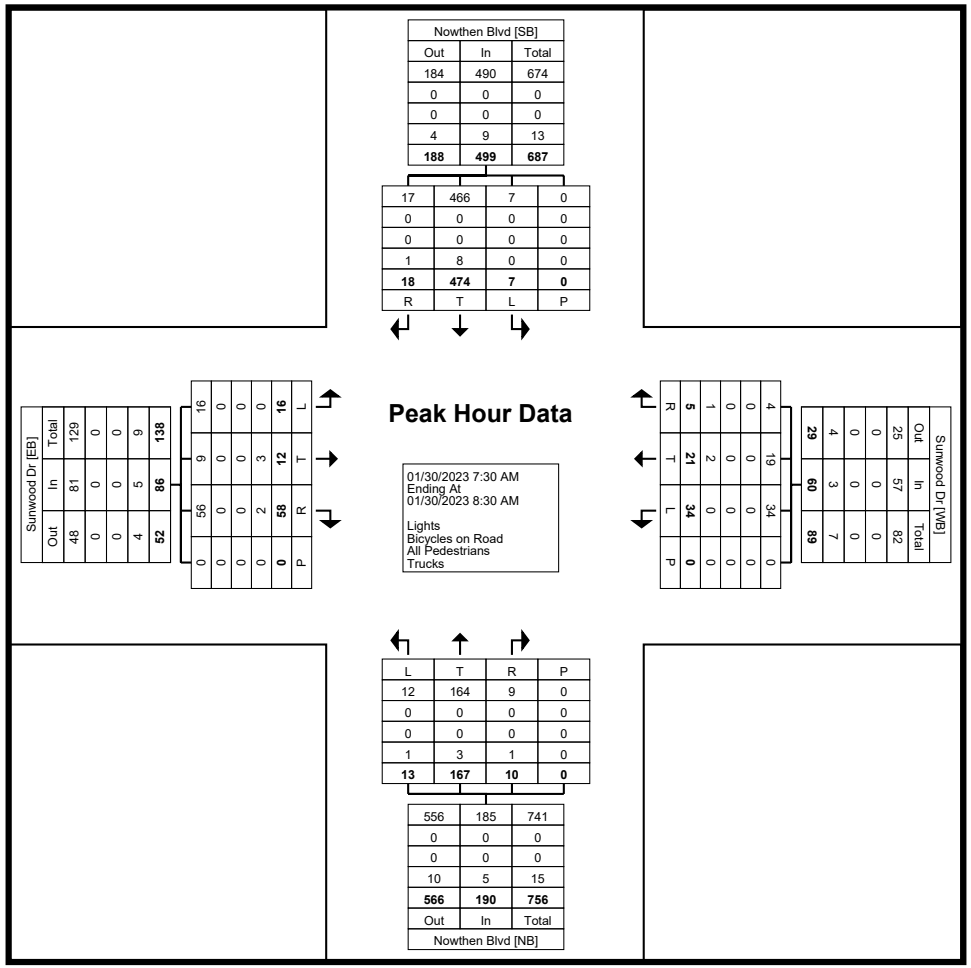
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	3	1	6	0	10	12	6	0	0	18	3	31	3	0	37	2	108	6	0	116	181
7:45 AM	3	6	17	0	26	6	6	3	0	15	3	34	0	0	37	0	126	5	0	131	209
8:00 AM	6	2	21	0	29	9	3	1	0	13	4	46	5	0	55	3	140	3	0	146	243
8:15 AM	4	3	14	0	21	7	6	1	0	14	3	56	2	0	61	2	100	4	0	106	202
Total	16	12	58	0	86	34	21	5	0	60	13	167	10	0	190	7	474	18	0	499	835
Approach %	18.6	14.0	67.4	-	-	56.7	35.0	8.3	-	-	6.8	87.9	5.3	-	-	1.4	95.0	3.6	-	-	-
Total %	1.9	1.4	6.9	-	10.3	4.1	2.5	0.6	-	7.2	1.6	20.0	1.2	-	22.8	0.8	56.8	2.2	-	59.8	-
PHF	0.667	0.500	0.690	-	0.741	0.708	0.875	0.417	-	0.833	0.813	0.746	0.500	-	0.779	0.583	0.846	0.750	-	0.854	0.859
Lights	16	9	56	-	81	34	19	4	-	57	12	164	9	-	185	7	466	17	-	490	813
% Lights	100.0	75.0	96.6	-	94.2	100.0	90.5	80.0	-	95.0	92.3	98.2	90.0	-	97.4	100.0	98.3	94.4	-	98.2	97.4
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	3	2	-	5	0	2	1	-	3	1	3	1	-	5	0	8	1	-	9	22
% Trucks	0.0	25.0	3.4	-	5.8	0.0	9.5	20.0	-	5.0	7.7	1.8	10.0	-	2.6	0.0	1.7	5.6	-	1.8	2.6

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Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023



Turning Movement Peak Hour Data Plot (7:30 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023

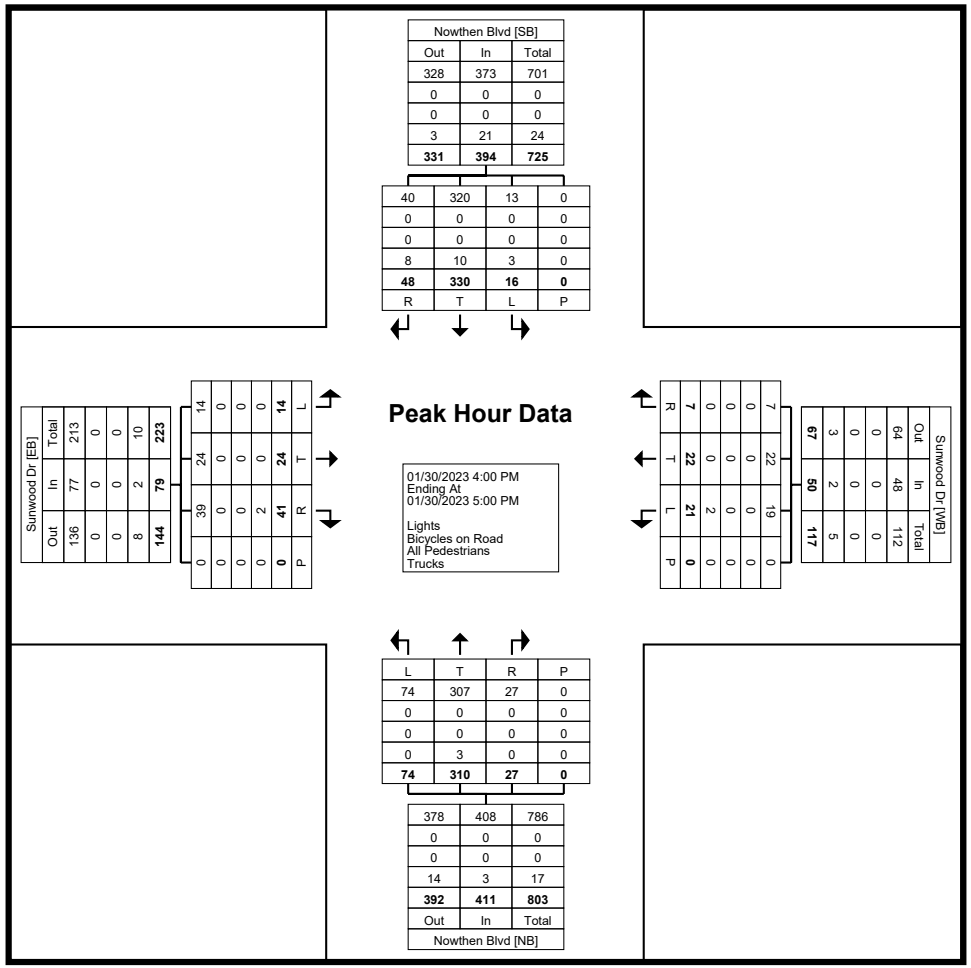
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	6	5	6	0	17	2	5	4	0	11	21	84	12	0	117	11	120	37	0	168	313
4:15 PM	2	1	14	0	17	3	4	0	0	7	15	60	5	0	80	2	71	5	0	78	182
4:30 PM	4	7	15	0	26	8	6	1	0	15	24	82	6	0	112	3	77	3	0	83	236
4:45 PM	2	11	6	0	19	8	7	2	0	17	14	84	4	0	102	0	62	3	0	65	203
Total	14	24	41	0	79	21	22	7	0	50	74	310	27	0	411	16	330	48	0	394	934
Approach %	17.7	30.4	51.9	-	-	42.0	44.0	14.0	-	-	18.0	75.4	6.6	-	-	4.1	83.8	12.2	-	-	-
Total %	1.5	2.6	4.4	-	8.5	2.2	2.4	0.7	-	5.4	7.9	33.2	2.9	-	44.0	1.7	35.3	5.1	-	42.2	-
PHF	0.583	0.545	0.683	-	0.760	0.656	0.786	0.438	-	0.735	0.771	0.923	0.563	-	0.878	0.364	0.688	0.324	-	0.586	0.746
Lights	14	24	39	-	77	19	22	7	-	48	74	307	27	-	408	13	320	40	-	373	906
% Lights	100.0	100.0	95.1	-	97.5	90.5	100.0	100.0	-	96.0	100.0	99.0	100.0	-	99.3	81.3	97.0	83.3	-	94.7	97.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	2	-	2	2	0	0	-	2	0	3	0	-	3	3	10	8	-	21	28
% Trucks	0.0	0.0	4.9	-	2.5	9.5	0.0	0.0	-	4.0	0.0	1.0	0.0	-	0.7	18.8	3.0	16.7	-	5.3	3.0

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Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023



Turning Movement Peak Hour Data Plot (4:00 PM)

Kimley-Horn and Associates, Inc.
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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023

Turning Movement Data

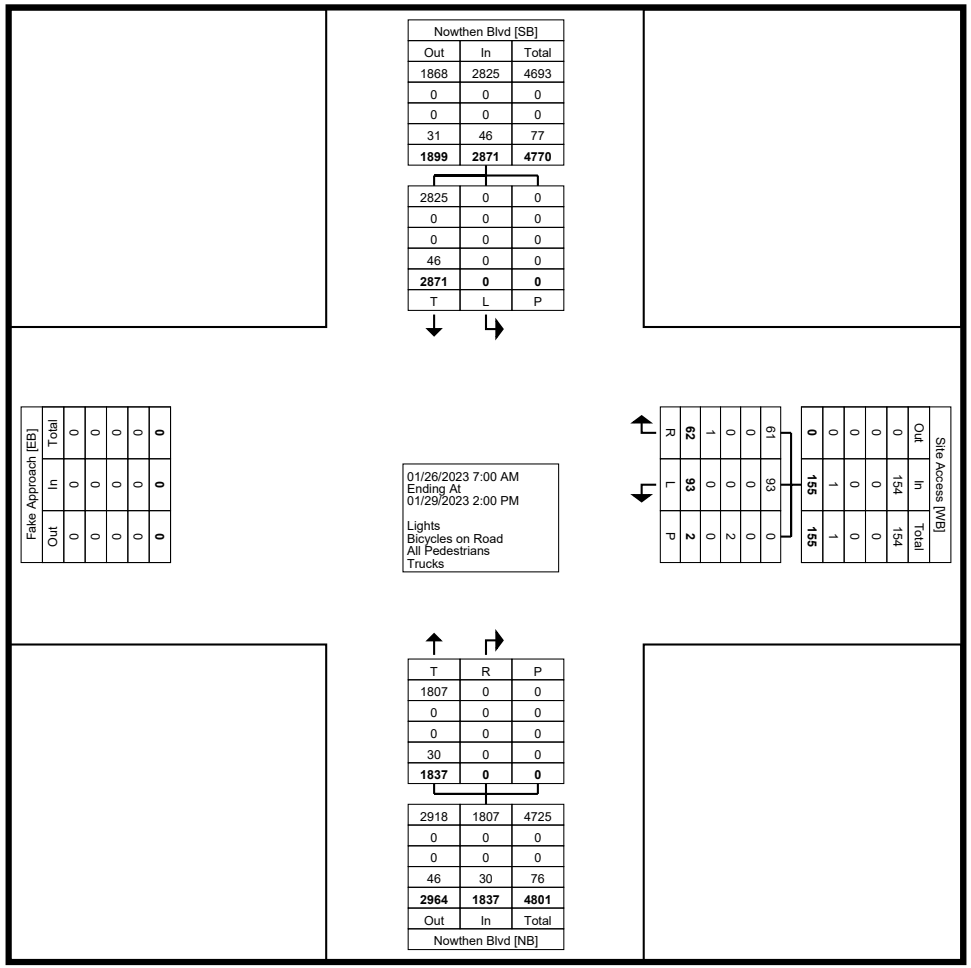
Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	15	0	0	15	0	222	0	222	237
7:15 AM	0	0	0	0	34	0	0	34	0	209	0	209	243
7:30 AM	0	1	0	1	51	0	0	51	0	145	0	145	197
7:45 AM	0	0	0	0	38	0	0	38	0	148	0	148	186
Hourly Total	0	1	0	1	138	0	0	138	0	724	0	724	863
8:00 AM	3	0	0	3	53	0	0	53	0	111	0	111	167
8:15 AM	1	0	0	1	52	0	0	52	0	102	0	102	155
8:30 AM	0	2	1	2	33	0	0	33	0	87	0	87	122
8:45 AM	2	1	0	3	39	0	0	39	0	94	0	94	136
Hourly Total	6	3	1	9	177	0	0	177	0	394	0	394	580
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	2	1	0	3	84	0	0	84	0	127	0	127	214
4:15 PM	0	0	0	0	113	0	0	113	0	88	0	88	201
4:30 PM	2	0	1	2	123	0	0	123	0	75	0	75	200
4:45 PM	0	1	0	1	99	0	0	99	0	98	0	98	198
Hourly Total	4	2	1	6	419	0	0	419	0	388	0	388	813
5:00 PM	1	2	0	3	124	0	0	124	0	94	0	94	221
5:15 PM	8	5	0	13	85	0	0	85	0	101	0	101	199
5:30 PM	15	11	0	26	80	0	0	80	0	83	0	83	189
5:45 PM	1	0	0	1	120	0	0	120	0	71	0	71	192
Hourly Total	25	18	0	43	409	0	0	409	0	349	0	349	801
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	4	6	0	10	24	0	0	24	0	59	0	59	93
10:15 AM	4	3	0	7	29	0	0	29	0	85	0	85	121
10:30 AM	1	0	0	1	28	0	0	28	0	68	0	68	97
10:45 AM	5	1	0	6	29	0	0	29	0	75	0	75	110
Hourly Total	14	10	0	24	110	0	0	110	0	287	0	287	421
11:00 AM	1	0	0	1	30	0	0	30	0	40	0	40	71
11:15 AM	3	1	0	4	41	0	0	41	0	56	0	56	101
11:30 AM	0	0	0	0	46	0	0	46	0	58	0	58	104
11:45 AM	9	6	0	15	41	0	0	41	0	85	0	85	141
Hourly Total	13	7	0	20	158	0	0	158	0	239	0	239	417

12:00 PM	6	1	0	7	47	0	0	47	0	60	0	60	114
12:15 PM	1	1	0	2	49	0	0	49	0	80	0	80	131
12:30 PM	1	2	0	3	58	0	0	58	0	64	0	64	125
12:45 PM	0	1	0	1	61	0	0	61	0	51	0	51	113
Hourly Total	8	5	0	13	215	0	0	215	0	255	0	255	483
1:00 PM	1	0	0	1	36	0	0	36	0	55	0	55	92
1:15 PM	14	10	0	24	57	0	0	57	0	75	0	75	156
1:30 PM	6	3	0	9	64	0	0	64	0	51	0	51	124
1:45 PM	2	3	0	5	54	0	0	54	0	54	0	54	113
Hourly Total	23	16	0	39	211	0	0	211	0	235	0	235	485
Grand Total	93	62	2	155	1837	0	0	1837	0	2871	0	2871	4863
Approach %	60.0	40.0	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	1.9	1.3	-	3.2	37.8	0.0	-	37.8	0.0	59.0	-	59.0	-
Lights	93	61	-	154	1807	0	-	1807	0	2825	-	2825	4786
% Lights	100.0	98.4	-	99.4	98.4	-	-	98.4	-	98.4	-	98.4	98.4
Bicycles on Road	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
All Pedestrians	-	-	2	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	100.0	-	-	-	-	-	-	-	-	-	-
Trucks	0	1	-	1	30	0	-	30	0	46	-	46	77
% Trucks	0.0	1.6	-	0.6	1.6	-	-	1.6	-	1.6	-	1.6	1.6

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023



Turning Movement Data Plot

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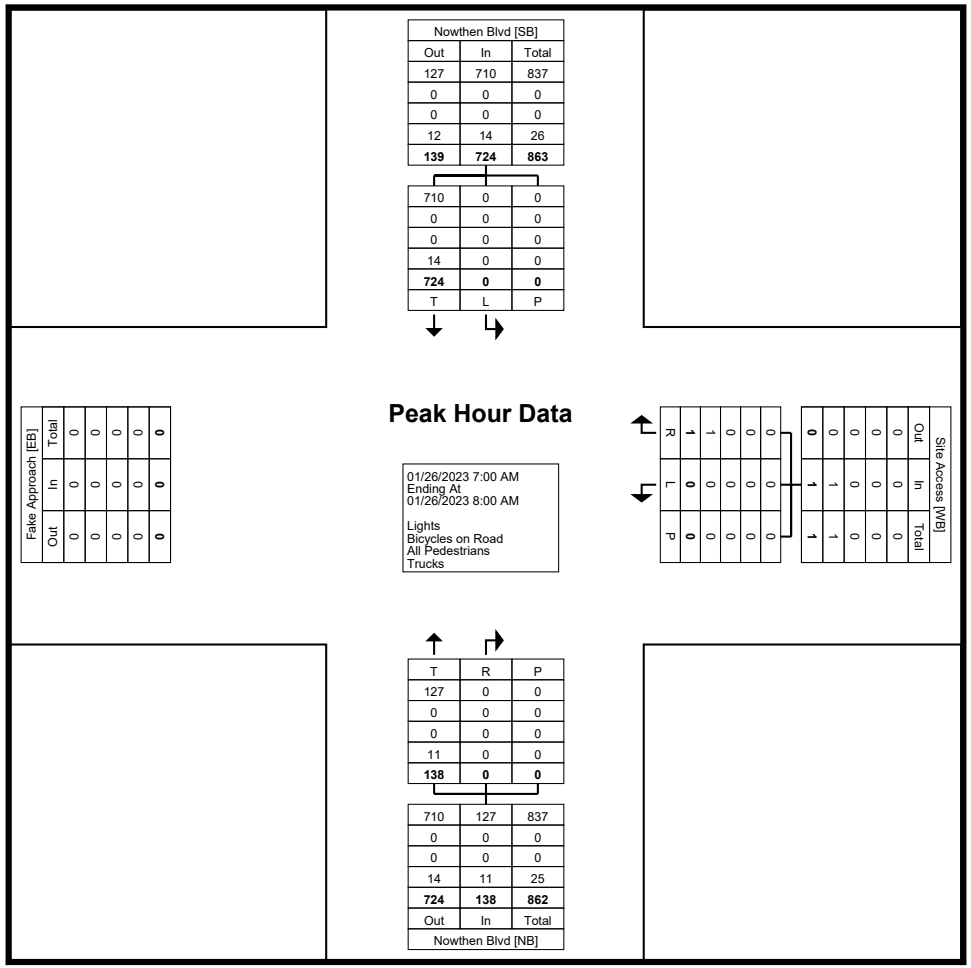
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	15	0	0	15	0	222	0	222	237
7:15 AM	0	0	0	0	34	0	0	34	0	209	0	209	243
7:30 AM	0	1	0	1	51	0	0	51	0	145	0	145	197
7:45 AM	0	0	0	0	38	0	0	38	0	148	0	148	186
Total	0	1	0	1	138	0	0	138	0	724	0	724	863
Approach %	0.0	100.0	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	0.0	0.1	-	0.1	16.0	0.0	-	16.0	0.0	83.9	-	83.9	-
PHF	0.000	0.250	-	0.250	0.676	0.000	-	0.676	0.000	0.815	-	0.815	0.888
Lights	0	0	-	0	127	0	-	127	0	710	-	710	837
% Lights	-	0.0	-	0.0	92.0	-	-	92.0	-	98.1	-	98.1	97.0
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	1	-	1	11	0	-	11	0	14	-	14	26
% Trucks	-	100.0	-	100.0	8.0	-	-	8.0	-	1.9	-	1.9	3.0

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (7:00 AM)

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023

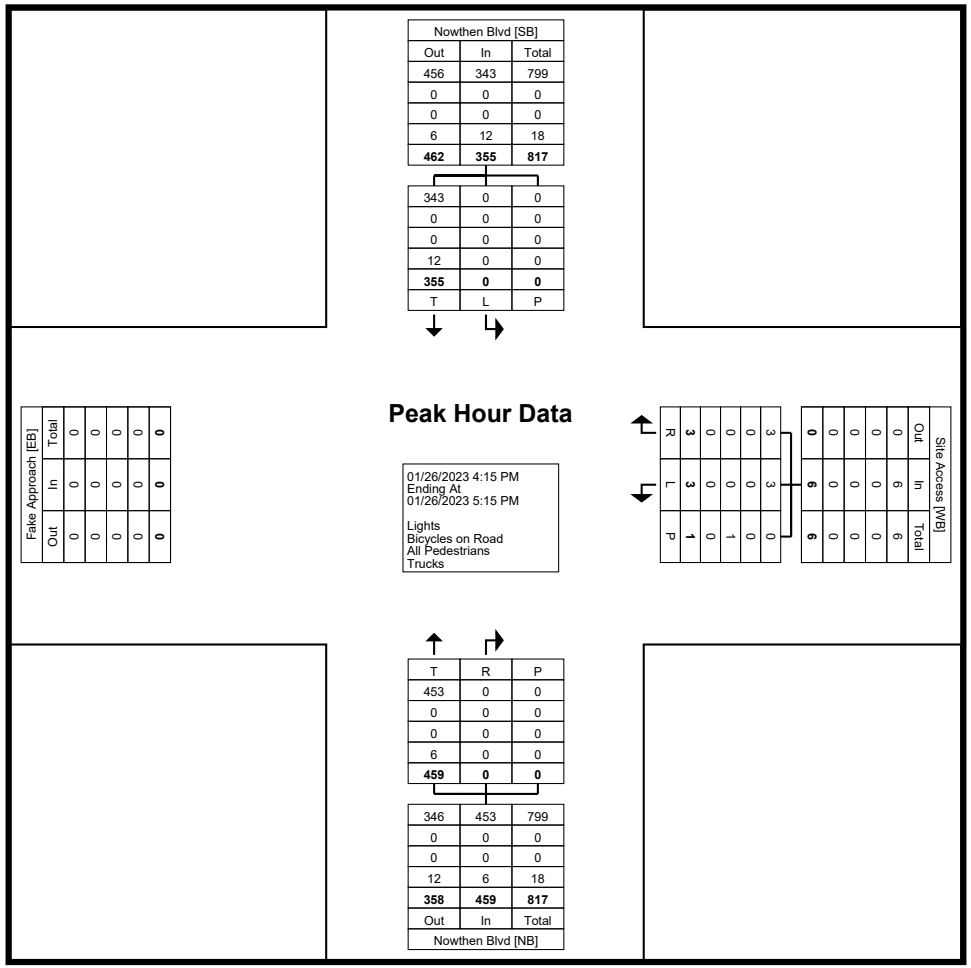
Turning Movement Peak Hour Data (4:15 PM)

Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
4:15 PM	0	0	0	0	113	0	0	113	0	88	0	88	201
4:30 PM	2	0	1	2	123	0	0	123	0	75	0	75	200
4:45 PM	0	1	0	1	99	0	0	99	0	98	0	98	198
5:00 PM	1	2	0	3	124	0	0	124	0	94	0	94	221
Total	3	3	1	6	459	0	0	459	0	355	0	355	820
Approach %	50.0	50.0	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	0.4	0.4	-	0.7	56.0	0.0	-	56.0	0.0	43.3	-	43.3	-
PHF	0.375	0.375	-	0.500	0.925	0.000	-	0.925	0.000	0.906	-	0.906	0.928
Lights	3	3	-	6	453	0	-	453	0	343	-	343	802
% Lights	100.0	100.0	-	100.0	98.7	-	-	98.7	-	96.6	-	96.6	97.8
Bicycles on Road	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
All Pedestrians	-	-	1	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	100.0	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	-	0	6	0	-	6	0	12	-	12	18
% Trucks	0.0	0.0	-	0.0	1.3	-	-	1.3	-	3.4	-	3.4	2.2

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Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (4:15 PM)

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023

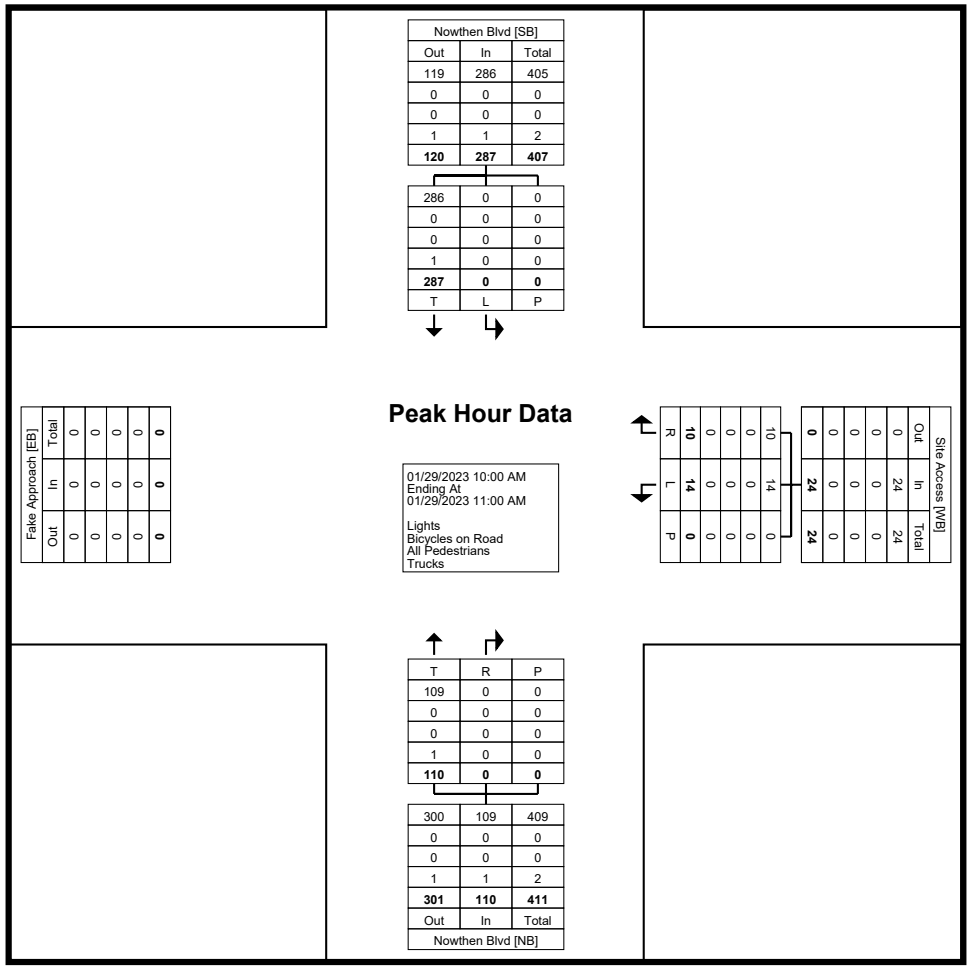
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
10:00 AM	4	6	0	10	24	0	0	24	0	59	0	59	93
10:15 AM	4	3	0	7	29	0	0	29	0	85	0	85	121
10:30 AM	1	0	0	1	28	0	0	28	0	68	0	68	97
10:45 AM	5	1	0	6	29	0	0	29	0	75	0	75	110
Total	14	10	0	24	110	0	0	110	0	287	0	287	421
Approach %	58.3	41.7	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	3.3	2.4	-	5.7	26.1	0.0	-	26.1	0.0	68.2	-	68.2	-
PHF	0.700	0.417	-	0.600	0.948	0.000	-	0.948	0.000	0.844	-	0.844	0.870
Lights	14	10	-	24	109	0	-	109	0	286	-	286	419
% Lights	100.0	100.0	-	100.0	99.1	-	-	99.1	-	99.7	-	99.7	99.5
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	-	0	1	0	-	1	0	1	-	1	2
% Trucks	0.0	0.0	-	0.0	0.9	-	-	0.9	-	0.3	-	0.3	0.5

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023

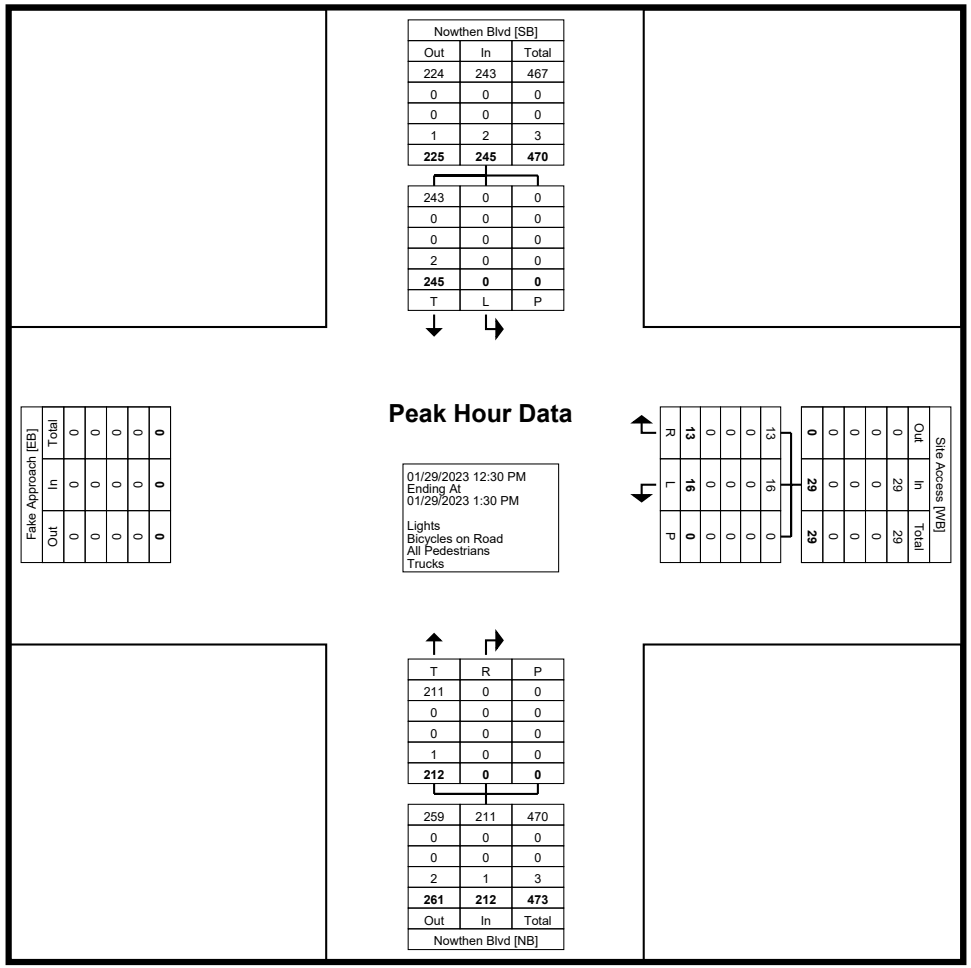
Turning Movement Peak Hour Data (12:30 PM)

Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
12:30 PM	1	2	0	3	58	0	0	58	0	64	0	64	125
12:45 PM	0	1	0	1	61	0	0	61	0	51	0	51	113
1:00 PM	1	0	0	1	36	0	0	36	0	55	0	55	92
1:15 PM	14	10	0	24	57	0	0	57	0	75	0	75	156
Total	16	13	0	29	212	0	0	212	0	245	0	245	486
Approach %	55.2	44.8	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	3.3	2.7	-	6.0	43.6	0.0	-	43.6	0.0	50.4	-	50.4	-
PHF	0.286	0.325	-	0.302	0.869	0.000	-	0.869	0.000	0.817	-	0.817	0.779
Lights	16	13	-	29	211	0	-	211	0	243	-	243	483
% Lights	100.0	100.0	-	100.0	99.5	-	-	99.5	-	99.2	-	99.2	99.4
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	-	0	1	0	-	1	0	2	-	2	3
% Trucks	0.0	0.0	-	0.0	0.5	-	-	0.5	-	0.8	-	0.8	0.6

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (12:30 PM)

Kimley-Horn and Associates, Inc.
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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023

Turning Movement Data

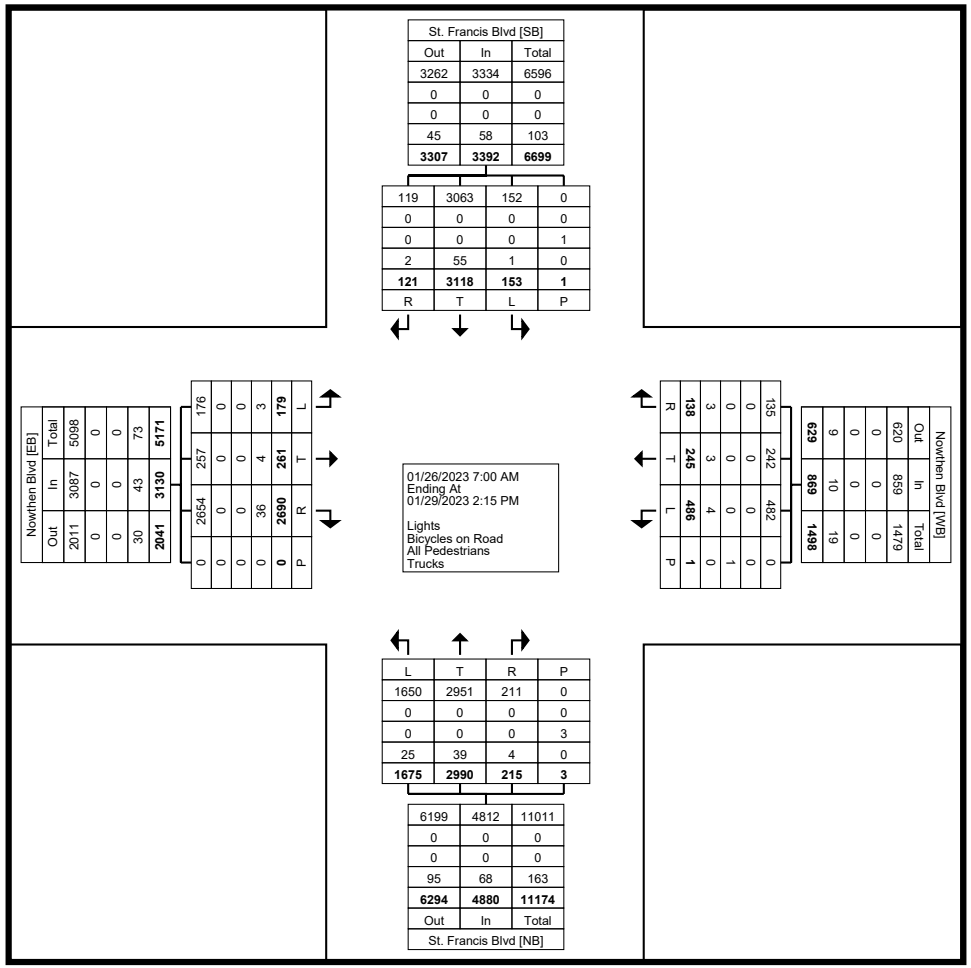
Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	3	9	174	0	186	31	2	2	0	35	13	20	2	0	35	4	147	1	0	152	408
7:15 AM	2	9	194	0	205	40	6	3	0	49	32	53	6	0	91	3	116	10	0	129	474
7:30 AM	4	4	119	0	127	28	10	2	0	40	43	37	5	0	85	8	146	4	0	158	410
7:45 AM	2	8	131	0	141	19	3	2	0	24	28	38	3	0	69	5	141	13	0	159	393
Hourly Total	11	30	618	0	659	118	21	9	0	148	116	148	16	0	280	20	550	28	0	598	1685
8:00 AM	3	12	93	0	108	13	6	4	0	23	48	52	8	0	108	1	126	9	0	136	375
8:15 AM	2	10	92	0	104	10	6	1	0	17	42	53	8	0	103	4	104	8	0	116	340
8:30 AM	4	2	83	0	89	13	6	3	0	22	33	48	4	0	85	6	106	2	0	114	310
8:45 AM	2	7	83	0	92	14	5	0	0	19	37	42	3	0	82	8	86	7	0	101	294
Hourly Total	11	31	351	0	393	50	23	8	0	81	160	195	23	0	378	19	422	26	0	467	1319
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	15	12	107	0	134	11	16	8	0	35	83	188	13	2	284	4	80	1	0	85	538
4:15 PM	12	11	73	0	96	14	11	7	0	32	90	173	5	0	268	5	86	0	0	91	487
4:30 PM	25	14	82	0	121	18	13	10	0	41	94	132	10	0	236	6	90	6	0	102	500
4:45 PM	12	12	88	0	112	12	13	15	1	40	85	155	10	0	250	0	88	1	1	89	491
Hourly Total	64	49	350	0	463	55	53	40	1	148	352	648	38	2	1038	15	344	8	1	367	2016
5:00 PM	13	5	84	0	102	16	21	9	0	46	110	165	20	1	295	4	71	5	0	80	523
5:15 PM	4	8	105	0	117	8	14	11	0	33	87	193	9	0	289	1	102	4	0	107	546
5:30 PM	11	6	103	0	120	18	9	10	0	37	86	147	12	0	245	5	77	5	0	87	489
5:45 PM	8	9	67	0	84	14	9	6	0	29	104	151	5	0	260	5	90	3	0	98	471
Hourly Total	36	28	359	0	423	56	53	36	0	145	387	656	46	1	1089	15	340	17	0	372	2029
6:00 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
10:00 AM	4	6	66	0	76	10	3	5	0	18	20	50	4	0	74	3	85	0	0	88	256
10:15 AM	8	6	70	0	84	14	5	0	0	19	24	47	2	0	73	3	100	4	0	107	283
10:30 AM	2	7	67	0	76	10	2	1	0	13	32	45	6	0	83	6	90	7	0	103	275
10:45 AM	2	6	71	0	79	18	6	5	0	29	31	68	6	0	105	7	97	2	0	106	319
Hourly Total	16	25	274	0	315	52	16	11	0	79	107	210	18	0	335	19	372	13	0	404	1133
11:00 AM	2	4	46	0	52	13	4	3	0	20	29	63	3	0	95	4	77	1	0	82	249
11:15 AM	3	5	47	0	55	16	9	3	0	28	40	68	5	0	113	5	74	4	0	83	279
11:30 AM	4	5	61	0	70	13	4	1	0	18	36	79	3	0	118	8	113	5	0	126	332
11:45 AM	2	12	78	0	92	11	4	0	0	15	41	90	7	0	138	9	93	2	0	104	349
Hourly Total	11	26	232	0	269	53	21	7	0	81	146	300	18	0	464	26	357	12	0	395	1209

12:00 PM	4	7	58	0	69	22	3	7	0	32	37	86	9	0	132	5	112	5	0	122	355
12:15 PM	4	11	76	0	91	15	9	1	0	25	49	84	3	0	136	5	113	3	0	121	373
12:30 PM	3	13	59	0	75	11	3	3	0	17	54	99	6	0	159	7	101	2	0	110	361
12:45 PM	2	4	57	0	63	12	14	5	0	31	60	96	6	0	162	3	75	3	0	81	337
Hourly Total	13	35	250	0	298	60	29	16	0	105	200	365	24	0	589	20	401	13	0	434	1426
1:00 PM	3	7	62	0	72	4	1	4	0	9	34	112	3	0	149	9	90	1	0	100	330
1:15 PM	5	16	71	0	92	12	7	1	0	20	56	106	8	0	170	2	75	0	0	77	359
1:30 PM	2	7	62	0	71	15	13	1	0	29	56	121	13	0	190	4	84	0	0	88	378
1:45 PM	7	7	60	0	74	11	8	5	0	24	61	128	8	0	197	4	83	3	0	90	385
Hourly Total	17	37	255	0	309	42	29	11	0	82	207	467	32	0	706	19	332	4	0	355	1452
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	179	261	2690	0	3130	486	245	138	1	869	1675	2990	215	3	4880	153	3118	121	1	3392	12271
Approach %	5.7	8.3	85.9	-	-	55.9	28.2	15.9	-	-	34.3	61.3	4.4	-	-	4.5	91.9	3.6	-	-	-
Total %	1.5	2.1	21.9	-	25.5	4.0	2.0	1.1	-	7.1	13.7	24.4	1.8	-	39.8	1.2	25.4	1.0	-	27.6	-
Lights	176	257	2654	-	3087	482	242	135	-	859	1650	2951	211	-	4812	152	3063	119	-	3334	12092
% Lights	98.3	98.5	98.7	-	98.6	99.2	98.8	97.8	-	98.8	98.5	98.7	98.1	-	98.6	99.3	98.2	98.3	-	98.3	98.5
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	3	-	-	-	-	1	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-
Trucks	3	4	36	-	43	4	3	3	-	10	25	39	4	-	68	1	55	2	-	58	179
% Trucks	1.7	1.5	1.3	-	1.4	0.8	1.2	2.2	-	1.2	1.5	1.3	1.9	-	1.4	0.7	1.8	1.7	-	1.7	1.5

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
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Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023



Turning Movement Data Plot

Kimley-Horn and Associates, Inc.
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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: St Francis Blvd & Nowthen Blvd
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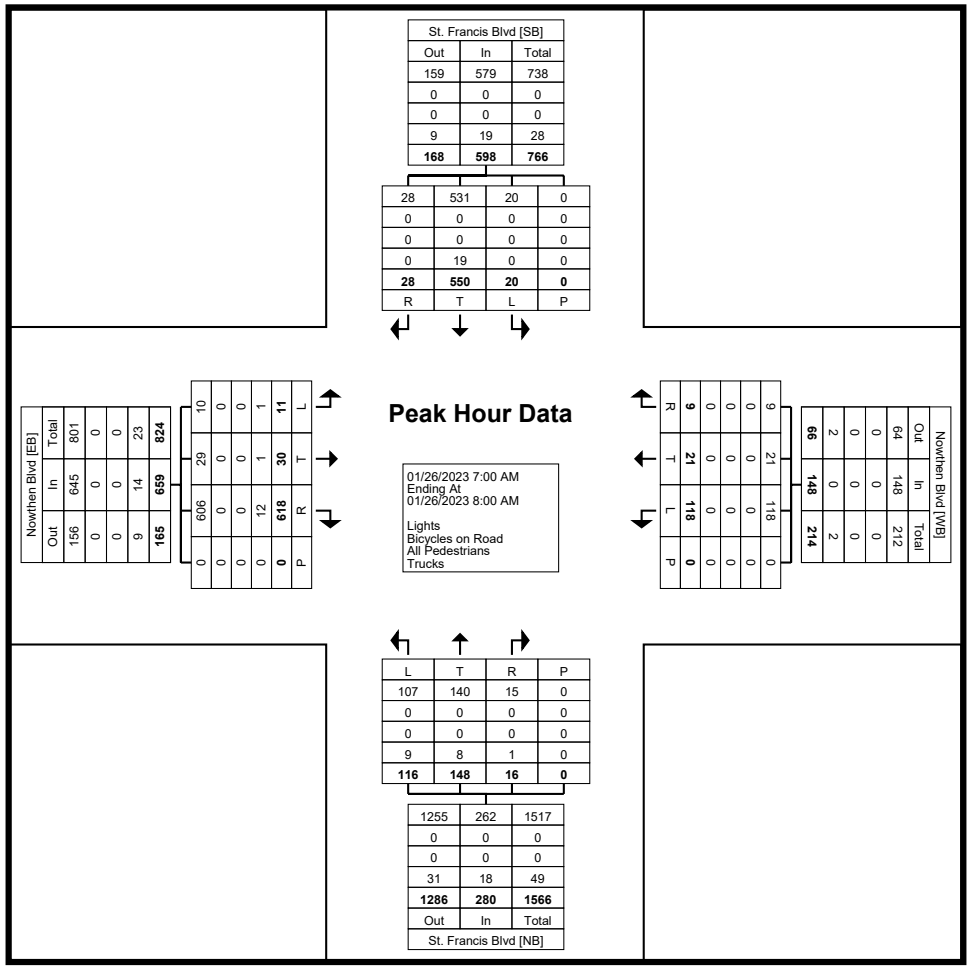
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	3	9	174	0	186	31	2	2	0	35	13	20	2	0	35	4	147	1	0	152	408
7:15 AM	2	9	194	0	205	40	6	3	0	49	32	53	6	0	91	3	116	10	0	129	474
7:30 AM	4	4	119	0	127	28	10	2	0	40	43	37	5	0	85	8	146	4	0	158	410
7:45 AM	2	8	131	0	141	19	3	2	0	24	28	38	3	0	69	5	141	13	0	159	393
Total	11	30	618	0	659	118	21	9	0	148	116	148	16	0	280	20	550	28	0	598	1685
Approach %	1.7	4.6	93.8	-	-	79.7	14.2	6.1	-	-	41.4	52.9	5.7	-	-	3.3	92.0	4.7	-	-	-
Total %	0.7	1.8	36.7	-	39.1	7.0	1.2	0.5	-	8.8	6.9	8.8	0.9	-	16.6	1.2	32.6	1.7	-	35.5	-
PHF	0.688	0.833	0.796	-	0.804	0.738	0.525	0.750	-	0.755	0.674	0.698	0.667	-	0.769	0.625	0.935	0.538	-	0.940	0.889
Lights	10	29	606	-	645	118	21	9	-	148	107	140	15	-	262	20	531	28	-	579	1634
% Lights	90.9	96.7	98.1	-	97.9	100.0	100.0	100.0	-	100.0	92.2	94.6	93.8	-	93.6	100.0	96.5	100.0	-	96.8	97.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	1	1	12	-	14	0	0	0	-	0	9	8	1	-	18	0	19	0	-	19	51
% Trucks	9.1	3.3	1.9	-	2.1	0.0	0.0	0.0	-	0.0	7.8	5.4	6.3	-	6.4	0.0	3.5	0.0	-	3.2	3.0

Kimley-Horn and Associates, Inc.
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Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (7:00 AM)

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Count Name: St Francis Blvd & Nowthen Blvd
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Start Date: 01/26/2023

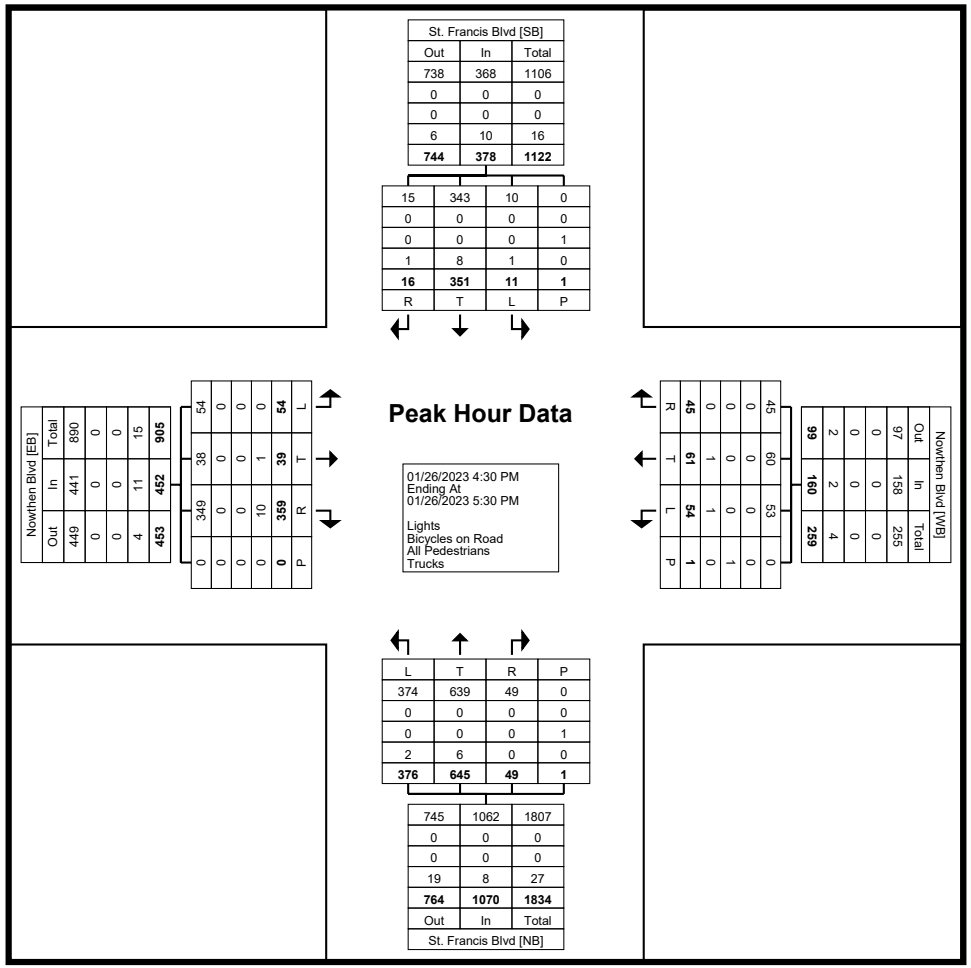
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	25	14	82	0	121	18	13	10	0	41	94	132	10	0	236	6	90	6	0	102	500
4:45 PM	12	12	88	0	112	12	13	15	1	40	85	155	10	0	250	0	88	1	1	89	491
5:00 PM	13	5	84	0	102	16	21	9	0	46	110	165	20	1	295	4	71	5	0	80	523
5:15 PM	4	8	105	0	117	8	14	11	0	33	87	193	9	0	289	1	102	4	0	107	546
Total	54	39	359	0	452	54	61	45	1	160	376	645	49	1	1070	11	351	16	1	378	2060
Approach %	11.9	8.6	79.4	-	-	33.8	38.1	28.1	-	-	35.1	60.3	4.6	-	-	2.9	92.9	4.2	-	-	-
Total %	2.6	1.9	17.4	-	21.9	2.6	3.0	2.2	-	7.8	18.3	31.3	2.4	-	51.9	0.5	17.0	0.8	-	18.3	-
PHF	0.540	0.696	0.855	-	0.934	0.750	0.726	0.750	-	0.870	0.855	0.835	0.613	-	0.907	0.458	0.860	0.667	-	0.883	0.943
Lights	54	38	349	-	441	53	60	45	-	158	374	639	49	-	1062	10	343	15	-	368	2029
% Lights	100.0	97.4	97.2	-	97.6	98.1	98.4	100.0	-	98.8	99.5	99.1	100.0	-	99.3	90.9	97.7	93.8	-	97.4	98.5
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-
Trucks	0	1	10	-	11	1	1	0	-	2	2	6	0	-	8	1	8	1	-	10	31
% Trucks	0.0	2.6	2.8	-	2.4	1.9	1.6	0.0	-	1.3	0.5	0.9	0.0	-	0.7	9.1	2.3	6.3	-	2.6	1.5

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Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (4:30 PM)

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Count Name: St Francis Blvd & Nowthen Blvd
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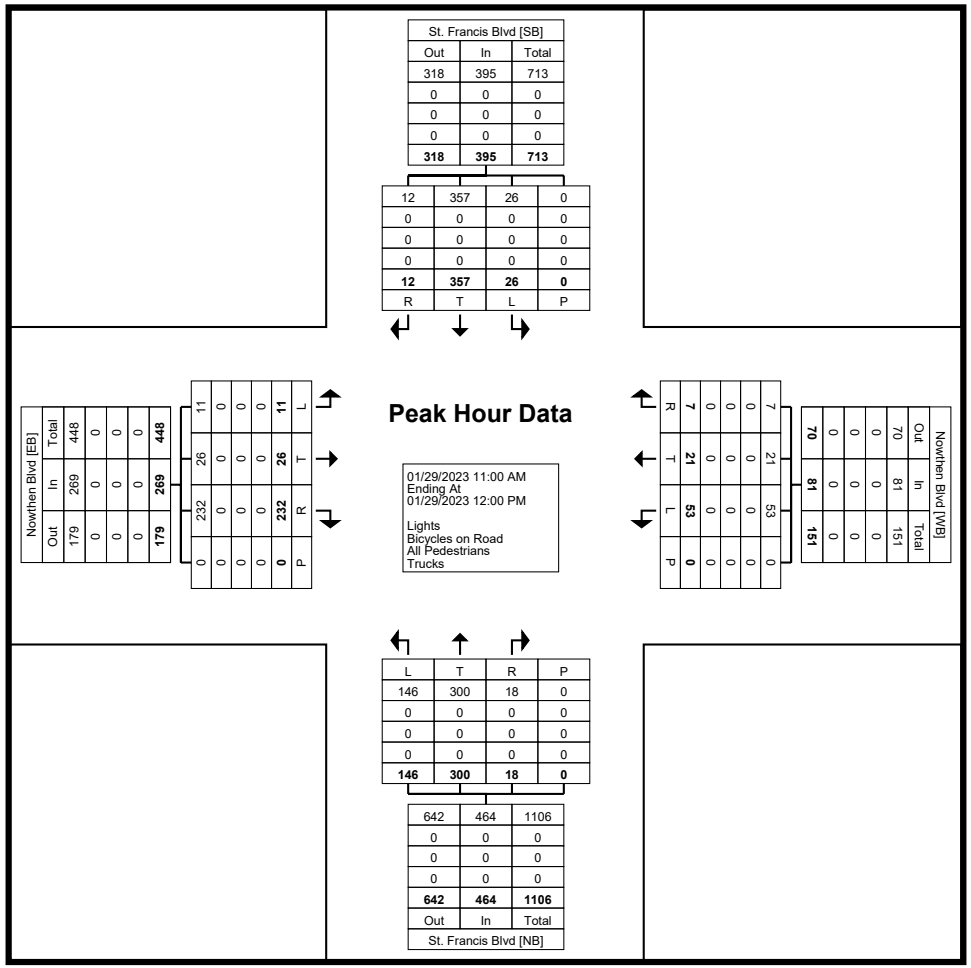
Turning Movement Peak Hour Data (11:00 AM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	2	4	46	0	52	13	4	3	0	20	29	63	3	0	95	4	77	1	0	82	249
11:15 AM	3	5	47	0	55	16	9	3	0	28	40	68	5	0	113	5	74	4	0	83	279
11:30 AM	4	5	61	0	70	13	4	1	0	18	36	79	3	0	118	8	113	5	0	126	332
11:45 AM	2	12	78	0	92	11	4	0	0	15	41	90	7	0	138	9	93	2	0	104	349
Total	11	26	232	0	269	53	21	7	0	81	146	300	18	0	464	26	357	12	0	395	1209
Approach %	4.1	9.7	86.2	-	-	65.4	25.9	8.6	-	-	31.5	64.7	3.9	-	-	6.6	90.4	3.0	-	-	-
Total %	0.9	2.2	19.2	-	22.2	4.4	1.7	0.6	-	6.7	12.1	24.8	1.5	-	38.4	2.2	29.5	1.0	-	32.7	-
PHF	0.688	0.542	0.744	-	0.731	0.828	0.583	0.583	-	0.723	0.890	0.833	0.643	-	0.841	0.722	0.790	0.600	-	0.784	0.866
Lights	11	26	232	-	269	53	21	7	-	81	146	300	18	-	464	26	357	12	-	395	1209
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Trucks	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

Kimley-Horn and Associates, Inc.
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Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (11:00 AM)

Kimley-Horn and Associates, Inc.
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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023

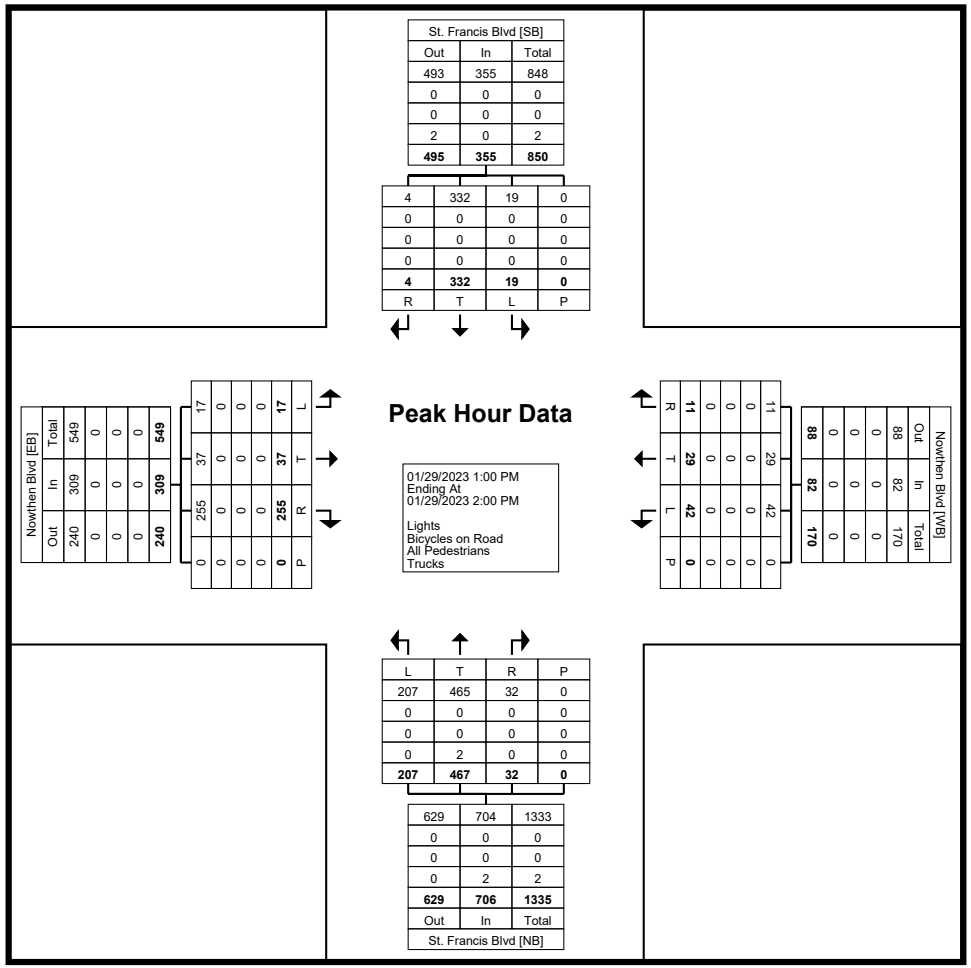
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	3	7	62	0	72	4	1	4	0	9	34	112	3	0	149	9	90	1	0	100	330
1:15 PM	5	16	71	0	92	12	7	1	0	20	56	106	8	0	170	2	75	0	0	77	359
1:30 PM	2	7	62	0	71	15	13	1	0	29	56	121	13	0	190	4	84	0	0	88	378
1:45 PM	7	7	60	0	74	11	8	5	0	24	61	128	8	0	197	4	83	3	0	90	385
Total	17	37	255	0	309	42	29	11	0	82	207	467	32	0	706	19	332	4	0	355	1452
Approach %	5.5	12.0	82.5	-	-	51.2	35.4	13.4	-	-	29.3	66.1	4.5	-	-	5.4	93.5	1.1	-	-	-
Total %	1.2	2.5	17.6	-	21.3	2.9	2.0	0.8	-	5.6	14.3	32.2	2.2	-	48.6	1.3	22.9	0.3	-	24.4	-
PHF	0.607	0.578	0.898	-	0.840	0.700	0.558	0.550	-	0.707	0.848	0.912	0.615	-	0.896	0.528	0.922	0.333	-	0.888	0.943
Lights	17	37	255	-	309	42	29	11	-	82	207	465	32	-	704	19	332	4	-	355	1450
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	99.6	100.0	-	99.7	100.0	100.0	100.0	-	100.0	99.9
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.4	0.0	-	0.3	0.0	0.0	0.0	-	0.0	0.1

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Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (1:00 PM)

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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023

Turning Movement Data

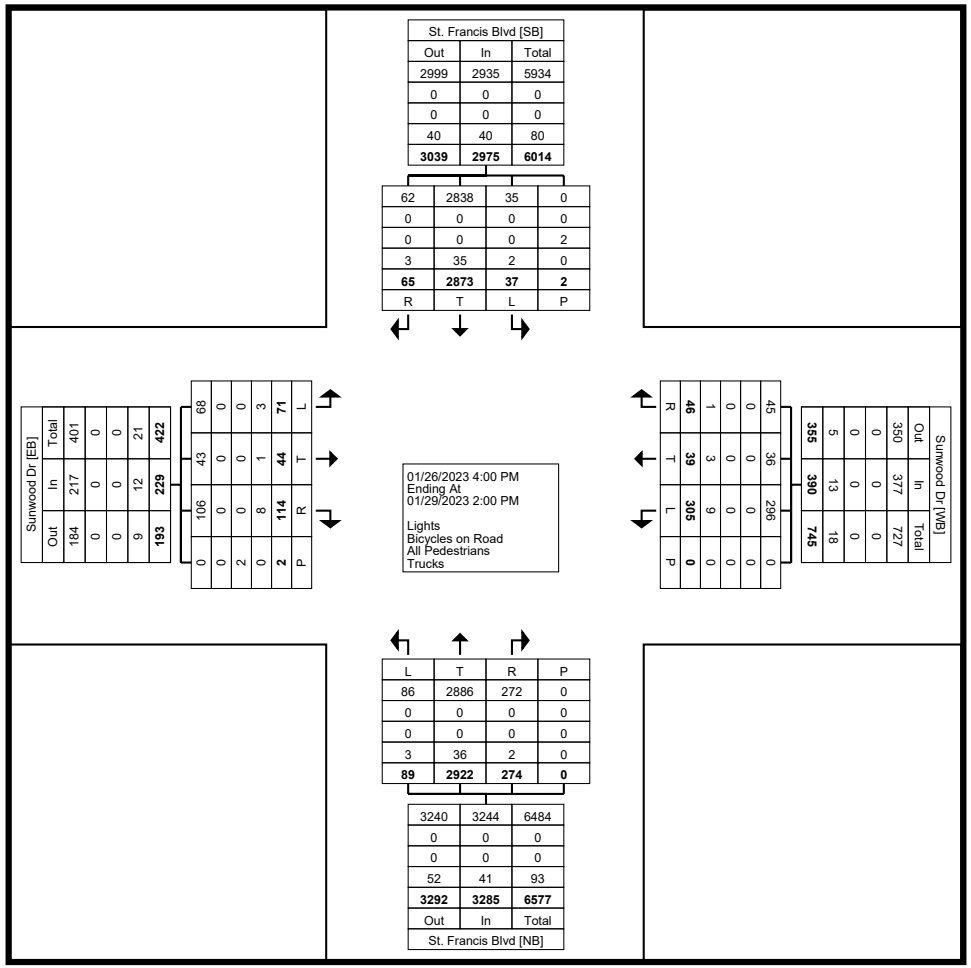
Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	7	5	3	0	15	6	2	3	0	11	5	184	19	0	208	1	77	1	0	79	313
4:15 PM	3	1	1	0	5	14	2	4	0	20	1	181	24	0	206	3	86	1	0	90	321
4:30 PM	1	2	4	0	7	11	2	1	0	14	4	145	13	0	162	2	81	4	0	87	270
4:45 PM	4	5	3	0	12	12	1	4	0	17	4	169	8	0	181	1	76	2	0	79	289
Hourly Total	15	13	11	0	39	43	7	12	0	62	14	679	64	0	757	7	320	8	0	335	1193
5:00 PM	5	3	0	0	8	4	4	0	0	8	7	166	15	0	188	1	86	3	0	90	294
5:15 PM	8	2	5	0	15	6	0	2	0	8	6	185	18	0	209	1	88	3	0	92	324
5:30 PM	3	2	6	0	11	12	3	1	0	16	2	157	13	0	172	1	74	2	0	77	276
5:45 PM	2	1	4	0	7	10	0	3	0	13	9	139	14	0	162	4	85	2	0	91	273
Hourly Total	18	8	15	0	41	32	7	6	0	45	24	647	60	0	731	7	333	10	0	350	1167
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	3	0	2	0	5	13	0	1	0	14	0	25	1	0	26	2	150	3	0	155	200
7:15 AM	0	1	2	2	3	13	1	0	0	14	2	31	3	0	36	1	110	3	2	114	167
7:30 AM	1	0	3	0	4	8	3	2	0	13	1	43	10	0	54	1	104	0	0	105	176
7:45 AM	0	2	6	0	8	9	4	1	0	14	2	41	3	0	46	1	112	3	0	116	184
Hourly Total	4	3	13	2	20	43	8	4	0	55	5	140	17	0	162	5	476	9	2	490	727
8:00 AM	1	1	7	0	9	13	2	1	0	16	1	46	8	0	55	1	102	3	0	106	186
8:15 AM	1	0	6	0	7	12	0	3	0	15	1	52	3	0	56	0	102	2	0	104	182
8:30 AM	0	1	2	0	3	14	2	0	0	16	1	44	3	0	48	2	85	0	0	87	154
8:45 AM	1	0	6	0	7	12	1	0	0	13	2	40	3	0	45	0	71	0	0	71	136
Hourly Total	3	2	21	0	26	51	5	4	0	60	5	182	17	0	204	3	360	5	0	368	658
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	2	1	1	0	4	9	1	2	0	12	3	53	4	0	60	0	81	1	0	82	158
10:15 AM	3	1	9	0	13	12	1	0	0	13	2	52	3	0	57	0	86	2	0	88	171
10:30 AM	0	2	4	0	6	7	1	3	0	11	3	37	4	0	44	0	93	0	0	93	154
10:45 AM	1	0	3	0	4	9	2	1	0	12	1	69	6	0	76	1	87	5	0	93	185
Hourly Total	6	4	17	0	27	37	5	6	0	48	9	211	17	0	237	1	347	8	0	356	668
11:00 AM	2	0	4	0	6	6	1	0	0	7	2	62	5	0	69	0	73	0	0	73	155
11:15 AM	0	1	3	0	4	8	0	0	0	8	1	70	3	0	74	1	78	3	0	82	168
11:30 AM	1	1	3	0	5	14	1	2	0	17	2	71	10	0	83	1	114	3	0	118	223
11:45 AM	1	2	3	0	6	5	0	0	0	5	2	82	6	0	90	2	94	3	0	99	200
Hourly Total	4	4	13	0	21	33	2	2	0	37	7	285	24	0	316	4	359	9	0	372	746

12:00 PM	0	1	3	0	4	5	0	1	0	6	4	95	2	0	101	2	85	4	0	91	202
12:15 PM	2	2	5	0	9	11	0	2	0	13	4	84	4	0	92	1	111	1	0	113	227
12:30 PM	4	1	1	0	6	6	0	2	0	8	0	97	12	0	109	2	98	1	0	101	224
12:45 PM	3	3	3	0	9	5	1	3	0	9	2	91	13	0	106	0	78	1	0	79	203
Hourly Total	9	7	12	0	28	27	1	8	0	36	10	367	31	0	408	5	372	7	0	384	856
1:00 PM	4	0	4	0	8	6	0	0	0	6	5	101	6	0	112	2	85	1	0	88	214
1:15 PM	3	0	3	0	6	11	2	2	0	15	2	100	9	0	111	1	68	3	0	72	204
1:30 PM	3	3	5	0	11	8	2	1	0	11	5	95	11	0	111	1	73	3	0	77	210
1:45 PM	2	0	0	0	2	14	0	1	0	15	3	115	18	0	136	1	80	2	0	83	236
Hourly Total	12	3	12	0	27	39	4	4	0	47	15	411	44	0	470	5	306	9	0	320	864
Grand Total	71	44	114	2	229	305	39	46	0	390	89	2922	274	0	3285	37	2873	65	2	2975	6879
Approach %	31.0	19.2	49.8	-	-	78.2	10.0	11.8	-	-	2.7	88.9	8.3	-	-	1.2	96.6	2.2	-	-	-
Total %	1.0	0.6	1.7	-	3.3	4.4	0.6	0.7	-	5.7	1.3	42.5	4.0	-	47.8	0.5	41.8	0.9	-	43.2	-
Lights	68	43	106	-	217	296	36	45	-	377	86	2886	272	-	3244	35	2838	62	-	2935	6773
% Lights	95.8	97.7	93.0	-	94.8	97.0	92.3	97.8	-	96.7	96.6	98.8	99.3	-	98.8	94.6	98.8	95.4	-	98.7	98.5
Bicycles on Road	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
All Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% All Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-
Trucks	3	1	8	-	12	9	3	1	-	13	3	36	2	-	41	2	35	3	-	40	106
% Trucks	4.2	2.3	7.0	-	5.2	3.0	7.7	2.2	-	3.3	3.4	1.2	0.7	-	1.2	5.4	1.2	4.6	-	1.3	1.5

Kimley-Horn and Associates, Inc.
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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023



Turning Movement Data Plot

Kimley-Horn and Associates, Inc.
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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: St Francis Blvd & Sunwood Dr
Site Code:
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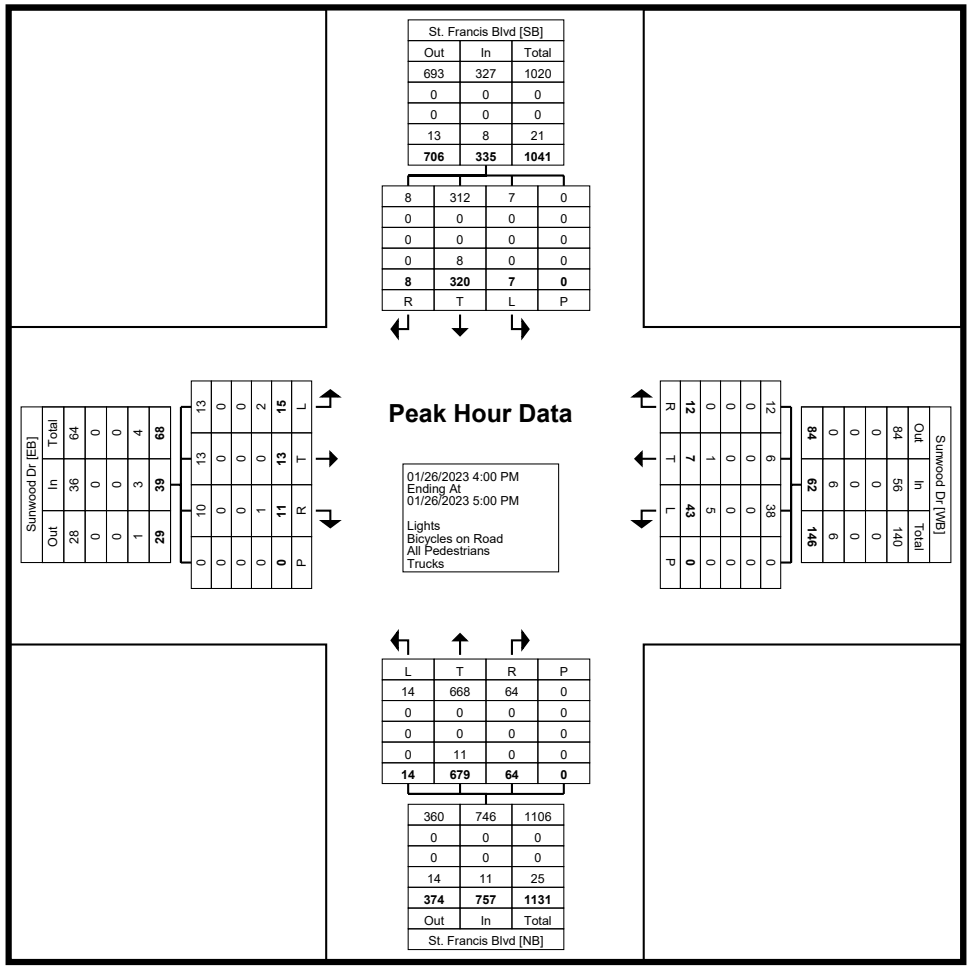
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	7	5	3	0	15	6	2	3	0	11	5	184	19	0	208	1	77	1	0	79	313
4:15 PM	3	1	1	0	5	14	2	4	0	20	1	181	24	0	206	3	86	1	0	90	321
4:30 PM	1	2	4	0	7	11	2	1	0	14	4	145	13	0	162	2	81	4	0	87	270
4:45 PM	4	5	3	0	12	12	1	4	0	17	4	169	8	0	181	1	76	2	0	79	289
Total	15	13	11	0	39	43	7	12	0	62	14	679	64	0	757	7	320	8	0	335	1193
Approach %	38.5	33.3	28.2	-	-	69.4	11.3	19.4	-	-	1.8	89.7	8.5	-	-	2.1	95.5	2.4	-	-	-
Total %	1.3	1.1	0.9	-	3.3	3.6	0.6	1.0	-	5.2	1.2	56.9	5.4	-	63.5	0.6	26.8	0.7	-	28.1	-
PHF	0.536	0.650	0.688	-	0.650	0.768	0.875	0.750	-	0.775	0.700	0.923	0.667	-	0.910	0.583	0.930	0.500	-	0.931	0.929
Lights	13	13	10	-	36	38	6	12	-	56	14	668	64	-	746	7	312	8	-	327	1165
% Lights	86.7	100.0	90.9	-	92.3	88.4	85.7	100.0	-	90.3	100.0	98.4	100.0	-	98.5	100.0	97.5	100.0	-	97.6	97.7
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	2	0	1	-	3	5	1	0	-	6	0	11	0	-	11	0	8	0	-	8	28
% Trucks	13.3	0.0	9.1	-	7.7	11.6	14.3	0.0	-	9.7	0.0	1.6	0.0	-	1.5	0.0	2.5	0.0	-	2.4	2.3

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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (4:00 PM)

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Count Name: St Francis Blvd & Sunwood Dr
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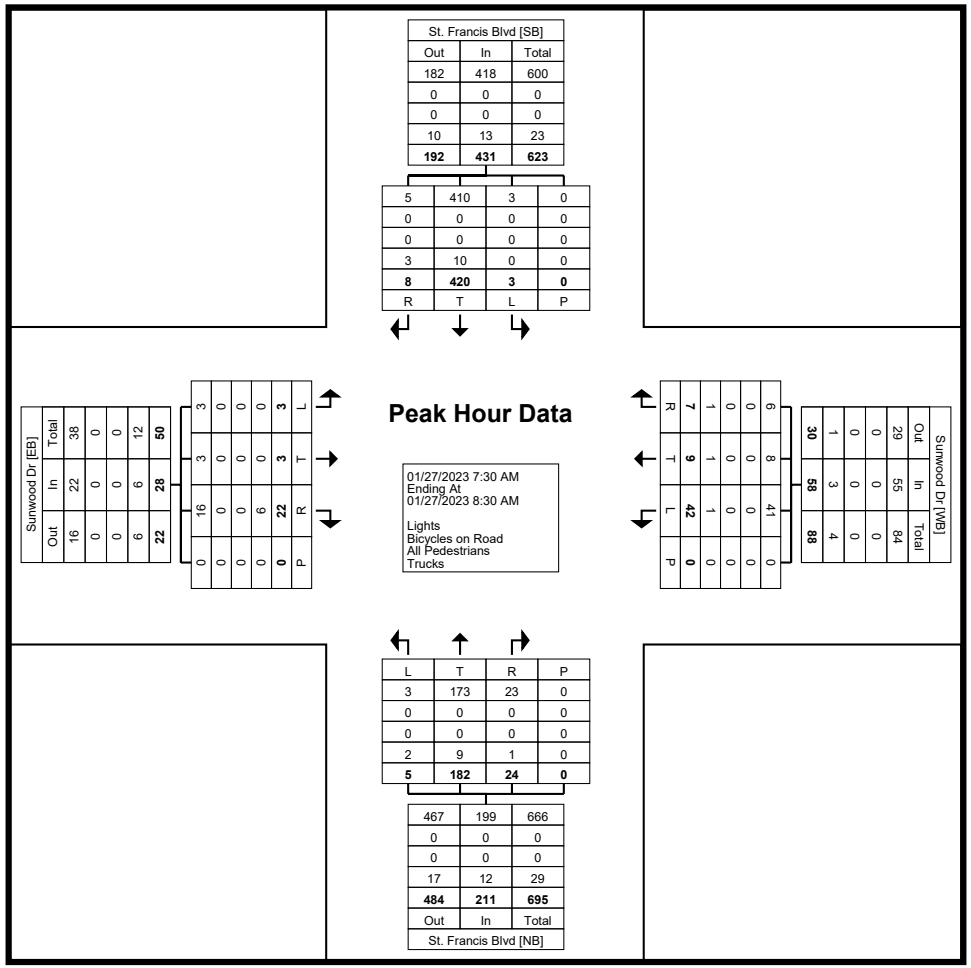
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	1	0	3	0	4	8	3	2	0	13	1	43	10	0	54	1	104	0	0	105	176
7:45 AM	0	2	6	0	8	9	4	1	0	14	2	41	3	0	46	1	112	3	0	116	184
8:00 AM	1	1	7	0	9	13	2	1	0	16	1	46	8	0	55	1	102	3	0	106	186
8:15 AM	1	0	6	0	7	12	0	3	0	15	1	52	3	0	56	0	102	2	0	104	182
Total	3	3	22	0	28	42	9	7	0	58	5	182	24	0	211	3	420	8	0	431	728
Approach %	10.7	10.7	78.6	-	-	72.4	15.5	12.1	-	-	2.4	86.3	11.4	-	-	0.7	97.4	1.9	-	-	-
Total %	0.4	0.4	3.0	-	3.8	5.8	1.2	1.0	-	8.0	0.7	25.0	3.3	-	29.0	0.4	57.7	1.1	-	59.2	-
PHF	0.750	0.375	0.786	-	0.778	0.808	0.563	0.583	-	0.906	0.625	0.875	0.600	-	0.942	0.750	0.938	0.667	-	0.929	0.978
Lights	3	3	16	-	22	41	8	6	-	55	3	173	23	-	199	3	410	5	-	418	694
% Lights	100.0	100.0	72.7	-	78.6	97.6	88.9	85.7	-	94.8	60.0	95.1	95.8	-	94.3	100.0	97.6	62.5	-	97.0	95.3
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	6	-	6	1	1	1	-	3	2	9	1	-	12	0	10	3	-	13	34
% Trucks	0.0	0.0	27.3	-	21.4	2.4	11.1	14.3	-	5.2	40.0	4.9	4.2	-	5.7	0.0	2.4	37.5	-	3.0	4.7

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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (7:30 AM)

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023

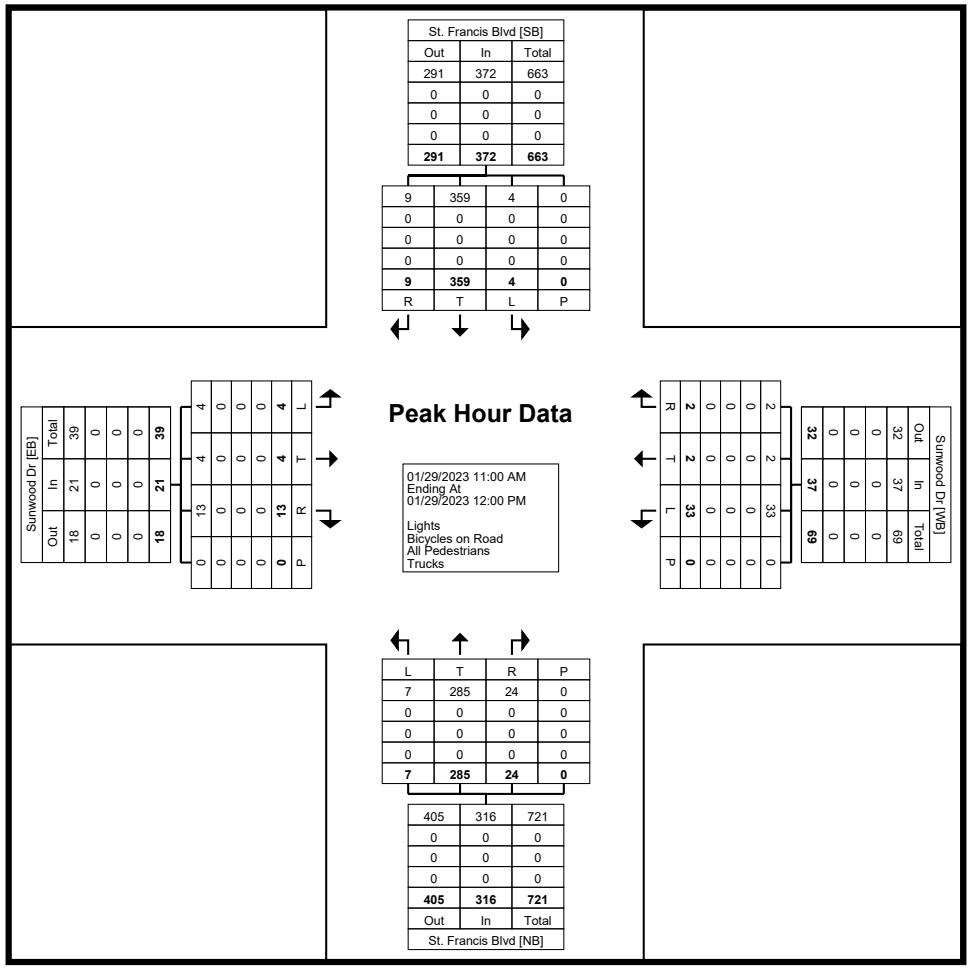
Turning Movement Peak Hour Data (11:00 AM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	2	0	4	0	6	6	1	0	0	7	2	62	5	0	69	0	73	0	0	73	155
11:15 AM	0	1	3	0	4	8	0	0	0	8	1	70	3	0	74	1	78	3	0	82	168
11:30 AM	1	1	3	0	5	14	1	2	0	17	2	71	10	0	83	1	114	3	0	118	223
11:45 AM	1	2	3	0	6	5	0	0	0	5	2	82	6	0	90	2	94	3	0	99	200
Total	4	4	13	0	21	33	2	2	0	37	7	285	24	0	316	4	359	9	0	372	746
Approach %	19.0	19.0	61.9	-	-	89.2	5.4	5.4	-	-	2.2	90.2	7.6	-	-	1.1	96.5	2.4	-	-	-
Total %	0.5	0.5	1.7	-	2.8	4.4	0.3	0.3	-	5.0	0.9	38.2	3.2	-	42.4	0.5	48.1	1.2	-	49.9	-
PHF	0.500	0.500	0.813	-	0.875	0.589	0.500	0.250	-	0.544	0.875	0.869	0.600	-	0.878	0.500	0.787	0.750	-	0.788	0.836
Lights	4	4	13	-	21	33	2	2	-	37	7	285	24	-	316	4	359	9	-	372	746
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Trucks	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

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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (11:00 AM)

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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023

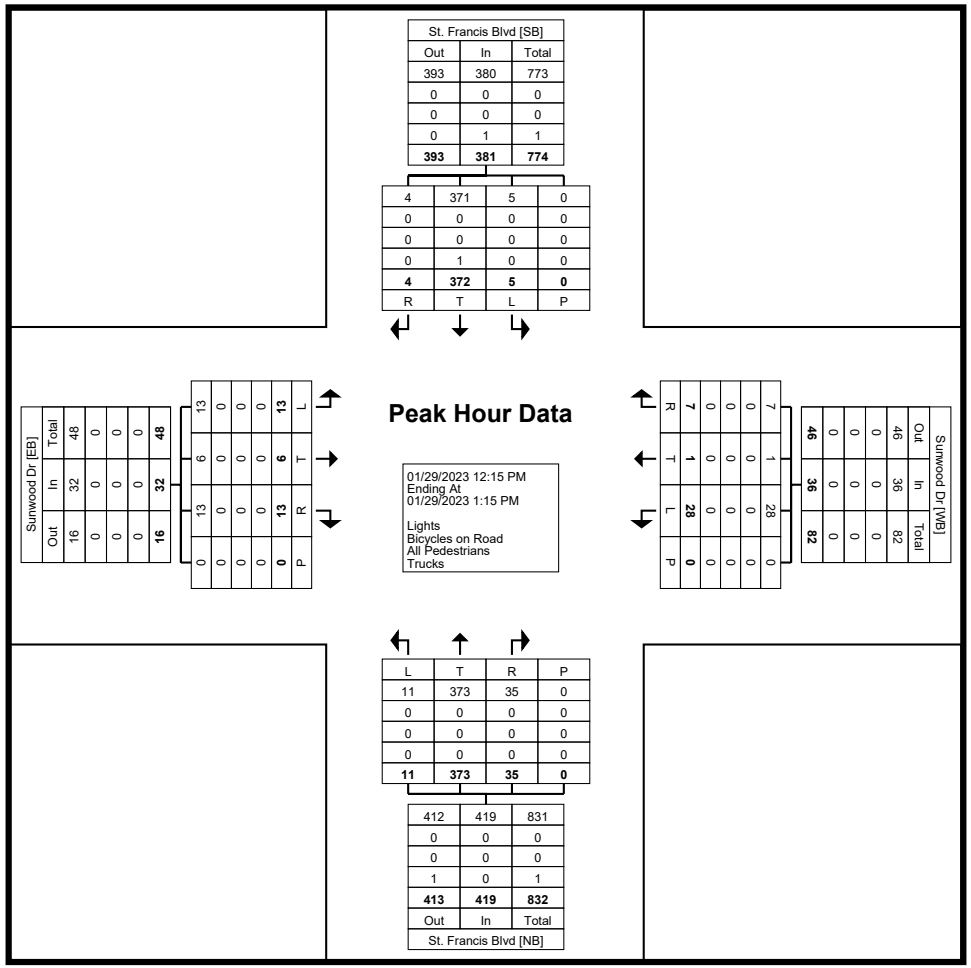
Turning Movement Peak Hour Data (12:15 PM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
12:15 PM	2	2	5	0	9	11	0	2	0	13	4	84	4	0	92	1	111	1	0	113	227
12:30 PM	4	1	1	0	6	6	0	2	0	8	0	97	12	0	109	2	98	1	0	101	224
12:45 PM	3	3	3	0	9	5	1	3	0	9	2	91	13	0	106	0	78	1	0	79	203
1:00 PM	4	0	4	0	8	6	0	0	0	6	5	101	6	0	112	2	85	1	0	88	214
Total	13	6	13	0	32	28	1	7	0	36	11	373	35	0	419	5	372	4	0	381	868
Approach %	40.6	18.8	40.6	-	-	77.8	2.8	19.4	-	-	2.6	89.0	8.4	-	-	1.3	97.6	1.0	-	-	-
Total %	1.5	0.7	1.5	-	3.7	3.2	0.1	0.8	-	4.1	1.3	43.0	4.0	-	48.3	0.6	42.9	0.5	-	43.9	-
PHF	0.813	0.500	0.650	-	0.889	0.636	0.250	0.583	-	0.692	0.550	0.923	0.673	-	0.935	0.625	0.838	1.000	-	0.843	0.956
Lights	13	6	13	-	32	28	1	7	-	36	11	373	35	-	419	5	371	4	-	380	867
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	99.7	100.0	-	99.7	99.9
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Trucks	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	0.3	0.0	-	0.3	0.1

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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (12:15 PM)

Kimley-Horn and Associates, Inc.
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Count Name: Sunwood Dr & Cobalt St
Site Code:
Start Date: 01/26/2023

Turning Movement Data

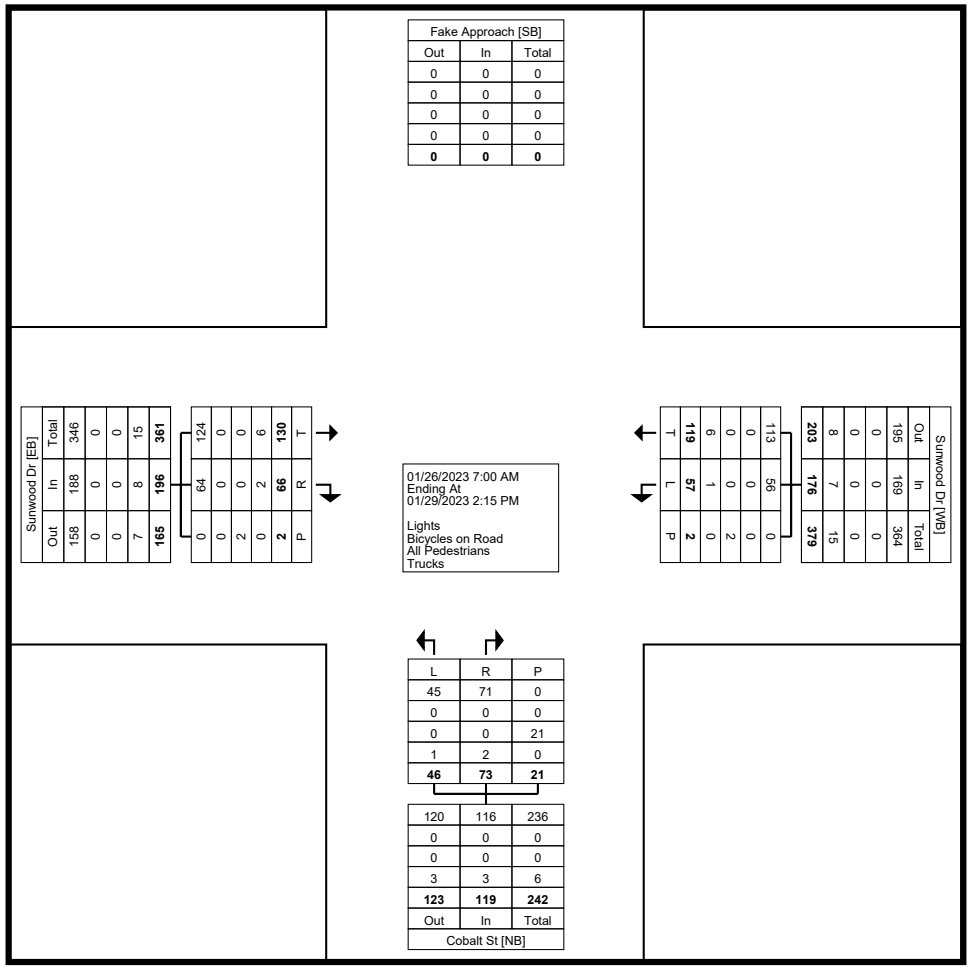
Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00 AM	3	1	0	4	0	5	0	5	6	4	0	10	19
7:15 AM	1	3	0	4	1	8	0	9	7	2	0	9	22
7:30 AM	2	2	0	4	0	10	2	10	4	4	0	8	22
7:45 AM	1	1	0	2	0	9	0	9	1	2	0	3	14
Hourly Total	7	7	0	14	1	32	2	33	18	12	0	30	77
8:00 AM	3	0	0	3	1	2	0	3	0	4	0	4	10
8:15 AM	2	1	0	3	0	3	0	3	0	2	0	2	8
8:30 AM	6	0	0	6	0	3	0	3	0	1	0	1	10
8:45 AM	2	2	0	4	0	6	0	6	2	4	4	6	16
Hourly Total	13	3	0	16	1	14	0	15	2	11	4	13	44
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	10	7	0	17	5	4	0	9	1	4	1	5	31
4:15 PM	3	4	0	7	0	3	0	3	2	2	12	4	14
4:30 PM	5	3	0	8	4	6	0	10	0	2	1	2	20
4:45 PM	13	5	1	18	5	2	0	7	1	0	0	1	26
Hourly Total	31	19	1	50	14	15	0	29	4	8	14	12	91
5:00 PM	8	4	1	12	5	4	0	9	0	1	0	1	22
5:15 PM	10	3	0	13	2	4	0	6	1	2	0	3	22
5:30 PM	9	2	0	11	2	5	0	7	1	2	1	3	21
5:45 PM	2	2	0	4	1	3	0	4	1	1	0	2	10
Hourly Total	29	11	1	40	10	16	0	26	3	6	1	9	75
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	3	1	0	4	3	1	0	4	1	1	1	2	10
10:15 AM	6	1	0	7	1	2	0	3	2	7	0	9	19
10:30 AM	1	0	0	1	2	1	0	3	1	3	0	4	8
10:45 AM	1	0	0	1	2	6	0	8	1	2	0	3	12
Hourly Total	11	2	0	13	8	10	0	18	5	13	1	18	49
11:00 AM	4	1	0	5	1	1	0	2	0	1	0	1	8
11:15 AM	1	4	0	5	2	3	0	5	0	2	0	2	12
11:30 AM	1	3	0	4	3	3	0	6	0	3	0	3	13
11:45 AM	3	0	0	3	4	1	0	5	1	3	0	4	12
Hourly Total	9	8	0	17	10	8	0	18	1	9	0	10	45

12:00 PM	2	1	0	3	2	6	0	8	2	3	0	5	16
12:15 PM	4	1	0	5	1	3	0	4	1	3	0	4	13
12:30 PM	5	1	0	6	0	1	0	1	1	1	0	2	9
12:45 PM	5	5	0	10	1	2	0	3	3	1	0	4	17
Hourly Total	16	8	0	24	4	12	0	16	7	8	0	15	55
1:00 PM	3	0	0	3	2	1	0	3	0	2	0	2	8
1:15 PM	4	3	0	7	2	3	0	5	2	1	0	3	15
1:30 PM	5	2	0	7	5	5	0	10	2	3	1	5	22
1:45 PM	2	3	0	5	0	3	0	3	2	0	0	2	10
Hourly Total	14	8	0	22	9	12	0	21	6	6	1	12	55
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	130	66	2	196	57	119	2	176	46	73	21	119	491
Approach %	66.3	33.7	-	-	32.4	67.6	-	-	38.7	61.3	-	-	-
Total %	26.5	13.4	-	39.9	11.6	24.2	-	35.8	9.4	14.9	-	24.2	-
Lights	124	64	-	188	56	113	-	169	45	71	-	116	473
% Lights	95.4	97.0	-	95.9	98.2	95.0	-	96.0	97.8	97.3	-	97.5	96.3
Bicycles on Road	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
All Pedestrians	-	-	2	-	-	-	2	-	-	-	21	-	-
% All Pedestrians	-	-	100.0	-	-	-	100.0	-	-	-	100.0	-	-
Trucks	6	2	-	8	1	6	-	7	1	2	-	3	18
% Trucks	4.6	3.0	-	4.1	1.8	5.0	-	4.0	2.2	2.7	-	2.5	3.7

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Start Date: 01/26/2023



Turning Movement Data Plot

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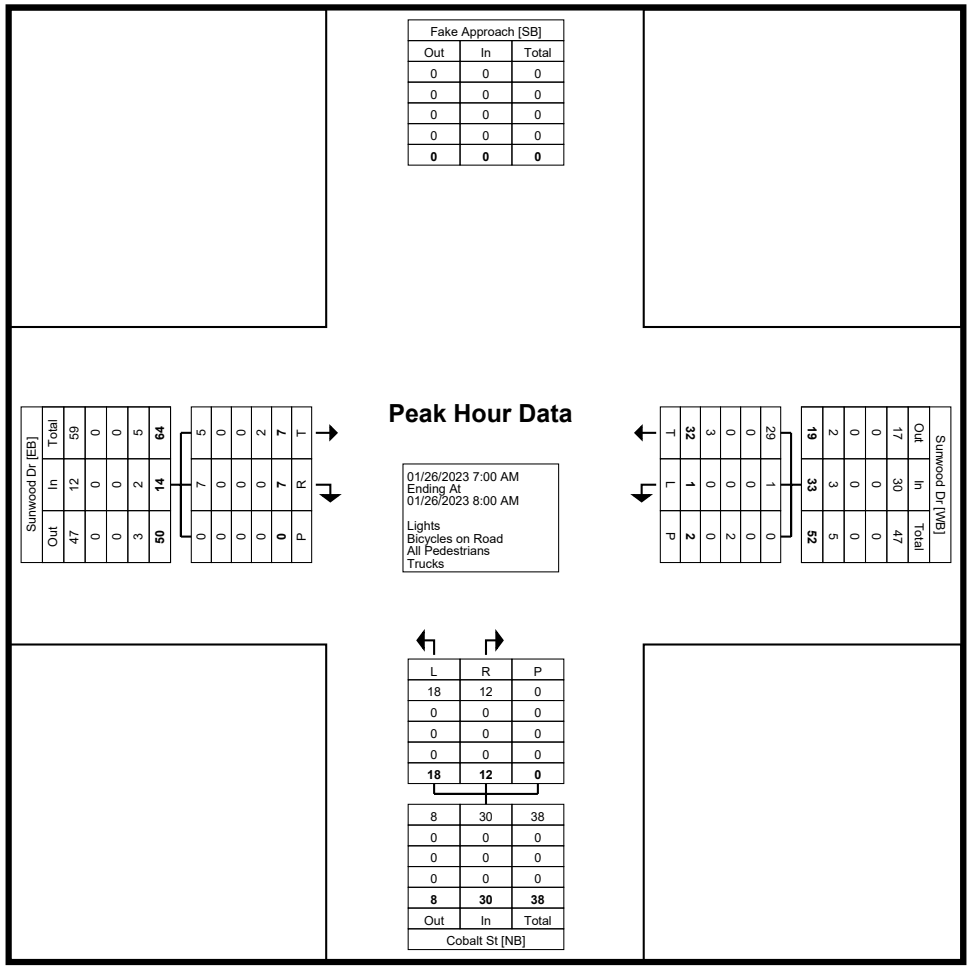
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00 AM	3	1	0	4	0	5	0	5	6	4	0	10	19
7:15 AM	1	3	0	4	1	8	0	9	7	2	0	9	22
7:30 AM	2	2	0	4	0	10	2	10	4	4	0	8	22
7:45 AM	1	1	0	2	0	9	0	9	1	2	0	3	14
Total	7	7	0	14	1	32	2	33	18	12	0	30	77
Approach %	50.0	50.0	-	-	3.0	97.0	-	-	60.0	40.0	-	-	-
Total %	9.1	9.1	-	18.2	1.3	41.6	-	42.9	23.4	15.6	-	39.0	-
PHF	0.583	0.583	-	0.875	0.250	0.800	-	0.825	0.643	0.750	-	0.750	0.875
Lights	5	7	-	12	1	29	-	30	18	12	-	30	72
% Lights	71.4	100.0	-	85.7	100.0	90.6	-	90.9	100.0	100.0	-	100.0	93.5
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	2	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	100.0	-	-	-	-	-	-
Trucks	2	0	-	2	0	3	-	3	0	0	-	0	5
% Trucks	28.6	0.0	-	14.3	0.0	9.4	-	9.1	0.0	0.0	-	0.0	6.5

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Turning Movement Peak Hour Data Plot (7:00 AM)

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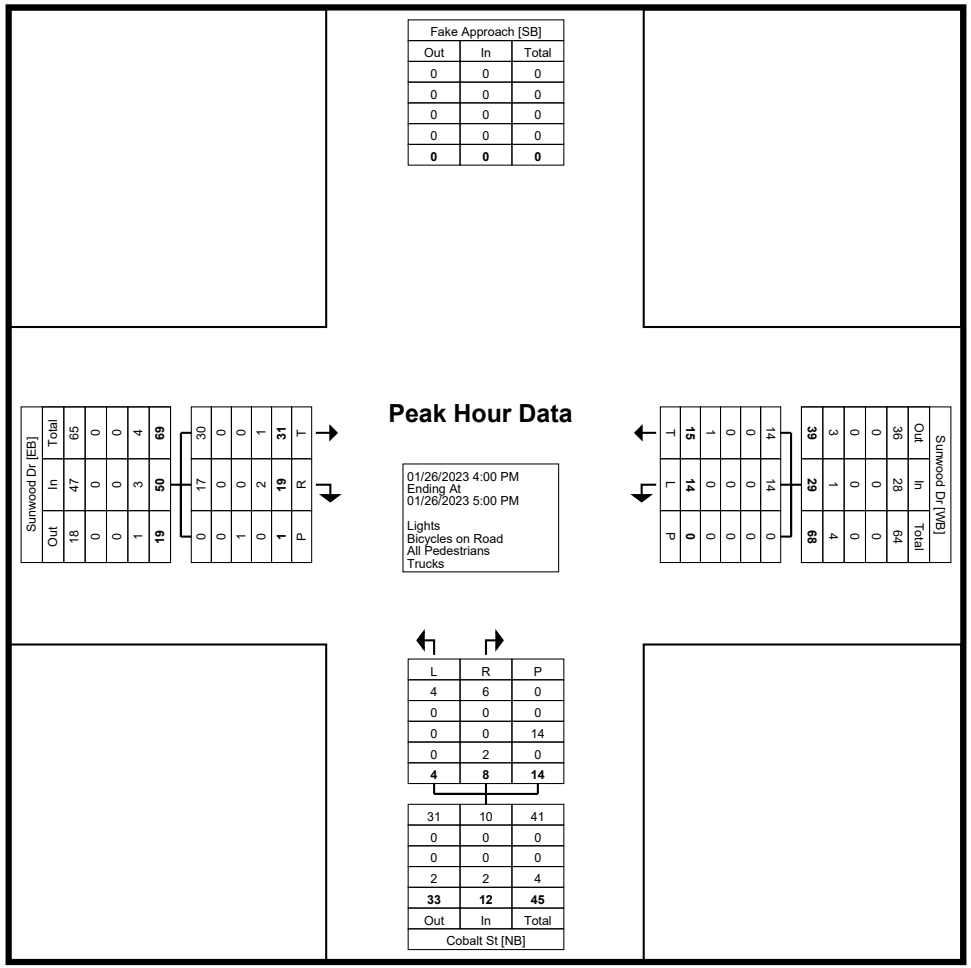
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
4:00 PM	10	7	0	17	5	4	0	9	1	4	1	5	31
4:15 PM	3	4	0	7	0	3	0	3	2	2	12	4	14
4:30 PM	5	3	0	8	4	6	0	10	0	2	1	2	20
4:45 PM	13	5	1	18	5	2	0	7	1	0	0	1	26
Total	31	19	1	50	14	15	0	29	4	8	14	12	91
Approach %	62.0	38.0	-	-	48.3	51.7	-	-	33.3	66.7	-	-	-
Total %	34.1	20.9	-	54.9	15.4	16.5	-	31.9	4.4	8.8	-	13.2	-
PHF	0.596	0.679	-	0.694	0.700	0.625	-	0.725	0.500	0.500	-	0.600	0.734
Lights	30	17	-	47	14	14	-	28	4	6	-	10	85
% Lights	96.8	89.5	-	94.0	100.0	93.3	-	96.6	100.0	75.0	-	83.3	93.4
Bicycles on Road	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
All Pedestrians	-	-	1	-	-	-	0	-	-	-	14	-	-
% All Pedestrians	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-
Trucks	1	2	-	3	0	1	-	1	0	2	-	2	6
% Trucks	3.2	10.5	-	6.0	0.0	6.7	-	3.4	0.0	25.0	-	16.7	6.6

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Turning Movement Peak Hour Data Plot (4:00 PM)

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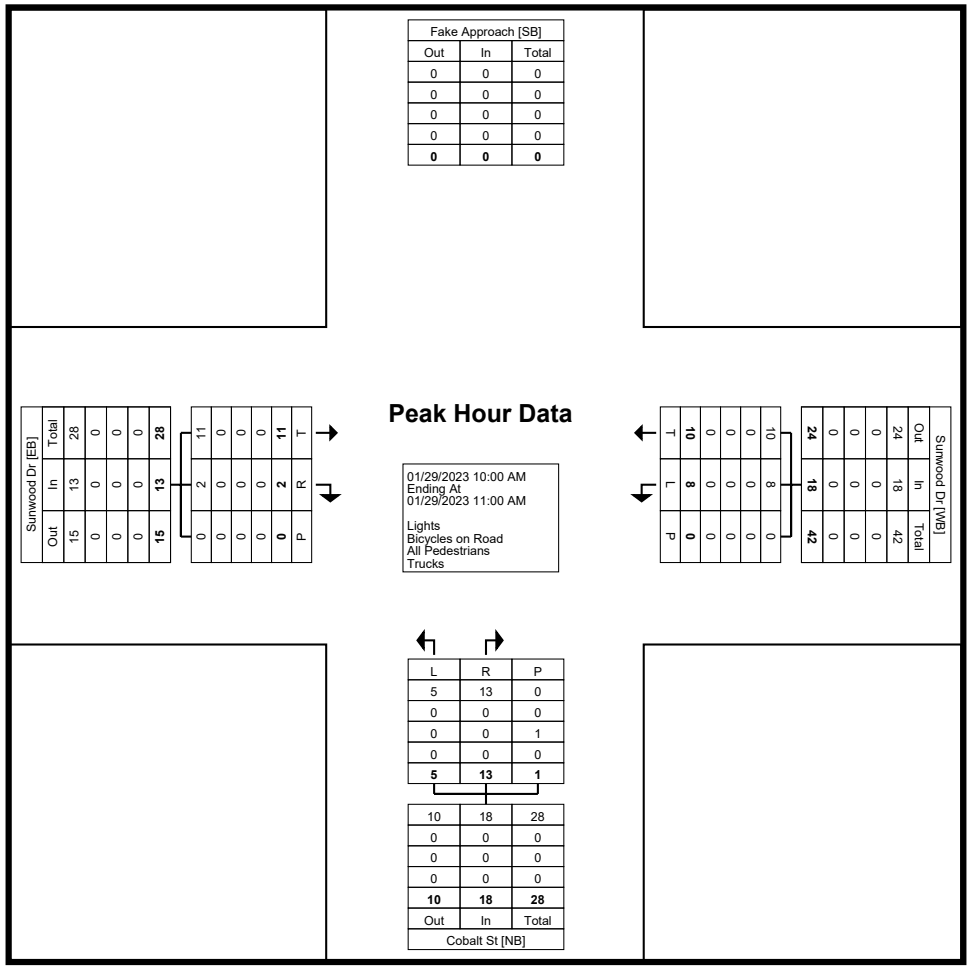
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
10:00 AM	3	1	0	4	3	1	0	4	1	1	1	2	10
10:15 AM	6	1	0	7	1	2	0	3	2	7	0	9	19
10:30 AM	1	0	0	1	2	1	0	3	1	3	0	4	8
10:45 AM	1	0	0	1	2	6	0	8	1	2	0	3	12
Total	11	2	0	13	8	10	0	18	5	13	1	18	49
Approach %	84.6	15.4	-	-	44.4	55.6	-	-	27.8	72.2	-	-	-
Total %	22.4	4.1	-	26.5	16.3	20.4	-	36.7	10.2	26.5	-	36.7	-
PHF	0.458	0.500	-	0.464	0.667	0.417	-	0.563	0.625	0.464	-	0.500	0.645
Lights	11	2	-	13	8	10	-	18	5	13	-	18	49
% Lights	100.0	100.0	-	100.0	100.0	100.0	-	100.0	100.0	100.0	-	100.0	100.0
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	1	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-
Trucks	0	0	-	0	0	0	-	0	0	0	-	0	0
% Trucks	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0

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Turning Movement Peak Hour Data Plot (10:00 AM)

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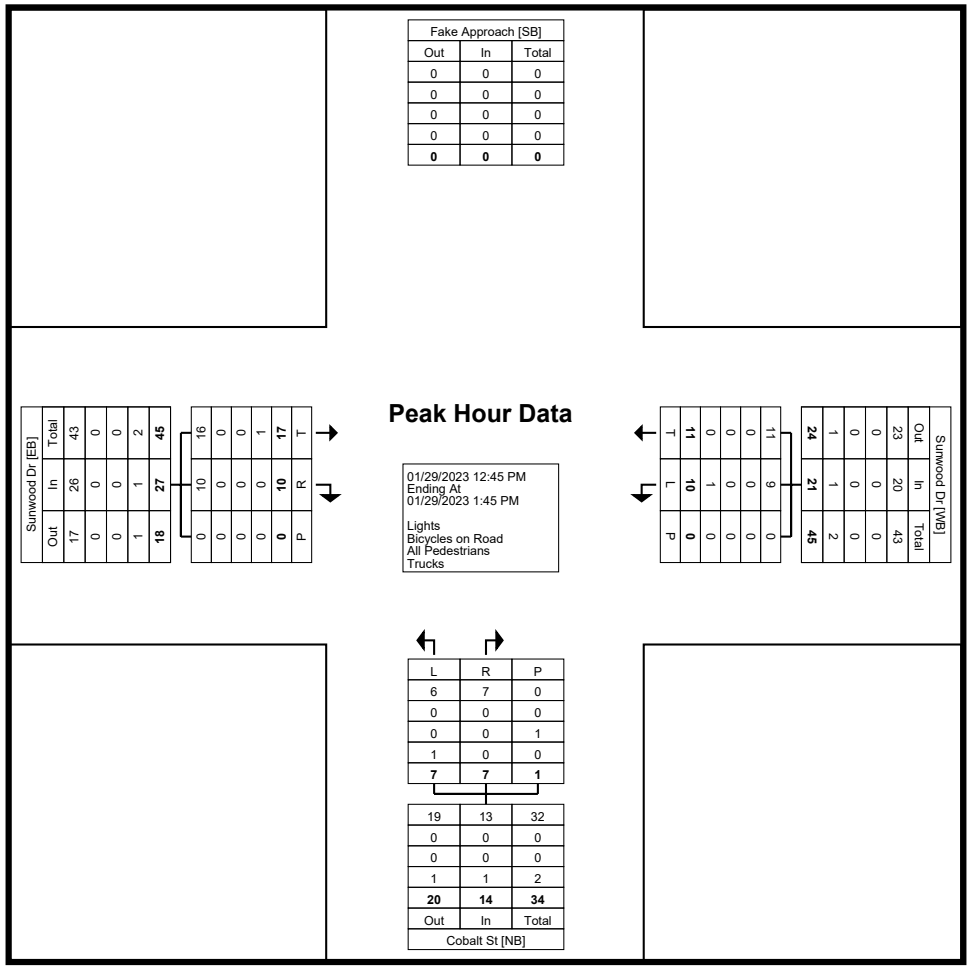
Turning Movement Peak Hour Data (12:45 PM)

Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
12:45 PM	5	5	0	10	1	2	0	3	3	1	0	4	17
1:00 PM	3	0	0	3	2	1	0	3	0	2	0	2	8
1:15 PM	4	3	0	7	2	3	0	5	2	1	0	3	15
1:30 PM	5	2	0	7	5	5	0	10	2	3	1	5	22
Total	17	10	0	27	10	11	0	21	7	7	1	14	62
Approach %	63.0	37.0	-	-	47.6	52.4	-	-	50.0	50.0	-	-	-
Total %	27.4	16.1	-	43.5	16.1	17.7	-	33.9	11.3	11.3	-	22.6	-
PHF	0.850	0.500	-	0.675	0.500	0.550	-	0.525	0.583	0.583	-	0.700	0.705
Lights	16	10	-	26	9	11	-	20	6	7	-	13	59
% Lights	94.1	100.0	-	96.3	90.0	100.0	-	95.2	85.7	100.0	-	92.9	95.2
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	1	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-
Trucks	1	0	-	1	1	0	-	1	1	0	-	1	3
% Trucks	5.9	0.0	-	3.7	10.0	0.0	-	4.8	14.3	0.0	-	7.1	4.8

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Turning Movement Peak Hour Data Plot (12:45 PM)

C. Site Layout Exhibit

GROUND LEVEL

OPTION D2-A



BKV GROUP

D. SimTraffic Analysis Results

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.5	0.7
Total Del/Veh (s)	13.7	11.0	6.9	13.9	11.1	1.5	2.0	0.8	0.2	1.3	0.1	2.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.2	0.1
Total Del/Veh (s)	2.1	2.4	1.7	0.6	4.5	2.3	1.9

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.8	0.0	0.0	4.1	0.9	0.1	0.0	0.0	0.0	3.1	0.5	3.9
Total Del/Veh (s)	44.8	45.0	6.3	40.1	41.8	5.8	51.8	5.8	3.5	63.6	3.5	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	7.2

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.6	5.1	10.0	2.2	0.4	0.1	1.3	0.4	1.4

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	2.3	0.4	0.7	0.6

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.1	6.3	6.1	0.7	0.2	0.7	1.3	0.2	1.7

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.2	0.8	11.3	1.3	15.2	5.1	2.7

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.3	0.4	3.7	0.6	3.0	0.0	0.0	0.2
Total Del/Veh (s)	23.2	34.5	3.5	42.1	32.8	6.6	46.3	6.6	1.4	45.7	18.5	6.8

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	16.8

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	23.2

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	48	62	74	21	22
Average Queue (ft)	12	19	30	1	4
95th Queue (ft)	32	44	68	7	17
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	46
Average Queue (ft)	15
95th Queue (ft)	40
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	42	86	118	26	98	26	46	122	26
Average Queue (ft)	6	10	31	8	4	18	5	6	42	5
95th Queue (ft)	23	29	61	46	17	57	22	25	104	21
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0	0						
Queuing Penalty (veh)			0	0						

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	47	25	50
Average Queue (ft)	15	5	3
95th Queue (ft)	37	20	19
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	NB
Directions Served	LT	R	L
Maximum Queue (ft)	24	65	43
Average Queue (ft)	3	25	6
95th Queue (ft)	17	52	24
Link Distance (ft)	278	278	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			290
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7:

Movement	EB	EB	WB	NB	NB
Directions Served	T	R	L	L	R
Maximum Queue (ft)	22	22	90	53	46
Average Queue (ft)	1	1	27	23	21
95th Queue (ft)	7	8	68	54	41
Link Distance (ft)	659			345	345
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		300	120		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	24	43	146	121	189	128	99	23	26	359	60
Average Queue (ft)	7	20	72	19	83	31	34	2	8	153	4
95th Queue (ft)	23	47	129	58	149	87	83	14	24	273	21
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			9	0						2	
Queuing Penalty (veh)			3	0						1	

Network Summary

Network wide Queuing Penalty: 4

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	4.2	0.1	0.1	4.2	0.0	0.0	0.0	0.1	0.3	3.7
Total Del/Veh (s)	21.0	9.0	2.2	28.6	15.8	1.4	1.8	2.8	1.7	1.2	1.1	0.3

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	3.6

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.0	0.4	3.4	1.3	3.6	2.0	2.2

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	4.2	0.1	0.0	0.1	0.0	2.0	0.4	2.8	0.4
Total Del/Veh (s)	49.3	0.2	3.4	59.1	72.1	31.3	13.4	7.7	20.1	2.9	0.0	13.1

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.6	0.3	0.5	0.0	0.5	0.1	0.6

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	2.4	0.4	0.4	0.4

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Total Del/Veh (s)	40.2	2.8	1.3	0.0	7.9	0.5	1.5

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	1.4	0.3	3.4	1.9	8.4	3.6	2.5

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.2	0.1	0.1	2.7	1.7	3.5	0.0	0.0	0.0
Total Del/Veh (s)	58.1	26.8	1.6	58.3	55.6	39.3	40.2	9.6	2.2	34.3	13.7	12.9

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	1.2
Total Del/Veh (s)	20.4

Total Network Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	24.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LT	LT	R
Maximum Queue (ft)	25	21	92	25	47	21	13
Average Queue (ft)	19	11	50	5	19	4	3
95th Queue (ft)	35	26	88	21	57	18	11
Link Distance (ft)	414		1298		784	478	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		270		270			270
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (ft)	24	20	66	37	51	306	30	22	52
Average Queue (ft)	10	5	44	11	10	133	11	8	26
95th Queue (ft)	29	18	77	35	44	345	35	25	63
Link Distance (ft)		1064		520		3458			761
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100		240		240	240	
Storage Blk Time (%)						5			
Queuing Penalty (veh)						4			

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB
Directions Served	LTR
Maximum Queue (ft)	23
Average Queue (ft)	9
95th Queue (ft)	27
Link Distance (ft)	303
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	11
95th Queue (ft)	34
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	SB
Directions Served	LT	R	L
Maximum Queue (ft)	24	40	50
Average Queue (ft)	5	15	26
95th Queue (ft)	21	39	53
Link Distance (ft)	278	278	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	31	72	75
Average Queue (ft)	12	45	41
95th Queue (ft)	37	79	73
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	66	62	50	125	185	149	164	24	22	131	17
Average Queue (ft)	28	18	22	84	154	99	115	14	4	78	3
95th Queue (ft)	68	55	48	136	194	161	199	33	19	137	15
Link Distance (ft)		384		244			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)				24							
Queuing Penalty (veh)				13							

Network Summary

Network wide Queuing Penalty: 17

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.2	4.0	0.1	0.0	2.1	0.0	0.0	0.0	0.2	3.4	0.5
Total Del/Veh (s)	5.2	7.2	2.5	5.5	8.5	1.5	1.4	1.2	0.1	0.8	0.1	1.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.4	1.6	1.9	1.1	2.1	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.4	0.0	0.0	4.1	0.1	0.1	0.0	0.0	0.0	3.2	0.3	3.1
Total Del/Veh (s)	36.6	16.1	5.6	44.1	36.8	5.7	30.1	5.7	3.2	31.5	2.9	0.1

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	7.1

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.3	2.5	4.2	0.4	0.6	0.1	0.4	0.6	0.6

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0
Total Del/Veh (s)	6.3	2.6	0.5	0.3	0.7

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.1	2.8	4.8	5.7	2.5	1.7	0.7	0.1	3.2	0.6	0.1	0.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.0	0.1	4.4	1.4	8.4	2.6	1.5

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.0	0.1	0.3	3.3	0.7	3.1	0.0	0.0	0.0
Total Del/Veh (s)	64.2	41.1	2.0	51.4	37.6	21.7	46.7	5.2	1.4	68.5	14.6	3.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	17.3

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	23.3

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	49	60	29	25	22
Average Queue (ft)	12	15	11	2	3
95th Queue (ft)	34	38	34	12	15
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (ft)	24	20	110	18	50	72	27	22	73
Average Queue (ft)	2	8	36	2	7	17	3	2	29
95th Queue (ft)	12	23	82	11	29	53	15	12	66
Link Distance (ft)		1064		520		3458			761
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100		240		240	240	
Storage Blk Time (%)			2						
Queuing Penalty (veh)			0						

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	25	25
Average Queue (ft)	8	3
95th Queue (ft)	26	17
Link Distance (ft)	303	354
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	51
Average Queue (ft)	17
95th Queue (ft)	40
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	23	44	20	24	23
Average Queue (ft)	2	13	2	1	1
95th Queue (ft)	11	34	12	8	8
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	53	49	46
Average Queue (ft)	5	14	18
95th Queue (ft)	29	40	40
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	44	46	108	56	185	146	152	42	69	307	16
Average Queue (ft)	11	21	38	13	77	17	52	5	23	109	1
95th Queue (ft)	35	45	83	37	154	81	121	22	60	203	8
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			2							1	
Queuing Penalty (veh)			1							0	

Network Summary

Network wide Queuing Penalty: 1

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.2	4.1	0.1	0.0	0.7	0.0	0.0	0.0	0.6	0.5	3.2
Total Del/Veh (s)	8.5	11.6	6.2	11.3	11.8	2.6	4.4	0.8	0.2	0.7	1.3	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	2.4

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0		0.0	0.1	0.1	0.1
Total Del/Veh (s)	2.3	1.5		1.0	4.4	2.2	2.3

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.0	0.0	4.1	0.2	0.3	0.0	0.0	0.0	3.3	0.5	3.6
Total Del/Veh (s)	46.6	50.1	7.6	44.2	48.4	5.4	39.1	5.4	3.1	50.9	4.3	1.1

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	8.7

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0
Total Del/Veh (s)	11.8	5.1	9.8	3.2	0.6	0.0	1.3	0.4	1.5

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	1.4	0.3	0.7	0.6

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0
Total Del/Veh (s)	8.9	7.6	6.0	0.6	0.2	1.8	1.3	0.2	1.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.2	0.8	8.8	1.2	14.1	6.0	2.5

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.3	0.4	3.6	0.6	3.5	0.4	0.0	0.2
Total Del/Veh (s)	39.0	37.0	3.6	48.3	34.9	12.1	47.3	6.0	1.6	43.9	18.1	6.4

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	17.1

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	23.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	R
Maximum Queue (ft)	47	79	73	25	48	3
Average Queue (ft)	12	23	30	4	4	0
95th Queue (ft)	34	53	57	19	24	2
Link Distance (ft)	414		1298		784	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		270
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	19
95th Queue (ft)	44
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	54	99	30	26	108	37	29	146	20
Average Queue (ft)	3	11	40	6	5	19	4	5	48	1
95th Queue (ft)	14	38	82	21	20	63	21	21	115	9
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)		0	1							
Queuing Penalty (veh)		0	0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	55	28	59
Average Queue (ft)	18	9	3
95th Queue (ft)	40	28	25
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	6
Average Queue (ft)	0
95th Queue (ft)	6
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	NB	SB
Directions Served	LT	R	L	L
Maximum Queue (ft)	19	86	48	14
Average Queue (ft)	2	26	5	0
95th Queue (ft)	14	51	26	5
Link Distance (ft)	278	278		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			290	300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	9	81	75	54
Average Queue (ft)	1	25	23	17
95th Queue (ft)	7	62	55	44
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	32	77	160	134	172	134	106	27	67	339	37
Average Queue (ft)	8	21	73	19	76	29	28	4	15	147	6
95th Queue (ft)	27	55	134	69	150	87	73	19	46	279	23
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			15	0						3	
Queuing Penalty (veh)			5	1						1	

Network Summary

Network wide Queuing Penalty: 7

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	4.1	0.1	0.1	1.8	0.0	0.0	0.0	0.3	0.4	3.6
Total Del/Veh (s)	10.3	9.8	2.6	15.0	8.2	3.4	2.9	3.2	0.6	2.5	1.1	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	2.6

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.3	2.1	2.7	1.9	4.5	2.1	1.7

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.2	0.3	0.2	0.0	0.0	0.0	3.3	0.4	4.2
Total Del/Veh (s)	53.0	44.0	10.0	55.9	75.6	14.5	79.0	13.0	8.1	84.1	4.5	0.0

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.2

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Total Del/Veh (s)	6.7	2.8	11.9	1.4	1.3	0.2	1.9	0.6	0.0	1.0

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	4.3	5.8	0.7	0.4	0.6

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.5	0.0	0.0	0.0
Total Del/Veh (s)	9.5	3.9	8.1	1.7	1.5	0.4	5.0	0.7	0.1	1.6

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	1.6	0.5	9.4	2.4	12.6	3.8	3.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.1	4.1	0.3	0.1	2.9	1.6	3.2	0.0	0.0	0.0
Total Del/Veh (s)	48.0	44.1	2.2	56.9	47.1	25.6	42.1	12.2	1.7	58.2	25.6	7.6

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	1.2
Total Del/Veh (s)	22.9

Total Network Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	30.5

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	LT
Maximum Queue (ft)	65	54	53	25	70	21
Average Queue (ft)	17	15	21	6	18	3
95th Queue (ft)	42	37	44	22	48	15
Link Distance (ft)	414		1298		784	478
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	8
95th Queue (ft)	29
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (ft)	46	82	65	54	52	330	28	27	168
Average Queue (ft)	16	21	27	14	14	110	6	7	46
95th Queue (ft)	42	51	59	38	39	251	23	23	111
Link Distance (ft)		1064		520		3458			761
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100		240		240	240	
Storage Blk Time (%)		0				1			
Queuing Penalty (veh)		0				1			

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	49	24	50	22
Average Queue (ft)	9	1	6	1
95th Queue (ft)	32	8	27	8
Link Distance (ft)	303	354	585	784
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	SB
Directions Served	LT	R	LTR	L
Maximum Queue (ft)	24	66	20	49
Average Queue (ft)	4	17	6	15
95th Queue (ft)	18	40	20	42
Link Distance (ft)	278	278	203	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	94	91	54
Average Queue (ft)	18	41	30
95th Queue (ft)	61	76	46
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	R	L	L	T	R	L	T	R
Maximum Queue (ft)	88	105	85	125	8	229	193	445	29	48	376	20
Average Queue (ft)	41	37	45	40	1	152	99	160	6	13	145	1
95th Queue (ft)	79	76	80	92	4	214	177	331	24	37	264	7
Link Distance (ft)		384		244	244			607			3458	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		80			500	500		290	210		210
Storage Blk Time (%)		0	1	4				2			3	
Queuing Penalty (veh)		0	1	2				8			1	

Network Summary

Network wide Queuing Penalty: 13

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	4.2	0.0	0.1	4.2	0.0	0.0	0.0	0.2	3.0	0.4
Total Del/Veh (s)	4.5	7.8	1.6	6.4	6.5	1.4	1.7	1.3	0.5	0.6	0.2	1.6

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.3	1.3	2.0	0.9	2.0	1.4

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.1	0.1	0.1	0.0	0.0	0.1	1.5	0.3	2.9
Total Del/Veh (s)	76.4	48.8	4.0	36.0	57.2	3.1	45.6	5.4	2.6	29.3	3.7	0.8

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	7.0

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	4.2	0.0
Total Del/Veh (s)	2.7	4.2	0.5	0.8	0.1	0.4	0.1	0.7

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	5.5	3.5	0.6	0.2	0.5

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBT	EBR	WBL	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	9.8	2.5	4.4	1.6	0.9	0.0	2.7	0.4	0.0	0.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.0	0.2	4.1	1.9	4.6	1.6	1.6

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.0	0.2	0.3	3.4	0.6	3.7	0.0	0.0	0.0
Total Del/Veh (s)	58.6	32.2	1.7	55.0	43.2	11.1	55.5	7.5	1.4	56.4	15.1	6.0

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	20.0

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	24.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	48	44	29	25	22
Average Queue (ft)	12	10	17	1	2
95th Queue (ft)	35	30	39	8	10
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	46
Average Queue (ft)	9
95th Queue (ft)	32
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	37	88	18	52	95	27	23	92	26
Average Queue (ft)	2	7	29	4	9	20	1	1	31	3
95th Queue (ft)	13	24	69	16	32	61	9	8	74	15
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0							
Queuing Penalty (veh)			0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	25	25	23
Average Queue (ft)	8	3	1
95th Queue (ft)	27	18	8
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	12
95th Queue (ft)	35
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	23	19	20	28	24
Average Queue (ft)	0	12	1	4	1
95th Queue (ft)	0	26	7	19	8
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	31	29	27
Average Queue (ft)	11	11	13
95th Queue (ft)	35	33	34
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	24	65	138	92	165	129	150	24	90	236	22
Average Queue (ft)	4	18	57	19	91	31	61	3	27	91	3
95th Queue (ft)	17	47	116	58	152	98	137	16	63	196	14
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			7	2						0	
Queuing Penalty (veh)			2	1						0	

Network Summary

Network wide Queuing Penalty: 3

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	4.1	0.0	0.0	1.3	0.0	0.0	0.0	0.1	0.6	3.0
Total Del/Veh (s)	13.6	12.3	7.6	13.6	15.4	2.1	5.0	1.2	0.2	0.5	1.4	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	2.8

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0		0.0	0.1	0.2	0.1
Total Del/Veh (s)	1.8	1.9		1.1	4.2	2.4	2.2

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.0	0.0	4.1	0.2	0.4	0.0	0.0	0.0	3.4	0.5	2.9
Total Del/Veh (s)	44.9	38.0	7.3	48.9	39.6	5.2	59.5	5.7	3.2	53.5	4.2	0.9

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	8.2

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.0	0.0	0.2	0.0	0.4	0.0
Total Del/Veh (s)	11.6	7.8	10.6	4.2	0.6	0.0	1.5	0.4	1.7

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	3.1	0.4	0.7	0.7

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.1	0.0	0.0	0.4	0.0	0.0	0.0
Total Del/Veh (s)	25.0	9.5	6.0	0.7	0.2	1.7	1.5	0.3	2.1

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.6	1.0	13.2	1.3	18.1	7.4	3.0

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.5	0.4	3.5	0.7	3.6	0.1	0.0	0.2
Total Del/Veh (s)	36.9	34.9	4.0	50.4	32.5	5.9	46.1	6.4	1.6	47.3	19.1	6.2

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	17.7

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	24.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	42	62	104	25	71
Average Queue (ft)	11	23	32	4	6
95th Queue (ft)	33	49	70	20	34
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	18
95th Queue (ft)	42
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	40	88	36	37	95	31	32	183	13
Average Queue (ft)	3	8	36	7	6	20	3	4	52	1
95th Queue (ft)	16	29	75	25	23	66	18	18	131	11
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0						0	
Queuing Penalty (veh)			0						0	

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	60	25	52
Average Queue (ft)	20	7	4
95th Queue (ft)	46	26	25
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	17
Average Queue (ft)	1
95th Queue (ft)	7
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	NB	SB
Directions Served	LT	R	L	L
Maximum Queue (ft)	28	86	39	15
Average Queue (ft)	2	28	7	1
95th Queue (ft)	12	59	27	8
Link Distance (ft)	278	278		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			290	300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	34	86	52	51
Average Queue (ft)	2	33	21	18
95th Queue (ft)	16	73	48	45
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	36	81	175	99	176	140	95	33	59	339	29
Average Queue (ft)	8	20	91	16	82	32	28	3	20	164	7
95th Queue (ft)	28	54	156	56	155	95	67	16	49	277	24
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)		0	21	0						3	
Queuing Penalty (veh)		2	7	0						2	

Network Summary

Network wide Queuing Penalty: 11

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	4.0	0.1	0.1	2.4	0.0	0.0	0.0	0.5	0.5	3.4
Total Del/Veh (s)	11.4	15.8	3.8	14.3	13.4	3.5	4.3	4.4	1.3	2.7	1.3	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	3.6

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.2	1.1	3.0	1.2	4.1	1.9	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	4.1	0.1	0.2	0.0	0.0	0.1	3.4	0.4	3.5
Total Del/Veh (s)	60.1	64.7	14.1	58.6	57.1	15.5	60.0	13.7	8.5	64.9	3.8	1.0

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.0

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0
Total Del/Veh (s)	10.0	3.9	10.7	2.1	1.3	0.1	3.8	1.0	0.5	1.3

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	14.1	5.4	0.9	0.6	0.8

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2		0.0	0.0	0.4	0.0	0.3	0.1
Total Del/Veh (s)	12.5	3.5	15.4	10.6		1.8	0.3	5.5	0.8	0.2	1.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.3	0.0	0.2	0.2	0.0
Total Del/Veh (s)	1.8	0.2	7.0	3.0	17.0	5.5	3.9

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.2	3.9	0.3	0.3	3.1	1.8	3.2	0.1	0.0	0.0
Total Del/Veh (s)	55.2	37.3	2.5	46.4	45.2	29.6	50.9	11.9	2.3	50.9	20.8	5.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	22.7

Total Network Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	31.0

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LT	LT	R
Maximum Queue (ft)	57	45	50	25	114	42	4
Average Queue (ft)	20	16	24	6	30	5	0
95th Queue (ft)	46	36	47	22	80	26	2
Link Distance (ft)	414		1298		784	478	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		270		270			270
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	27	32
Average Queue (ft)	1	7
95th Queue (ft)	12	26
Link Distance (ft)	1064	511
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	49	64	87	65	56	367	126	45	143	24
Average Queue (ft)	10	15	33	11	16	107	14	8	37	1
95th Queue (ft)	33	46	71	38	44	284	77	27	95	10
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0	0		1				
Queuing Penalty (veh)			0	0		1				

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	30	24	51	55
Average Queue (ft)	11	2	6	3
95th Queue (ft)	32	13	28	25
Link Distance (ft)	303	354	585	784
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	SB
Directions Served	LT	R	LTR	L
Maximum Queue (ft)	23	36	33	68
Average Queue (ft)	2	13	6	20
95th Queue (ft)	13	29	23	51
Link Distance (ft)	278	278	203	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7:

Movement	WB	WB	WB	NB	NB
Directions Served	L	T	T	L	R
Maximum Queue (ft)	57	82	84	109	89
Average Queue (ft)	14	3	3	48	36
95th Queue (ft)	42	60	61	88	67
Link Distance (ft)		384	384	345	345
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)	120				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	142	133	113	130	297	211	347	32	65	287	20
Average Queue (ft)	60	34	45	58	176	118	156	8	16	125	3
95th Queue (ft)	118	85	93	116	268	216	288	27	49	218	13
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)		0	5	9			1			1	
Queuing Penalty (veh)		2	5	6			4			0	

Network Summary

Network wide Queuing Penalty: 18

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	4.1	0.1	0.1	2.1	0.0	0.0	0.1	0.2	3.9	0.5
Total Del/Veh (s)	5.4	7.8	2.2	5.7	7.9	2.4	1.2	1.2	0.2	0.7	0.1	1.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0		0.1	0.0
Total Del/Veh (s)	1.2	1.5	2.5	0.7		2.1	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.0	0.0	4.1	0.1	0.1	0.0	0.0	0.0	2.9	0.4	3.2
Total Del/Veh (s)	37.4	29.8	6.3	39.7	31.1	2.0	43.7	5.2	3.4	39.3	3.2	0.5

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	6.5

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)		0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		2.8	6.0	1.2	0.6	0.1	0.5	0.3	0.7

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	5.8	3.2	0.4	0.3	0.5

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	8.8	3.3	2.9	6.8	15.3	2.3	2.1	0.7	0.1	1.7	0.5	0.1

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	0.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.5	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.0	0.2	4.3	1.5	6.5	2.2	1.5

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.1	0.3	0.2	3.2	0.7	3.4	0.1	0.0	0.5
Total Del/Veh (s)	46.8	42.2	2.0	55.5	45.7	11.9	50.6	5.7	1.3	62.0	13.1	4.9

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	17.6

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	22.7

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	40	57	46	19	39
Average Queue (ft)	13	15	18	2	4
95th Queue (ft)	34	37	44	12	20
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	18	39
Average Queue (ft)	1	8
95th Queue (ft)	8	29
Link Distance (ft)	1064	511
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	32	42	75	17	55	93	32	26	118	15
Average Queue (ft)	2	10	24	2	11	17	2	3	30	1
95th Queue (ft)	15	32	56	10	38	61	12	16	82	10
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0							
Queuing Penalty (veh)			0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	25	25	19
Average Queue (ft)	11	4	1
95th Queue (ft)	30	20	10
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	37
Average Queue (ft)	15
95th Queue (ft)	39
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	23	36	20	27	10
Average Queue (ft)	2	11	3	4	0
95th Queue (ft)	12	29	15	20	5
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	4	39	46	48
Average Queue (ft)	0	9	16	16
95th Queue (ft)	3	33	41	41
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	40	60	117	90	186	148	155	29	73	212	20
Average Queue (ft)	8	20	48	16	93	27	54	3	26	95	3
95th Queue (ft)	26	50	98	53	164	102	120	18	62	173	14
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			4	1						0	
Queuing Penalty (veh)			1	0						0	

Network Summary

Network wide Queuing Penalty: 2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.3	4.0	0.0	0.0	1.0	0.0	0.0	0.0	0.6	0.6	3.2
Total Del/Veh (s)	7.3	10.9	6.3	12.6	13.0	2.9	3.1	0.8	0.1	0.5	1.3	0.1

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	2.6

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	2.2	2.0	1.9	1.1	4.6	2.6	2.3

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.0	0.0	4.1	0.2	0.4	0.0	0.0	0.0	2.9	0.5	3.1
Total Del/Veh (s)	31.2	43.4	6.5	44.3	44.9	8.6	48.3	5.3	2.9	44.1	4.5	1.4

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	8.8

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0
Total Del/Veh (s)	9.8	6.4	8.1	2.7	0.5	0.0	1.4	0.8	1.5

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.0	3.0	0.4	0.0	1.0	0.8	0.8

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	11.6	15.5	24.5	18.2	9.6	0.7	0.4	1.7	2.1	0.4	4.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.7	1.1	12.6	1.2	25.2	10.7	3.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.5	0.1	3.6	0.7	3.6	0.0	0.0	0.3
Total Del/Veh (s)	36.8	37.7	4.0	46.7	34.5	9.1	45.8	5.9	1.2	46.8	18.9	7.1

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	17.6

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	26.3

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	LT
Maximum Queue (ft)	39	61	87	24	42	3
Average Queue (ft)	11	23	38	3	4	0
95th Queue (ft)	32	48	72	17	23	2
Link Distance (ft)	414		1298		784	478
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	60
Average Queue (ft)	21
95th Queue (ft)	47
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	42	47	108	45	46	91	27	29	184	33
Average Queue (ft)	7	10	38	9	6	18	2	5	52	2
95th Queue (ft)	28	34	80	31	27	60	13	19	131	17
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			1						0	
Queuing Penalty (veh)			0						0	

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	48	24	39
Average Queue (ft)	21	4	4
95th Queue (ft)	42	20	20
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	37	6
Average Queue (ft)	10	0
95th Queue (ft)	33	4
Link Distance (ft)	225	585
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	24	89	111	51	20
Average Queue (ft)	3	30	43	7	1
95th Queue (ft)	16	63	88	31	9
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	EB	EB	WB	NB	NB
Directions Served	T	R	L	L	R
Maximum Queue (ft)	4	25	80	77	68
Average Queue (ft)	0	1	30	25	23
95th Queue (ft)	3	11	66	59	60
Link Distance (ft)	659			345	345
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		300	120		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	R	L	L	T	R	L	T	R
Maximum Queue (ft)	69	55	154	96	6	175	134	100	29	52	341	37
Average Queue (ft)	16	19	79	16	0	83	44	25	4	16	157	7
95th Queue (ft)	47	47	135	52	2	149	102	69	20	41	277	25
Link Distance (ft)		384		244	244			607			3458	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		80			500	500		290	210		210
Storage Blk Time (%)			15	0							3	
Queuing Penalty (veh)			4	0							1	

Network Summary

Network wide Queuing Penalty: 6

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.6	3.9	0.1	0.0	0.0	0.0	0.0	1.1	0.5	0.6	2.2
Total Del/Veh (s)	13.0	12.9	7.1	20.6	12.8	2.7	3.9	0.9	0.2	1.3	1.8	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	3.4

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	0.9	1.3	1.0	4.6	2.1	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.4	0.0	0.0	4.1	0.4	0.1	0.0	0.0	0.0	4.2	0.6	3.1
Total Del/Veh (s)	48.1	2.3	13.3	49.1	63.2	10.2	70.3	7.3	2.8	109.5	4.1	0.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	8.5

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	19.2	5.0	8.4	2.3	0.3	0.0	1.5	1.0	1.5

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	NBT	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.3	0.7	0.7

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.2	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	26.8	18.5	23.8	14.6	5.2	0.6	0.3	2.8	1.9	0.4	4.2

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.1	0.2	0.0
Total Del/Veh (s)	2.6	1.1	7.6	1.0	18.5	8.2	2.9

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.7	0.1	3.5	0.6	3.6	0.0	0.0	0.0
Total Del/Veh (s)	51.2	41.5	3.5	52.8	46.0	21.1	45.6	7.6	1.3	64.2	30.0	7.6

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	21.7

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	27.6

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	LT
Maximum Queue (ft)	48	82	72	23	48	21
Average Queue (ft)	24	25	34	2	5	1
95th Queue (ft)	47	54	57	14	23	7
Link Distance (ft)	414		1298		784	478
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	14
95th Queue (ft)	39
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	40	20	83	47	24	306	26	21	147	23
Average Queue (ft)	8	3	44	9	3	25	2	1	48	1
95th Queue (ft)	27	13	80	27	17	120	12	9	104	8
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0			1				
Queuing Penalty (veh)			0			0				

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	47	25	23
Average Queue (ft)	21	5	2
95th Queue (ft)	42	21	13
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	22	146	128	47	25
Average Queue (ft)	2	32	35	3	3
95th Queue (ft)	11	90	75	17	15
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	55	50	58
Average Queue (ft)	21	23	12
95th Queue (ft)	47	44	39
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	R	L	L	T	R	L	T	R
Maximum Queue (ft)	66	95	207	56	9	99	60	108	28	88	440	400
Average Queue (ft)	27	22	86	13	1	58	16	39	3	27	258	22
95th Queue (ft)	53	56	140	38	5	105	44	93	18	69	416	143
Link Distance (ft)		384		244	244			607			3458	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		80			500	500		290	210		210
Storage Blk Time (%)			15								16	
Queuing Penalty (veh)			4								11	

Network Summary

Network wide Queuing Penalty: 15

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.1	3.9	0.1	0.0	0.0	0.0	0.0	0.5	0.6	0.7	3.2
Total Del/Veh (s)	15.5	17.0	5.8	19.2	13.6	1.7	4.3	1.1	0.2	1.3	1.8	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	3.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.1	0.3	0.8	4.1	2.3	1.7

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.0	0.0	4.1	0.1	0.1	0.6	0.1	1.7	3.9	0.5	2.7
Total Del/Veh (s)	43.6	33.6	4.8	40.3	41.0	10.0	28.4	4.1	1.1	77.1	5.6	0.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	8.4

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	8.1	6.2	15.3	4.7	0.6	0.0	1.6	0.0	1.9

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.5	0.3	0.0	0.3	0.8	0.7

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Total Del/Veh (s)	5.5	17.7	19.5	7.6	8.1	0.6	0.4	2.1	2.1	0.4	4.4

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.8	1.2	15.8	1.1	25.1	6.5	3.6

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.2	0.1	3.6	0.6	3.8	0.0	0.0	0.0
Total Del/Veh (s)	65.5	47.9	4.2	45.6	39.2	4.2	52.4	7.2	1.0	58.1	16.1	6.4

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	17.3

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	25.1

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	LT
Maximum Queue (ft)	66	67	70	25	66	22
Average Queue (ft)	30	21	35	1	5	1
95th Queue (ft)	56	48	62	8	27	6
Link Distance (ft)	414		1298		784	478
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	51
Average Queue (ft)	22
95th Queue (ft)	47
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (ft)	24	36	102	39	28	93	27	27	224
Average Queue (ft)	8	10	40	7	7	19	1	3	72
95th Queue (ft)	25	27	83	24	24	66	9	16	142
Link Distance (ft)		1064		520		3458			761
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100		240		240	240	
Storage Blk Time (%)			0						0
Queuing Penalty (veh)			0						0

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	47	25	29
Average Queue (ft)	20	5	3
95th Queue (ft)	44	20	17
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	23	84	63	64	28
Average Queue (ft)	2	29	33	7	1
95th Queue (ft)	11	58	63	30	10
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	55	74	72	46
Average Queue (ft)	4	33	23	12
95th Queue (ft)	24	70	56	36
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	R	L	L	T	R	L	T	R
Maximum Queue (ft)	46	108	186	102	9	198	164	66	23	114	309	23
Average Queue (ft)	16	28	97	20	0	68	25	27	2	21	144	5
95th Queue (ft)	42	69	169	55	3	140	85	67	11	63	272	19
Link Distance (ft)		384		244	244			607			3458	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		80			500	500		290	210		210
Storage Blk Time (%)		0	18	0							3	
Queuing Penalty (veh)		0	5	0							2	

Network Summary

Network wide Queuing Penalty: 7

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	4.1	0.0	0.1	2.7	0.0	0.0	0.0	0.1	0.6	3.3
Total Del/Veh (s)	15.5	11.7	6.4	10.4	11.3	2.8	4.2	1.1	0.2	0.3	1.5	0.1

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	2.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.7	2.0	2.7	0.7	4.4	2.4	2.1

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.7	0.0	0.0	3.9	0.1	0.1	0.0	0.0	0.0	3.5	0.5	2.9
Total Del/Veh (s)	49.0	40.7	4.5	39.9	37.0	2.3	39.3	4.4	2.7	65.7	5.3	0.9

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	8.3

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	60.2	5.9	9.9	6.2	1.2	0.0	1.4	0.5	1.7

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.0	2.3	0.4	0.0	0.8	0.8

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	12.7	30.8	31.5	8.4	6.8	0.8	0.3	1.7	2.1	0.7	5.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.1	1.1	15.3	1.3	35.7	16.2	4.0

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.8	0.7	0.3	3.5	0.6	3.4	0.2	0.0	0.0
Total Del/Veh (s)	36.4	32.3	4.7	41.4	35.4	14.2	62.9	6.3	2.2	53.1	21.1	8.1

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	19.6

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	28.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	25	43	51	25	49
Average Queue (ft)	11	21	29	3	4
95th Queue (ft)	31	40	51	15	26
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	50
Average Queue (ft)	17
95th Queue (ft)	42
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	20	80	38	49	53	27	45	203	27
Average Queue (ft)	4	6	30	4	7	17	4	4	69	1
95th Queue (ft)	18	20	65	20	28	50	18	21	146	9
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0							
Queuing Penalty (veh)			0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	49	25	114
Average Queue (ft)	20	7	12
95th Queue (ft)	40	25	58
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	23	153	110	28	25
Average Queue (ft)	2	39	46	9	2
95th Queue (ft)	14	102	91	28	12
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	74	74	53
Average Queue (ft)	35	28	20
95th Queue (ft)	68	58	51
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	44	43	148	92	208	170	85	28	47	459	21
Average Queue (ft)	10	14	66	20	107	66	31	7	17	169	9
95th Queue (ft)	31	37	113	58	181	138	69	24	43	307	25
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			11	1						4	
Queuing Penalty (veh)			4	2						2	

Network Summary

Network wide Queuing Penalty: 8

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.4	4.1	0.1	0.2	3.1	0.0	0.0	0.0	0.5	0.4	3.1
Total Del/Veh (s)	18.4	14.1	3.1	19.3	17.1	3.9	5.0	5.5	1.6	1.0	1.1	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	4.2

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.4	0.5	2.6	1.2	2.9	1.7

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	0.0	4.1	0.1	0.2	0.0	0.0	0.1	3.6	0.4	4.1
Total Del/Veh (s)	67.0	57.6	7.6	59.4	59.9	10.5	76.1	13.0	7.1	62.4	5.2	0.4

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.7

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Total Del/Veh (s)	17.5	3.0	11.3	2.1	1.2	0.4	1.5	0.8	0.1	1.1

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	14.1	3.6	1.1	0.7	3.8	0.7	1.0

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.4	0.0	0.0	0.1
Total Del/Veh (s)	13.5	5.1	18.5	6.5	0.2	2.1	0.7	6.9	1.1	0.0	2.7

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	2.1	0.6	8.2	3.1	20.4	5.3	4.0

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.1	4.0	0.3	0.5	3.1	2.0	3.3	0.0	0.0	0.0
Total Del/Veh (s)	70.1	38.3	2.7	51.2	48.0	29.7	50.7	11.8	2.5	51.6	26.6	6.6

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	1.4
Total Del/Veh (s)	25.0

Total Network Performance

Denied Del/Veh (s)	1.5
Total Del/Veh (s)	33.7

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	LT
Maximum Queue (ft)	50	62	94	25	92	20
Average Queue (ft)	15	16	29	10	35	1
95th Queue (ft)	40	35	61	29	75	10
Link Distance (ft)	414		1298		784	478
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	51
Average Queue (ft)	8
95th Queue (ft)	32
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	44	44	89	80	92	395	412	49	138	21
Average Queue (ft)	15	14	47	9	24	118	29	7	54	1
95th Queue (ft)	36	38	87	25	63	263	152	31	118	7
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			1			1				
Queuing Penalty (veh)			0			1				

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	25	24	51	21
Average Queue (ft)	12	1	4	1
95th Queue (ft)	31	8	24	7
Link Distance (ft)	303	354	585	784
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	29	53
Average Queue (ft)	11	2
95th Queue (ft)	32	18
Link Distance (ft)	225	585
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	SB
Directions Served	LT	R	LTR	L
Maximum Queue (ft)	46	44	86	71
Average Queue (ft)	6	16	27	24
95th Queue (ft)	25	37	55	56
Link Distance (ft)	278	278	203	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7:

Movement	EB	WB	WB	NB	NB
Directions Served	R	L	T	L	R
Maximum Queue (ft)	22	54	429	97	75
Average Queue (ft)	1	20	0	43	33
95th Queue (ft)	7	50	0	76	55
Link Distance (ft)			384	345	345
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	300	120			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	171	110	108	171	274	231	394	48	68	325	21
Average Queue (ft)	74	40	40	54	193	149	152	9	17	154	3
95th Queue (ft)	143	90	84	122	270	225	258	31	50	258	14
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)		0	3	9			1			4	
Queuing Penalty (veh)		0	3	6			5			1	

Network Summary

Network wide Queuing Penalty: 17

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	4.1	0.1	0.0	2.5	0.0	0.0	0.0	0.2	3.5	0.4
Total Del/Veh (s)	4.7	9.2	2.7	7.5	6.1	1.8	1.5	1.3	0.4	0.7	0.1	1.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.3	0.9	2.1	0.7	2.3	1.4

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.6	0.0	0.0	4.1	0.1	0.2	0.0	0.0	0.0	2.9	0.4	3.2
Total Del/Veh (s)	38.1	27.7	4.8	41.8	70.0	8.7	38.3	5.9	3.8	65.5	3.0	0.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	6.9

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)		0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		2.9	6.9	1.1	0.8	0.1	0.5	0.2	0.7

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.7	3.2	0.7	0.1	2.6	0.4	0.7

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)		0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.0
Total Del/Veh (s)		11.1	3.6	7.9	6.0	3.3	2.3	1.0	0.5	1.3	0.8	0.3

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	1.7

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.4	0.3	5.3	1.3	7.0	3.0	1.7

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.1	0.3	0.2	3.3	0.9	3.4	0.2	0.0	0.0
Total Del/Veh (s)	55.4	34.0	2.1	52.4	50.0	14.7	47.2	6.8	1.2	61.7	16.3	5.4

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	19.3

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	24.0

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	25	34	33	24	33
Average Queue (ft)	9	13	13	2	4
95th Queue (ft)	28	28	36	11	20
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	55
Average Queue (ft)	0	10
95th Queue (ft)	0	34
Link Distance (ft)	1064	511
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	32	39	84	20	36	106	32	28	96	20
Average Queue (ft)	5	8	25	2	7	25	2	3	29	1
95th Queue (ft)	21	26	64	11	26	77	16	16	76	9
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0							
Queuing Penalty (veh)			0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	25	25	20
Average Queue (ft)	8	4	1
95th Queue (ft)	26	18	12
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	29	14
Average Queue (ft)	17	1
95th Queue (ft)	40	14
Link Distance (ft)	225	585
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	18	53	63	27	15
Average Queue (ft)	1	13	24	5	1
95th Queue (ft)	10	33	46	20	6
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	45	47	30
Average Queue (ft)	8	16	15
95th Queue (ft)	32	41	36
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	61	64	125	64	188	131	162	24	76	242	20
Average Queue (ft)	16	22	47	17	94	51	55	3	26	103	5
95th Queue (ft)	44	52	101	47	162	110	123	17	62	197	17
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			4	0						1	
Queuing Penalty (veh)			1	0						0	

Network Summary

Network wide Queuing Penalty: 2

TRAFFIC IMPACT ANALYSIS

HAVILAND FIELDS

RAMSEY, MINNESOTA

Prepared for:

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OCTOBER 2023

Kimley»Horn

TRAFFIC IMPACT ANALYSIS

HAVILAND FIELDS

RAMSEY, MINNESOTA

REPORT CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



Jacob Rojer, P.E., PTOE

License No. 56767

October 16, 2023

Date

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APPENDIX

A. Exhibits

B. Turning Movement Counts

C. Site Layout Exhibit

D. SimTraffic Analysis Results

INTRODUCTION

Presbyterian Homes is proposing a new residential development on the +/- 35-acre Lord of Life Church site in Ramsey, MN. The development would include includes 303 multifamily housing (Mid-rise) units, 22 senior adult housing – single family units and 173 senior adult housing – multi-family units for a total of 498 units. The existing church will remain on site. **Exhibit 1** shows the proposed project location. All exhibits are included in **Appendix A.**

EXISTING ROADWAY CONDITIONS

The proposed development is located on the northwest corner of MN-47 and CSAH 5. The following intersections will be included in the traffic capacity analysis:

- MN-47 (St Francis Blvd) & Nowthen Blvd NW
- MN-47 (St Francis Blvd) & Sunwood Dr NW
- CSAH 5 (Nowthen Blvd) & Dysprosium St NW
- CSAH 5 (Nowthen Blvd) & Iodine St NW
- CSAH 5 (Nowthen Blvd) & Lord of Life Church Access
- CSAH 5 (Nowthen Blvd) & 146th Ave NW
- CSAH 5 (Nowthen Blvd) & Sunwood Dr
- Sunwood Dr & Cobalt St NW

The study intersection locations are shown in **Exhibit 1**.

EXISTING ROADWAYS

The following provides a detailed description of the major surrounding roadways.

MN-47 (St Francis Blvd) is a north-south, two-lane, divided highway, with a single through lane and turn lanes provided at all accesses. The MnDOT Functional Classification Map classifies MN-47 as A-Minor Connector. The MnDOT Traffic Mapping Application reports an annual average daily traffic (AADT) of 22,000 vehicles per day (vpd) in 2019 south of CSAH 5 and 12,100 vpd in 2021 north of CSAH 5. The posted speed limit is 45 mph south of CSAH 5 and 55 mph north of CSAH 5.

CSAH 5 (Nowthen Blvd) is a two-lane County Road with a single through lane in each direction and right turn lanes provided at all studied intersections. The highway is divided from MN-47 to Dysprosium St. The roadway runs in a southeast-northwest direction within the study area. The MnDOT Functional Classification Map Classifies CSAH 5 as A-Minor Expander. The MnDOT Traffic Mapping Application reports an AADT of 8,700 vpd in 2021, between MN-47 and Dysprosium St NW. The posted speed limit on CSAH 5 is 30 mph east of MN-47, and 50 mph to the west.

Sunwood Dr NW is an east-west two-lane undivided road with one travel lane in each direction. The Anoka County 2040 Functional Classification Map classifies Sunwood Dr as a local road. The MnDOT Traffic Mapping Application reports that the AADT ranges from 730 (west of MN-47) to

1,950 (east of CSAH 5). The posted speed limit on Sunwood Dr is 30 mph except west of CSAH 5, where it is 35 mph.

Dysprosium St NW is a two-lane north-south roadway with one lane in each direction. Dysprosium St NW is classified as a local Road according to the Anoka Functional Classification Map. In 2021, Dysprosium St NW had an AADT of 3100 vpd, according to the MnDOT Traffic Mapping Application. The current posted speed limit on Dysprosium St NW is 30 mph.

All other roadways are one-lane roadways with no turn lanes. They are all considered to be local roads by Anoka County, have no MnDOT count data, and have a speed limit of 30 mph.

EXISTING TRAFFIC VOLUMES

To analyze the traffic operations at the study intersection, weekday and weekend peak period turning movement counts were collected. The weekend data was collected on 1/29/2023 while the weekday data was collected on 1/27/2023 except for the intersection of CSAH 5 & Sunwood Dr which was collected on 1/30/2023. Weekday and weekend data collection occurred on a typical weekday and typical Sunday when church was in service. While January is not historically one of the higher traffic months, peak hour volumes on the study area roadways were compared to MnDOT AADTs. PM peak hour volumes were between 8% and 10% of MnDOT AADT volumes, therefore it was assumed that the traffic volumes were reasonable, and no adjustments were made. **Exhibit 2** provides a summary of the weekday AM and PM peak hour turning traffic volumes. The turning movement count data is provided in **Appendix B**.

The network AM peak hour was determined to be 7:00 AM to 8:00 AM and the network PM peak hour was determined to be 4:30 PM to 5:30 PM. The Sunday peak hours were determined to be 12:00pm to 1:00pm.

BACKGROUND GROWTH AND COMMITTED TRAFFIC

The growth rates were calculated using the forecast in the City of Ramsey's 2040 comprehensive plan. The growth rate was found to be 0.6 % for MN-47, and 0.9% for CSAH 5. These were used to forecast the peak hour traffic at intersections along these corridors in 2027 and 2040. The rest of the roadways in the study area are local/fully developed and are thus considered to have a growth rate of 0%.

Exhibit 4 shows the Opening Year No-Build (2027) turning movement volumes and **Exhibit 5** shows the Horizon Year No-Build (2040) turning movement volumes.

PEDESTRIANS AND BICYCLES

There are existing pedestrian facilities/trails on both sides of Sunwood Dr, Dysprosium Rd and CSAH 5. MN-47 has a pedestrian/bicycle path on its east side only. There are marked crosswalks at all intersections that the pedestrian paths cross, as well as push-buttons at both of the stoplight controlled intersections.

PROPOSED DEVELOPMENT

SITE TRIP GENERATION

The trip-generating potential of the proposed development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, Eleventh Edition*. Standard ITE trip rates were used to develop the anticipated total trips generated by the site.

The average rate for ITE Land Use Code (LUC) 221 (Multifamily Housing), ITE LUC 251 (Senior Adult Housing – Single-Family), and ITE LUC 252 (Senior Adult Housing – Multi-Family) were used to calculate the trip generation potential of the site. **Table 1** provides a summary of the number of trips anticipated to be generated during the weekday AM and PM peak hours, including internal capture and pass-by reduction. As shown, the site is anticipated to generate 153 new trips during the AM peak hour (40 entering, 113 exiting), 168 new trips during the PM peak hour (100 entering, 68 exiting), and 161 new trips in the Sunday peak hour (86 entering, 75 exiting).

Table 1 – Site Trip Generation

Land Use Description	Intensity	Daily	AM Peak Hour			SUN Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Multifamily Housing	303 Units	1,376	26	86	112	53	44	97	72	46	118
Senior Adult Housing – Single-Family (Twin homes)	22 Units	94	2	4	6	3	2	5	4	3	7
Senior Adult Housing – Multi-Family	173 Units	561	12	23	35	30	29	59	24	19	43
Total Vehicle Trips		1,849	40	113	153	86	75	161	100	68	168

For this analysis, it was assumed that all site trips would be new trips and no mode split reductions for trips via transit, bike or walking were used.

SITE TRIP DISTRIBUTION

The site trips were distributed to the adjacent roadways based on the current traffic patterns in the area and a general assessment of the major regional roadways surrounding the study area. In general, the following global trip distribution was assumed for the development:

- 70% to/from the south on MN-47
- 15% to/from the north on MN-47
- 10% to/from the north on CSAH 5
- 5% to/from the south on Dysprosium Road NW

The trip distribution for the primary site-generated traffic is shown in **Exhibit 5.**

SITE ACCESSES AND ASSIGNMENT

The site will include three (3) accesses. The northern access will be via Cobalt St to the north. The Cobalt St access is expected to be a gated access, because of this, no traffic is assigned to the access in this analysis. The north access along CSAH 5 which leads to the north of the parking lot for the residential and church. All of the residential parking garages would be located closer to the access further to the south on CSAH 5, it is expected that most of the traffic to this access would come from the north along CSAH 5, with only a small percentage of the traffic originating from MN-47 choosing this access. The third access is across from Iodine St on CSAH 5, this access is expected to be the busiest of the three. The two accesses

on CSAH 5 are in the same locations as the existing accesses and the Cobalt St access would be an extension of the current dead end road. Based on discussions with Anoka County, it is anticipated that the north access on CASH 5 will be limited to right in/right out.

The proposed site plan is included in **Appendix C**. The primary site trips were assigned to the study intersections as shown in **Exhibit 6**. The total site-generated trips are depicted in **Exhibit 7.**

CAPACITY ANALYSIS

A capacity analysis was performed to quantify the delay and level of service at the study intersections during the weekday AM and PM peak hours. The capacity analysis was performed using Synchro/SimTraffic. Existing signal timings used in the analysis were provided by MnDOT.

The capacity of an intersection quantifies its ability to accommodate traffic volumes and is measured in average delay per vehicle. It is expressed in terms of level of service (LOS) which ranges from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM), quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 2**. The range of control delay for each rating (as detailed in the HCM) is also shown in Table 2. Because signalized intersections are expected to carry a larger volume of vehicles and stopping is required during red time, higher delays are tolerated for the corresponding LOS ratings.

Table 2 – Level of Service Information

Level of Service	Average Control Delay (seconds/vehicle)	Description
A	0-10 (Unsignalized); 0-10 (Signalized)	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	>10-15 (Unsignalized); >10-20 (Signalized)	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	>15-25 (Unsignalized); >20-35 (Signalized)	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	>25-35 (Unsignalized); >35-55 (Signalized)	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	>35-50 (Unsignalized); >55-80 (Signalized)	High control delay; average travel speed no more than 33 percent of free flow speed.
F	>50 (Unsignalized); >80 (Signalized)	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

Traffic models for each scenario were developed using Synchro/SimTraffic, and the delay and queueing were evaluated for each scenario. The scenarios that were analyzed are as follows:

- Existing Year (2023)
- Opening Year (2027) No-Build
- Opening Year (2027) Build

- Design Year (2040) No-Build
- Design Year (2040) Build

EXISTING YEAR (2023) CONDITIONS

A capacity analysis was performed for Existing Year (2023) conditions in order to develop baseline operating conditions for the current year. The analysis was performed using Synchro/SimTraffic. The three site accesses were modeled with the existing geometry and intersection control. The four study intersections were also modeled with the existing geometry and intersection control as summarized in Exhibit 2. Signal timings were obtained from MnDOT. The traffic volumes are provided in Exhibit 3.

The results of the analysis are provided in **Table 3**.

Table 3 – Existing Year (2023) Intersection Analysis

Lord of Life SimTraffic Delay Summary - Existing AM Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	Delay (sec/veh)	LOS	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	13.7	B	11.0	B	6.9	A	13.9	B
		WB	13.9	B	11.1	B	1.5	A		
		NB	2.0	A	0.8	A	0.2	A		
		SB	-	-	1.3	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	2.1	A	2.4	A	4.5	B
		WB	1.7	A	0.6	A	0.0	A		
		NB	4.5	A	-	-	2.3	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	44.8	D	45.0	D	6.3	A	7.2	A
		WB	40.1	D	41.8	D	5.8	A		
		NB	51.8	D	5.8	A	3.5	A		
		SB	63.6	E	3.5	A	1.6	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	5.1	A	0.0	A	10.0	A	10.0	A
		WB	2.2	A	-	-	-	-		
		NB	0.4	A	0.1	A	1.3	A		
		SB	-	-	0.4	A	1.4	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	2.3	A
		WB	-	-	-	-	2.3	A		
		NB	-	-	0.4	A	-	-		
		SB	-	-	0.7	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	10.1	B	-	-	6.3	A	10.1	B
		WB	-	-	-	-	-	-		
		NB	6.1	A	0.7	A	0.2	A		
		SB	0.7	A	1.3	A	0.2	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.2	A	0.8	A	15.2	C
		WB	11.3	B	1.3	A	-	-		
		NB	15.2	C	-	-	5.1	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	23.2	C	34.5	C	3.5	A	16.8	B
		WB	42.1	D	32.8	C	6.6	A		
		NB	46.3	D	6.6	A	1.4	A		
		SB	45.7	D	18.5	B	6.8	A		

Table 3 – Existing Year (2023) Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - Existing PM Peak Hour										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	21.0	C	9.0	A	2.2	A	28.6	D
		WB	28.6	D	15.8	C	1.4	A		
		NB	1.8	A	2.8	A	1.7	A		
		SB	1.2	A	1.1	A	0.3	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	0.0	A	0.0	A	4.5	A
		WB	0.0	A	0.0	A	0.0	A		
		NB	1.1	A	0.3	A	0.7	A		
		SB	4.5	A	2.4	A	1.8	A		
MN-47 & Sunwood Drive	Signal	EB	49.3	D	0.2	A	3.4	A	13.1	B
		WB	59.1	E	72.1	E	0.0	A		
		NB	31.3	C	13.4	B	7.7	A		
		SB	20.1	C	2.9	A	0.0	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	4.6	A	0.0	A	-	-	4.6	A
		WB	-	-	0.0	A	-	-		
		NB	0.3	A	0.5	A	0.0	A		
		SB	-	-	0.5	A	0.1	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	2.4	A
		WB	-	-	-	-	2.4	A		
		NB	-	-	0.4	A	-	-		
		SB	-	-	0.4	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	40.2	E	-	-	2.8	A	40.2	E
		WB	-	-	-	-	-	-		
		NB	-	-	1.3	A	0.0	A		
		SB	7.9	A	0.5	A	-	-		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.4	A	0.3	A	8.4	A
		WB	3.4	A	1.9	A	-	-		
		NB	8.4	A	-	-	3.6	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	58.1	E	26.8	C	1.6	A	20.4	C
		WB	58.3	E	55.6	E	39.3	D		
		NB	40.2	D	9.6	A	2.2	A		
		SB	34.3	C	13.7	B	12.9	B		

Table 3 – Existing Year (2023) Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - Existing Sunday Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	5.2	A	7.2	A	2.5	A	8.5	A
		WB	5.5	A	8.5	A	1.5	A		
		NB	1.4	A	1.2	A	0.1	A		
		SB	-	-	0.8	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.4	A	1.6	A	2.1	A
		WB	1.9	A	1.1	A	0.0	A		
		NB	-	-	-	-	2.1	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	36.6	D	16.1	B	5.6	A	7.1	A
		WB	44.1	D	36.8	D	5.7	A		
		NB	30.1	C	5.7	A	3.2	A		
		SB	31.5	C	2.9	A	0.1	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	4.3	A	0.0	A	2.5	A	4.3	A
		WB	4.2	A	0.0	A	-	-		
		NB	0.4	A	0.6	A	0.1	A		
		SB	-	-	0.4	A	0.6	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	2.6	A
		WB	6.3	A	-	-	2.6	A		
		NB	-	-	0.5	A	-	-		
		SB	-	-	0.3	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	-	-	6.1	A	2.8	A	6.1	A
		WB	4.8	A	5.7	A	2.5	A		
		NB	1.7	A	0.7	A	0.1	A		
		SB	3.2	A	0.6	A	0.1	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.0	A	0.1	A	8.4	A
		WB	4.4	A	1.4	A	-	-		
		NB	8.4	A	-	-	2.6	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	64.2	E	41.1	D	2.0	A	17.3	B
		WB	51.4	D	37.6	D	21.7	C		
		NB	46.7	D	5.2	A	1.4	A		
		SB	68.5	E	14.6	B	3.3	A		

Based on the Existing Year (2023) capacity analysis, the study intersections are anticipated to operate at LOS B or better in the morning and C or better at the evening peak hour. The SimTraffic reports are provided in **Appendix D.** All 95th percentile queues are anticipated to remain within their respective storage bays. All individual movements are anticipated to operate at LOS D or better, except for the following:

During the morning peak hours, the northbound through movement of MN-47 operates at LOS E. This is likely due to the signal timing favoring the southbound through/left movement which sees around four times as much traffic at this time. At the same intersection, the westbound left and through movements are also operating at LOS E in the PM peak hours. Finally, the eastbound left and southbound left intersections operate at LOS E in the Sunday peak, these movements are low volume and are not anticipated to have queuing issues.

All movements at stop-controlled intersections operate at LOS D or better except the eastbound left movement at CSAH 5 & Iodine St which operates at LOS E. Queues for the movement are minimal and delays are expected for minor side street movements along a corridor like CSAH 5.

OPENING YEAR (2027) NO-BUILD CONDITIONS

A capacity analysis was performed for Opening Year (2027) No-Build conditions in order to develop baseline operating conditions for the opening year. The analysis was performed using Synchro/SimTraffic. The three site accesses were modeled with the existing geometry and intersection control. The four study intersections were also modeled with the existing geometry and intersection control. The traffic volumes are provided in **Exhibit 4**. The results of the analysis are provided in **Table 4**.

Table 4 – Opening Year (2027) No-Build Intersection Analysis

Lord of Life SimTraffic Delay Summary - 2027 AM No Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	8.5	A	11.6	B	6.2	A	11.8	B
		WB	11.3	B	11.8	B	2.6	A		
		NB	4.4	A	0.8	A	0.2	A		
		SB	0.7	A	1.3	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	2.3	A	1.5	A	4.4	A
		WB	-	-	1.0	A	0.0	A		
		NB	4.4	A	-	-	2.2	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	46.6	D	50.1	D	7.6	A	8.7	A
		WB	44.2	D	48.4	D	5.4	A		
		NB	38.8	D	5.4	A	3.1	A		
		SB	50.9	D	4.3	A	1.1	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	5.1	A	0.0	A	9.8	A	9.8	A
		WB	3.2	A	-	-	-	-		
		NB	0.6	A	0.0	A	1.3	A		
		SB	-	-	0.4	A	1.5	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	1.4	A
		WB	-	-	-	-	1.4	A		
		NB	-	-	0.3	A	-	-		
		SB	-	-	0.7	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	8.9	A	-	-	7.5	A	8.9	A
		WB	-	-	-	-	-	-		
		NB	6.0	A	0.6	A	0.2	A		
		SB	1.8	A	1.3	A	0.2	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.2	A	0.8	A	14.1	B
		WB	8.8	A	1.2	A	-	-		
		NB	14.1	B	-	-	6.0	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	39.0	D	37.0	D	3.6	A	17.1	B
		WB	48.5	D	34.9	C	8.5	A		
		NB	47.3	D	6.0	A	1.6	A		
		SB	44.0	D	18.2	B	6.4	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 4 – Opening Year (2027) No-Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary – 2027 No Build PM Peak Hour										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	20.2	C	20.0	C	6.9	A	20.2	C
		WB	19.5	C	5.6	A	-	-		
		NB	3.5	A	4.3	A	1.3	A		
		SB	3.9	A	1.0	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	2.0	A	1.3	A	2.0	A
		WB	0.0	A	0.0	A	0.0	A		
		NB	-	-	-	-	2.0	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	16.7	B	74.5	E	3.9	A	12.7	B
		WB	66.3	E	0.0	A	3.2	A		
		NB	-	-	13.8	B	6.9	A		
		SB	35.3	D	1.6	A	-	-		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	6.7	A	0.0	A	3.3	A	14.5	B
		WB	14.5	B	0.0	A	-	-		
		NB	0.6	A	1.6	A	-	-		
		SB	0.2	A	0.6	A	-	-		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	0.8	A
		WB	-	-	-	-	-	-		
		NB	-	-	0.8	A	-	-		
		SB	-	-	0.6	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	-	-	-	-	5.0	A	7.0	A
		WB	-	-	-	-	5.5	A		
		NB	-	-	1.7	A	0.8	A		
		SB	7.0	A	0.8	A	-	-		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.8	A	0.3	A	18.7	C
		WB	3.0	A	2.3	A	-	-		
		NB	18.7	C	-	-	3.7	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	59.2	E	42.2	D	2.2	A	21.5	C
		WB	24.6	C	53.4	D	27.1	C		
		NB	40.1	D	11.6	B	2.0	A		
		SB	42.2	D	20.6	C	2.2	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Lord of Life SimTraffic Delay Summary - Sunday 2027 No Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	4.5	A	7.8	A	1.6	A	7.8	A
		WB	6.4	A	6.5	A	1.4	A		
		NB	1.7	A	1.3	A	0.5	A		
		SB	-	-	0.6	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.3	A	1.3	A	2.0	A
		WB	2.0	A	0.9	A	0.0	A		
		NB	-	-	-	-	2.0	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	76.4	E	48.8	D	4.0	A	7.0	A
		WB	36.0	D	57.2	E	3.1	A		
		NB	45.6	D	5.4	A	2.6	A		
		SB	29.3	C	3.7	A	0.8	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	-	-	0.0	A	2.7	A	4.2	A
		WB	4.2	A	0.0	A	-	-		
		NB	0.5	A	0.8	A	0.1	A		
		SB	-	-	0.4	A	0.1	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	5.5	A
		WB	5.5	A	-	-	3.5	A		
		NB	-	-	0.6	A	-	-		
		SB	-	-	0.2	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	-	-	9.8	A	2.5	A	9.8	A
		WB	4.4	A	-	-	-	-		
		NB	1.6	A	0.9	A	0.0	A		
		SB	2.7	A	0.4	A	0.0	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.0	A	0.2	A	4.6	A
		WB	4.1	A	1.9	A	-	-		
		NB	4.6	A	-	-	1.6	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	58.6	E	32.2	C	1.7	A	20.0	B
		WB	55.0	D	43.2	D	11.1	B		
		NB	55.5	E	7.5	A	1.4	A		
		SB	56.4	E	15.1	B	6.0	A		

With the addition of background traffic growth, the study area intersections are projected to experience very little change in delay with the majority of movements and approaches projected to operate at the same LOS as compared to existing conditions. All intersections operate at the same level of service as the existing conditions and no movement has significantly worsened delay.

The SimTraffic reports are provided in **Appendix D.** All 95th percentile queues are anticipated to remain within their respective storage bays.

OPENING YEAR (2027) BUILD CONDITIONS

Opening Year (2027) Build conditions were analyzed to determine any traffic impacts from the addition of the site traffic to the study intersections. The site accesses were modeled as side street stop control. Opening Year (2027) Build turning movement volumes were developed by adding the site trips in **Exhibit 8** to the Opening Year (2027) No-Build turning movement volumes in **Exhibit 4**. The Opening Year (2027) Build turning movement volumes are shown in **Exhibit 8**. The results of the analysis are provided in **Table 5**.

Table 5 – Opening Year (2027) Build Intersection Analysis

Lord of Life SimTraffic Delay Summary - 2027 Build AM Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	9.9	A	12.4	B	5.0	A	12.8	B
		WB	12.8	B	12.2	B	3.0	A		
		NB	4.4	A	0.8	A	0.1	A		
		SB	1.5	A	1.4	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	2.0	A	1.7	A	4.2	A
		WB	0.0	A	0.9	A	0.0	A		
		NB	4.2	A	-	-	2.4	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Road	Signal	EB	99.8	F	41.2	D	5.4	A	7.4	A
		WB	43.9	D	47.3	D	3.5	A		
		NB	53.0	D	5.0	A	2.9	A		
		SB	42.1	D	3.6	A	0.6	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	14.8	B	0.0	A	5.4	A	14.8	B
		WB	9.3	A	0.0	A	-	-		
		NB	2.9	A	0.6	A	0.0	A		
		SB	-	-	1.3	A	0.5	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	3.0	A
		WB	-	-	-	-	3.0	A		
		NB	-	-	0.4	A	0.1	A		
		SB	-	-	0.7	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	15.4	C	-	-	17.6	C	26.3	D
		WB	26.3	D	-	-	7.1	A		
		NB	5.7	A	0.7	A	0.4	A		
		SB	2.1	A	2.1	A	0.3	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.8	A	1.2	A	22.8	C
		WB	12.6	B	1.2	A	-	-		
		NB	22.8	C	-	-	7.4	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	38.9	D	34.7	C	4.0	A	16.9	B
		WB	49.6	D	30.7	C	5.0	A		
		NB	45.3	D	5.8	A	1.1	A		
		SB	47.2	D	16.8	B	6.3	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 5 – Opening Year (2027) Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - 2027 Build PM Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	13.4	B	13.4	B	3.2	A	13.8	B
		WB	13.8	B	13.2	B	3.6	A		
		NB	4.0	A	3.7	A	1.1	A		
		SB	2.3	A	1.3	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.2	A	1.5	A	4.0	A
		WB	3.0	A	1.4	A	0.0	A		
		NB	4.0	A	-	-	2.2	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Road	Signal	EB	59.9	E	62.9	E	10.5	B	15.8	B
		WB	59.2	E	51.6	D	12.2	B		
		NB	66.7	E	16.4	B	8.9	A		
		SB	62.1	E	3.6	A	0.4	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	14.0	B	0.0	A	4.1	A	14.0	B
		WB	9.4	A	0.0	A	-	-		
		NB	2.6	A	1.4	A	0.2	A		
		SB	2.5	A	0.9	A	0.3	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	3.6	A
		WB	-	-	-	-	3.6	A		
		NB	-	-	1.0	A	0.3	A		
		SB	-	-	0.5	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	14.4	B	-	-	4.8	A	22.1	C
		WB	22.1	C	-	-	9.4	A		
		NB	1.9	A	1.6	A	0.9	A		
		SB	5.7	A	1.0	A	0.1	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.9	A	0.4	A	17.8	C
		WB	7.6	A	2.2	A	-	-		
		NB	17.8	C	-	-	4.6	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	56.7	E	42.5	D	2.4	A	22.5	C
		WB	52.8	D	48.0	D	23.4	C		
		NB	43.9	D	10.2	B	2.0	A		
		SB	61.5	E	23.2	C	6.0	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Lord of Life SimTraffic Delay Summary - 2027 Build Sunday Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	4.5	A	7.1	A	2.4	A	7.9	A
		WB	5.4	A	7.9	A	1.4	A		
		NB	1.5	A	1.0	A	0.3	A		
		SB	-	-	0.7	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.4	A	1.2	A	2.7	A
		WB	2.7	A	0.7	A	0.0	A		
		NB	-	-	-	-	2.1	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Road	Signal	EB	44.1	D	20.8	C	5.5	A	6.2	A
		WB	42.7	D	33.2	C	5.6	A		
		NB	40.0	D	5.5	A	3.5	A		
		SB	45.2	D	2.6	A	0.6	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	6.4	A	0.0	A	2.7	A	6.4	A
		WB	5.5	A	0.0	A	-	-		
		NB	1.5	A	0.8	A	0.1	A		
		SB	-	-	0.5	A	0.1	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	3.3	A
		WB	-	-	-	-	3.3	A		
		NB	-	-	0.5	A	0.1	A		
		SB	-	-	0.2	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	5.2	A	-	-	14.7	B	14.7	B
		WB	3.0	A	-	-	7.9	A		
		NB	5.1	A	3.7	A	2.5	A		
		SB	0.8	A	0.8	A	1.1	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.2	A	0.4	A	7.4	A
		WB	5.3	A	1.3	A	-	-		
		NB	7.4	A	-	-	3.1	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	52.3	D	33.3	C	2.1	A	19.4	B
		WB	53.4	D	47.2	D	10.5	B		
		NB	56.7	E	6.4	A	1.6	A		
		SB	62.4	E	12.1	B	4.1	A		

With the addition of site-generated traffic, the study area intersections are projected to experience very little change in delay with all of the intersections and almost all movements operating at the same level of service. The eastbound left turn movement at MN-47 & Sunwood Road is anticipated to operate at LOS F during the AM peak hours. This movement has a very low volume of 4 vehicles in the AM peak hour, so the performance of this movement is of little consequence. Various other left turn movements are shown to operate at LOS E during the PM and Sunday peak hours. It is accepted that turning movements along MN-

47 will see somewhat higher delay as the road has very high traffic during the peak hours and none of these turning movements operate with a high enough level of delay to be considered a concern. All intersections and movements are anticipated to operate within acceptable conditions and all 95th percentile queues are anticipated to remain within their respective storage bays.

While the main site access at Iodine Street/site access & CSAH 5 is anticipated to operate acceptably and currently provides turn lanes on CSAH 5. Anoka County has expressed a desire to eliminate the “trap lane” scenario. Currently the outside northwest bound lane on CSAH 5 becomes the right turn lane into the site access, forcing vehicles that are going straight to merge into the other through lane. It is recommended to explore options to restripe the northwest bound approach to have the merge occur before the intersection and have a dedicated northwest bound right turn lane into the site access.

The SimTraffic reports are provided in **Appendix D**.

HORIZON YEAR (2040) NO-BUILD CONDITIONS

A capacity analysis was performed for Horizon Year (2040) No-Build conditions in order to develop baseline operating conditions for the design year. The two site accesses were modeled with the existing geometry and intersection control. The traffic volumes are provided in Exhibit 5. The results of the analysis are provided in **Table 6.**

Table 6 – Horizon Year (2040) No-Build Intersection Analysis

Lord of Life SimTraffic Delay Summary - 2040 AM No Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	13.6	B	12.3	B	7.6	A	15.4	C
		WB	13.6	B	15.4	C	2.1	A		
		NB	5.0	A	1.2	A	0.2	A		
		SB	0.5	A	1.4	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.8	A	1.9	A	4.2	A
		WB	-	-	1.1	A	0.0	A		
		NB	4.2	A	-	-	2.4	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	44.9	D	38.0	D	7.3	A	8.2	A
		WB	48.9	D	39.6	D	5.2	A		
		NB	59.5	E	5.7	A	3.2	A		
		SB	53.5	D	4.2	A	0.9	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	7.8	A	0.0	A	10.6	B	10.6	B
		WB	4.2	A	-	-	-	-		
		NB	0.6	A	0.0	A	1.5	A		
		SB	-	-	0.4	A	1.7	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	3.1	A
		WB	-	-	-	-	3.1	A		
		NB	-	-	0.4	A	-	-		
		SB	-	-	0.7	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	25.0	C	-	-	9.5	A	25.0	C
		WB	-	-	-	-	-	-		
		NB	6.0	A	0.7	A	0.2	A		
		SB	1.7	A	1.5	A	0.3	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.6	A	1.0	A	18.1	C
		WB	13.2	B	1.3	A	-	-		
		NB	18.1	C	-	-	7.4	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	36.9	D	34.9	C	4.0	A	17.7	B
		WB	50.4	D	32.5	C	5.9	A		
		NB	46.1	D	6.4	A	1.6	A		
		SB	47.3	D	19.1	B	6.2	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 6 – Horizon Year (2040) No-Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - 2040 PM No Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	11.4	B	15.8	C	3.8	A	15.8	C
		WB	14.3	B	13.4	B	3.5	A		
		NB	4.3	A	4.4	A	1.3	A		
		SB	2.7	A	1.3	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.2	A	1.1	A	4.1	A
		WB	3.0	A	1.2	A	0.0	A		
		NB	4.1	A	-	-	1.9	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	60.1	E	64.7	E	14.1	B	14.0	B
		WB	58.6	E	57.1	E	15.5	B		
		NB	60.0	E	13.7	B	8.5	A		
		SB	64.9	E	3.8	A	1.0	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	3.9	A	0.0	A	10.7	B	10.7	B
		WB	2.1	A	-	-	-	-		
		NB	1.3	A	0.1	A	3.8	A		
		SB	1.0	A	0.5	A	1.3	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	14.1	B
		WB	14.1	B	-	-	5.4	A		
		NB	-	-	0.9	A	-	-		
		SB	-	-	0.6	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	12.5	B	-	-	3.5	A	15.4	C
		WB	15.4	C	-	-	10.6	B		
		NB	-	-	1.8	A	0.3	A		
		SB	5.5	A	0.8	A	0.2	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.8	A	0.2	A	17.0	C
		WB	7.0	A	3.0	A	-	-		
		NB	17.0	C	-	-	5.5	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	55.2	E	37.3	D	2.5	A	22.7	C
		WB	46.4	D	45.2	D	29.6	C		
		NB	50.9	D	11.9	B	2.3	A		
		SB	50.9	D	20.8	C	5.3	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Lord of Life SimTraffic Delay Summary - 2040 SUN No Build Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	5.4	A	7.8	A	2.2	A	7.8	A
		WB	5.7	A	7.9	A	2.4	A		
		NB	1.2	A	1.2	A	0.2	A		
		SB	-	-	0.7	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.2	A	1.5	A	2.5	A
		WB	2.5	A	0.7	A	0.0	A		
		NB	2.1	A	-	-	1.6	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Drive	Signal	EB	37.4	D	29.8	C	6.3	A	6.5	A
		WB	39.7	D	31.1	C	2.0	A		
		NB	43.7	D	5.2	A	3.4	A		
		SB	39.3	D	3.2	A	0.5	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	2.8	A	0.0	A	6.0	A	6.0	A
		WB	1.2	A	-	-	-	-		
		NB	0.6	A	0.1	A	0.5	A		
		SB	-	-	0.3	A	0.7	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	5.8	A
		WB	5.8	A	-	-	3.2	A		
		NB	-	-	0.4	A	-	-		
		SB	-	-	0.3	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	8.8	A	3.3	A	2.9	A	15.3	C
		WB	6.8	A	15.3	C	2.3	A		
		NB	2.1	A	0.7	A	0.1	A		
		SB	1.7	A	0.5	A	0.1	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.0	A	0.2	A	6.5	A
		WB	4.3	A	1.5	A	-	-		
		NB	6.5	A	-	-	2.2	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	46.8	D	42.2	D	2.0	A	17.6	B
		WB	55.5	E	45.7	D	11.9	B		
		NB	50.6	D	5.7	A	1.3	A		
		SB	62.0	E	13.1	B	4.9	A		

With additional background traffic growth, the study area intersections are projected to experience some change in delay, with some of movements and approaches projected to operate at a lower LOS as compared to the Opening Year (2027) No-Build Conditions. The network is expected to need new signal timings in order to operate at an acceptable level of service. Specifically, the stoplight at MN-47 & Sunwood Drive may need protected left turn phases in order for the left turn movements to operate at a LOS of D or better.

The SimTraffic reports are provided in **Appendix D**.

HORIZON YEAR (2040) BUILD CONDITIONS

The Horizon Year (2040) Build traffic volumes were developed from the addition of the Horizon Year (2040) No-Build volumes in Exhibit 5 and the Site Trips in Exhibit 7. **Exhibit 9** shows the Horizon Year (2040) Build turning movement volumes. The site accesses were modeled as side street stop control. The results of the analysis are provided in **Table 7**.

Table 7 – Horizon Year (2040) Build Intersection Analysis

Lord of Life SimTraffic Delay Summary - 2040 Build AM Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	12.1	B	14.3	B	7.9	A	14.0	B
		WB	14.0	B	14.2	B	2.8	A		
		NB	5.1	A	1.1	A	0.4	A		
		SB	3.4	A	1.5	A	0.2	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	2.0	A	1.6	A	4.4	A
		WB	0.0	A	1.0	A	0.0	A		
		NB	4.4	A	-	-	2.2	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Road	Signal	EB	67.8	E	37.3	D	8.7	A	7.6	A
		WB	47.1	D	46.2	D	3.6	A		
		NB	43.1	D	5.7	A	3.0	A		
		SB	56.5	E	3.6	A	0.8	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	11.8	B	0.0	A	6.9	A	13.6	B
		WB	13.6	B	0.0	A	-	-		
		NB	5.9	A	0.7	A	0.1	A		
		SB	-	-	1.6	A	0.7	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	3.3	A
		WB	-	-	-	-	3.3	A		
		NB	-	-	0.5	A	0.2	A		
		SB	-	-	0.9	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	14.7	B	-	-	25.5	D	45.0	E
		WB	45.0	E	-	-	28.0	D		
		NB	7.7	A	0.8	A	0.3	A		
		SB	1.9	A	2.3	A	0.4	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	3.1	A	1.3	A	33.9	D
		WB	15.7	C	1.2	A	-	-		
		NB	33.9	D	-	-	9.0	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	38.0	D	33.7	C	4.5	A	18.7	B
		WB	40.0	D	31.4	C	8.2	A		
		NB	56.7	E	6.7	A	1.1	A		
		SB	48.5	D	20.6	C	6.2	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 7 – Design Year (2040) Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - 2040 Build PM Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	16.0	C	14.5	B	4.5	A	18.8	C
		WB	18.8	C	16.2	C	4.7	A		
		NB	5.0	A	4.4	A	1.1	A		
		SB	2.5	A	1.4	A	0.3	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.3	A	0.9	A	4.7	A
		WB	3.0	A	1.1	A	0.0	A		
		NB	4.7	A	-	-	2.2	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Road	Signal	EB	54.6	D	52.0	D	11.5	B	14.4	B
		WB	56.3	E	55.9	E	13.5	B		
		NB	69.7	E	14.3	B	8.5	A		
		SB	72.4	E	4.1	A	0.6	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	8.5	A	0.0	A	3.4	A	16.1	C
		WB	16.1	C	0.0	A	-	-		
		NB	2.9	A	1.5	A	0.2	A		
		SB	1.2	A	1.0	A	0.4	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	9.8	A
		WB	-	-	-	-	4.4	A		
		NB	-	-	1.0	A	0.3	A		
		SB	-	-	0.6	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	14.3	B	-	-	4.6	A	26.3	D
		WB	26.3	D	-	-	18.0	C		
		NB	-	-	2.1	A	0.8	A		
		SB	6.5	A	1.1	A	0.3	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	2.0	A	0.4	A	21.4	C
		WB	7.9	A	2.6	A	-	-		
		NB	21.4	C	-	-	6.2	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	56.2	E	38.4	D	2.6	A	23.4	C
		WB	50.3	D	45.1	D	23.9	C		
		NB	46.9	D	12.4	B	2.1	A		
		SB	56.4	E	23.9	C	7.3	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

Table 7 – Design Year (2040) Build Intersection Analysis (Cont.)

Lord of Life SimTraffic Delay Summary - 2040 Build Sunday Peak Traffic										
Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
CSAH 5 & Sunwood Drive	Minor Road Stop	EB	5.0	A	8.0	A	2.3	A	8.0	A
		WB	5.9	A	6.4	A	3.0	A		
		NB	1.7	A	1.3	A	0.4	A		
		SB	-	-	0.7	A	0.1	A		
Sunwood Drive & Cobalt Street	Minor Road Stop	EB	0.0	A	1.2	A	1.0	A	2.0	A
		WB	1.9	A	0.5	A	0.0	A		
		NB	-	-	-	-	2.0	A		
		SB	-	-	-	-	-	-		
MN-47 & Sunwood Road	Signal	EB	47.4	D	44.1	D	6.6	A	6.5	A
		WB	39.8	D	40.7	D	3.6	A		
		NB	44.9	D	5.6	A	3.6	A		
		SB	60.0	E	2.9	A	0.6	A		
CSAH 5 & 146th Avenue	Minor Road Stop	EB	-	-	0.0	A	2.9	A	5.7	A
		WB	5.7	A	0.0	A	-	-		
		NB	1.1	A	0.8	A	0.1	A		
		SB	-	-	0.5	A	0.1	A		
CSAH 5 & Lord of Life Access	Minor Road Stop	EB	-	-	-	-	-	-	2.9	A
		WB	-	-	-	-	2.9	A		
		NB	-	-	0.6	A	0.0	A		
		SB	-	-	0.3	A	-	-		
CSAH 5 & Iodine Street	Minor Road Stop	EB	7.0	A	9.4	A	4.1	A	9.4	A
		WB	8.3	A	6.1	A	3.6	A		
		NB	2.0	A	0.9	A	0.7	A		
		SB	1.3	A	0.8	A	0.1	A		
CSAH 5 & Dysprosium Street	Minor Road Stop	EB	-	-	1.5	A	0.4	A	8.4	A
		WB	5.2	A	1.3	A	-	-		
		NB	8.4	A	-	-	3.2	A		
		SB	-	-	-	-	-	-		
MN-47 & CSAH 5	Signal	EB	52.1	D	34.4	C	2.1	A	19.1	B
		WB	53.1	D	48.3	D	11.5	B		
		NB	48.8	D	6.8	A	1.3	A		
		SB	64.1	E	16.4	B	4.7	A		

For Side Street Stop intersections, the worst individual movement was reported for the overall intersection LOS.

With additional site traffic and background traffic growth, the study area intersections are projected to experience little change in delay, with few of movements and approaches projected to operate at a lower LOS as compared to Opening Year (2027) Build Conditions. The network is not expected to need significant mitigations along the corridor in order to operate at acceptable levels. Some minor changes at the two

signal-controlled intersections might be necessary, especially regarding timing. The signal timings were optimized when the 2040 builds were run but the phasing and cycle length were unchanged.

Some of the left-turn movements are anticipated to see an increase in delay due to the site traffic with a few operating at LOS E. No individual movement is anticipated to operate at LOS F and the movements that operate at LOS E generally saw only a modest increase in delay as a result of the added site traffic. The only intersection to operate at a LOS lower than D is the intersection of CSAH 5 & Iodine Street, specifically the westbound left turn movement which is primarily site traffic exiting the development. This level of delay is expected considering the high number of vehicles traveling southbound along CSAH 5 in the AM and is not of high enough concern to justify any major mitigation changes. Traffic patterns at this intersection should be observed in the future in case the traffic generated by the development is higher than estimated.

The project could also exacerbate the aforementioned issue with the left turns at the MN-47 & Sunwood Dr intersection, since these movements show higher delays and in some cases LOS when compared to the 2040 No-Build Scenario.

The SimTraffic reports are provided in **Appendix D**.

TURN LANE WARRANT AT NORTH SITE ACCESS

While the operations at the north site access are acceptable in all analysis scenarios, turn lane warrants were analyzed for the intersection in the build condition as the access is proposed to be converted from an exit only to right in/right out. The necessity of northbound right turn lane at CSAH 5 and the north site access was analyzed using NCHRP Report 457 – Evaluating Intersection Improvements: An Engineering Study Guide. CSAH 5 has a posted speed limit of 50 mph.

The guidelines from NCHRP Report 457 recommend that if the plotted volumes are to the right of the curves for the speed of the major road listed, a right turn lane be considered. The PM Peak hour is the highest of the three peak hours in terms of volumes at the intersection. **Table 8** summarizes the results from Figure 2-6 from NCHRP Report 457. A northbound right turn lane is not warranted in 2027 or 2040.

Table 8 – Right-Turn Lane Warrants

Condition	Major Road Volume (veh/h)	Right Turn Volume (veh/h)	Limiting Right Turn Volume (veh/h)	Right Turn Warranted yes/no?
2027 – PM Peak Hour	442	5	28	No
2040 – PM Peak Hour	496	5	25	No

While a northbound right turn lane is not warranted, Anoka County has expressed a desire to have a northbound right turn lane installed at the access.

CONCLUSIONS AND RECOMMENDATIONS

Presbyterian Homes is proposing a residential development consisting of 303 total Multifamily Housing Units, 173 units of Senior Adult Multifamily Housing building, and 22 Senior Single-family housing units. For a total of 498 housing units on site. The development is located on the block northwest of MN-47 (St Francis Blvd) & CSAH 5 (Nowthen Blvd) which is the area around the Lord of Life Church. The church will remain on site. The site is anticipated to generate 153 new trips during the AM peak hour (40 entering, 113 exiting), 168 new trips during the PM peak hour (100 entering, 68 exiting), and 161 new trips in the Sunday peak hour (86 entering, 75 exiting).

The site will include three (3) accesses. The northern access will be via Cobalt St to the north. This is a gated access only and will generally not serve a significant amount of site traffic. The second access is a right-in/right-out access located along CSAH 5 which leads to the north of the parking lot for the residential and church. The third (and primary) site access is across from Iodine St on CSAH 5, this access is expected to be the see nearly all of the site's traffic. The two accesses on CSAH 5 are in the same locations as the existing accesses and the Cobalt St access would be an extension of the current dead-end road.

A capacity analysis was performed for Existing Year (2023), Opening Year (2027) No-Build, Opening Year (2027) Build, Horizon Year (2040) No-Build, and Horizon Year (2040) Build. In all scenarios, the study intersections are anticipated to operate at an acceptable LOS in the weekday AM and PM peak hours as well as the Sunday peak hours. Analysis showed that the build conditions have minimal impacts on the LOS at the study area intersections, with some movements seeing small increases in delay and LOS. It is anticipated that all intersections will operate at LOS D or better with the lone exception being the exiting movement of the site access (westbound left turns) operating at LOS E in the AM peak hour. Though not ideal, it is not anticipated to see any queueing issues or become a major issue in any way. Additionally, there are some longer delays (LOS E/F) for various other minor side street movements at intersections along CSAH 5, however there is minimal queuing and anticipated delays are not uncommon on a higher volume corridor like CSAH 5.

No changes to the road geometry are necessary based on the operational analysis results with the addition of development traffic. Side-street stop control is adequate at the site accesses. However, based on conversations with Anoka County, the following improvements should be considered:

- A northbound right turn lane at the north site access.
- Reconfigure the northwest bound approach at the Iodine Street/site access & CSAH 5 to eliminate the trap lane and provide a dedicated northwest bound right turn lane.

APPENDIX

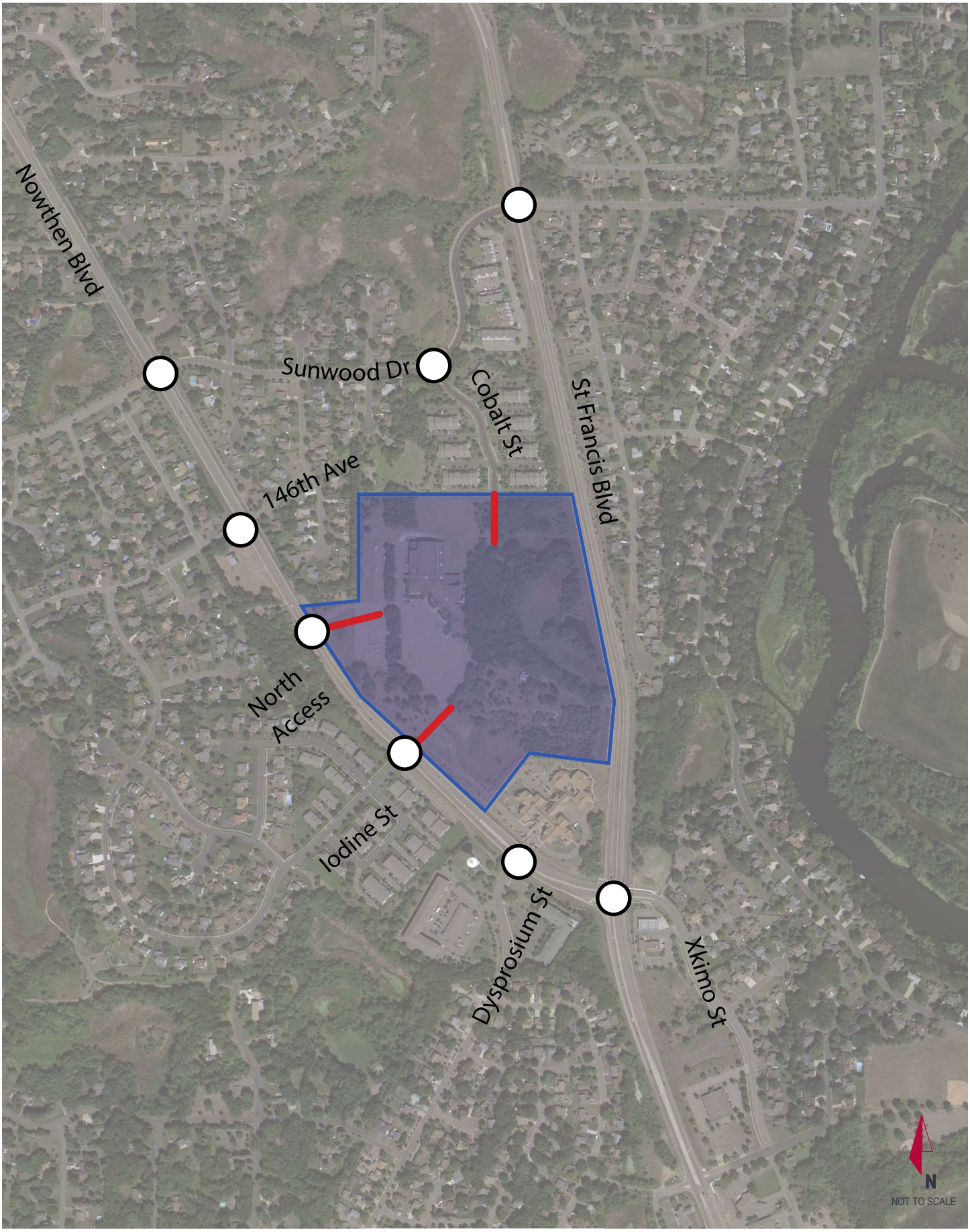
A. Exhibits

B. Turning Movement Counts

C. Site Layout Exhibit

D. SimTraffic Analysis Results

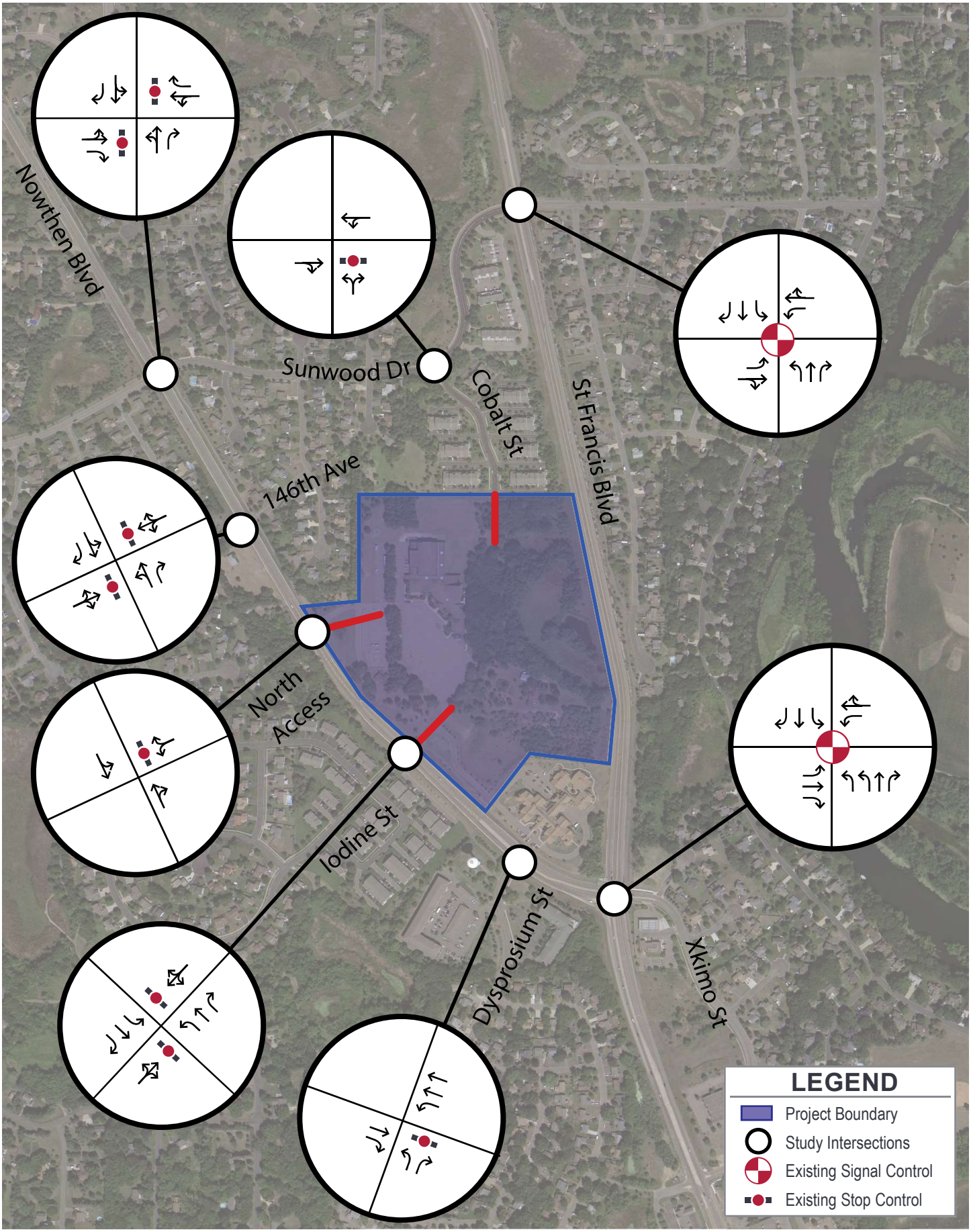
A. Exhibits



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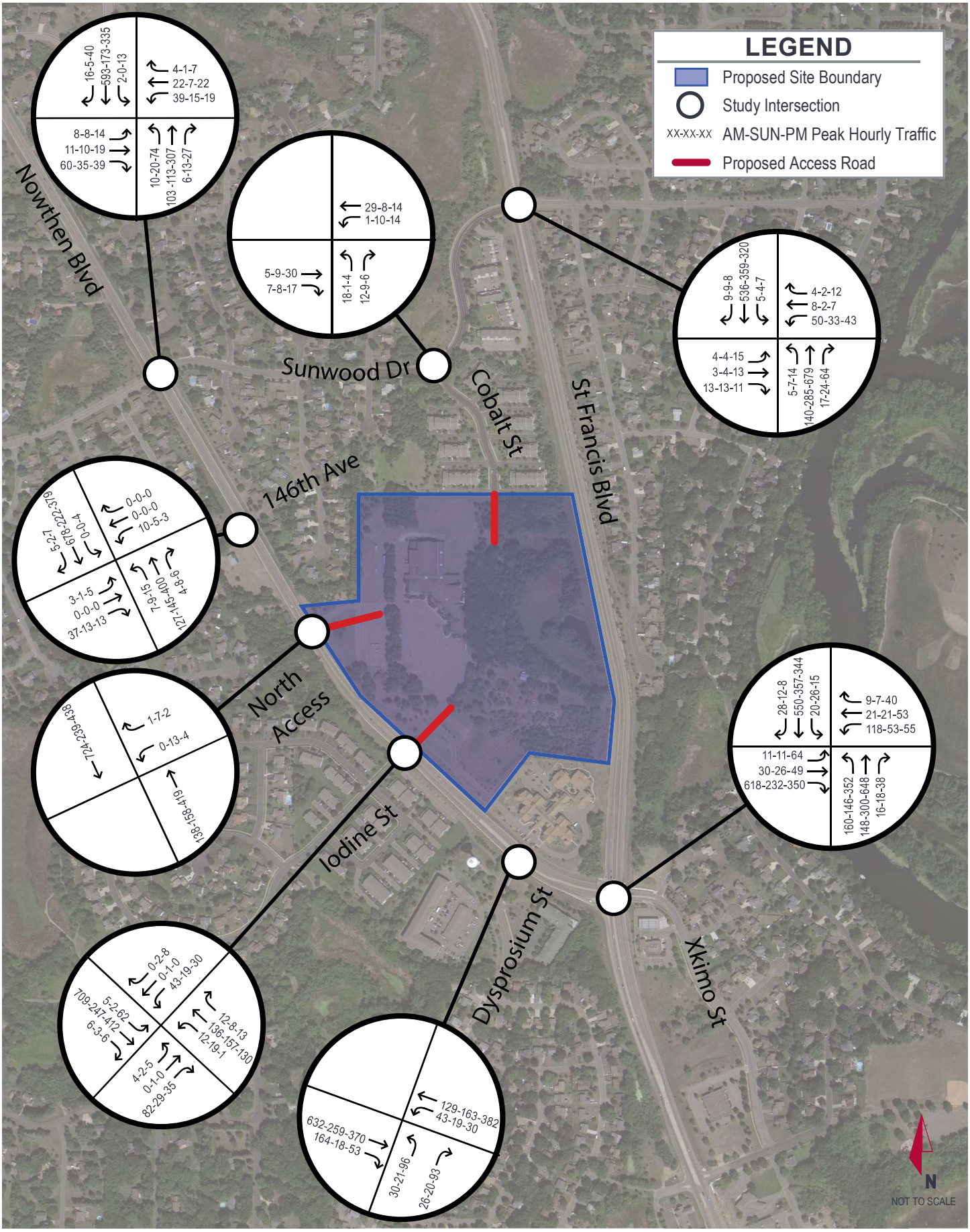
EXHIBIT 1

PROJECT LOCATION MAP



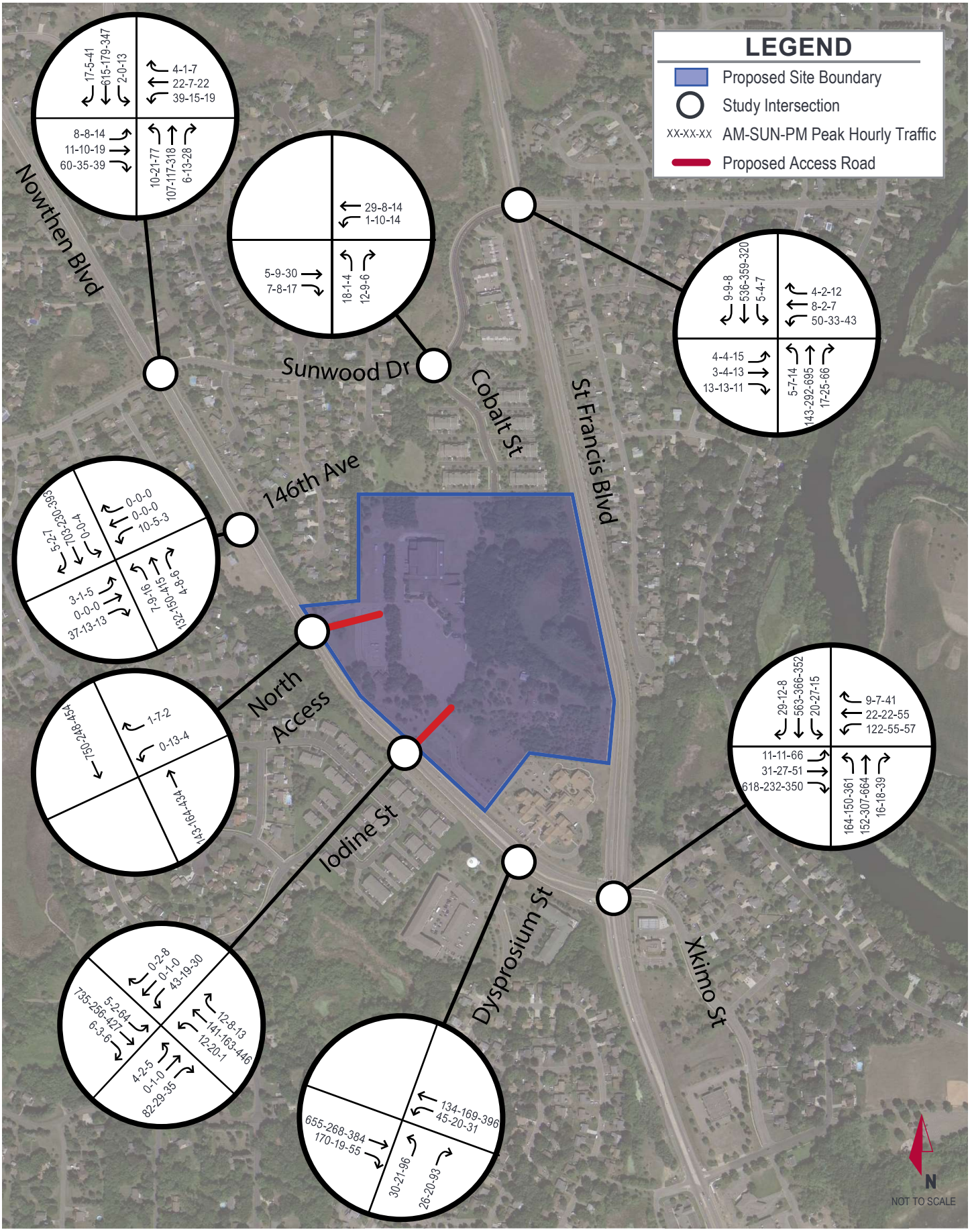
Kimley»Horn

EXHIBIT 2
EXISTING GEOMETRY AND INTERSECTION CONTROL



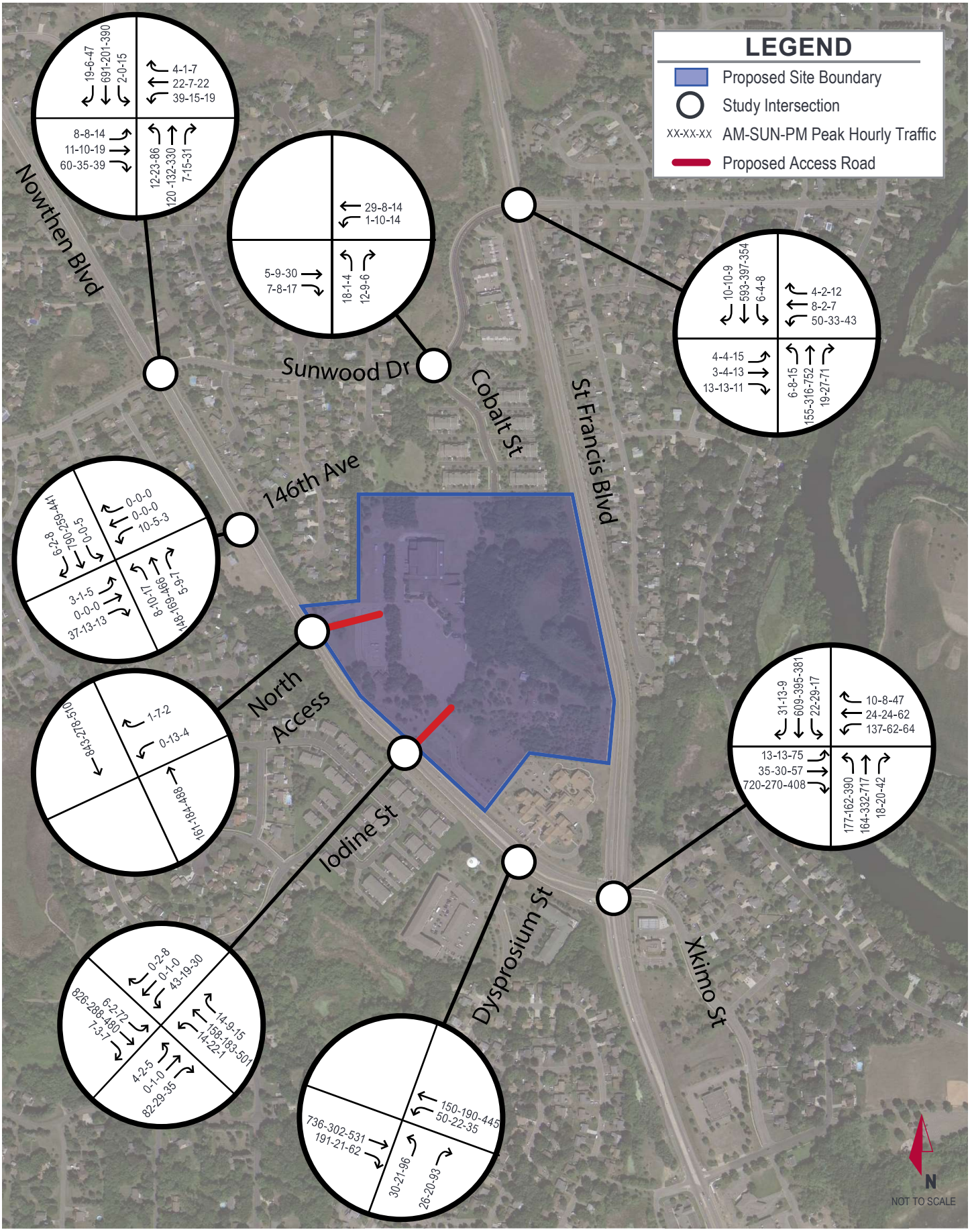
Kimley»Horn

EXHIBIT 3
EXISTING TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 4
NO BUILD SCENARIO 2027
TRAFFIC VOLUMES

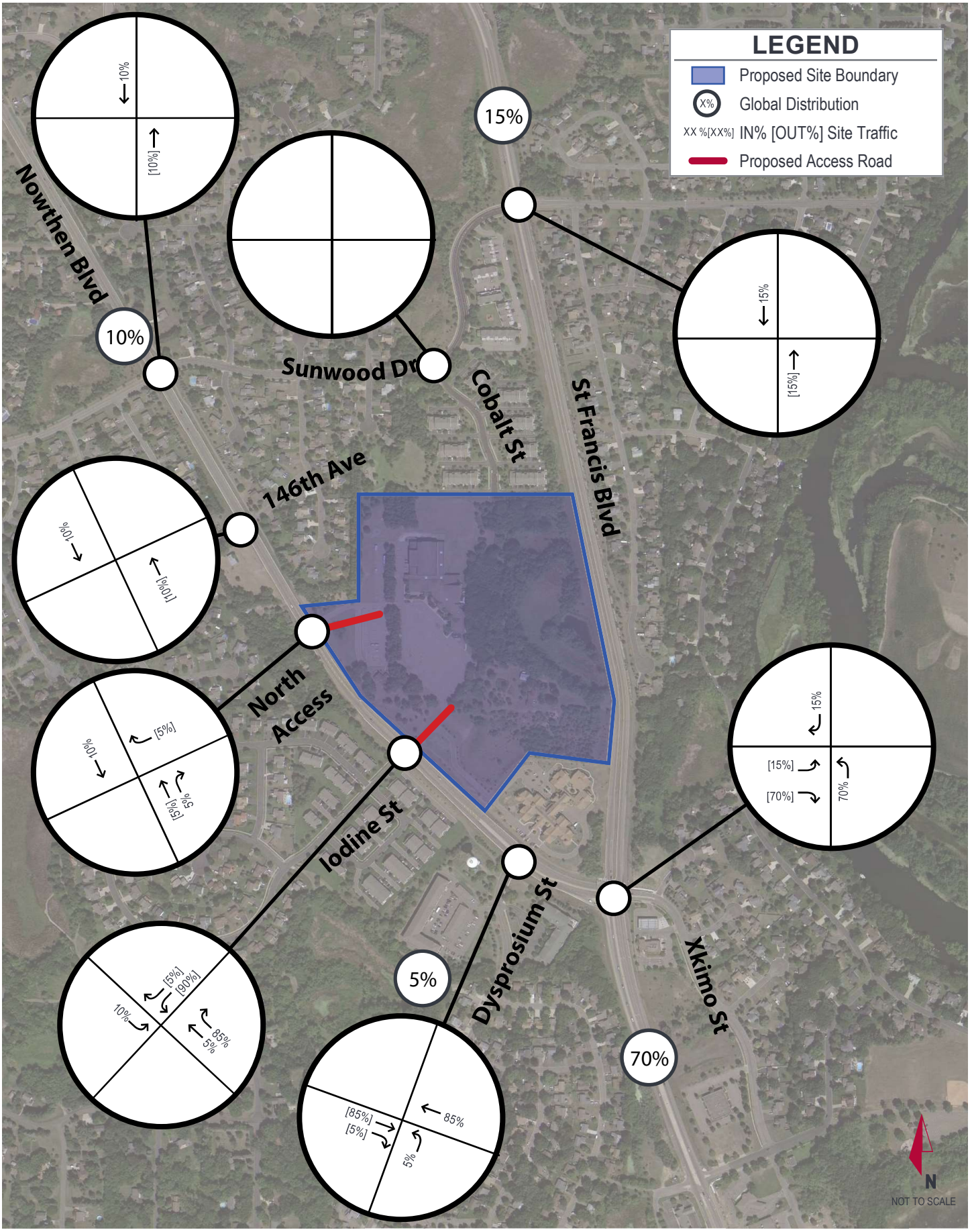


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EXHIBIT 5

NO BUILD SCENARIO 2040

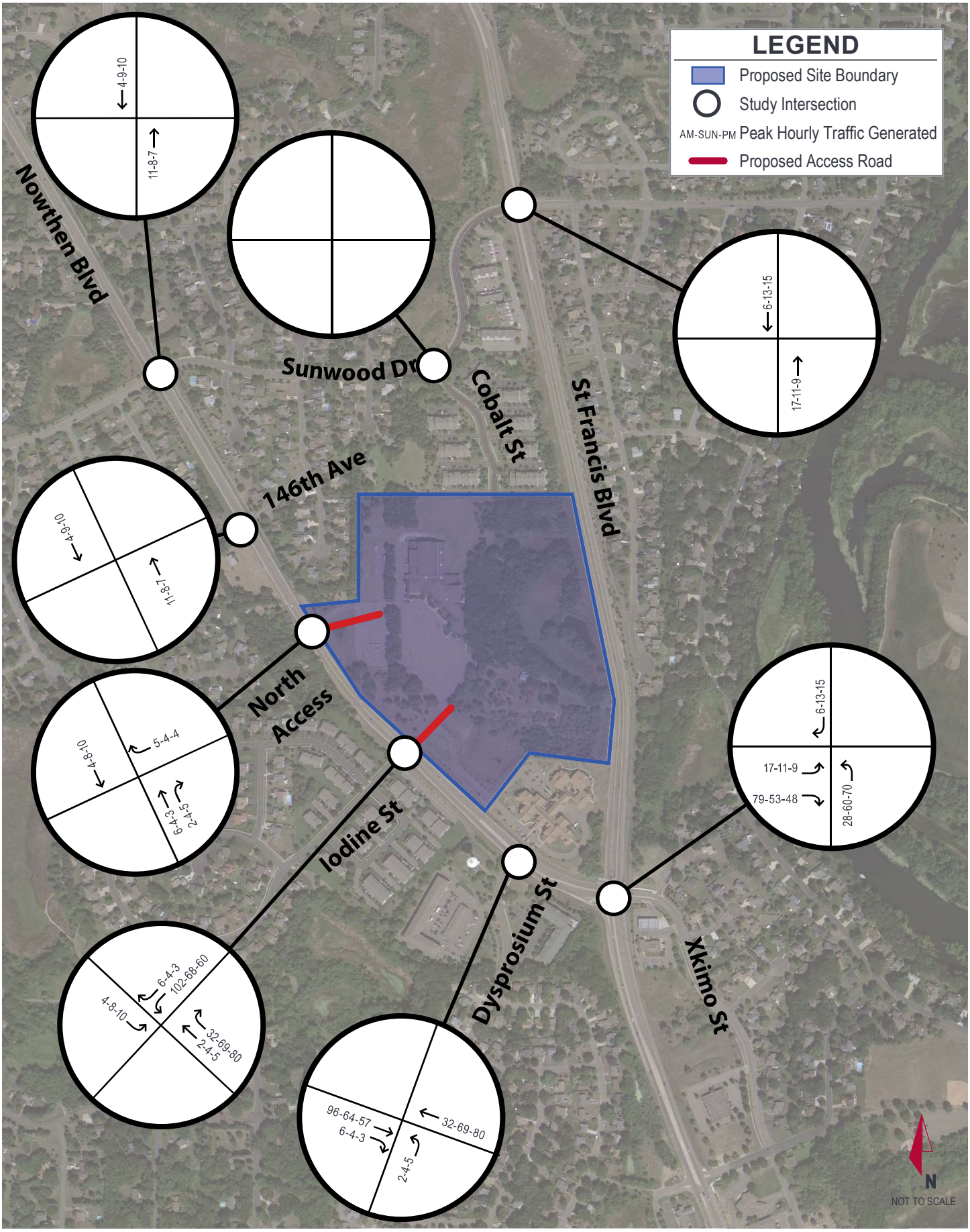
TRAFFIC VOLUMES



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EXHIBIT 6

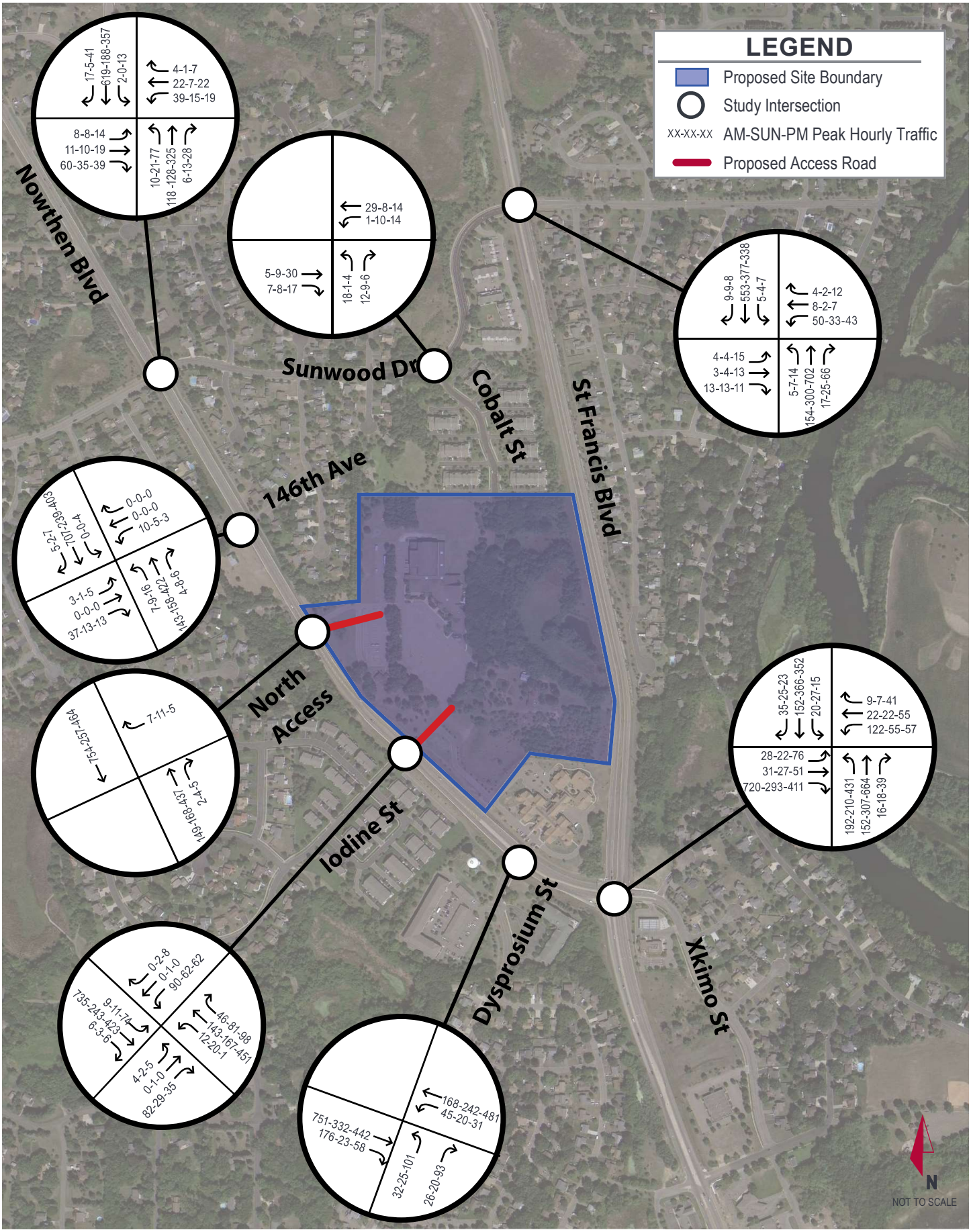
PROJECT TRIP DISTRIBUTION



Kimley»Horn

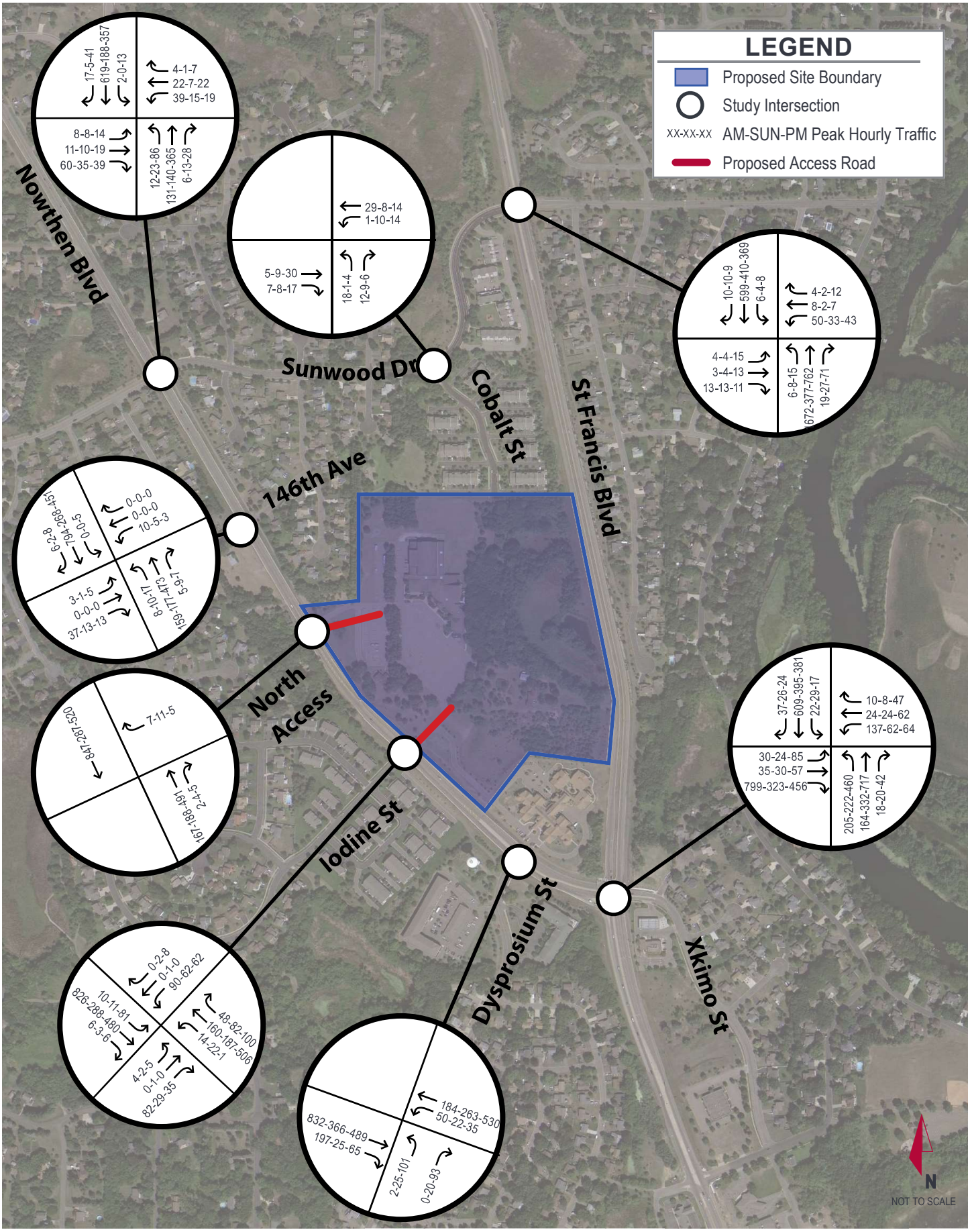
EXHIBIT 7

TOTAL SITE GENERATED TRIPS



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EXHIBIT 8
BUILD SCENARIO 2027
TRAFFIC VOLUMES



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EXHIBIT 9
BUILD SCENARIO 2040 TRAFFIC VOLUMES

B. Turning Movement Counts

Kimley-Horn and Associates, Inc.
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Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023

Turning Movement Data

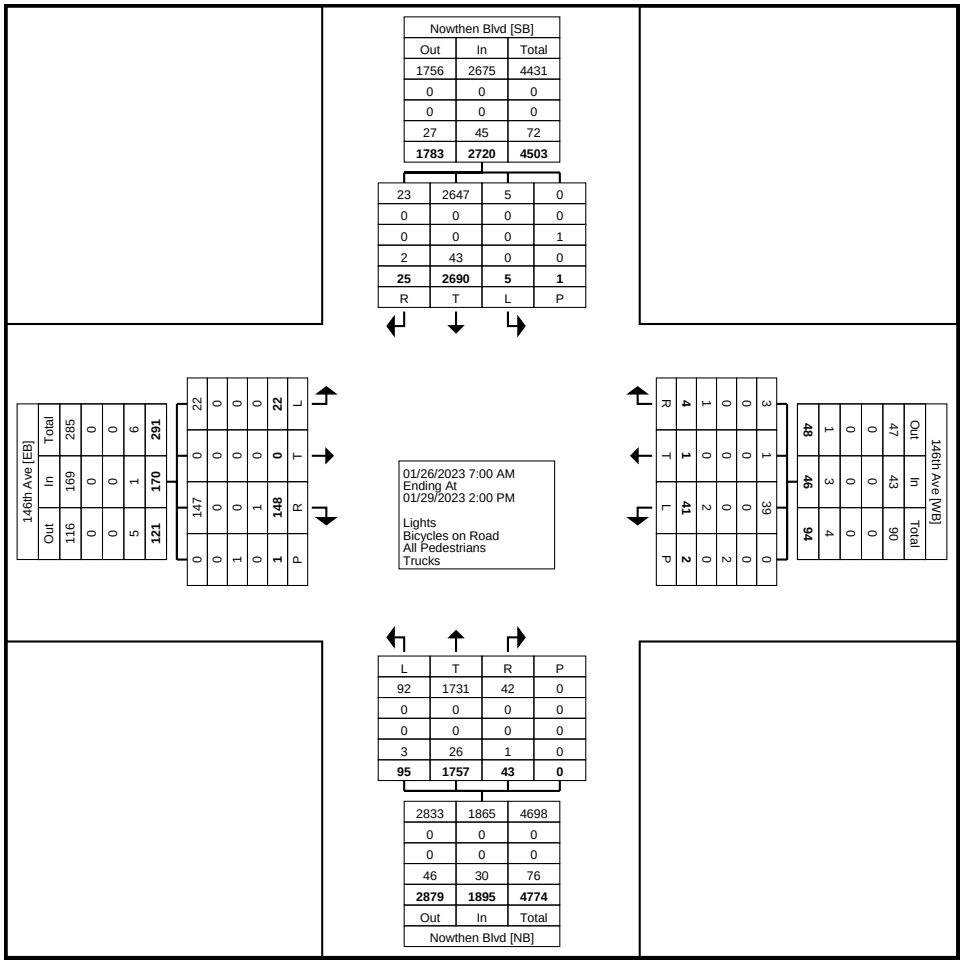
Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	1	0	9	0	10	4	0	0	0	4	1	14	0	0	15	0	212	2	0	214	243
7:15 AM	1	0	15	0	16	3	0	0	0	3	1	32	1	0	34	0	190	1	0	191	244
7:30 AM	1	0	6	0	7	2	0	0	0	2	4	45	2	0	51	0	142	2	0	144	204
7:45 AM	0	0	7	0	7	1	0	0	0	1	1	36	1	0	38	0	134	0	0	134	180
Hourly Total	3	0	37	0	40	10	0	0	0	10	7	127	4	0	138	0	678	5	0	683	871
8:00 AM	0	0	8	0	8	2	0	0	0	2	0	55	0	0	55	0	103	0	0	103	168
8:15 AM	2	0	4	0	6	2	0	0	0	2	0	49	2	0	51	0	97	1	0	98	157
8:30 AM	2	0	2	0	4	2	0	0	0	2	2	34	1	0	37	0	87	0	0	87	130
8:45 AM	0	0	3	0	3	2	0	0	1	2	1	38	0	0	39	0	91	1	0	92	136
Hourly Total	4	0	17	0	21	8	0	0	1	8	3	176	3	0	182	0	378	2	0	380	591
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:00 PM	1	0	7	0	8	1	0	0	0	1	1	82	1	0	84	3	119	4	0	126	219
4:15 PM	2	0	2	0	4	0	0	0	0	0	7	101	3	0	111	0	88	2	0	90	205
4:30 PM	2	0	3	0	5	1	0	0	1	1	1	121	2	0	124	1	74	1	0	76	206
4:45 PM	0	0	1	0	1	1	0	0	0	1	6	96	0	0	102	0	98	0	0	98	202
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5:00 PM	1	0	4	1	5	1	0	0	0	1	6	115	2	0	123	0	87	2	1	89	218
5:15 PM	0	0	5	0	5	1	0	2	0	3	7	87	1	0	95	0	93	1	0	94	197
5:30 PM	0	0	4	0	4	2	0	0	0	2	4	81	3	0	88	0	78	1	0	79	173
5:45 PM	2	0	4	0	6	1	0	0	0	1	9	113	0	0	122	0	64	0	0	64	193
Hourly Total	3	0	17	1	20	5	0	2	0	7	26	396	6	0	428	0	322	4	1	326	781
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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10:15 AM	1	0	4	0	5	3	0	0	0	3	1	32	0	0	33	0	76	1	0	77	118
10:30 AM	0	0	5	0	5	0	0	0	0	0	1	28	0	0	29	0	64	0	0	64	98
10:45 AM	1	0	4	0	5	0	0	0	0	0	1	28	1	0	30	0	70	0	0	70	105
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11:00 AM	0	0	1	0	1	2	0	0	0	2	3	26	1	0	30	0	39	0	0	39	72
11:15 AM	0	0	5	0	5	0	0	0	0	0	3	37	2	0	42	0	49	1	0	50	97
11:30 AM	1	0	4	0	5	0	0	0	0	0	0	42	4	0	46	0	55	1	0	56	107
11:45 AM	0	0	3	0	3	3	0	0	0	3	3	40	1	0	44	0	79	0	0	79	129
Hourly Total	1	0	13	0	14	5	0	0	0	5	9	145	8	0	162	0	222	2	0	224	405

12:00 PM	1	0	4	0	5	0	0	0	0	0	5	44	0	0	49	0	53	0	0	53	107
12:15 PM	0	0	4	0	4	0	0	0	0	0	4	45	1	0	50	0	74	1	0	75	129
12:30 PM	1	0	4	0	5	0	0	0	0	0	6	53	2	0	61	0	60	1	0	61	127
12:45 PM	0	0	2	0	2	2	0	0	0	2	3	54	1	0	58	0	46	0	0	46	108
Hourly Total	2	0	14	0	16	2	0	0	0	2	18	196	4	0	218	0	233	2	0	235	471
1:00 PM	0	0	7	0	7	0	0	0	0	0	3	31	1	0	35	0	48	0	0	48	90
1:15 PM	0	0	3	0	3	1	0	1	0	2	3	60	3	0	66	0	71	1	0	72	143
1:30 PM	2	0	3	0	5	1	0	1	0	2	1	61	6	0	68	1	47	1	0	49	124
1:45 PM	0	0	4	0	4	1	1	0	0	2	5	49	0	0	54	0	49	0	0	49	109
Hourly Total	2	0	17	0	19	3	1	2	0	6	12	201	10	0	223	1	215	2	0	218	466
Grand Total	22	0	148	1	170	41	1	4	2	46	95	1757	43	0	1895	5	2690	25	1	2720	4831
Approach %	12.9	0.0	87.1	-	-	89.1	2.2	8.7	-	-	5.0	92.7	2.3	-	-	0.2	98.9	0.9	-	-	-
Total %	0.5	0.0	3.1	-	3.5	0.8	0.0	0.1	-	1.0	2.0	36.4	0.9	-	39.2	0.1	55.7	0.5	-	56.3	-
Lights	22	0	147	-	169	39	1	3	-	43	92	1731	42	-	1865	5	2647	23	-	2675	4752
% Lights	100.0	-	99.3	-	99.4	95.1	100.0	75.0	-	93.5	96.8	98.5	97.7	-	98.4	100.0	98.4	92.0	-	98.3	98.4
Bicycles on Road	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
All Pedestrians	-	-	-	1	-	-	-	-	2	-	-	-	-	0	-	-	-	-	1	-	-
% All Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-
Trucks	0	0	1	-	1	2	0	1	-	3	3	26	1	-	30	0	43	2	-	45	79
% Trucks	0.0	-	0.7	-	0.6	4.9	0.0	25.0	-	6.5	3.2	1.5	2.3	-	1.6	0.0	1.6	8.0	-	1.7	1.6

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Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023



Turning Movement Data Plot

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023

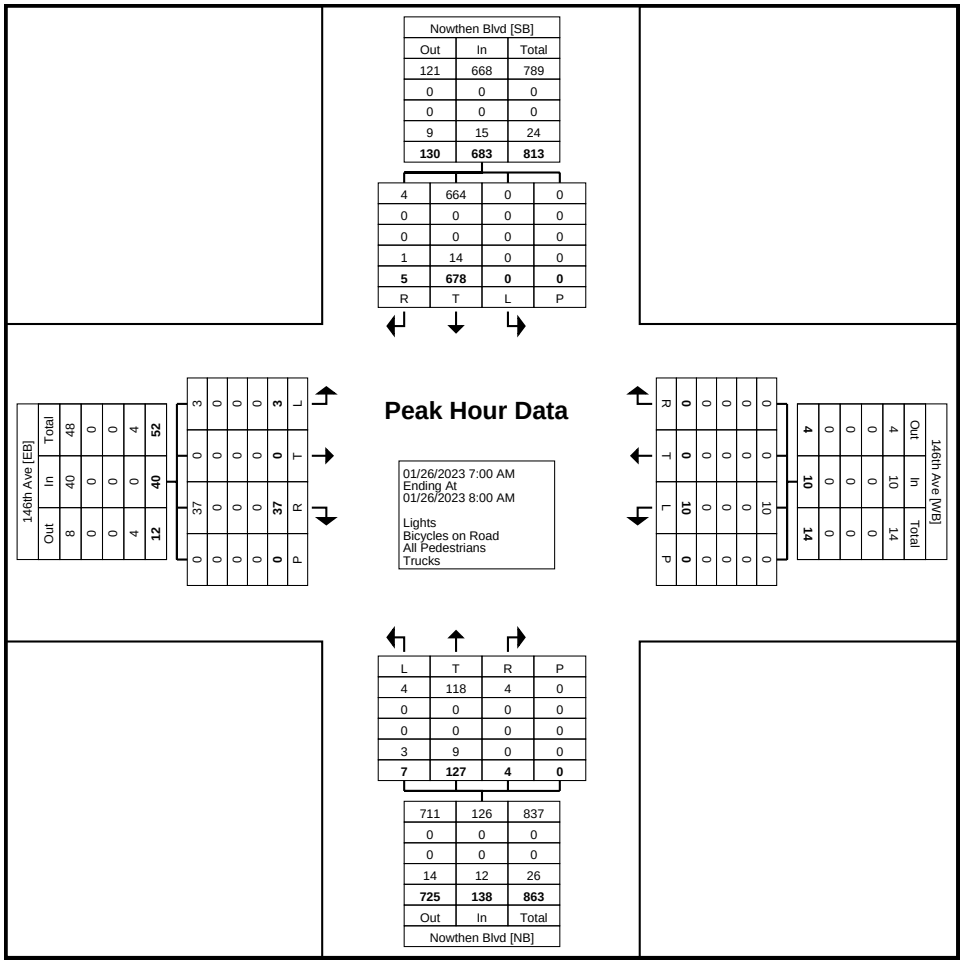
Turning Movement Peak Hour Data (7:00 AM)

Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	1	0	9	0	10	4	0	0	0	4	1	14	0	0	15	0	212	2	0	214	243
7:15 AM	1	0	15	0	16	3	0	0	0	3	1	32	1	0	34	0	190	1	0	191	244
7:30 AM	1	0	6	0	7	2	0	0	0	2	4	45	2	0	51	0	142	2	0	144	204
7:45 AM	0	0	7	0	7	1	0	0	0	1	1	36	1	0	38	0	134	0	0	134	180
Total	3	0	37	0	40	10	0	0	0	10	7	127	4	0	138	0	678	5	0	683	871
Approach %	7.5	0.0	92.5	-	-	100.0	0.0	0.0	-	-	5.1	92.0	2.9	-	-	0.0	99.3	0.7	-	-	-
Total %	0.3	0.0	4.2	-	4.6	1.1	0.0	0.0	-	1.1	0.8	14.6	0.5	-	15.8	0.0	77.8	0.6	-	78.4	-
PHF	0.750	0.000	0.617	-	0.625	0.625	0.000	0.000	-	0.625	0.438	0.706	0.500	-	0.676	0.000	0.800	0.625	-	0.798	0.892
Lights	3	0	37	-	40	10	0	0	-	10	4	118	4	-	126	0	664	4	-	668	844
% Lights	100.0	-	100.0	-	100.0	100.0	-	-	-	100.0	57.1	92.9	100.0	-	91.3	-	97.9	80.0	-	97.8	96.9
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	3	9	0	-	12	0	14	1	-	15	27
% Trucks	0.0	-	0.0	-	0.0	0.0	-	-	-	0.0	42.9	7.1	0.0	-	8.7	-	2.1	20.0	-	2.2	3.1

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Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (7:00 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023

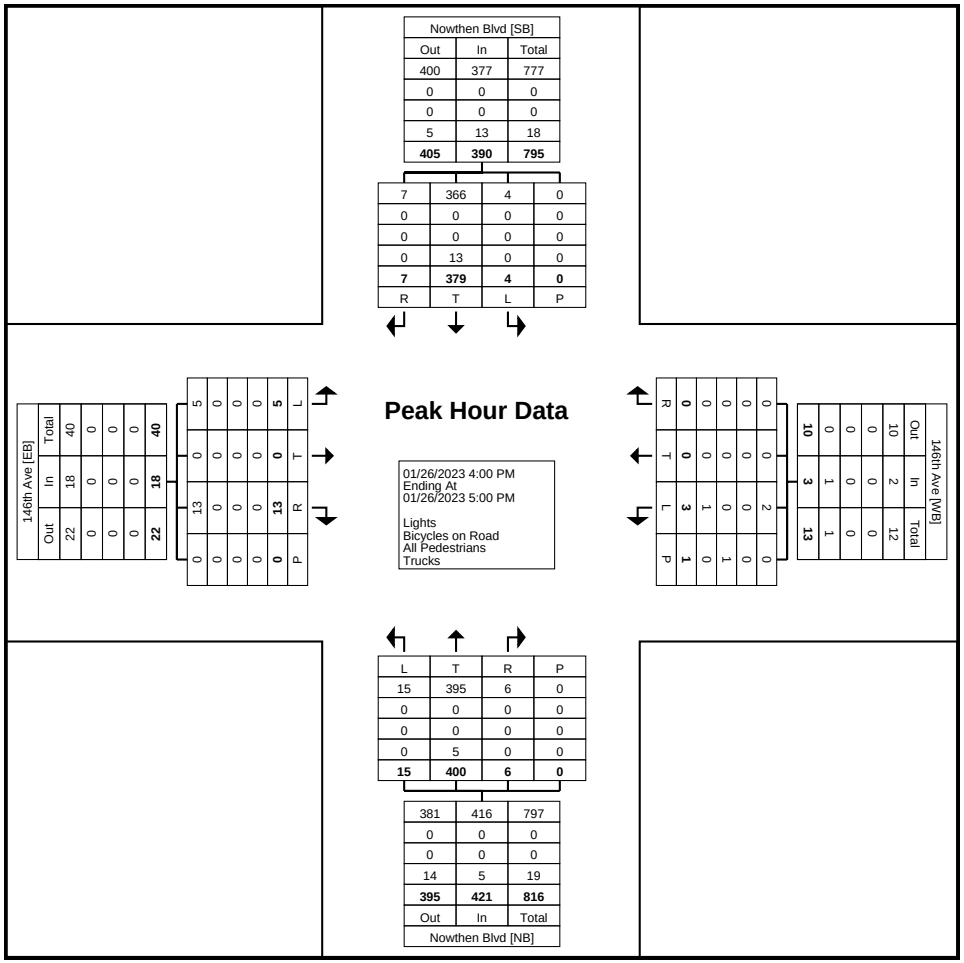
Turning Movement Peak Hour Data (4:00 PM)

Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	1	0	7	0	8	1	0	0	0	1	1	82	1	0	84	3	119	4	0	126	219
4:15 PM	2	0	2	0	4	0	0	0	0	0	7	101	3	0	111	0	88	2	0	90	205
4:30 PM	2	0	3	0	5	1	0	0	1	1	1	121	2	0	124	1	74	1	0	76	206
4:45 PM	0	0	1	0	1	1	0	0	0	1	6	96	0	0	102	0	98	0	0	98	202
Total	5	0	13	0	18	3	0	0	1	3	15	400	6	0	421	4	379	7	0	390	832
Approach %	27.8	0.0	72.2	-	-	100.0	0.0	0.0	-	-	3.6	95.0	1.4	-	-	1.0	97.2	1.8	-	-	-
Total %	0.6	0.0	1.6	-	2.2	0.4	0.0	0.0	-	0.4	1.8	48.1	0.7	-	50.6	0.5	45.6	0.8	-	46.9	-
PHF	0.625	0.000	0.464	-	0.563	0.750	0.000	0.000	-	0.750	0.536	0.826	0.500	-	0.849	0.333	0.796	0.438	-	0.774	0.950
Lights	5	0	13	-	18	2	0	0	-	2	15	395	6	-	416	4	366	7	-	377	813
% Lights	100.0	-	100.0	-	100.0	66.7	-	-	-	66.7	100.0	98.8	100.0	-	98.8	100.0	96.6	100.0	-	96.7	97.7
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	1	0	0	-	1	0	5	0	-	5	0	13	0	-	13	19
% Trucks	0.0	-	0.0	-	0.0	33.3	-	-	-	33.3	0.0	1.3	0.0	-	1.2	0.0	3.4	0.0	-	3.3	2.3

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & 146th Ave
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (4:00 PM)

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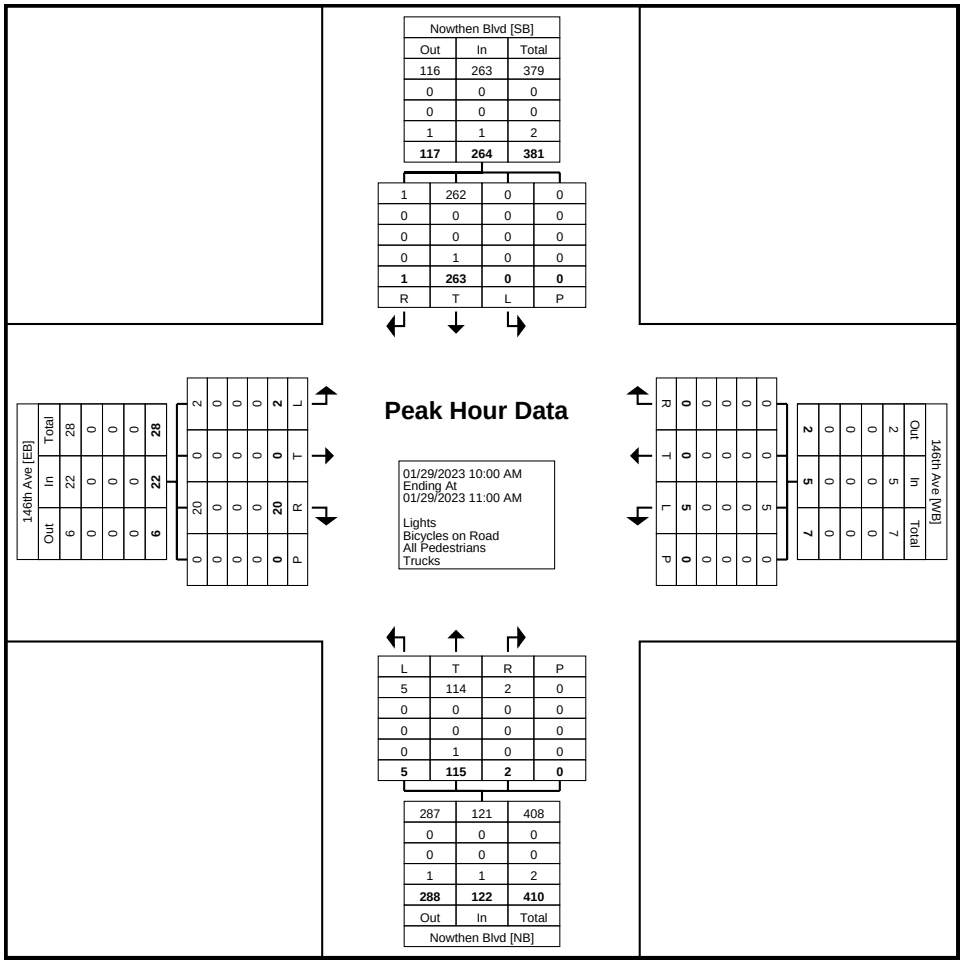
Turning Movement Peak Hour Data (10:00 AM)

Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
10:00 AM	0	0	7	0	7	2	0	0	0	2	2	27	1	0	30	0	53	0	0	53	92
10:15 AM	1	0	4	0	5	3	0	0	0	3	1	32	0	0	33	0	76	1	0	77	118
10:30 AM	0	0	5	0	5	0	0	0	0	0	1	28	0	0	29	0	64	0	0	64	98
10:45 AM	1	0	4	0	5	0	0	0	0	0	1	28	1	0	30	0	70	0	0	70	105
Total	2	0	20	0	22	5	0	0	0	5	5	115	2	0	122	0	263	1	0	264	413
Approach %	9.1	0.0	90.9	-	-	100.0	0.0	0.0	-	-	4.1	94.3	1.6	-	-	0.0	99.6	0.4	-	-	-
Total %	0.5	0.0	4.8	-	5.3	1.2	0.0	0.0	-	1.2	1.2	27.8	0.5	-	29.5	0.0	63.7	0.2	-	63.9	-
PHF	0.500	0.000	0.714	-	0.786	0.417	0.000	0.000	-	0.417	0.625	0.898	0.500	-	0.924	0.000	0.865	0.250	-	0.857	0.875
Lights	2	0	20	-	22	5	0	0	-	5	5	114	2	-	121	0	262	1	-	263	411
% Lights	100.0	-	100.0	-	100.0	100.0	-	-	-	100.0	100.0	99.1	100.0	-	99.2	-	99.6	100.0	-	99.6	99.5
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	0	1	0	-	1	2
% Trucks	0.0	-	0.0	-	0.0	0.0	-	-	-	0.0	0.0	0.9	0.0	-	0.8	-	0.4	0.0	-	0.4	0.5

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Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

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Site Code:
Start Date: 01/26/2023

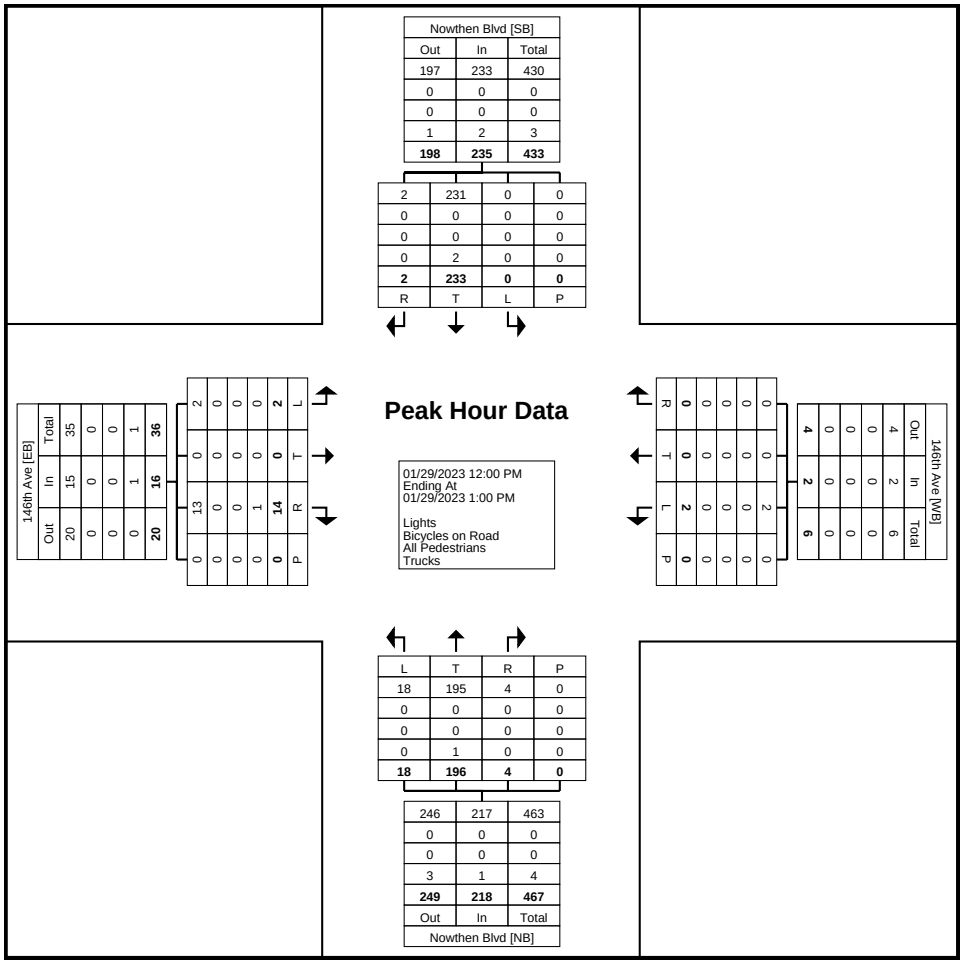
Turning Movement Peak Hour Data (12:00 PM)

Start Time	146th Ave Eastbound					146th Ave Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 PM	1	0	4	0	5	0	0	0	0	0	5	44	0	0	49	0	53	0	0	53	107
12:15 PM	0	0	4	0	4	0	0	0	0	0	4	45	1	0	50	0	74	1	0	75	129
12:30 PM	1	0	4	0	5	0	0	0	0	0	6	53	2	0	61	0	60	1	0	61	127
12:45 PM	0	0	2	0	2	2	0	0	0	2	3	54	1	0	58	0	46	0	0	46	108
Total	2	0	14	0	16	2	0	0	0	2	18	196	4	0	218	0	233	2	0	235	471
Approach %	12.5	0.0	87.5	-	-	100.0	0.0	0.0	-	-	8.3	89.9	1.8	-	-	0.0	99.1	0.9	-	-	-
Total %	0.4	0.0	3.0	-	3.4	0.4	0.0	0.0	-	0.4	3.8	41.6	0.8	-	46.3	0.0	49.5	0.4	-	49.9	-
PHF	0.500	0.000	0.875	-	0.800	0.250	0.000	0.000	-	0.250	0.750	0.907	0.500	-	0.893	0.000	0.787	0.500	-	0.783	0.913
Lights	2	0	13	-	15	2	0	0	-	2	18	195	4	-	217	0	231	2	-	233	467
% Lights	100.0	-	92.9	-	93.8	100.0	-	-	-	100.0	100.0	99.5	100.0	-	99.5	-	99.1	100.0	-	99.1	99.2
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	1	-	1	0	0	0	-	0	0	1	0	-	1	0	2	0	-	2	4
% Trucks	0.0	-	7.1	-	6.3	0.0	-	-	-	0.0	0.0	0.5	0.0	-	0.5	-	0.9	0.0	-	0.9	0.8

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Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (12:00 PM)

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Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023

Turning Movement Data

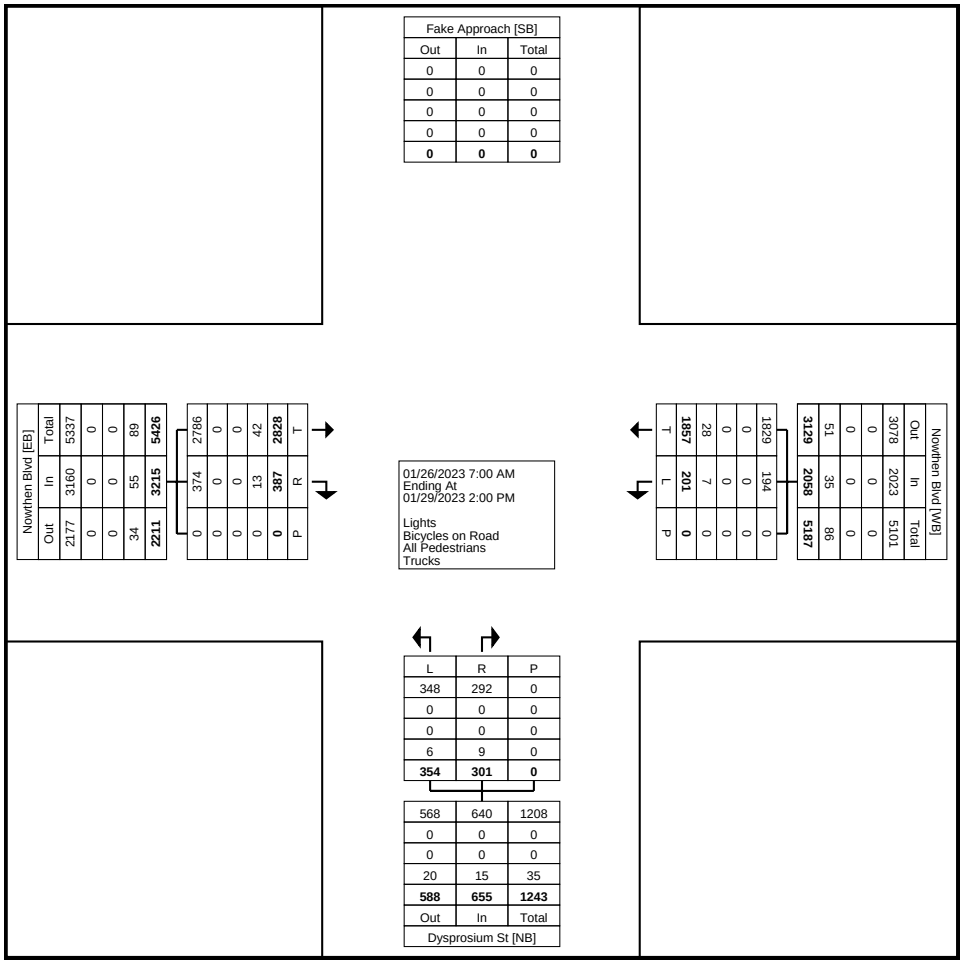
Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00 AM	188	52	0	240	1	15	0	16	3	6	0	9	265
7:15 AM	190	48	0	238	12	30	0	42	11	6	0	17	297
7:30 AM	123	35	0	158	16	52	0	68	7	6	0	13	239
7:45 AM	131	29	0	160	14	32	0	46	9	8	0	17	223
Hourly Total	632	164	0	796	43	129	0	172	30	26	0	56	1024
8:00 AM	101	15	0	116	9	53	0	62	9	8	0	17	195
8:15 AM	95	12	0	107	8	48	0	56	11	11	0	22	185
8:30 AM	84	17	0	101	3	36	0	39	8	4	0	12	152
8:45 AM	87	8	0	95	7	44	0	51	8	4	0	12	158
Hourly Total	367	52	0	419	27	181	0	208	36	27	0	63	690
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	114	19	0	133	10	84	0	94	19	21	0	40	267
4:15 PM	79	13	0	92	2	104	0	106	21	18	0	39	237
4:30 PM	83	7	0	90	9	103	0	112	37	37	0	74	276
4:45 PM	94	14	0	108	9	91	0	100	19	17	0	36	244
Hourly Total	370	53	0	423	30	382	0	412	96	93	0	189	1024
5:00 PM	84	8	0	92	7	128	0	135	26	20	0	46	273
5:15 PM	108	7	0	115	6	99	0	105	17	10	0	27	247
5:30 PM	106	8	0	114	11	88	0	99	19	11	0	30	243
5:45 PM	73	11	0	84	3	109	0	112	15	12	0	27	223
Hourly Total	371	34	0	405	27	424	0	451	77	53	0	130	986
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	68	3	0	71	1	26	0	27	4	6	0	10	108
10:15 AM	77	10	0	87	4	38	0	42	13	8	0	21	150
10:30 AM	70	5	0	75	4	42	0	46	5	4	0	9	130
10:45 AM	72	10	0	82	6	38	0	44	5	6	0	11	137
Hourly Total	287	28	0	315	15	144	0	159	27	24	0	51	525
11:00 AM	49	0	0	49	5	29	0	34	2	4	0	6	89
11:15 AM	59	6	0	65	5	51	0	56	4	4	0	8	129
11:30 AM	58	3	0	61	5	39	0	44	10	8	0	18	123
11:45 AM	93	9	0	102	4	44	0	48	5	4	0	9	159
Hourly Total	259	18	0	277	19	163	0	182	21	20	0	41	500

12:00 PM	62	10	0	72	4	40	0	44	13	5	0	18	134
12:15 PM	83	1	0	84	5	54	0	59	9	5	0	14	157
12:30 PM	62	7	0	69	4	57	0	61	8	11	0	19	149
12:45 PM	59	3	0	62	9	63	0	72	8	7	0	15	149
Hourly Total	266	21	0	287	22	214	0	236	38	28	0	66	589
1:00 PM	63	3	0	66	2	35	0	37	8	7	0	15	118
1:15 PM	86	7	0	93	3	60	0	63	8	5	0	13	169
1:30 PM	66	3	0	69	5	61	0	66	6	7	0	13	148
1:45 PM	61	4	0	65	8	64	0	72	7	11	0	18	155
Hourly Total	276	17	0	293	18	220	0	238	29	30	0	59	590
Grand Total	2828	387	0	3215	201	1857	0	2058	354	301	0	655	5928
Approach %	88.0	12.0	-	-	9.8	90.2	-	-	54.0	46.0	-	-	-
Total %	47.7	6.5	-	54.2	3.4	31.3	-	34.7	6.0	5.1	-	11.0	-
Lights	2786	374	-	3160	194	1829	-	2023	348	292	-	640	5823
% Lights	98.5	96.6	-	98.3	96.5	98.5	-	98.3	98.3	97.0	-	97.7	98.2
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	42	13	-	55	7	28	-	35	6	9	-	15	105
% Trucks	1.5	3.4	-	1.7	3.5	1.5	-	1.7	1.7	3.0	-	2.3	1.8

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Turning Movement Data Plot

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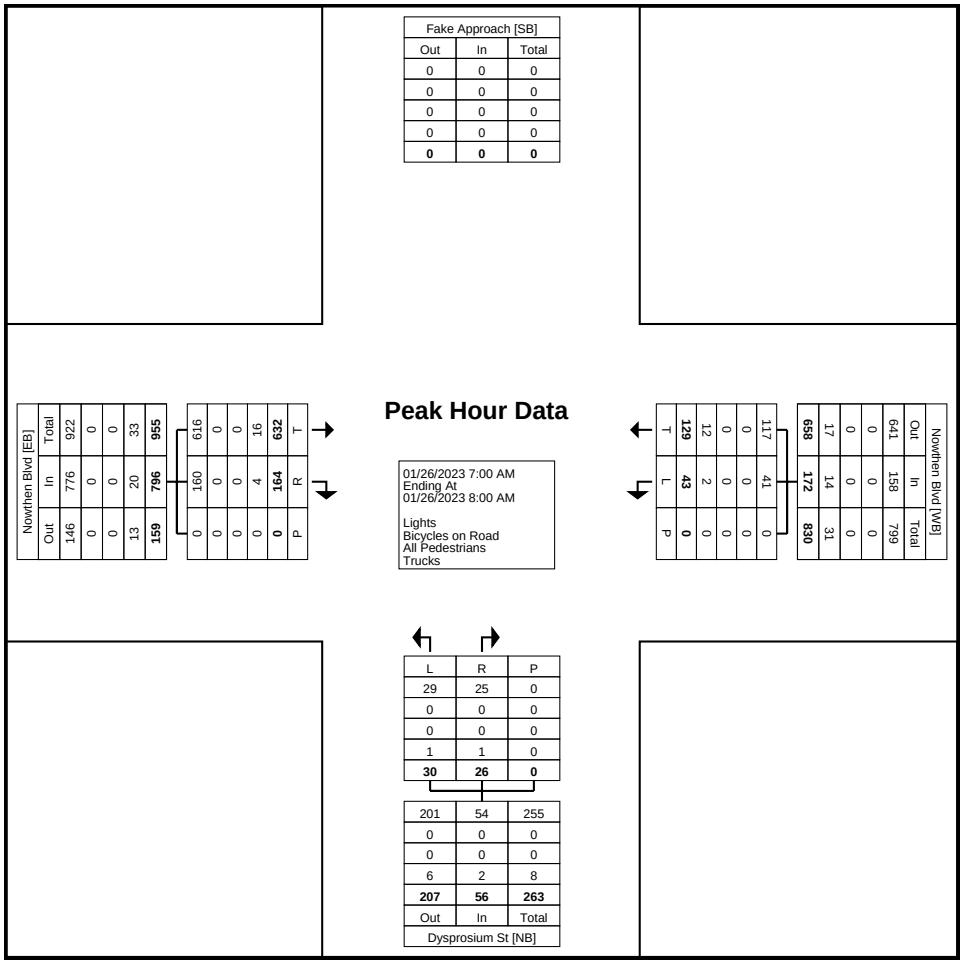
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00 AM	188	52	0	240	1	15	0	16	3	6	0	9	265
7:15 AM	190	48	0	238	12	30	0	42	11	6	0	17	297
7:30 AM	123	35	0	158	16	52	0	68	7	6	0	13	239
7:45 AM	131	29	0	160	14	32	0	46	9	8	0	17	223
Total	632	164	0	796	43	129	0	172	30	26	0	56	1024
Approach %	79.4	20.6	-	-	25.0	75.0	-	-	53.6	46.4	-	-	-
Total %	61.7	16.0	-	77.7	4.2	12.6	-	16.8	2.9	2.5	-	5.5	-
PHF	0.832	0.788	-	0.829	0.672	0.620	-	0.632	0.682	0.813	-	0.824	0.862
Lights	616	160	-	776	41	117	-	158	29	25	-	54	988
% Lights	97.5	97.6	-	97.5	95.3	90.7	-	91.9	96.7	96.2	-	96.4	96.5
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	16	4	-	20	2	12	-	14	1	1	-	2	36
% Trucks	2.5	2.4	-	2.5	4.7	9.3	-	8.1	3.3	3.8	-	3.6	3.5

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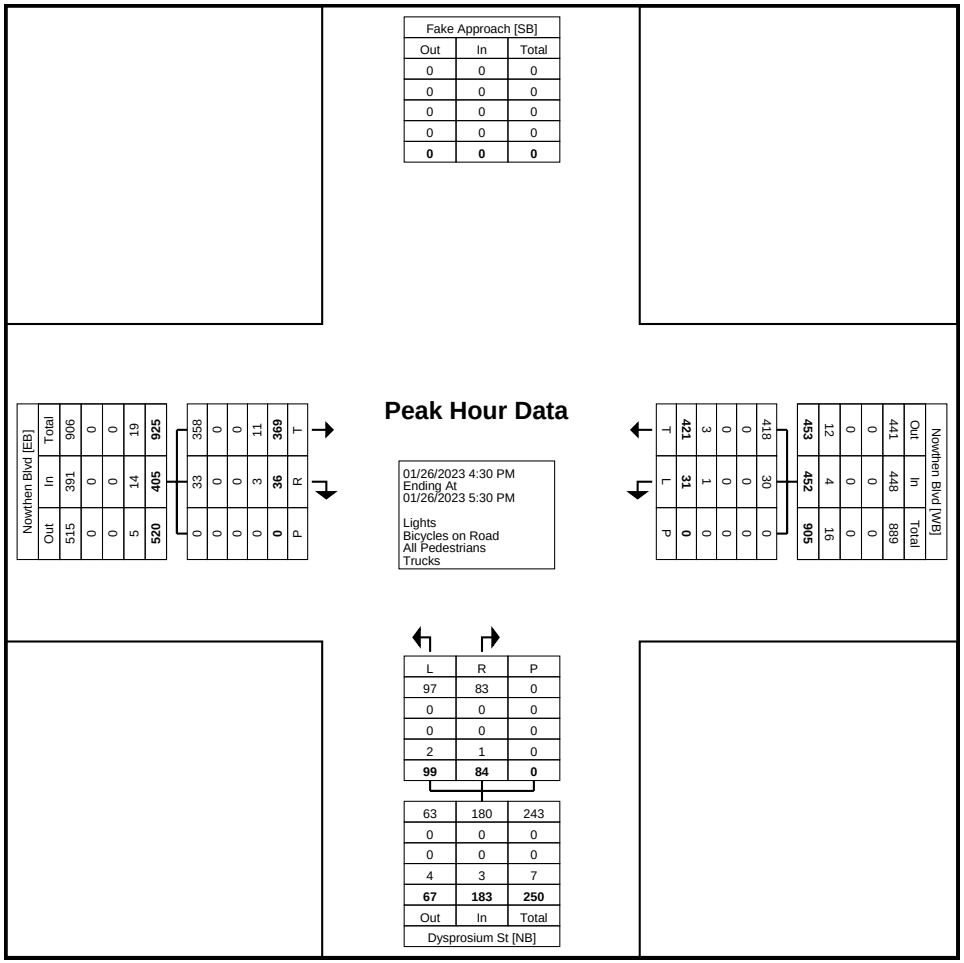
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
4:30 PM	83	7	0	90	9	103	0	112	37	37	0	74	276
4:45 PM	94	14	0	108	9	91	0	100	19	17	0	36	244
5:00 PM	84	8	0	92	7	128	0	135	26	20	0	46	273
5:15 PM	108	7	0	115	6	99	0	105	17	10	0	27	247
Total	369	36	0	405	31	421	0	452	99	84	0	183	1040
Approach %	91.1	8.9	-	-	6.9	93.1	-	-	54.1	45.9	-	-	-
Total %	35.5	3.5	-	38.9	3.0	40.5	-	43.5	9.5	8.1	-	17.6	-
PHF	0.854	0.643	-	0.880	0.861	0.822	-	0.837	0.669	0.568	-	0.618	0.942
Lights	358	33	-	391	30	418	-	448	97	83	-	180	1019
% Lights	97.0	91.7	-	96.5	96.8	99.3	-	99.1	98.0	98.8	-	98.4	98.0
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	11	3	-	14	1	3	-	4	2	1	-	3	21
% Trucks	3.0	8.3	-	3.5	3.2	0.7	-	0.9	2.0	1.2	-	1.6	2.0

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4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (4:30 PM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023

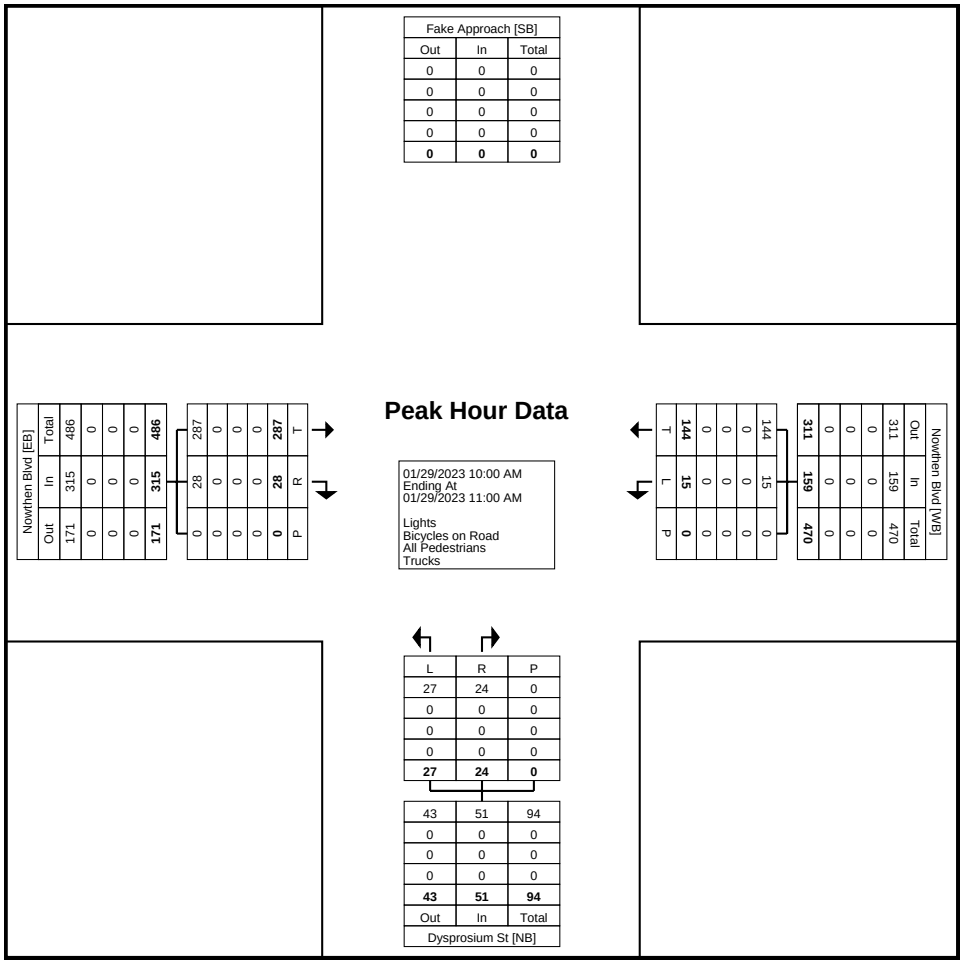
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
10:00 AM	68	3	0	71	1	26	0	27	4	6	0	10	108
10:15 AM	77	10	0	87	4	38	0	42	13	8	0	21	150
10:30 AM	70	5	0	75	4	42	0	46	5	4	0	9	130
10:45 AM	72	10	0	82	6	38	0	44	5	6	0	11	137
Total	287	28	0	315	15	144	0	159	27	24	0	51	525
Approach %	91.1	8.9	-	-	9.4	90.6	-	-	52.9	47.1	-	-	-
Total %	54.7	5.3	-	60.0	2.9	27.4	-	30.3	5.1	4.6	-	9.7	-
PHF	0.932	0.700	-	0.905	0.625	0.857	-	0.864	0.519	0.750	-	0.607	0.875
Lights	287	28	-	315	15	144	-	159	27	24	-	51	525
% Lights	100.0	100.0	-	100.0	100.0	100.0	-	100.0	100.0	100.0	-	100.0	100.0
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	-	0	0	0	-	0	0	0	-	0	0
% Trucks	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0

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Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023

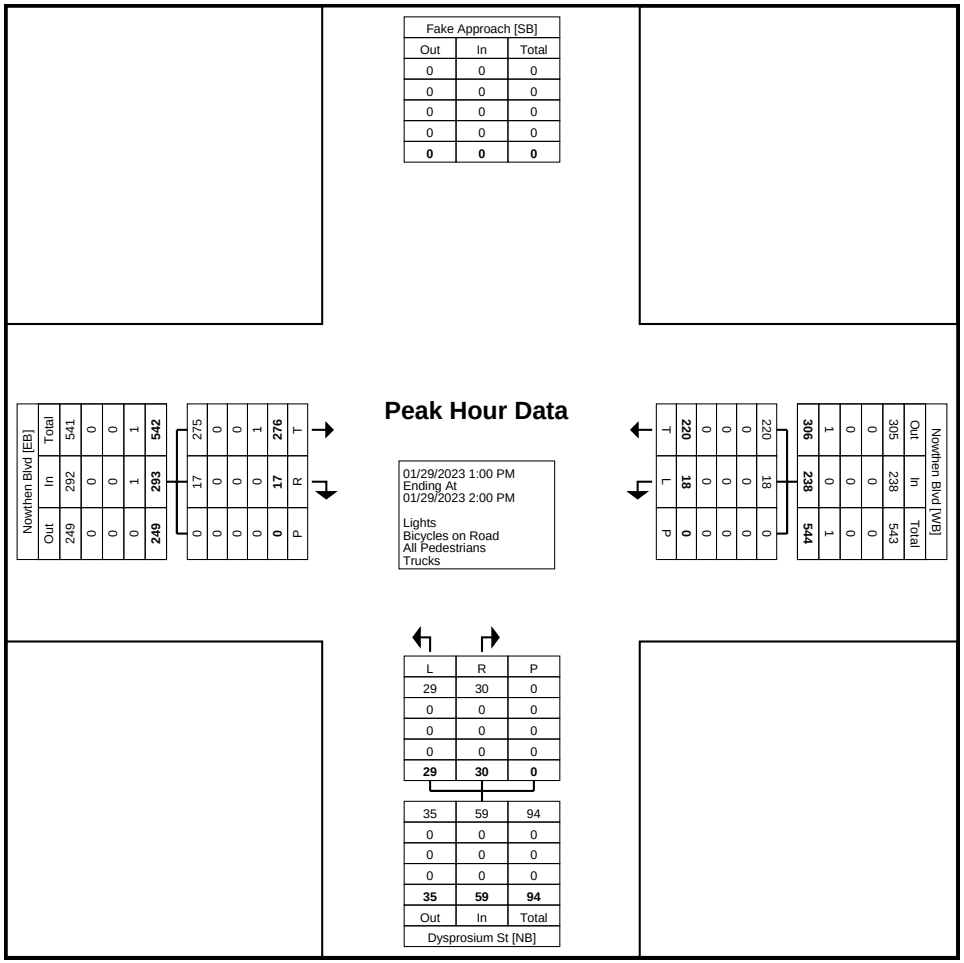
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Nowthen Blvd Eastbound				Nowthen Blvd Westbound				Dysprosium St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
1:00 PM	63	3	0	66	2	35	0	37	8	7	0	15	118
1:15 PM	86	7	0	93	3	60	0	63	8	5	0	13	169
1:30 PM	66	3	0	69	5	61	0	66	6	7	0	13	148
1:45 PM	61	4	0	65	8	64	0	72	7	11	0	18	155
Total	276	17	0	293	18	220	0	238	29	30	0	59	590
Approach %	94.2	5.8	-	-	7.6	92.4	-	-	49.2	50.8	-	-	-
Total %	46.8	2.9	-	49.7	3.1	37.3	-	40.3	4.9	5.1	-	10.0	-
PHF	0.802	0.607	-	0.788	0.563	0.859	-	0.826	0.906	0.682	-	0.819	0.873
Lights	275	17	-	292	18	220	-	238	29	30	-	59	589
% Lights	99.6	100.0	-	99.7	100.0	100.0	-	100.0	100.0	100.0	-	100.0	99.8
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	1	0	-	1	0	0	-	0	0	0	-	0	1
% Trucks	0.4	0.0	-	0.3	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.2

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Count Name: Nowthen Blvd & Dysprosium St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (1:00 PM)

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4201 Winfield Road Suite 600

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Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023

Turning Movement Data

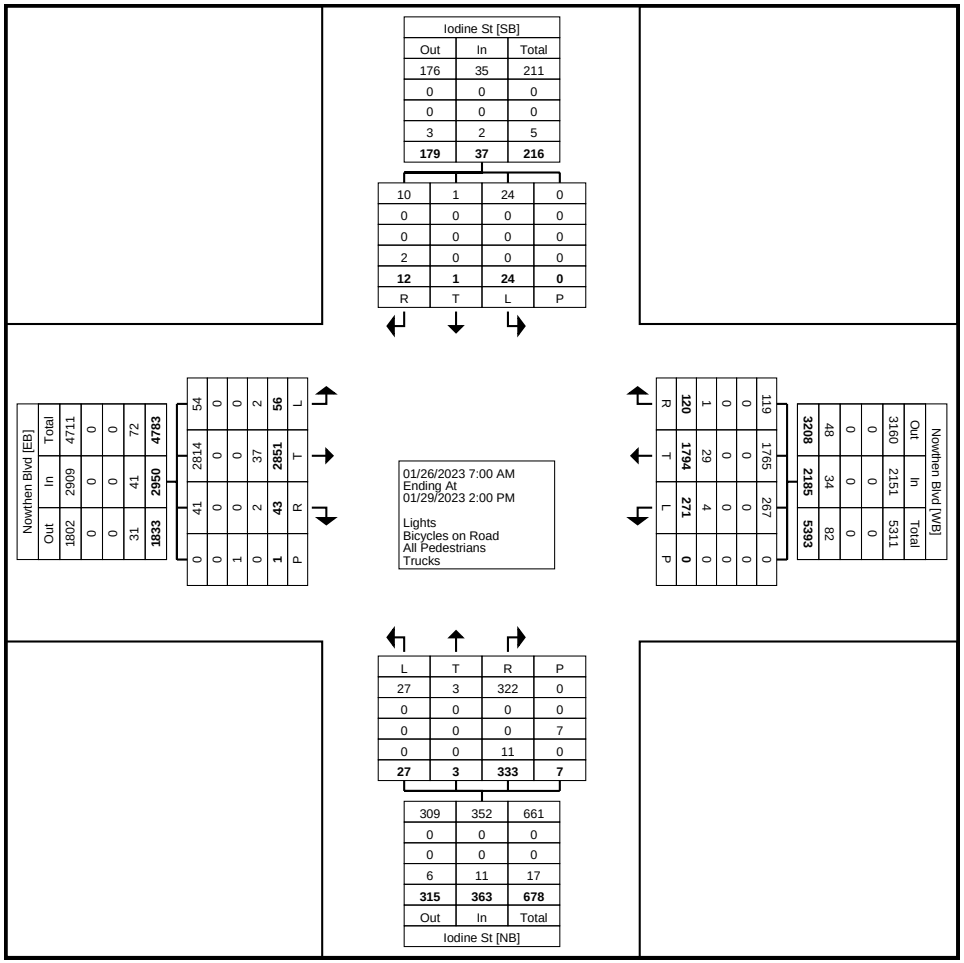
Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	216	0	0	216	3	15	1	0	19	2	0	23	0	25	0	0	0	0	0	260
7:15 AM	1	210	1	0	212	3	32	6	0	41	1	0	27	0	28	0	0	0	0	0	281
7:30 AM	2	140	2	0	144	5	52	1	0	58	0	0	17	0	17	0	0	0	0	0	219
7:45 AM	2	143	3	0	148	1	37	4	0	42	1	0	15	0	16	0	0	0	0	0	206
Hourly Total	5	709	6	0	720	12	136	12	0	160	4	0	82	0	86	0	0	0	0	0	966
8:00 AM	4	109	0	0	113	3	53	7	0	63	0	0	7	0	7	0	0	0	0	0	183
8:15 AM	2	98	2	0	102	4	49	6	0	59	3	0	8	0	11	0	0	0	0	0	172
8:30 AM	2	86	0	1	88	6	33	2	0	41	1	0	13	1	14	0	0	0	0	0	143
8:45 AM	9	86	1	0	96	3	39	11	0	53	0	0	9	0	9	0	0	0	0	0	158
Hourly Total	17	379	3	1	399	16	174	26	0	216	4	0	37	1	41	0	0	0	0	0	656
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	128	3	0	131	12	85	3	0	100	1	0	3	0	4	1	0	0	0	1	236
4:15 PM	0	80	6	0	86	11	117	1	0	129	2	0	8	0	10	2	0	0	0	2	227
4:30 PM	1	78	0	0	79	25	114	1	0	140	2	0	13	0	15	4	0	2	0	6	240
4:45 PM	0	94	4	0	98	14	96	1	0	111	0	0	11	0	11	1	0	0	0	1	221
Hourly Total	1	380	13	0	394	62	412	6	0	480	5	0	35	0	40	8	0	2	0	10	924
5:00 PM	7	81	3	0	91	21	125	2	0	148	0	0	11	1	11	1	0	0	0	1	251
5:15 PM	8	102	0	0	110	13	77	16	0	106	0	0	10	2	10	0	0	1	0	1	227
5:30 PM	2	95	4	0	101	17	81	11	0	109	1	0	17	0	18	2	0	1	0	3	231
5:45 PM	0	68	1	0	69	15	108	4	0	127	1	0	12	1	13	4	0	2	0	6	215
Hourly Total	17	346	8	0	371	66	391	33	0	490	2	0	50	4	52	7	0	4	0	11	924
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	64	0	0	64	0	24	3	0	27	0	0	6	0	6	0	0	0	0	0	97
10:15 AM	4	84	0	0	88	7	29	5	0	41	0	0	5	0	5	0	0	0	0	0	134
10:30 AM	4	64	0	0	68	5	24	13	0	42	4	1	8	0	13	1	0	1	0	2	125
10:45 AM	2	75	2	0	79	7	27	4	0	38	2	1	8	0	11	0	0	0	0	0	128
Hourly Total	10	287	2	0	299	19	104	25	0	148	6	2	27	0	35	1	0	1	0	2	484
11:00 AM	0	40	2	0	42	1	30	0	0	31	0	0	9	0	9	0	0	0	0	0	82
11:15 AM	0	59	0	0	59	7	44	4	0	55	1	1	6	0	8	0	1	0	0	1	123
11:30 AM	2	56	0	0	58	5	41	4	0	50	0	0	4	1	4	1	0	1	0	2	114
11:45 AM	0	92	1	0	93	6	42	0	0	48	1	0	10	0	11	1	0	0	0	1	153
Hourly Total	2	247	3	0	252	19	157	8	0	184	2	1	29	1	32	2	1	1	0	4	472
12:00 PM	0	65	0	0	65	9	44	2	0	55	0	0	4	0	4	1	0	0	0	1	125
12:15 PM	1	76	3	0	80	10	53	0	0	63	0	0	10	0	10	0	0	0	0	0	153

12:30 PM	0	64	0	0	64	9	54	0	0	63	0	0	8	0	8	1	0	1	0	2	137
12:45 PM	0	49	2	0	51	9	60	4	0	73	1	0	9	1	10	2	0	0	0	2	136
Hourly Total	1	254	5	0	260	37	211	6	0	254	1	0	31	1	32	4	0	1	0	5	551
1:00 PM	1	54	1	0	56	6	36	1	0	43	0	0	14	0	14	0	0	0	0	0	113
1:15 PM	1	84	1	0	86	10	55	3	0	68	2	0	8	0	10	1	0	1	0	2	166
1:30 PM	1	59	0	0	60	11	59	0	0	70	1	0	9	0	10	0	0	2	0	2	142
1:45 PM	0	52	1	0	53	13	59	0	0	72	0	0	11	0	11	1	0	0	0	1	137
Hourly Total	3	249	3	0	255	40	209	4	0	253	3	0	42	0	45	2	0	3	0	5	558
Grand Total	56	2851	43	1	2950	271	1794	120	0	2185	27	3	333	7	363	24	1	12	0	37	5535
Approach %	1.9	96.6	1.5	-	-	12.4	82.1	5.5	-	-	7.4	0.8	91.7	-	-	64.9	2.7	32.4	-	-	-
Total %	1.0	51.5	0.8	-	53.3	4.9	32.4	2.2	-	39.5	0.5	0.1	6.0	-	6.6	0.4	0.0	0.2	-	0.7	-
Lights	54	2814	41	-	2909	267	1765	119	-	2151	27	3	322	-	352	24	1	10	-	35	5447
% Lights	96.4	98.7	95.3	-	98.6	98.5	98.4	99.2	-	98.4	100.0	100.0	96.7	-	97.0	100.0	100.0	83.3	-	94.6	98.4
Bicycles on Road	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
All Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	7	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-
Trucks	2	37	2	-	41	4	29	1	-	34	0	0	11	-	11	0	0	2	-	2	88
% Trucks	3.6	1.3	4.7	-	1.4	1.5	1.6	0.8	-	1.6	0.0	0.0	3.3	-	3.0	0.0	0.0	16.7	-	5.4	1.6

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Turning Movement Data Plot

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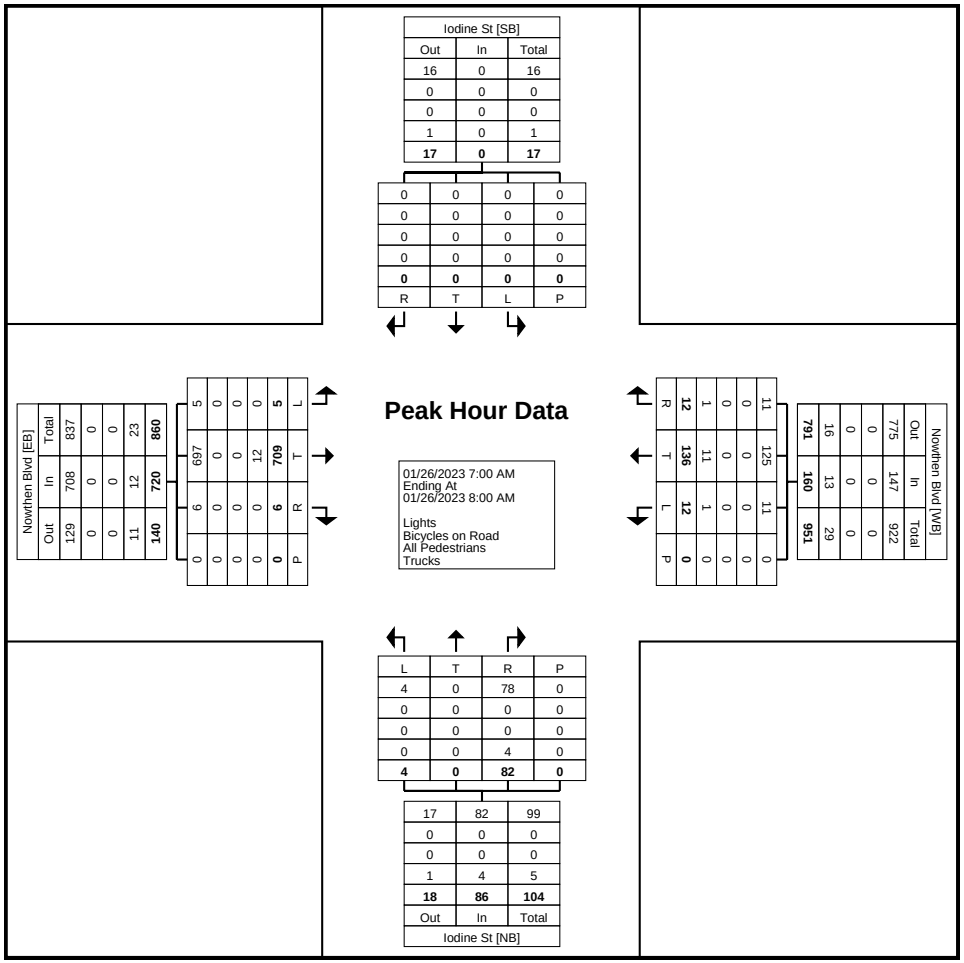
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	216	0	0	216	3	15	1	0	19	2	0	23	0	25	0	0	0	0	0	260
7:15 AM	1	210	1	0	212	3	32	6	0	41	1	0	27	0	28	0	0	0	0	0	281
7:30 AM	2	140	2	0	144	5	52	1	0	58	0	0	17	0	17	0	0	0	0	0	219
7:45 AM	2	143	3	0	148	1	37	4	0	42	1	0	15	0	16	0	0	0	0	0	206
Total	5	709	6	0	720	12	136	12	0	160	4	0	82	0	86	0	0	0	0	0	966
Approach %	0.7	98.5	0.8	-	-	7.5	85.0	7.5	-	-	4.7	0.0	95.3	-	-	0.0	0.0	0.0	-	-	-
Total %	0.5	73.4	0.6	-	74.5	1.2	14.1	1.2	-	16.6	0.4	0.0	8.5	-	8.9	0.0	0.0	0.0	-	0.0	-
PHF	0.625	0.821	0.500	-	0.833	0.600	0.654	0.500	-	0.690	0.500	0.000	0.759	-	0.768	0.000	0.000	0.000	-	0.000	0.859
Lights	5	697	6	-	708	11	125	11	-	147	4	0	78	-	82	0	0	0	-	0	937
% Lights	100.0	98.3	100.0	-	98.3	91.7	91.9	91.7	-	91.9	100.0	-	95.1	-	95.3	-	-	-	-	-	97.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	12	0	-	12	1	11	1	-	13	0	0	4	-	4	0	0	0	-	0	29
% Trucks	0.0	1.7	0.0	-	1.7	8.3	8.1	8.3	-	8.1	0.0	-	4.9	-	4.7	-	-	-	-	-	3.0

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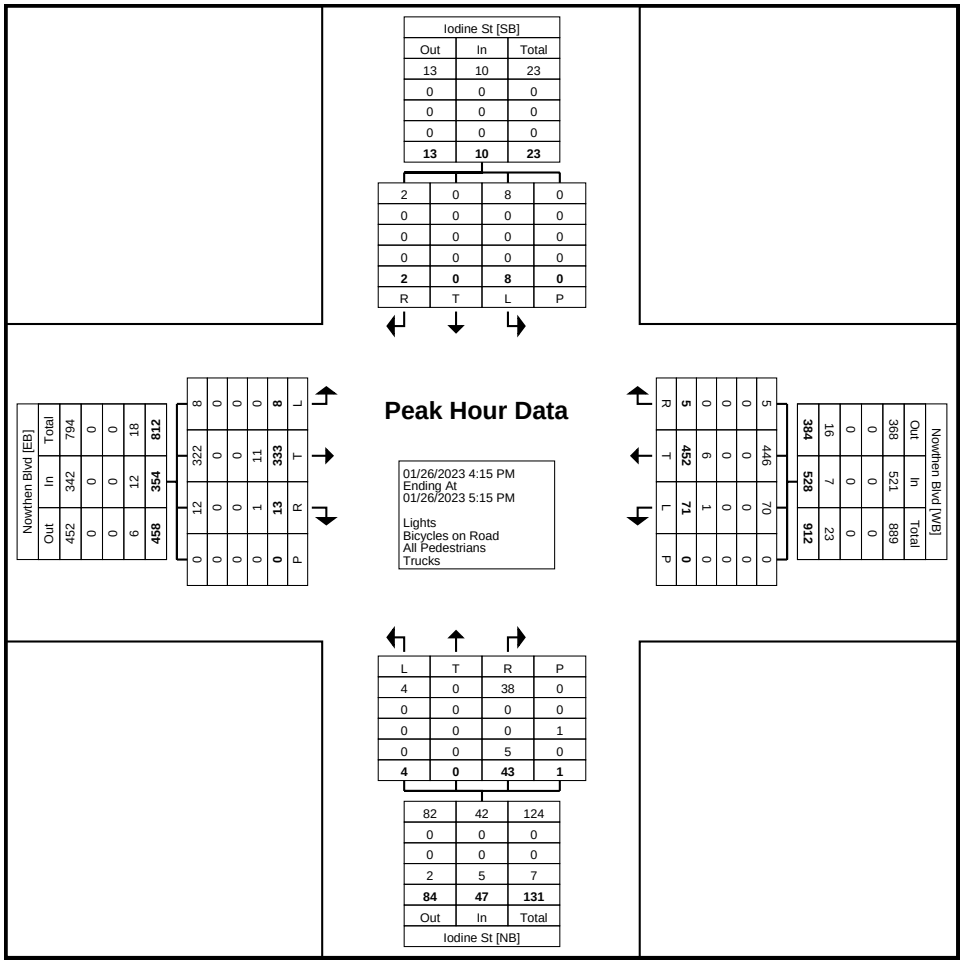
Turning Movement Peak Hour Data (4:15 PM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:15 PM	0	80	6	0	86	11	117	1	0	129	2	0	8	0	10	2	0	0	0	2	227
4:30 PM	1	78	0	0	79	25	114	1	0	140	2	0	13	0	15	4	0	2	0	6	240
4:45 PM	0	94	4	0	98	14	96	1	0	111	0	0	11	0	11	1	0	0	0	1	221
5:00 PM	7	81	3	0	91	21	125	2	0	148	0	0	11	1	11	1	0	0	0	1	251
Total	8	333	13	0	354	71	452	5	0	528	4	0	43	1	47	8	0	2	0	10	939
Approach %	2.3	94.1	3.7	-	-	13.4	85.6	0.9	-	-	8.5	0.0	91.5	-	-	80.0	0.0	20.0	-	-	-
Total %	0.9	35.5	1.4	-	37.7	7.6	48.1	0.5	-	56.2	0.4	0.0	4.6	-	5.0	0.9	0.0	0.2	-	1.1	-
PHF	0.286	0.886	0.542	-	0.903	0.710	0.904	0.625	-	0.892	0.500	0.000	0.827	-	0.783	0.500	0.000	0.250	-	0.417	0.935
Lights	8	322	12	-	342	70	446	5	-	521	4	0	38	-	42	8	0	2	-	10	915
% Lights	100.0	96.7	92.3	-	96.6	98.6	98.7	100.0	-	98.7	100.0	-	88.4	-	89.4	100.0	-	100.0	-	100.0	97.4
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-
Trucks	0	11	1	-	12	1	6	0	-	7	0	0	5	-	5	0	0	0	-	0	24
% Trucks	0.0	3.3	7.7	-	3.4	1.4	1.3	0.0	-	1.3	0.0	-	11.6	-	10.6	0.0	-	0.0	-	0.0	2.6

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Turning Movement Peak Hour Data Plot (4:15 PM)

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023

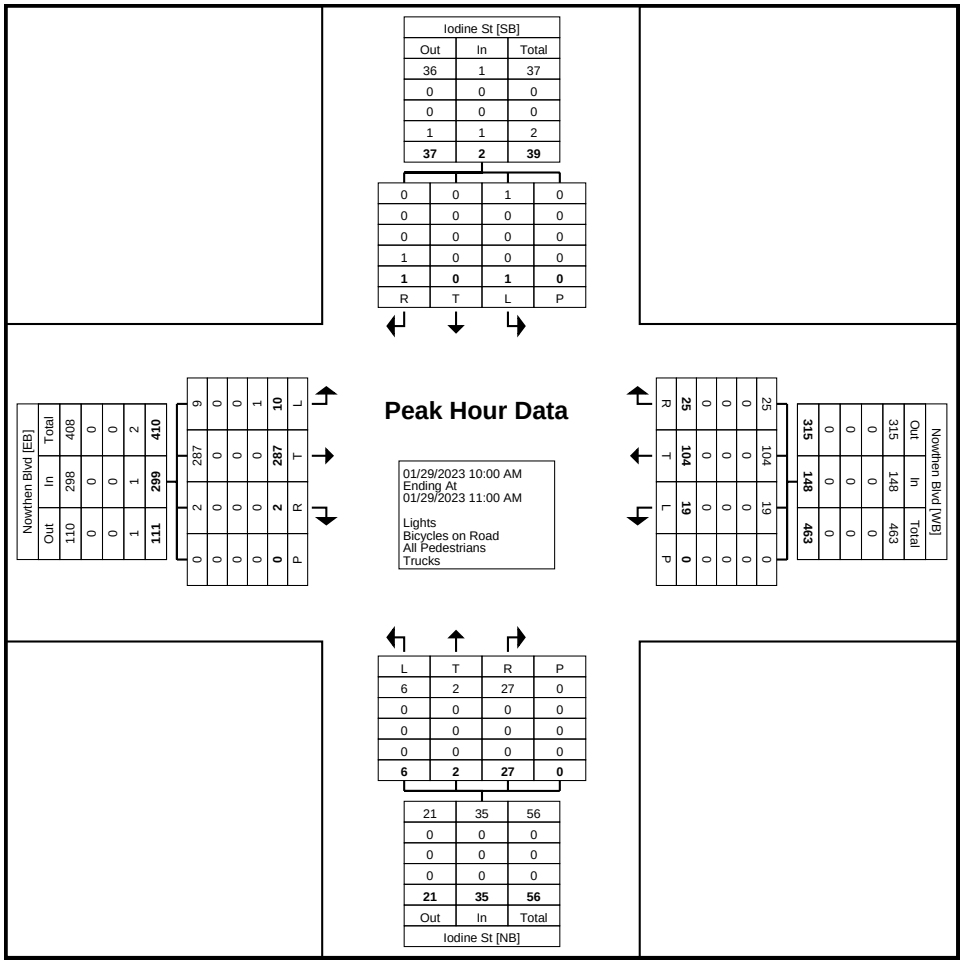
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
10:00 AM	0	64	0	0	64	0	24	3	0	27	0	0	6	0	6	0	0	0	0	0	97
10:15 AM	4	84	0	0	88	7	29	5	0	41	0	0	5	0	5	0	0	0	0	0	134
10:30 AM	4	64	0	0	68	5	24	13	0	42	4	1	8	0	13	1	0	1	0	2	125
10:45 AM	2	75	2	0	79	7	27	4	0	38	2	1	8	0	11	0	0	0	0	0	128
Total	10	287	2	0	299	19	104	25	0	148	6	2	27	0	35	1	0	1	0	2	484
Approach %	3.3	96.0	0.7	-	-	12.8	70.3	16.9	-	-	17.1	5.7	77.1	-	-	50.0	0.0	50.0	-	-	-
Total %	2.1	59.3	0.4	-	61.8	3.9	21.5	5.2	-	30.6	1.2	0.4	5.6	-	7.2	0.2	0.0	0.2	-	0.4	-
PHF	0.625	0.854	0.250	-	0.849	0.679	0.897	0.481	-	0.881	0.375	0.500	0.844	-	0.673	0.250	0.000	0.250	-	0.250	0.903
Lights	9	287	2	-	298	19	104	25	-	148	6	2	27	-	35	1	0	0	-	1	482
% Lights	90.0	100.0	100.0	-	99.7	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	-	0.0	-	50.0	99.6
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	1	0	0	-	1	0	0	0	-	0	0	0	0	-	0	0	0	1	-	1	2
% Trucks	10.0	0.0	0.0	-	0.3	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	-	100.0	-	50.0	0.4

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

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Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023

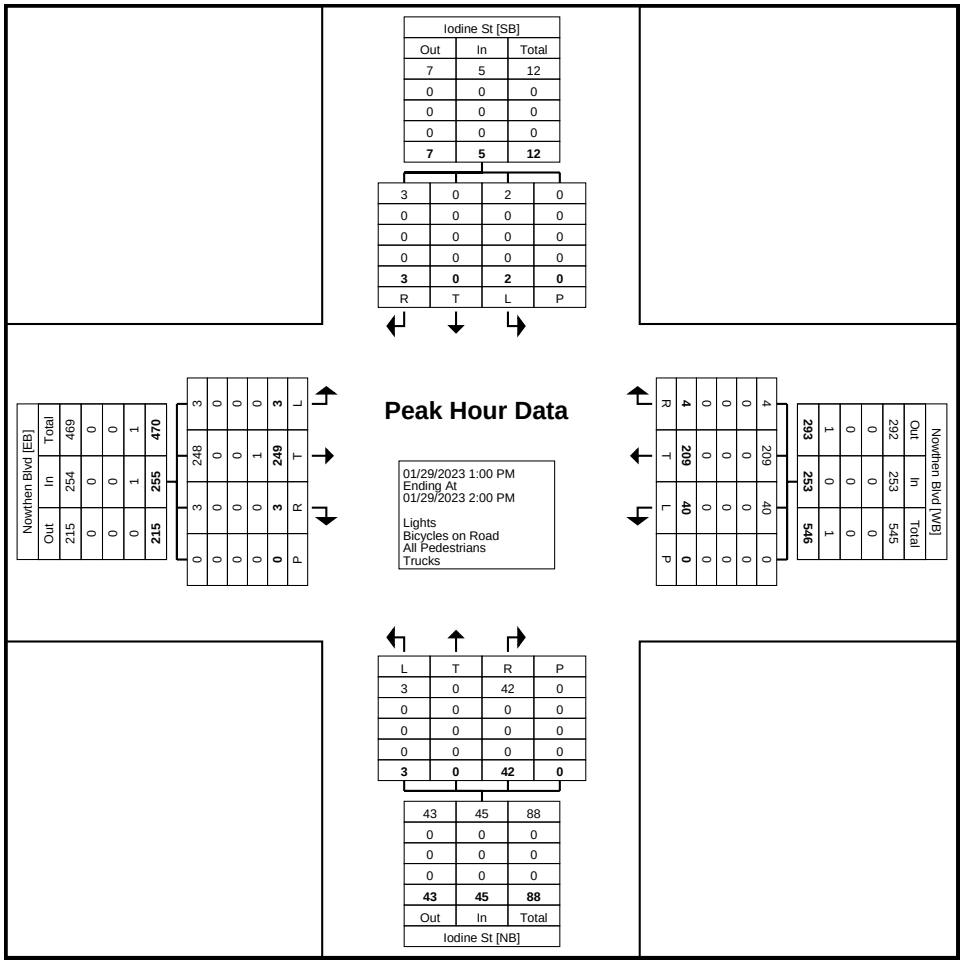
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					Iodine St Northbound					Iodine St Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	1	54	1	0	56	6	36	1	0	43	0	0	14	0	14	0	0	0	0	0	113
1:15 PM	1	84	1	0	86	10	55	3	0	68	2	0	8	0	10	1	0	1	0	2	166
1:30 PM	1	59	0	0	60	11	59	0	0	70	1	0	9	0	10	0	0	2	0	2	142
1:45 PM	0	52	1	0	53	13	59	0	0	72	0	0	11	0	11	1	0	0	0	1	137
Total	3	249	3	0	255	40	209	4	0	253	3	0	42	0	45	2	0	3	0	5	558
Approach %	1.2	97.6	1.2	-	-	15.8	82.6	1.6	-	-	6.7	0.0	93.3	-	-	40.0	0.0	60.0	-	-	-
Total %	0.5	44.6	0.5	-	45.7	7.2	37.5	0.7	-	45.3	0.5	0.0	7.5	-	8.1	0.4	0.0	0.5	-	0.9	-
PHF	0.750	0.741	0.750	-	0.741	0.769	0.886	0.333	-	0.878	0.375	0.000	0.750	-	0.804	0.500	0.000	0.375	-	0.625	0.840
Lights	3	248	3	-	254	40	209	4	-	253	3	0	42	-	45	2	0	3	-	5	557
% Lights	100.0	99.6	100.0	-	99.6	100.0	100.0	100.0	-	100.0	100.0	-	100.0	-	100.0	100.0	-	100.0	-	100.0	99.8
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	1
% Trucks	0.0	0.4	0.0	-	0.4	0.0	0.0	0.0	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.2

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Count Name: Nowthen Blvd & Iodine St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (1:00 PM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023

Turning Movement Data

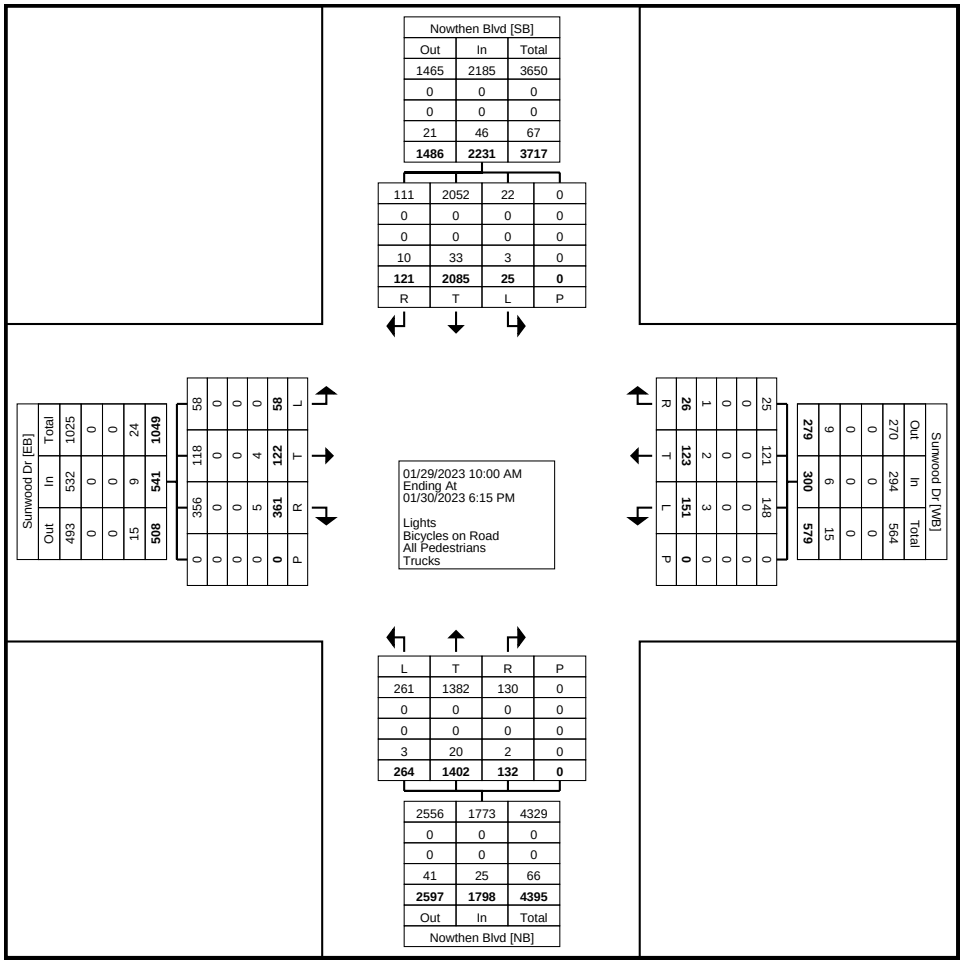
Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
10:00 AM	1	2	11	0	14	2	1	0	0	3	2	21	4	0	27	0	41	0	0	41	85
10:15 AM	0	4	14	0	18	6	3	0	0	9	4	26	3	0	33	0	58	0	0	58	118
10:30 AM	1	2	7	0	10	5	1	2	0	8	5	22	1	0	28	0	52	0	0	52	98
10:45 AM	1	2	14	0	17	5	7	0	0	12	2	24	3	0	29	0	50	0	0	50	108
Hourly Total	3	10	46	0	59	18	12	2	0	32	13	93	11	0	117	0	201	0	0	201	409
11:00 AM	2	3	6	0	11	1	1	0	0	2	6	15	3	0	24	0	33	2	0	35	72
11:15 AM	4	1	6	0	11	2	1	1	0	4	5	30	4	0	39	0	41	0	0	41	95
11:30 AM	1	3	6	0	10	4	3	0	0	7	6	32	5	0	43	0	46	1	0	47	107
11:45 AM	1	3	17	0	21	8	2	0	0	10	3	36	1	0	40	0	53	2	0	55	126
Hourly Total	8	10	35	0	53	15	7	1	0	23	20	113	13	0	146	0	173	5	0	178	400
12:00 PM	1	3	10	0	14	4	6	1	0	11	11	30	5	0	46	0	41	3	0	44	115
12:15 PM	0	7	10	0	17	1	4	1	0	6	5	35	4	0	44	0	63	2	0	65	132
12:30 PM	1	7	7	0	15	4	1	2	0	7	7	44	4	0	55	0	50	1	0	51	128
12:45 PM	1	7	7	0	15	1	5	1	0	7	9	40	7	0	56	1	39	1	0	41	119
Hourly Total	3	24	34	0	61	10	16	5	0	31	32	149	20	0	201	1	193	7	0	201	494
1:00 PM	1	3	10	0	14	0	1	0	0	1	7	24	1	0	32	0	38	2	0	40	87
1:15 PM	2	4	15	0	21	8	3	0	0	11	16	39	5	0	60	1	50	2	0	53	145
1:30 PM	0	1	12	0	13	4	7	1	0	12	7	51	7	0	65	0	34	2	0	36	126
1:45 PM	0	3	10	0	13	4	2	0	0	6	8	32	8	0	48	0	33	4	0	37	104
Hourly Total	3	11	47	0	61	16	13	1	0	30	38	146	21	0	205	1	155	10	0	166	462
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	4	12	0	16	12	9	2	0	23	3	15	2	0	20	0	127	5	0	132	191
7:15 AM	2	3	17	0	22	10	1	0	0	11	2	29	2	0	33	0	105	1	0	106	172
7:30 AM	3	1	6	0	10	12	6	0	0	18	3	31	3	0	37	2	108	6	0	116	181
7:45 AM	3	6	17	0	26	6	6	3	0	15	3	34	0	0	37	0	126	5	0	131	209
Hourly Total	8	14	52	0	74	40	22	5	0	67	11	109	7	0	127	2	466	17	0	485	753
8:00 AM	6	2	21	0	29	9	3	1	0	13	4	46	5	0	55	3	140	3	0	146	243
8:15 AM	4	3	14	0	21	7	6	1	0	14	3	56	2	0	61	2	100	4	0	106	202
8:30 AM	3	4	5	0	12	6	4	0	0	10	7	37	5	0	49	0	53	1	0	54	125
8:45 AM	1	2	15	0	18	4	4	0	0	8	6	25	3	0	34	0	57	3	0	60	120
Hourly Total	14	11	55	0	80	26	17	2	0	45	20	164	15	0	199	5	350	11	0	366	690
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4:00 PM	6	5	6	0	17	2	5	4	0	11	21	84	12	0	117	11	120	37	0	168	313
4:15 PM	2	1	14	0	17	3	4	0	0	7	15	60	5	0	80	2	71	5	0	78	182
4:30 PM	4	7	15	0	26	8	6	1	0	15	24	82	6	0	112	3	77	3	0	83	236
4:45 PM	2	11	6	0	19	8	7	2	0	17	14	84	4	0	102	0	62	3	0	65	203
Hourly Total	14	24	41	0	79	21	22	7	0	50	74	310	27	0	411	16	330	48	0	394	934
5:00 PM	3	6	12	0	21	0	2	2	0	4	21	82	3	0	106	0	69	5	0	74	205
5:15 PM	0	5	14	0	19	2	6	0	0	8	11	96	4	0	111	0	55	8	0	63	201
5:30 PM	1	3	14	0	18	1	3	1	0	5	10	77	7	0	94	0	48	5	0	53	170
5:45 PM	1	4	11	0	16	2	3	0	0	5	14	63	3	0	80	0	45	5	0	50	151
Hourly Total	5	18	51	0	74	5	14	3	0	22	56	318	17	0	391	0	217	23	0	240	727
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Grand Total	58	122	361	0	541	151	123	26	0	300	264	1402	132	0	1798	25	2085	121	0	2231	4870
Approach %	10.7	22.6	66.7	-	-	50.3	41.0	8.7	-	-	14.7	78.0	7.3	-	-	1.1	93.5	5.4	-	-	-
Total %	1.2	2.5	7.4	-	11.1	3.1	2.5	0.5	-	6.2	5.4	28.8	2.7	-	36.9	0.5	42.8	2.5	-	45.8	-
Lights	58	118	356	-	532	148	121	25	-	294	261	1382	130	-	1773	22	2052	111	-	2185	4784
% Lights	100.0	96.7	98.6	-	98.3	98.0	98.4	96.2	-	98.0	98.9	98.6	98.5	-	98.6	88.0	98.4	91.7	-	97.9	98.2
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	4	5	-	9	3	2	1	-	6	3	20	2	-	25	3	33	10	-	46	86
% Trucks	0.0	3.3	1.4	-	1.7	2.0	1.6	3.8	-	2.0	1.1	1.4	1.5	-	1.4	12.0	1.6	8.3	-	2.1	1.8

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Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023



Turning Movement Data Plot

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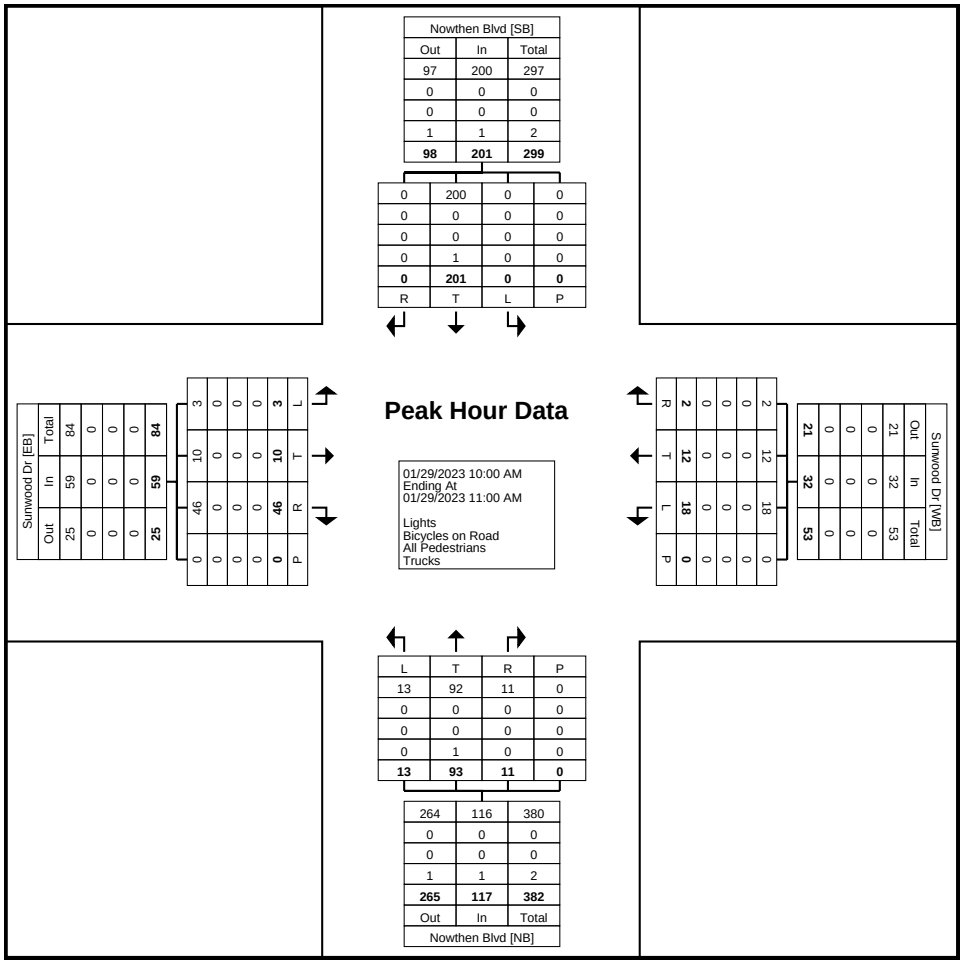
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
10:00 AM	1	2	11	0	14	2	1	0	0	3	2	21	4	0	27	0	41	0	0	41	85
10:15 AM	0	4	14	0	18	6	3	0	0	9	4	26	3	0	33	0	58	0	0	58	118
10:30 AM	1	2	7	0	10	5	1	2	0	8	5	22	1	0	28	0	52	0	0	52	98
10:45 AM	1	2	14	0	17	5	7	0	0	12	2	24	3	0	29	0	50	0	0	50	108
Total	3	10	46	0	59	18	12	2	0	32	13	93	11	0	117	0	201	0	0	201	409
Approach %	5.1	16.9	78.0	-	-	56.3	37.5	6.3	-	-	11.1	79.5	9.4	-	-	0.0	100.0	0.0	-	-	-
Total %	0.7	2.4	11.2	-	14.4	4.4	2.9	0.5	-	7.8	3.2	22.7	2.7	-	28.6	0.0	49.1	0.0	-	49.1	-
PHF	0.750	0.625	0.821	-	0.819	0.750	0.429	0.250	-	0.667	0.650	0.894	0.688	-	0.886	0.000	0.866	0.000	-	0.866	0.867
Lights	3	10	46	-	59	18	12	2	-	32	13	92	11	-	116	0	200	0	-	200	407
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	98.9	100.0	-	99.1	-	99.5	-	-	99.5	99.5
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	0	1	0	-	1	2
% Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	1.1	0.0	-	0.9	-	0.5	-	-	0.5	0.5

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Site Code:
Start Date: 01/29/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

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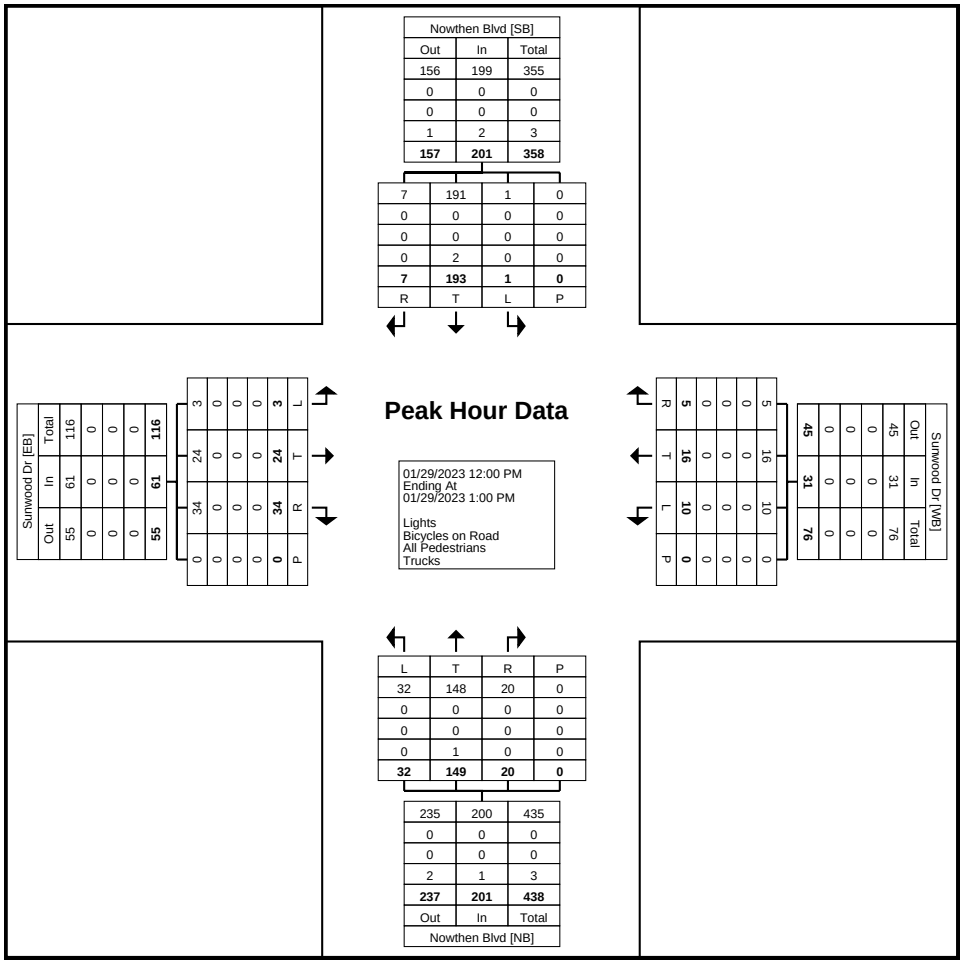
Turning Movement Peak Hour Data (12:00 PM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 PM	1	3	10	0	14	4	6	1	0	11	11	30	5	0	46	0	41	3	0	44	115
12:15 PM	0	7	10	0	17	1	4	1	0	6	5	35	4	0	44	0	63	2	0	65	132
12:30 PM	1	7	7	0	15	4	1	2	0	7	7	44	4	0	55	0	50	1	0	51	128
12:45 PM	1	7	7	0	15	1	5	1	0	7	9	40	7	0	56	1	39	1	0	41	119
Total	3	24	34	0	61	10	16	5	0	31	32	149	20	0	201	1	193	7	0	201	494
Approach %	4.9	39.3	55.7	-	-	32.3	51.6	16.1	-	-	15.9	74.1	10.0	-	-	0.5	96.0	3.5	-	-	-
Total %	0.6	4.9	6.9	-	12.3	2.0	3.2	1.0	-	6.3	6.5	30.2	4.0	-	40.7	0.2	39.1	1.4	-	40.7	-
PHF	0.750	0.857	0.850	-	0.897	0.625	0.667	0.625	-	0.705	0.727	0.847	0.714	-	0.897	0.250	0.766	0.583	-	0.773	0.936
Lights	3	24	34	-	61	10	16	5	-	31	32	148	20	-	200	1	191	7	-	199	491
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	99.3	100.0	-	99.5	100.0	99.0	100.0	-	99.0	99.4
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	0	2	0	-	2	3
% Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.7	0.0	-	0.5	0.0	1.0	0.0	-	1.0	0.6

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023



Turning Movement Peak Hour Data Plot (12:00 PM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

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Count Name: Nowthen Blvd & Sunwood Dr
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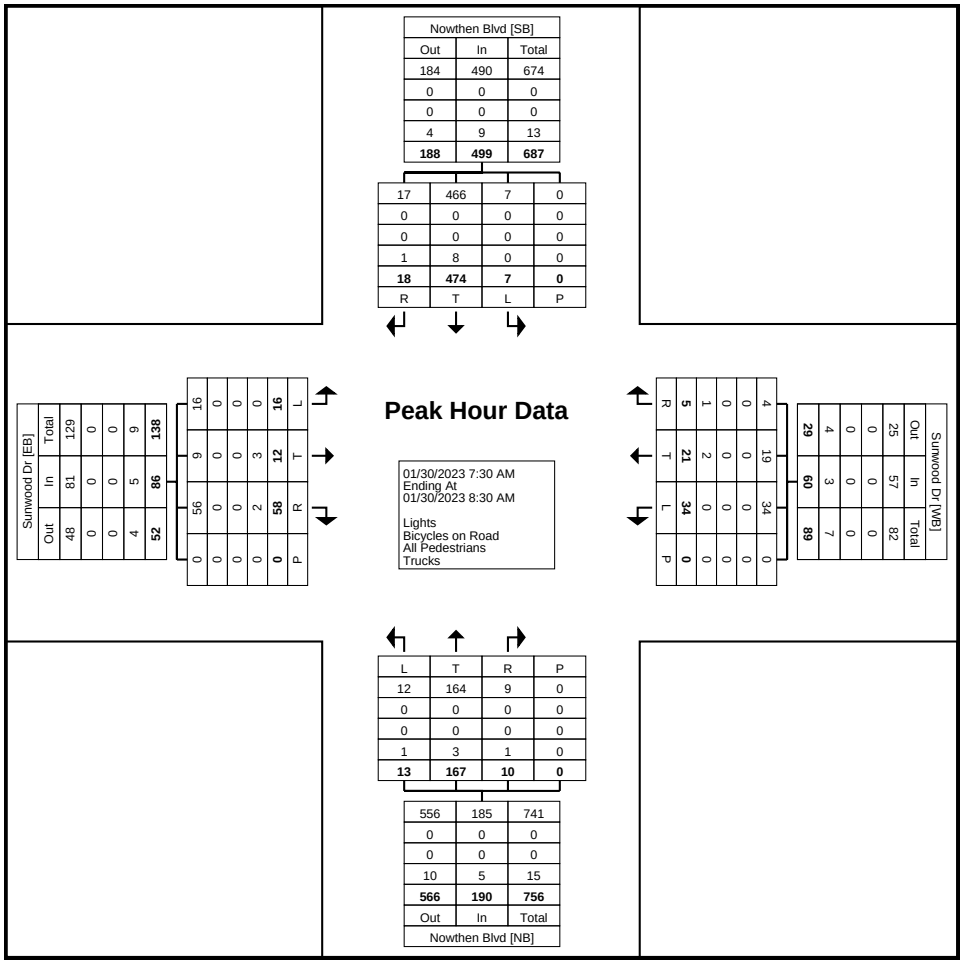
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	3	1	6	0	10	12	6	0	0	18	3	31	3	0	37	2	108	6	0	116	181
7:45 AM	3	6	17	0	26	6	6	3	0	15	3	34	0	0	37	0	126	5	0	131	209
8:00 AM	6	2	21	0	29	9	3	1	0	13	4	46	5	0	55	3	140	3	0	146	243
8:15 AM	4	3	14	0	21	7	6	1	0	14	3	56	2	0	61	2	100	4	0	106	202
Total	16	12	58	0	86	34	21	5	0	60	13	167	10	0	190	7	474	18	0	499	835
Approach %	18.6	14.0	67.4	-	-	56.7	35.0	8.3	-	-	6.8	87.9	5.3	-	-	1.4	95.0	3.6	-	-	-
Total %	1.9	1.4	6.9	-	10.3	4.1	2.5	0.6	-	7.2	1.6	20.0	1.2	-	22.8	0.8	56.8	2.2	-	59.8	-
PHF	0.667	0.500	0.690	-	0.741	0.708	0.875	0.417	-	0.833	0.813	0.746	0.500	-	0.779	0.583	0.846	0.750	-	0.854	0.859
Lights	16	9	56	-	81	34	19	4	-	57	12	164	9	-	185	7	466	17	-	490	813
% Lights	100.0	75.0	96.6	-	94.2	100.0	90.5	80.0	-	95.0	92.3	98.2	90.0	-	97.4	100.0	98.3	94.4	-	98.2	97.4
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	3	2	-	5	0	2	1	-	3	1	3	1	-	5	0	8	1	-	9	22
% Trucks	0.0	25.0	3.4	-	5.8	0.0	9.5	20.0	-	5.0	7.7	1.8	10.0	-	2.6	0.0	1.7	5.6	-	1.8	2.6

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Start Date: 01/29/2023



Turning Movement Peak Hour Data Plot (7:30 AM)

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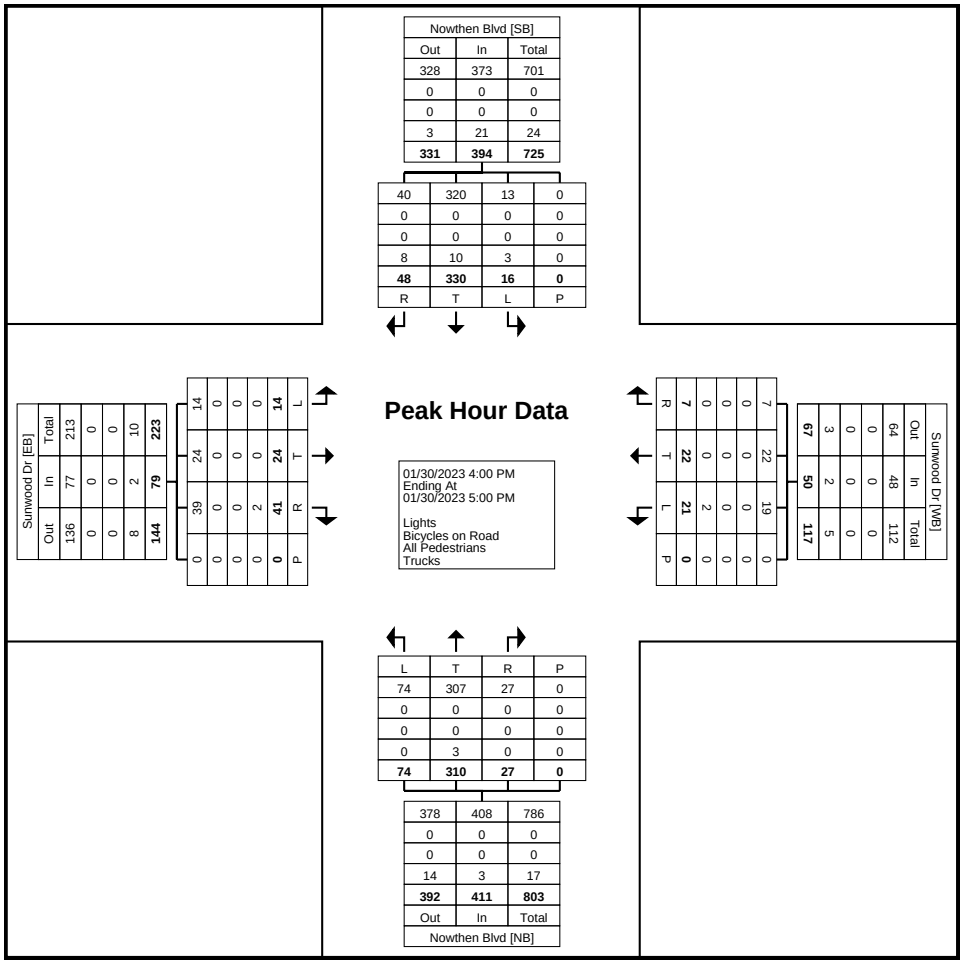
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					Nowthen Blvd Northbound					Nowthen Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	6	5	6	0	17	2	5	4	0	11	21	84	12	0	117	11	120	37	0	168	313
4:15 PM	2	1	14	0	17	3	4	0	0	7	15	60	5	0	80	2	71	5	0	78	182
4:30 PM	4	7	15	0	26	8	6	1	0	15	24	82	6	0	112	3	77	3	0	83	236
4:45 PM	2	11	6	0	19	8	7	2	0	17	14	84	4	0	102	0	62	3	0	65	203
Total	14	24	41	0	79	21	22	7	0	50	74	310	27	0	411	16	330	48	0	394	934
Approach %	17.7	30.4	51.9	-	-	42.0	44.0	14.0	-	-	18.0	75.4	6.6	-	-	4.1	83.8	12.2	-	-	-
Total %	1.5	2.6	4.4	-	8.5	2.2	2.4	0.7	-	5.4	7.9	33.2	2.9	-	44.0	1.7	35.3	5.1	-	42.2	-
PHF	0.583	0.545	0.683	-	0.760	0.656	0.786	0.438	-	0.735	0.771	0.923	0.563	-	0.878	0.364	0.688	0.324	-	0.586	0.746
Lights	14	24	39	-	77	19	22	7	-	48	74	307	27	-	408	13	320	40	-	373	906
% Lights	100.0	100.0	95.1	-	97.5	90.5	100.0	100.0	-	96.0	100.0	99.0	100.0	-	99.3	81.3	97.0	83.3	-	94.7	97.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	2	-	2	2	0	0	-	2	0	3	0	-	3	3	10	8	-	21	28
% Trucks	0.0	0.0	4.9	-	2.5	9.5	0.0	0.0	-	4.0	0.0	1.0	0.0	-	0.7	18.8	3.0	16.7	-	5.3	3.0

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Count Name: Nowthen Blvd & Sunwood Dr
Site Code:
Start Date: 01/29/2023



Turning Movement Peak Hour Data Plot (4:00 PM)

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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023

Turning Movement Data

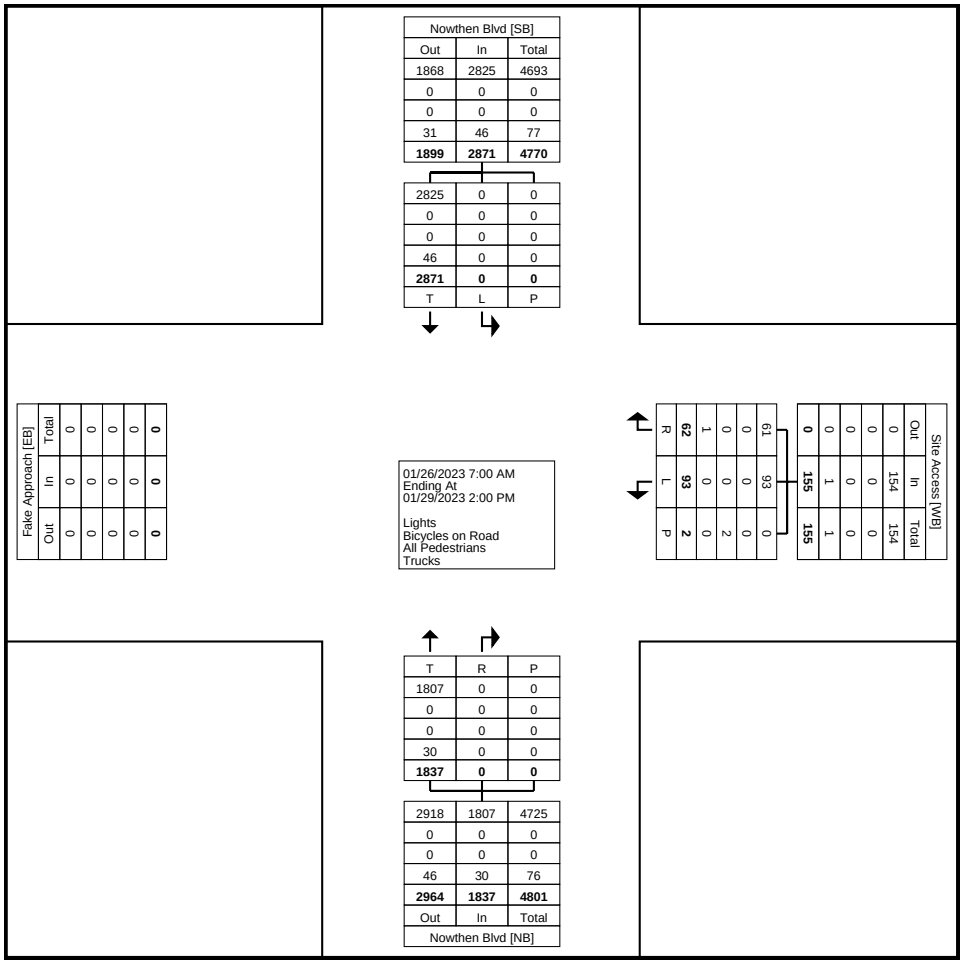
Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				Int. Total
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	
7:00 AM	0	0	0	0	15	0	0	15	0	222	0	222	237
7:15 AM	0	0	0	0	34	0	0	34	0	209	0	209	243
7:30 AM	0	1	0	1	51	0	0	51	0	145	0	145	197
7:45 AM	0	0	0	0	38	0	0	38	0	148	0	148	186
Hourly Total	0	1	0	1	138	0	0	138	0	724	0	724	863
8:00 AM	3	0	0	3	53	0	0	53	0	111	0	111	167
8:15 AM	1	0	0	1	52	0	0	52	0	102	0	102	155
8:30 AM	0	2	1	2	33	0	0	33	0	87	0	87	122
8:45 AM	2	1	0	3	39	0	0	39	0	94	0	94	136
Hourly Total	6	3	1	9	177	0	0	177	0	394	0	394	580
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	2	1	0	3	84	0	0	84	0	127	0	127	214
4:15 PM	0	0	0	0	113	0	0	113	0	88	0	88	201
4:30 PM	2	0	1	2	123	0	0	123	0	75	0	75	200
4:45 PM	0	1	0	1	99	0	0	99	0	98	0	98	198
Hourly Total	4	2	1	6	419	0	0	419	0	388	0	388	813
5:00 PM	1	2	0	3	124	0	0	124	0	94	0	94	221
5:15 PM	8	5	0	13	85	0	0	85	0	101	0	101	199
5:30 PM	15	11	0	26	80	0	0	80	0	83	0	83	189
5:45 PM	1	0	0	1	120	0	0	120	0	71	0	71	192
Hourly Total	25	18	0	43	409	0	0	409	0	349	0	349	801
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	4	6	0	10	24	0	0	24	0	59	0	59	93
10:15 AM	4	3	0	7	29	0	0	29	0	85	0	85	121
10:30 AM	1	0	0	1	28	0	0	28	0	68	0	68	97
10:45 AM	5	1	0	6	29	0	0	29	0	75	0	75	110
Hourly Total	14	10	0	24	110	0	0	110	0	287	0	287	421
11:00 AM	1	0	0	1	30	0	0	30	0	40	0	40	71
11:15 AM	3	1	0	4	41	0	0	41	0	56	0	56	101
11:30 AM	0	0	0	0	46	0	0	46	0	58	0	58	104
11:45 AM	9	6	0	15	41	0	0	41	0	85	0	85	141
Hourly Total	13	7	0	20	158	0	0	158	0	239	0	239	417

12:00 PM	6	1	0	7	47	0	0	47	0	60	0	60	114
12:15 PM	1	1	0	2	49	0	0	49	0	80	0	80	131
12:30 PM	1	2	0	3	58	0	0	58	0	64	0	64	125
12:45 PM	0	1	0	1	61	0	0	61	0	51	0	51	113
Hourly Total	8	5	0	13	215	0	0	215	0	255	0	255	483
1:00 PM	1	0	0	1	36	0	0	36	0	55	0	55	92
1:15 PM	14	10	0	24	57	0	0	57	0	75	0	75	156
1:30 PM	6	3	0	9	64	0	0	64	0	51	0	51	124
1:45 PM	2	3	0	5	54	0	0	54	0	54	0	54	113
Hourly Total	23	16	0	39	211	0	0	211	0	235	0	235	485
Grand Total	93	62	2	155	1837	0	0	1837	0	2871	0	2871	4863
Approach %	60.0	40.0	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	1.9	1.3	-	3.2	37.8	0.0	-	37.8	0.0	59.0	-	59.0	-
Lights	93	61	-	154	1807	0	-	1807	0	2825	-	2825	4786
% Lights	100.0	98.4	-	99.4	98.4	-	-	98.4	-	98.4	-	98.4	98.4
Bicycles on Road	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
All Pedestrians	-	-	2	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	100.0	-	-	-	-	-	-	-	-	-	-
Trucks	0	1	-	1	30	0	-	30	0	46	-	46	77
% Trucks	0.0	1.6	-	0.6	1.6	-	-	1.6	-	1.6	-	1.6	1.6

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Site Code:
Start Date: 01/26/2023



Turning Movement Data Plot

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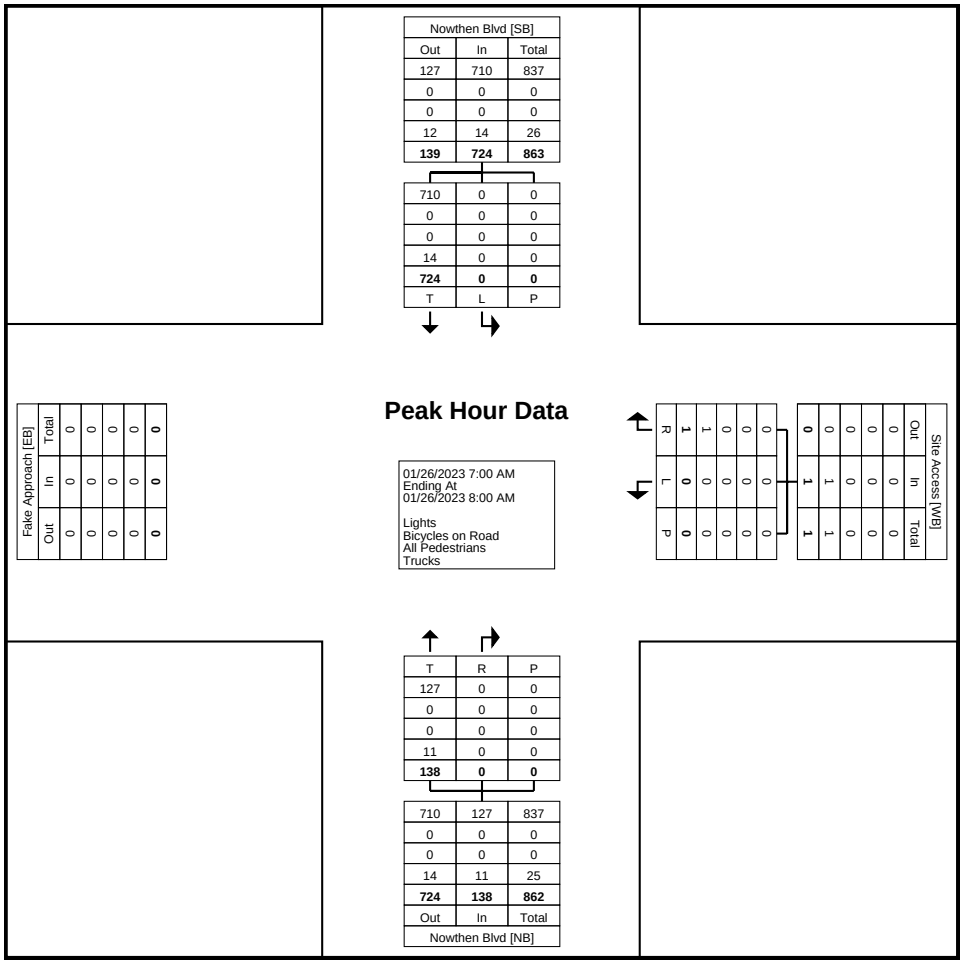
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	15	0	0	15	0	222	0	222	237
7:15 AM	0	0	0	0	34	0	0	34	0	209	0	209	243
7:30 AM	0	1	0	1	51	0	0	51	0	145	0	145	197
7:45 AM	0	0	0	0	38	0	0	38	0	148	0	148	186
Total	0	1	0	1	138	0	0	138	0	724	0	724	863
Approach %	0.0	100.0	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	0.0	0.1	-	0.1	16.0	0.0	-	16.0	0.0	83.9	-	83.9	-
PHF	0.000	0.250	-	0.250	0.676	0.000	-	0.676	0.000	0.815	-	0.815	0.888
Lights	0	0	-	0	127	0	-	127	0	710	-	710	837
% Lights	-	0.0	-	0.0	92.0	-	-	92.0	-	98.1	-	98.1	97.0
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	1	-	1	11	0	-	11	0	14	-	14	26
% Trucks	-	100.0	-	100.0	8.0	-	-	8.0	-	1.9	-	1.9	3.0

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Turning Movement Peak Hour Data Plot (7:00 AM)

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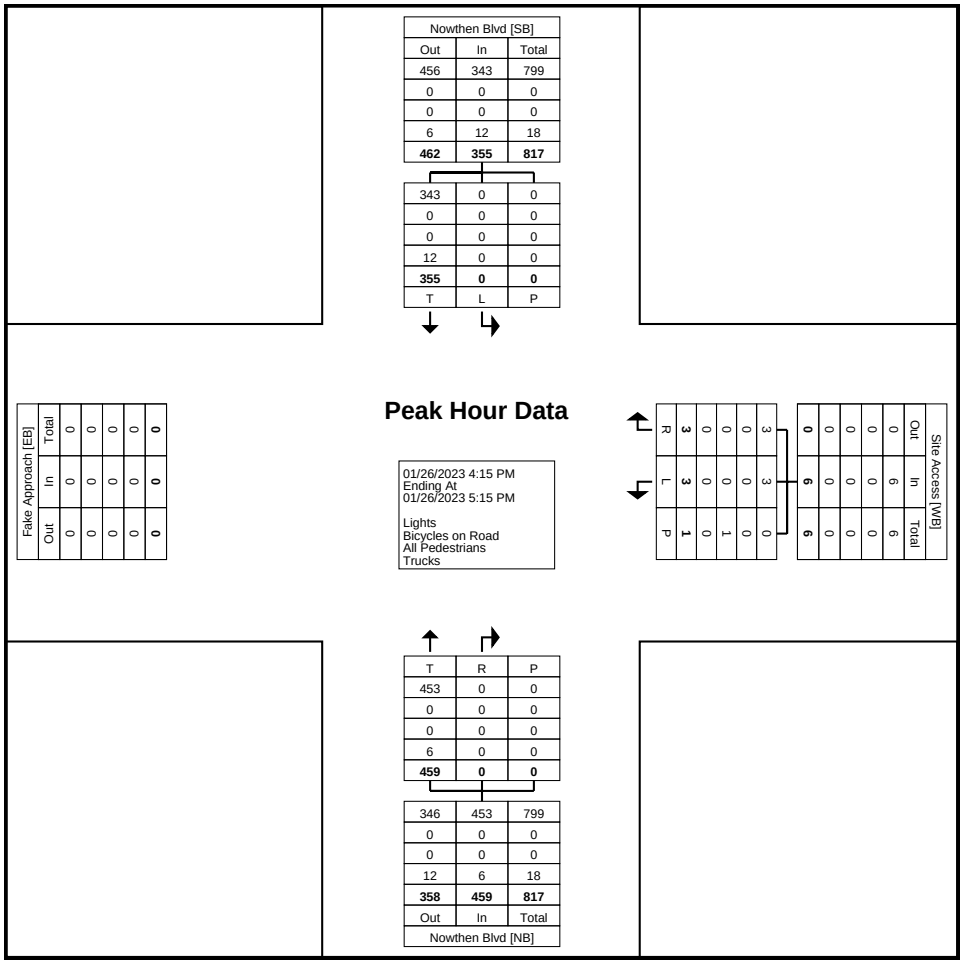
Turning Movement Peak Hour Data (4:15 PM)

Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
4:15 PM	0	0	0	0	113	0	0	113	0	88	0	88	201
4:30 PM	2	0	1	2	123	0	0	123	0	75	0	75	200
4:45 PM	0	1	0	1	99	0	0	99	0	98	0	98	198
5:00 PM	1	2	0	3	124	0	0	124	0	94	0	94	221
Total	3	3	1	6	459	0	0	459	0	355	0	355	820
Approach %	50.0	50.0	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	0.4	0.4	-	0.7	56.0	0.0	-	56.0	0.0	43.3	-	43.3	-
PHF	0.375	0.375	-	0.500	0.925	0.000	-	0.925	0.000	0.906	-	0.906	0.928
Lights	3	3	-	6	453	0	-	453	0	343	-	343	802
% Lights	100.0	100.0	-	100.0	98.7	-	-	98.7	-	96.6	-	96.6	97.8
Bicycles on Road	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
All Pedestrians	-	-	1	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	100.0	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	-	0	6	0	-	6	0	12	-	12	18
% Trucks	0.0	0.0	-	0.0	1.3	-	-	1.3	-	3.4	-	3.4	2.2

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Start Date: 01/26/2023

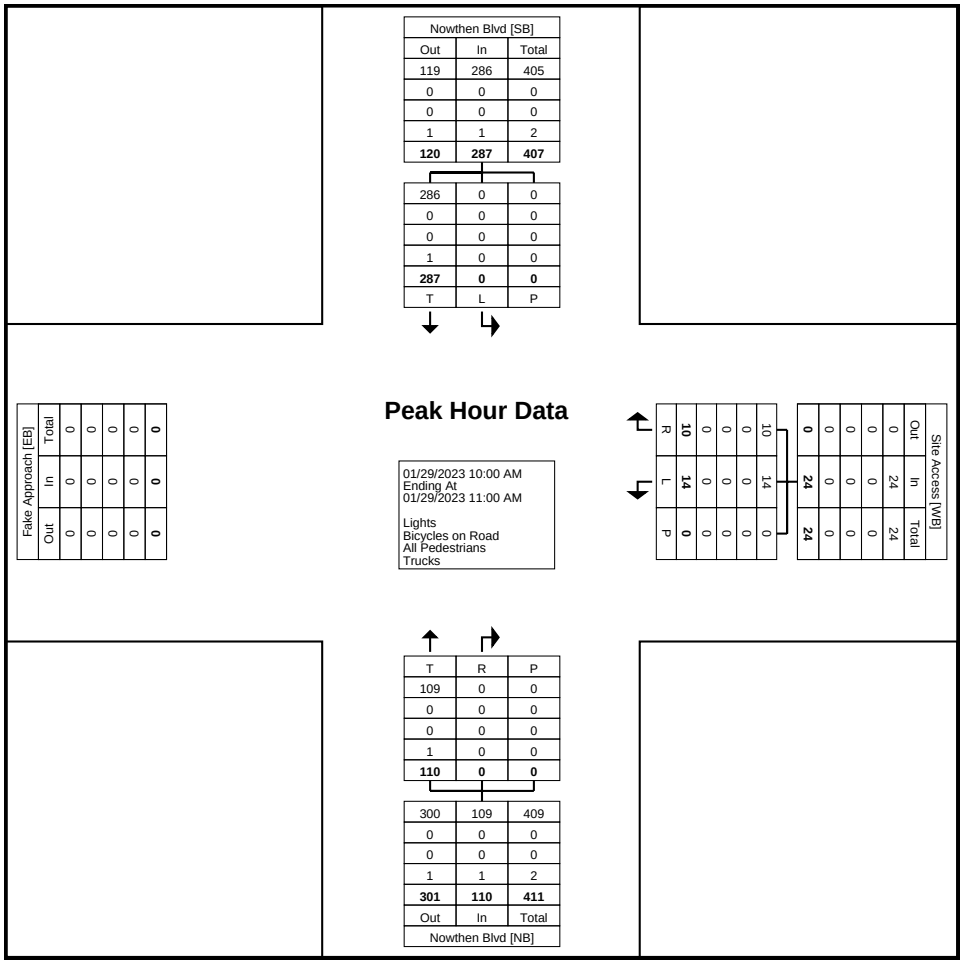
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
10:00 AM	4	6	0	10	24	0	0	24	0	59	0	59	93
10:15 AM	4	3	0	7	29	0	0	29	0	85	0	85	121
10:30 AM	1	0	0	1	28	0	0	28	0	68	0	68	97
10:45 AM	5	1	0	6	29	0	0	29	0	75	0	75	110
Total	14	10	0	24	110	0	0	110	0	287	0	287	421
Approach %	58.3	41.7	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	3.3	2.4	-	5.7	26.1	0.0	-	26.1	0.0	68.2	-	68.2	-
PHF	0.700	0.417	-	0.600	0.948	0.000	-	0.948	0.000	0.844	-	0.844	0.870
Lights	14	10	-	24	109	0	-	109	0	286	-	286	419
% Lights	100.0	100.0	-	100.0	99.1	-	-	99.1	-	99.7	-	99.7	99.5
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	-	0	1	0	-	1	0	1	-	1	2
% Trucks	0.0	0.0	-	0.0	0.9	-	-	0.9	-	0.3	-	0.3	0.5

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023

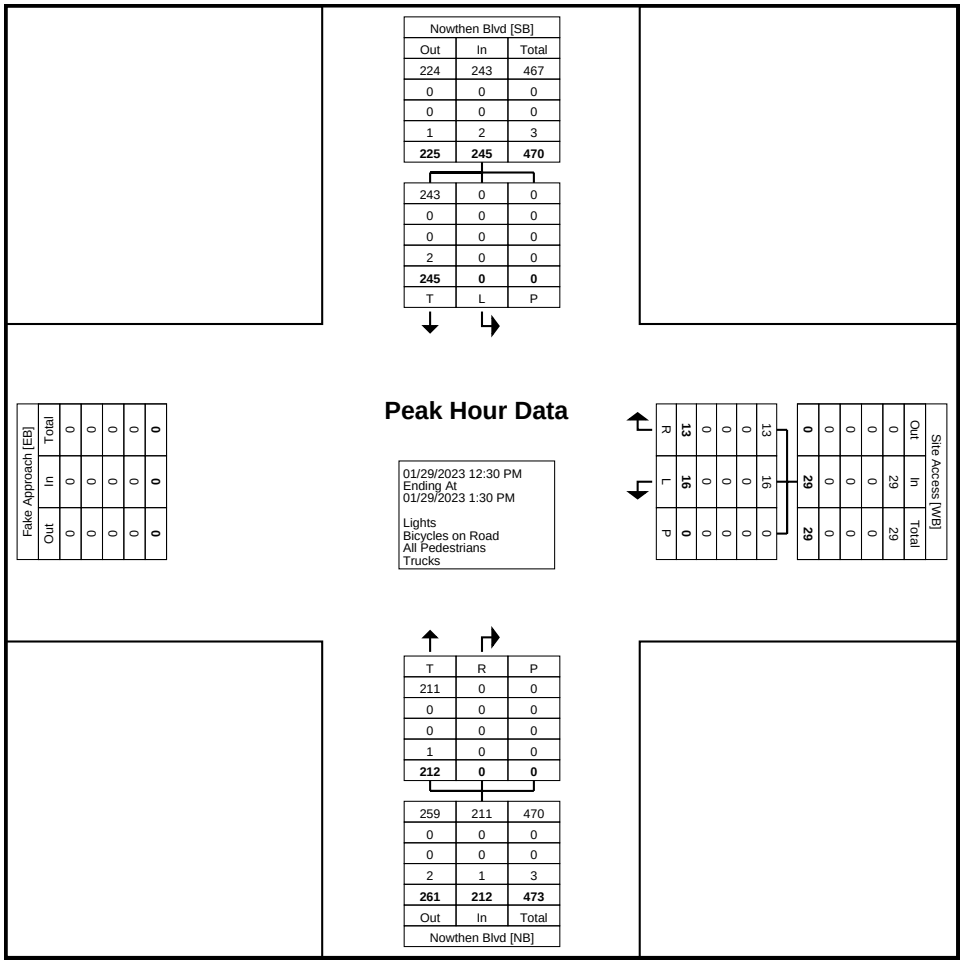
Turning Movement Peak Hour Data (12:30 PM)

Start Time	Site Access Westbound				Nowthen Blvd Northbound				Nowthen Blvd Southbound				
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
12:30 PM	1	2	0	3	58	0	0	58	0	64	0	64	125
12:45 PM	0	1	0	1	61	0	0	61	0	51	0	51	113
1:00 PM	1	0	0	1	36	0	0	36	0	55	0	55	92
1:15 PM	14	10	0	24	57	0	0	57	0	75	0	75	156
Total	16	13	0	29	212	0	0	212	0	245	0	245	486
Approach %	55.2	44.8	-	-	100.0	0.0	-	-	0.0	100.0	-	-	-
Total %	3.3	2.7	-	6.0	43.6	0.0	-	43.6	0.0	50.4	-	50.4	-
PHF	0.286	0.325	-	0.302	0.869	0.000	-	0.869	0.000	0.817	-	0.817	0.779
Lights	16	13	-	29	211	0	-	211	0	243	-	243	483
% Lights	100.0	100.0	-	100.0	99.5	-	-	99.5	-	99.2	-	99.2	99.4
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	-	0	1	0	-	1	0	2	-	2	3
% Trucks	0.0	0.0	-	0.0	0.5	-	-	0.5	-	0.8	-	0.8	0.6

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Count Name: Nowthen Blvd & the North Site Access
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (12:30 PM)

Kimley-Horn and Associates, Inc.
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Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023

Turning Movement Data

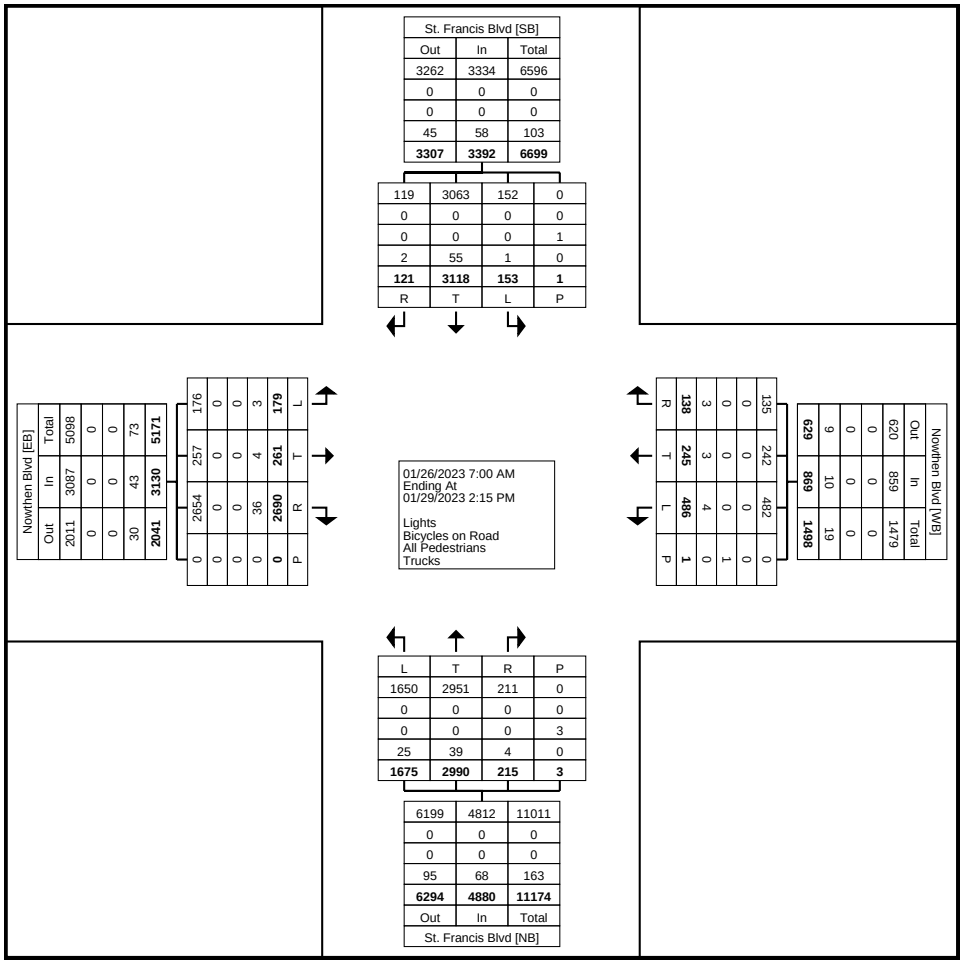
Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	3	9	174	0	186	31	2	2	0	35	13	20	2	0	35	4	147	1	0	152	408
7:15 AM	2	9	194	0	205	40	6	3	0	49	32	53	6	0	91	3	116	10	0	129	474
7:30 AM	4	4	119	0	127	28	10	2	0	40	43	37	5	0	85	8	146	4	0	158	410
7:45 AM	2	8	131	0	141	19	3	2	0	24	28	38	3	0	69	5	141	13	0	159	393
Hourly Total	11	30	618	0	659	118	21	9	0	148	116	148	16	0	280	20	550	28	0	598	1685
8:00 AM	3	12	93	0	108	13	6	4	0	23	48	52	8	0	108	1	126	9	0	136	375
8:15 AM	2	10	92	0	104	10	6	1	0	17	42	53	8	0	103	4	104	8	0	116	340
8:30 AM	4	2	83	0	89	13	6	3	0	22	33	48	4	0	85	6	106	2	0	114	310
8:45 AM	2	7	83	0	92	14	5	0	0	19	37	42	3	0	82	8	86	7	0	101	294
Hourly Total	11	31	351	0	393	50	23	8	0	81	160	195	23	0	378	19	422	26	0	467	1319
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	15	12	107	0	134	11	16	8	0	35	83	188	13	2	284	4	80	1	0	85	538
4:15 PM	12	11	73	0	96	14	11	7	0	32	90	173	5	0	268	5	86	0	0	91	487
4:30 PM	25	14	82	0	121	18	13	10	0	41	94	132	10	0	236	6	90	6	0	102	500
4:45 PM	12	12	88	0	112	12	13	15	1	40	85	155	10	0	250	0	88	1	1	89	491
Hourly Total	64	49	350	0	463	55	53	40	1	148	352	648	38	2	1038	15	344	8	1	367	2016
5:00 PM	13	5	84	0	102	16	21	9	0	46	110	165	20	1	295	4	71	5	0	80	523
5:15 PM	4	8	105	0	117	8	14	11	0	33	87	193	9	0	289	1	102	4	0	107	546
5:30 PM	11	6	103	0	120	18	9	10	0	37	86	147	12	0	245	5	77	5	0	87	489
5:45 PM	8	9	67	0	84	14	9	6	0	29	104	151	5	0	260	5	90	3	0	98	471
Hourly Total	36	28	359	0	423	56	53	36	0	145	387	656	46	1	1089	15	340	17	0	372	2029
6:00 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
10:00 AM	4	6	66	0	76	10	3	5	0	18	20	50	4	0	74	3	85	0	0	88	256
10:15 AM	8	6	70	0	84	14	5	0	0	19	24	47	2	0	73	3	100	4	0	107	283
10:30 AM	2	7	67	0	76	10	2	1	0	13	32	45	6	0	83	6	90	7	0	103	275
10:45 AM	2	6	71	0	79	18	6	5	0	29	31	68	6	0	105	7	97	2	0	106	319
Hourly Total	16	25	274	0	315	52	16	11	0	79	107	210	18	0	335	19	372	13	0	404	1133
11:00 AM	2	4	46	0	52	13	4	3	0	20	29	63	3	0	95	4	77	1	0	82	249
11:15 AM	3	5	47	0	55	16	9	3	0	28	40	68	5	0	113	5	74	4	0	83	279
11:30 AM	4	5	61	0	70	13	4	1	0	18	36	79	3	0	118	8	113	5	0	126	332
11:45 AM	2	12	78	0	92	11	4	0	0	15	41	90	7	0	138	9	93	2	0	104	349
Hourly Total	11	26	232	0	269	53	21	7	0	81	146	300	18	0	464	26	357	12	0	395	1209

12:00 PM	4	7	58	0	69	22	3	7	0	32	37	86	9	0	132	5	112	5	0	122	355
12:15 PM	4	11	76	0	91	15	9	1	0	25	49	84	3	0	136	5	113	3	0	121	373
12:30 PM	3	13	59	0	75	11	3	3	0	17	54	99	6	0	159	7	101	2	0	110	361
12:45 PM	2	4	57	0	63	12	14	5	0	31	60	96	6	0	162	3	75	3	0	81	337
Hourly Total	13	35	250	0	298	60	29	16	0	105	200	365	24	0	589	20	401	13	0	434	1426
1:00 PM	3	7	62	0	72	4	1	4	0	9	34	112	3	0	149	9	90	1	0	100	330
1:15 PM	5	16	71	0	92	12	7	1	0	20	56	106	8	0	170	2	75	0	0	77	359
1:30 PM	2	7	62	0	71	15	13	1	0	29	56	121	13	0	190	4	84	0	0	88	378
1:45 PM	7	7	60	0	74	11	8	5	0	24	61	128	8	0	197	4	83	3	0	90	385
Hourly Total	17	37	255	0	309	42	29	11	0	82	207	467	32	0	706	19	332	4	0	355	1452
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	179	261	2690	0	3130	486	245	138	1	869	1675	2990	215	3	4880	153	3118	121	1	3392	12271
Approach %	5.7	8.3	85.9	-	-	55.9	28.2	15.9	-	-	34.3	61.3	4.4	-	-	4.5	91.9	3.6	-	-	-
Total %	1.5	2.1	21.9	-	25.5	4.0	2.0	1.1	-	7.1	13.7	24.4	1.8	-	39.8	1.2	25.4	1.0	-	27.6	-
Lights	176	257	2654	-	3087	482	242	135	-	859	1650	2951	211	-	4812	152	3063	119	-	3334	12092
% Lights	98.3	98.5	98.7	-	98.6	99.2	98.8	97.8	-	98.8	98.5	98.7	98.1	-	98.6	99.3	98.2	98.3	-	98.3	98.5
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	3	-	-	-	-	1	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-
Trucks	3	4	36	-	43	4	3	3	-	10	25	39	4	-	68	1	55	2	-	58	179
% Trucks	1.7	1.5	1.3	-	1.4	0.8	1.2	2.2	-	1.2	1.5	1.3	1.9	-	1.4	0.7	1.8	1.7	-	1.7	1.5

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Turning Movement Data Plot

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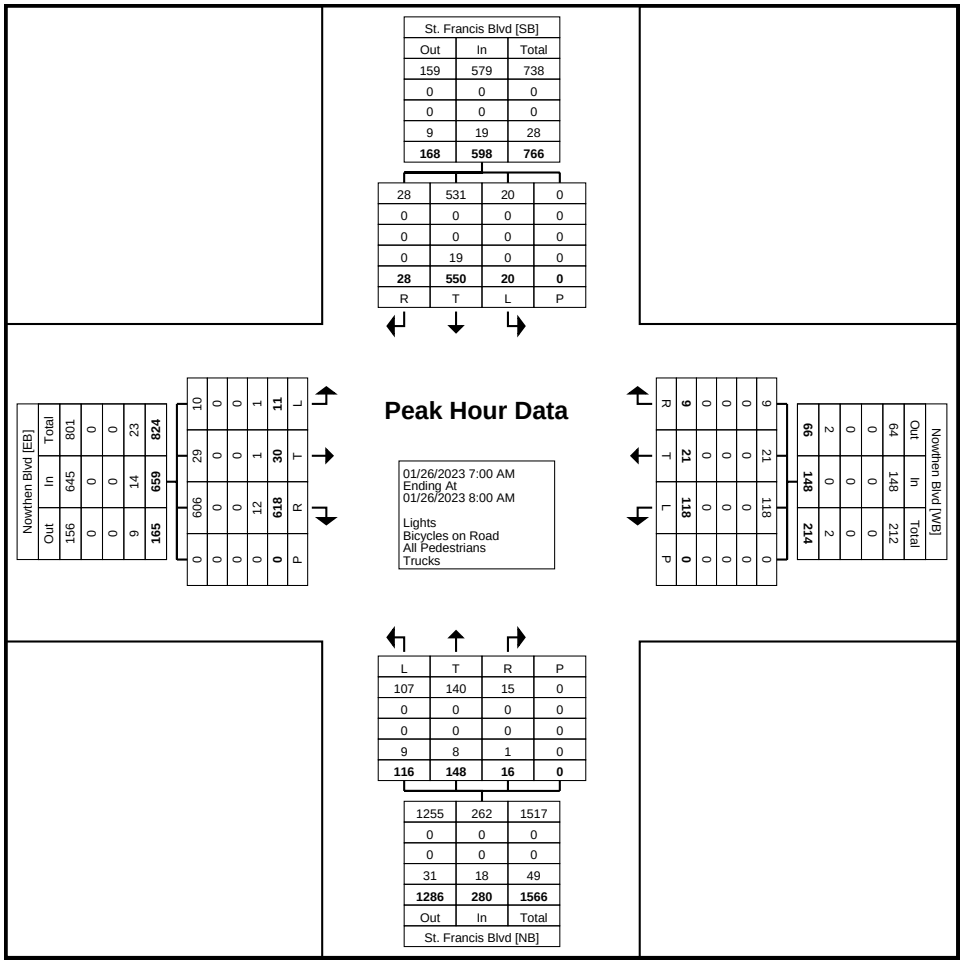
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	3	9	174	0	186	31	2	2	0	35	13	20	2	0	35	4	147	1	0	152	408
7:15 AM	2	9	194	0	205	40	6	3	0	49	32	53	6	0	91	3	116	10	0	129	474
7:30 AM	4	4	119	0	127	28	10	2	0	40	43	37	5	0	85	8	146	4	0	158	410
7:45 AM	2	8	131	0	141	19	3	2	0	24	28	38	3	0	69	5	141	13	0	159	393
Total	11	30	618	0	659	118	21	9	0	148	116	148	16	0	280	20	550	28	0	598	1685
Approach %	1.7	4.6	93.8	-	-	79.7	14.2	6.1	-	-	41.4	52.9	5.7	-	-	3.3	92.0	4.7	-	-	-
Total %	0.7	1.8	36.7	-	39.1	7.0	1.2	0.5	-	8.8	6.9	8.8	0.9	-	16.6	1.2	32.6	1.7	-	35.5	-
PHF	0.688	0.833	0.796	-	0.804	0.738	0.525	0.750	-	0.755	0.674	0.698	0.667	-	0.769	0.625	0.935	0.538	-	0.940	0.889
Lights	10	29	606	-	645	118	21	9	-	148	107	140	15	-	262	20	531	28	-	579	1634
% Lights	90.9	96.7	98.1	-	97.9	100.0	100.0	100.0	-	100.0	92.2	94.6	93.8	-	93.6	100.0	96.5	100.0	-	96.8	97.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	1	1	12	-	14	0	0	0	-	0	9	8	1	-	18	0	19	0	-	19	51
% Trucks	9.1	3.3	1.9	-	2.1	0.0	0.0	0.0	-	0.0	7.8	5.4	6.3	-	6.4	0.0	3.5	0.0	-	3.2	3.0

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Turning Movement Peak Hour Data Plot (7:00 AM)

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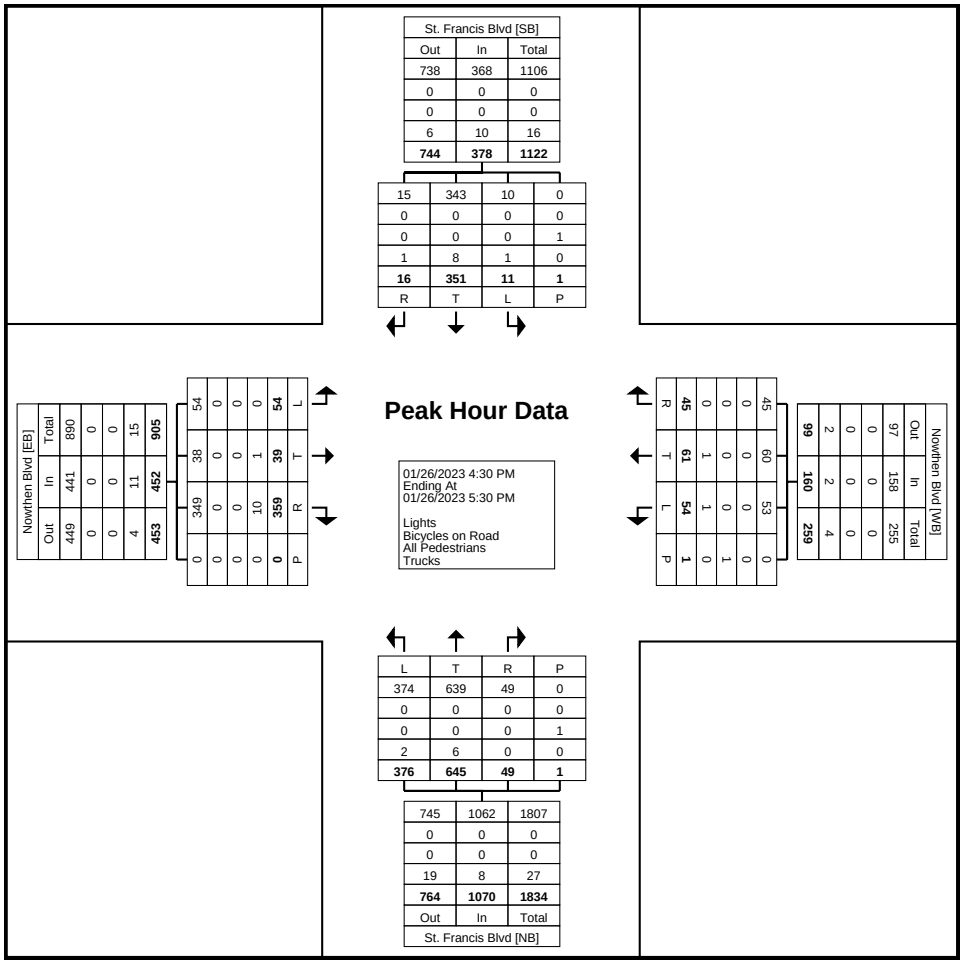
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	25	14	82	0	121	18	13	10	0	41	94	132	10	0	236	6	90	6	0	102	500
4:45 PM	12	12	88	0	112	12	13	15	1	40	85	155	10	0	250	0	88	1	1	89	491
5:00 PM	13	5	84	0	102	16	21	9	0	46	110	165	20	1	295	4	71	5	0	80	523
5:15 PM	4	8	105	0	117	8	14	11	0	33	87	193	9	0	289	1	102	4	0	107	546
Total	54	39	359	0	452	54	61	45	1	160	376	645	49	1	1070	11	351	16	1	378	2060
Approach %	11.9	8.6	79.4	-	-	33.8	38.1	28.1	-	-	35.1	60.3	4.6	-	-	2.9	92.9	4.2	-	-	-
Total %	2.6	1.9	17.4	-	21.9	2.6	3.0	2.2	-	7.8	18.3	31.3	2.4	-	51.9	0.5	17.0	0.8	-	18.3	-
PHF	0.540	0.696	0.855	-	0.934	0.750	0.726	0.750	-	0.870	0.855	0.835	0.613	-	0.907	0.458	0.860	0.667	-	0.883	0.943
Lights	54	38	349	-	441	53	60	45	-	158	374	639	49	-	1062	10	343	15	-	368	2029
% Lights	100.0	97.4	97.2	-	97.6	98.1	98.4	100.0	-	98.8	99.5	99.1	100.0	-	99.3	90.9	97.7	93.8	-	97.4	98.5
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-
Trucks	0	1	10	-	11	1	1	0	-	2	2	6	0	-	8	1	8	1	-	10	31
% Trucks	0.0	2.6	2.8	-	2.4	1.9	1.6	0.0	-	1.3	0.5	0.9	0.0	-	0.7	9.1	2.3	6.3	-	2.6	1.5

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Turning Movement Peak Hour Data Plot (4:30 PM)

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4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023

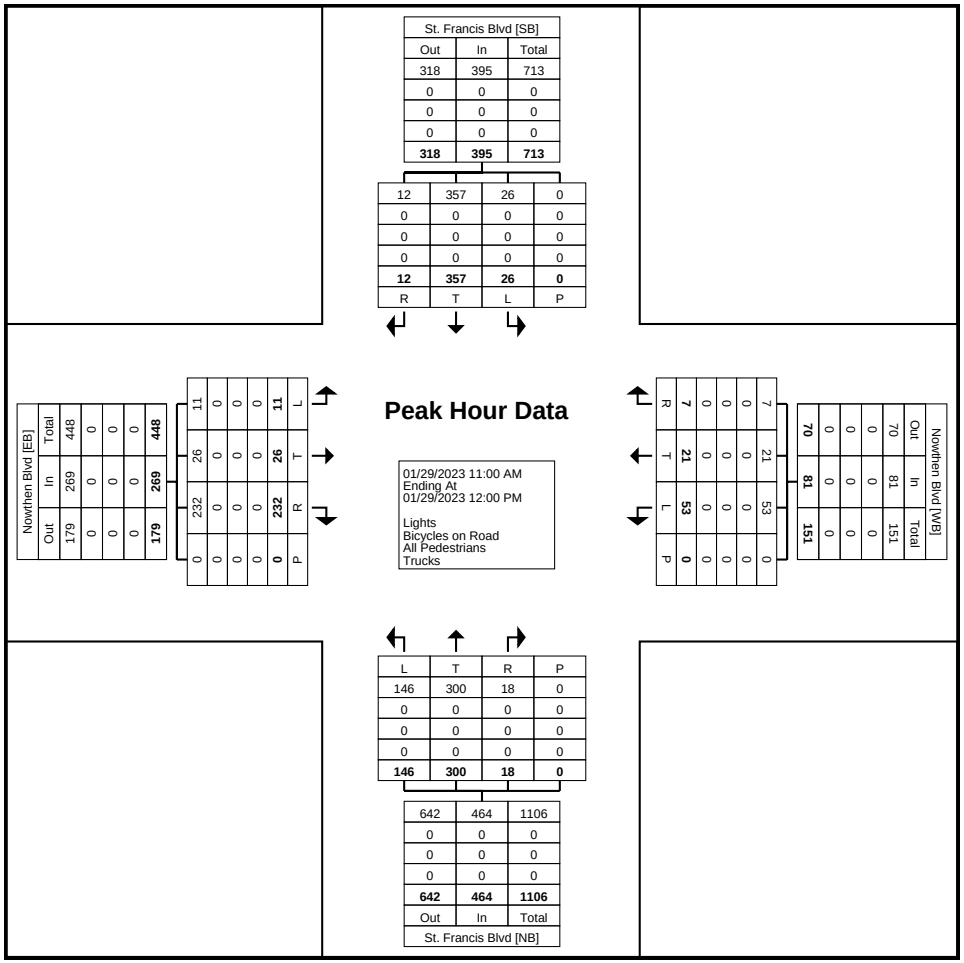
Turning Movement Peak Hour Data (11:00 AM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	2	4	46	0	52	13	4	3	0	20	29	63	3	0	95	4	77	1	0	82	249
11:15 AM	3	5	47	0	55	16	9	3	0	28	40	68	5	0	113	5	74	4	0	83	279
11:30 AM	4	5	61	0	70	13	4	1	0	18	36	79	3	0	118	8	113	5	0	126	332
11:45 AM	2	12	78	0	92	11	4	0	0	15	41	90	7	0	138	9	93	2	0	104	349
Total	11	26	232	0	269	53	21	7	0	81	146	300	18	0	464	26	357	12	0	395	1209
Approach %	4.1	9.7	86.2	-	-	65.4	25.9	8.6	-	-	31.5	64.7	3.9	-	-	6.6	90.4	3.0	-	-	-
Total %	0.9	2.2	19.2	-	22.2	4.4	1.7	0.6	-	6.7	12.1	24.8	1.5	-	38.4	2.2	29.5	1.0	-	32.7	-
PHF	0.688	0.542	0.744	-	0.731	0.828	0.583	0.583	-	0.723	0.890	0.833	0.643	-	0.841	0.722	0.790	0.600	-	0.784	0.866
Lights	11	26	232	-	269	53	21	7	-	81	146	300	18	-	464	26	357	12	-	395	1209
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Trucks	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

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Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (11:00 AM)

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Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023

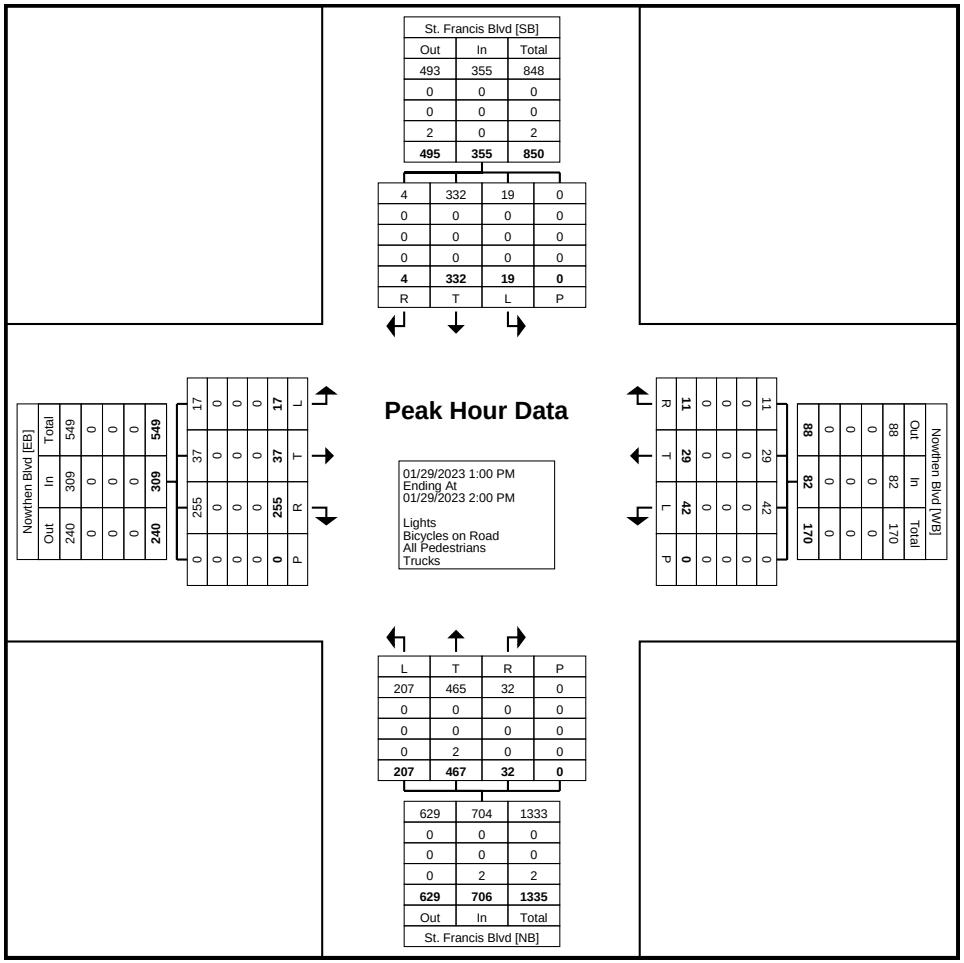
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Nowthen Blvd Eastbound					Nowthen Blvd Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
1:00 PM	3	7	62	0	72	4	1	4	0	9	34	112	3	0	149	9	90	1	0	100	330
1:15 PM	5	16	71	0	92	12	7	1	0	20	56	106	8	0	170	2	75	0	0	77	359
1:30 PM	2	7	62	0	71	15	13	1	0	29	56	121	13	0	190	4	84	0	0	88	378
1:45 PM	7	7	60	0	74	11	8	5	0	24	61	128	8	0	197	4	83	3	0	90	385
Total	17	37	255	0	309	42	29	11	0	82	207	467	32	0	706	19	332	4	0	355	1452
Approach %	5.5	12.0	82.5	-	-	51.2	35.4	13.4	-	-	29.3	66.1	4.5	-	-	5.4	93.5	1.1	-	-	-
Total %	1.2	2.5	17.6	-	21.3	2.9	2.0	0.8	-	5.6	14.3	32.2	2.2	-	48.6	1.3	22.9	0.3	-	24.4	-
PHF	0.607	0.578	0.898	-	0.840	0.700	0.558	0.550	-	0.707	0.848	0.912	0.615	-	0.896	0.528	0.922	0.333	-	0.888	0.943
Lights	17	37	255	-	309	42	29	11	-	82	207	465	32	-	704	19	332	4	-	355	1450
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	99.6	100.0	-	99.7	100.0	100.0	100.0	-	100.0	99.9
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.4	0.0	-	0.3	0.0	0.0	0.0	-	0.0	0.1

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Count Name: St Francis Blvd & Nowthen Blvd
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (1:00 PM)

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Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023

Turning Movement Data

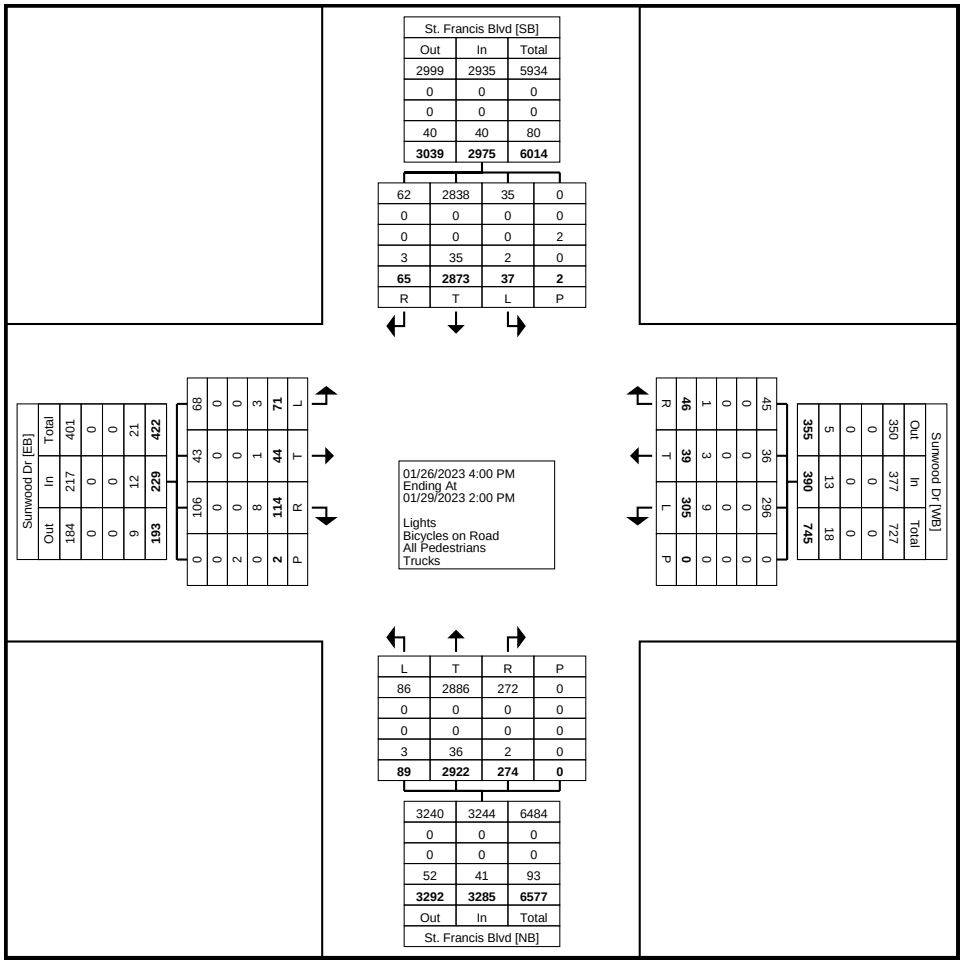
Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	7	5	3	0	15	6	2	3	0	11	5	184	19	0	208	1	77	1	0	79	313
4:15 PM	3	1	1	0	5	14	2	4	0	20	1	181	24	0	206	3	86	1	0	90	321
4:30 PM	1	2	4	0	7	11	2	1	0	14	4	145	13	0	162	2	81	4	0	87	270
4:45 PM	4	5	3	0	12	12	1	4	0	17	4	169	8	0	181	1	76	2	0	79	289
Hourly Total	15	13	11	0	39	43	7	12	0	62	14	679	64	0	757	7	320	8	0	335	1193
5:00 PM	5	3	0	0	8	4	4	0	0	8	7	166	15	0	188	1	86	3	0	90	294
5:15 PM	8	2	5	0	15	6	0	2	0	8	6	185	18	0	209	1	88	3	0	92	324
5:30 PM	3	2	6	0	11	12	3	1	0	16	2	157	13	0	172	1	74	2	0	77	276
5:45 PM	2	1	4	0	7	10	0	3	0	13	9	139	14	0	162	4	85	2	0	91	273
Hourly Total	18	8	15	0	41	32	7	6	0	45	24	647	60	0	731	7	333	10	0	350	1167
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	3	0	2	0	5	13	0	1	0	14	0	25	1	0	26	2	150	3	0	155	200
7:15 AM	0	1	2	2	3	13	1	0	0	14	2	31	3	0	36	1	110	3	2	114	167
7:30 AM	1	0	3	0	4	8	3	2	0	13	1	43	10	0	54	1	104	0	0	105	176
7:45 AM	0	2	6	0	8	9	4	1	0	14	2	41	3	0	46	1	112	3	0	116	184
Hourly Total	4	3	13	2	20	43	8	4	0	55	5	140	17	0	162	5	476	9	2	490	727
8:00 AM	1	1	7	0	9	13	2	1	0	16	1	46	8	0	55	1	102	3	0	106	186
8:15 AM	1	0	6	0	7	12	0	3	0	15	1	52	3	0	56	0	102	2	0	104	182
8:30 AM	0	1	2	0	3	14	2	0	0	16	1	44	3	0	48	2	85	0	0	87	154
8:45 AM	1	0	6	0	7	12	1	0	0	13	2	40	3	0	45	0	71	0	0	71	136
Hourly Total	3	2	21	0	26	51	5	4	0	60	5	182	17	0	204	3	360	5	0	368	658
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	2	1	1	0	4	9	1	2	0	12	3	53	4	0	60	0	81	1	0	82	158
10:15 AM	3	1	9	0	13	12	1	0	0	13	2	52	3	0	57	0	86	2	0	88	171
10:30 AM	0	2	4	0	6	7	1	3	0	11	3	37	4	0	44	0	93	0	0	93	154
10:45 AM	1	0	3	0	4	9	2	1	0	12	1	69	6	0	76	1	87	5	0	93	185
Hourly Total	6	4	17	0	27	37	5	6	0	48	9	211	17	0	237	1	347	8	0	356	668
11:00 AM	2	0	4	0	6	6	1	0	0	7	2	62	5	0	69	0	73	0	0	73	155
11:15 AM	0	1	3	0	4	8	0	0	0	8	1	70	3	0	74	1	78	3	0	82	168
11:30 AM	1	1	3	0	5	14	1	2	0	17	2	71	10	0	83	1	114	3	0	118	223
11:45 AM	1	2	3	0	6	5	0	0	0	5	2	82	6	0	90	2	94	3	0	99	200
Hourly Total	4	4	13	0	21	33	2	2	0	37	7	285	24	0	316	4	359	9	0	372	746

12:00 PM	0	1	3	0	4	5	0	1	0	6	4	95	2	0	101	2	85	4	0	91	202
12:15 PM	2	2	5	0	9	11	0	2	0	13	4	84	4	0	92	1	111	1	0	113	227
12:30 PM	4	1	1	0	6	6	0	2	0	8	0	97	12	0	109	2	98	1	0	101	224
12:45 PM	3	3	3	0	9	5	1	3	0	9	2	91	13	0	106	0	78	1	0	79	203
Hourly Total	9	7	12	0	28	27	1	8	0	36	10	367	31	0	408	5	372	7	0	384	856
1:00 PM	4	0	4	0	8	6	0	0	0	6	5	101	6	0	112	2	85	1	0	88	214
1:15 PM	3	0	3	0	6	11	2	2	0	15	2	100	9	0	111	1	68	3	0	72	204
1:30 PM	3	3	5	0	11	8	2	1	0	11	5	95	11	0	111	1	73	3	0	77	210
1:45 PM	2	0	0	0	2	14	0	1	0	15	3	115	18	0	136	1	80	2	0	83	236
Hourly Total	12	3	12	0	27	39	4	4	0	47	15	411	44	0	470	5	306	9	0	320	864
Grand Total	71	44	114	2	229	305	39	46	0	390	89	2922	274	0	3285	37	2873	65	2	2975	6879
Approach %	31.0	19.2	49.8	-	-	78.2	10.0	11.8	-	-	2.7	88.9	8.3	-	-	1.2	96.6	2.2	-	-	-
Total %	1.0	0.6	1.7	-	3.3	4.4	0.6	0.7	-	5.7	1.3	42.5	4.0	-	47.8	0.5	41.8	0.9	-	43.2	-
Lights	68	43	106	-	217	296	36	45	-	377	86	2886	272	-	3244	35	2838	62	-	2935	6773
% Lights	95.8	97.7	93.0	-	94.8	97.0	92.3	97.8	-	96.7	96.6	98.8	99.3	-	98.8	94.6	98.8	95.4	-	98.7	98.5
Bicycles on Road	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
All Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% All Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-
Trucks	3	1	8	-	12	9	3	1	-	13	3	36	2	-	41	2	35	3	-	40	106
% Trucks	4.2	2.3	7.0	-	5.2	3.0	7.7	2.2	-	3.3	3.4	1.2	0.7	-	1.2	5.4	1.2	4.6	-	1.3	1.5

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Turning Movement Data Plot

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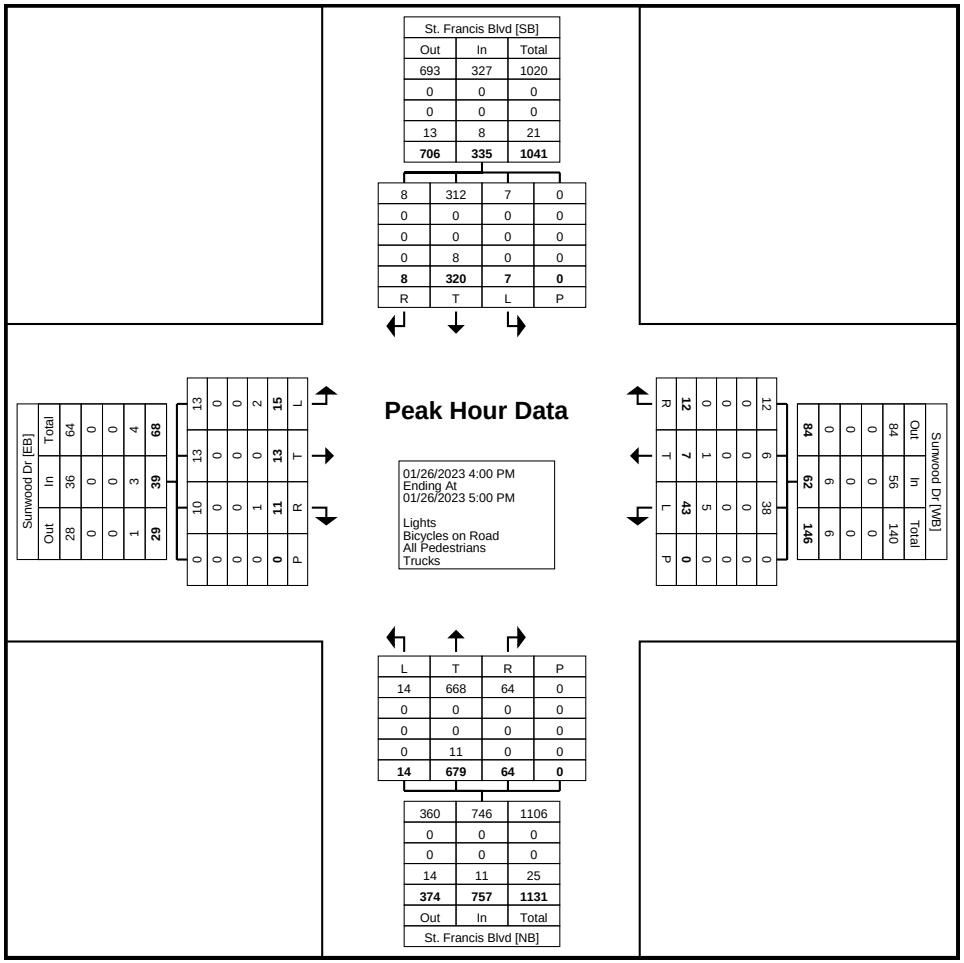
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	7	5	3	0	15	6	2	3	0	11	5	184	19	0	208	1	77	1	0	79	313
4:15 PM	3	1	1	0	5	14	2	4	0	20	1	181	24	0	206	3	86	1	0	90	321
4:30 PM	1	2	4	0	7	11	2	1	0	14	4	145	13	0	162	2	81	4	0	87	270
4:45 PM	4	5	3	0	12	12	1	4	0	17	4	169	8	0	181	1	76	2	0	79	289
Total	15	13	11	0	39	43	7	12	0	62	14	679	64	0	757	7	320	8	0	335	1193
Approach %	38.5	33.3	28.2	-	-	69.4	11.3	19.4	-	-	1.8	89.7	8.5	-	-	2.1	95.5	2.4	-	-	-
Total %	1.3	1.1	0.9	-	3.3	3.6	0.6	1.0	-	5.2	1.2	56.9	5.4	-	63.5	0.6	26.8	0.7	-	28.1	-
PHF	0.536	0.650	0.688	-	0.650	0.768	0.875	0.750	-	0.775	0.700	0.923	0.667	-	0.910	0.583	0.930	0.500	-	0.931	0.929
Lights	13	13	10	-	36	38	6	12	-	56	14	668	64	-	746	7	312	8	-	327	1165
% Lights	86.7	100.0	90.9	-	92.3	88.4	85.7	100.0	-	90.3	100.0	98.4	100.0	-	98.5	100.0	97.5	100.0	-	97.6	97.7
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	2	0	1	-	3	5	1	0	-	6	0	11	0	-	11	0	8	0	-	8	28
% Trucks	13.3	0.0	9.1	-	7.7	11.6	14.3	0.0	-	9.7	0.0	1.6	0.0	-	1.5	0.0	2.5	0.0	-	2.4	2.3

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Turning Movement Peak Hour Data Plot (4:00 PM)

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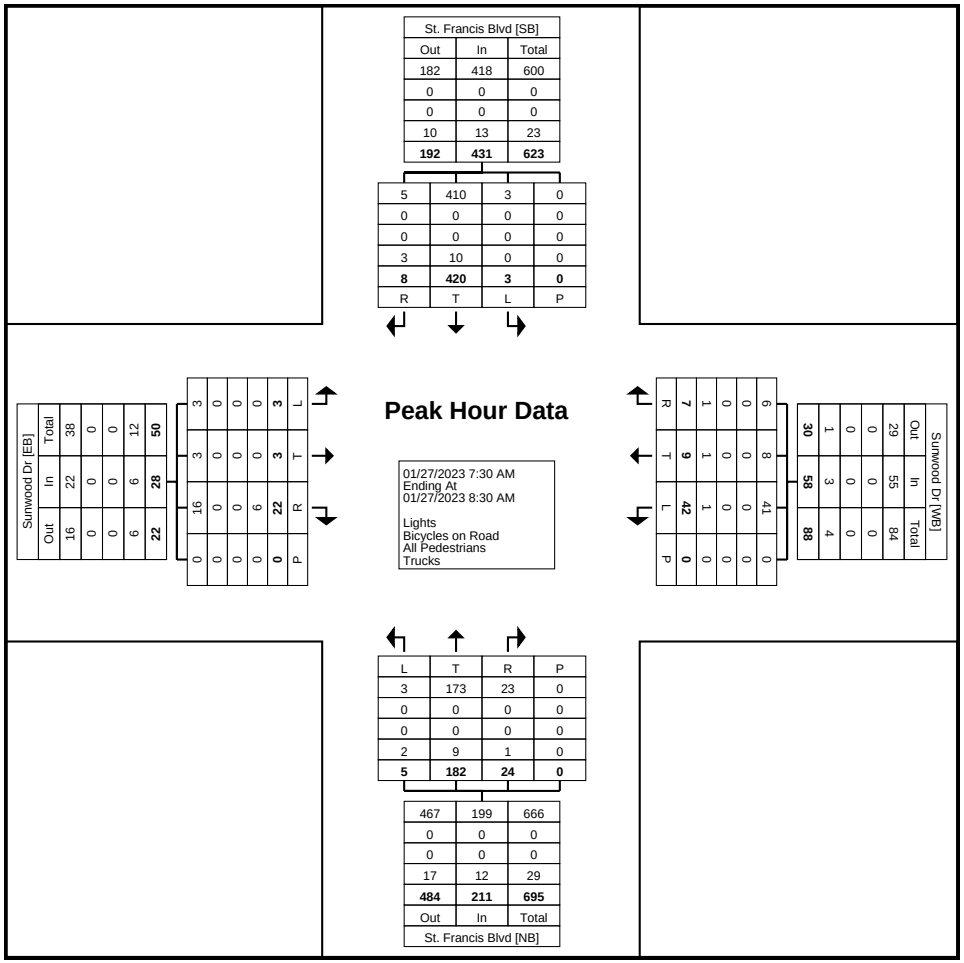
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	1	0	3	0	4	8	3	2	0	13	1	43	10	0	54	1	104	0	0	105	176
7:45 AM	0	2	6	0	8	9	4	1	0	14	2	41	3	0	46	1	112	3	0	116	184
8:00 AM	1	1	7	0	9	13	2	1	0	16	1	46	8	0	55	1	102	3	0	106	186
8:15 AM	1	0	6	0	7	12	0	3	0	15	1	52	3	0	56	0	102	2	0	104	182
Total	3	3	22	0	28	42	9	7	0	58	5	182	24	0	211	3	420	8	0	431	728
Approach %	10.7	10.7	78.6	-	-	72.4	15.5	12.1	-	-	2.4	86.3	11.4	-	-	0.7	97.4	1.9	-	-	-
Total %	0.4	0.4	3.0	-	3.8	5.8	1.2	1.0	-	8.0	0.7	25.0	3.3	-	29.0	0.4	57.7	1.1	-	59.2	-
PHF	0.750	0.375	0.786	-	0.778	0.808	0.563	0.583	-	0.906	0.625	0.875	0.600	-	0.942	0.750	0.938	0.667	-	0.929	0.978
Lights	3	3	16	-	22	41	8	6	-	55	3	173	23	-	199	3	410	5	-	418	694
% Lights	100.0	100.0	72.7	-	78.6	97.6	88.9	85.7	-	94.8	60.0	95.1	95.8	-	94.3	100.0	97.6	62.5	-	97.0	95.3
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	6	-	6	1	1	1	-	3	2	9	1	-	12	0	10	3	-	13	34
% Trucks	0.0	0.0	27.3	-	21.4	2.4	11.1	14.3	-	5.2	40.0	4.9	4.2	-	5.7	0.0	2.4	37.5	-	3.0	4.7

Kimley-Horn and Associates, Inc.
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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (7:30 AM)

Kimley-Horn and Associates, Inc.
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Count Name: St Francis Blvd & Sunwood Dr
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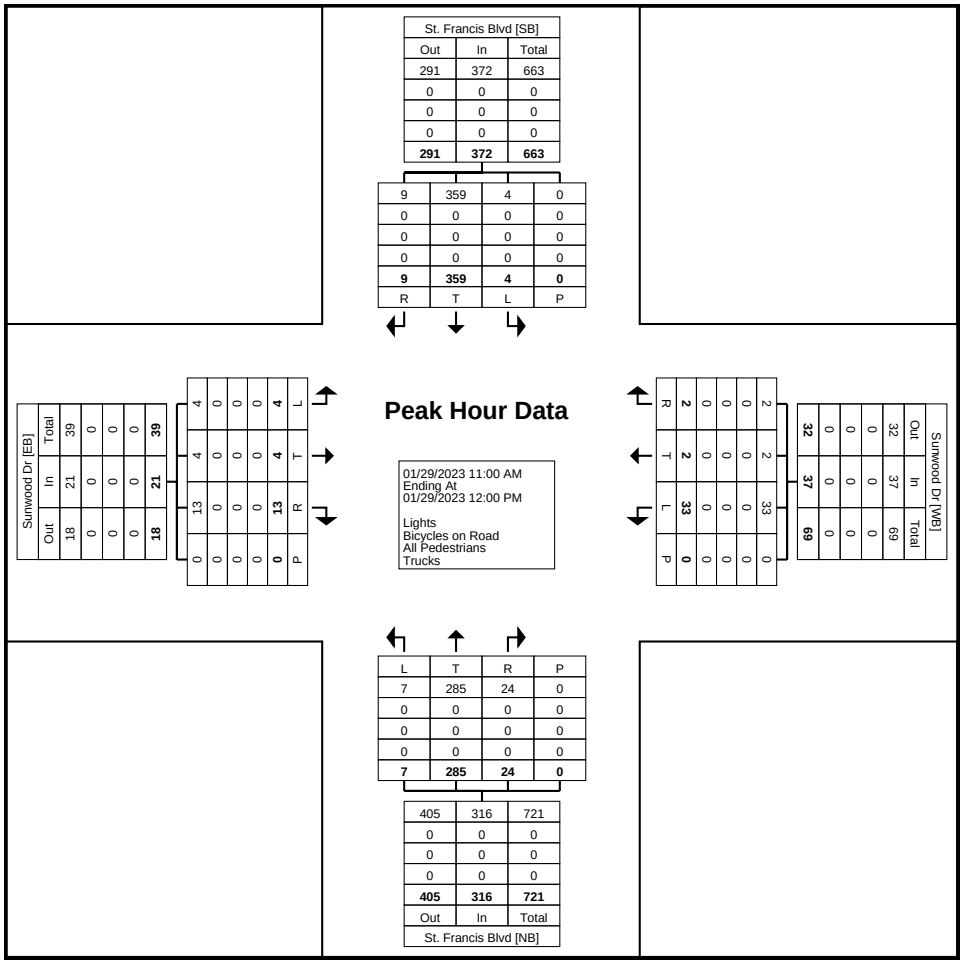
Turning Movement Peak Hour Data (11:00 AM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	2	0	4	0	6	6	1	0	0	7	2	62	5	0	69	0	73	0	0	73	155
11:15 AM	0	1	3	0	4	8	0	0	0	8	1	70	3	0	74	1	78	3	0	82	168
11:30 AM	1	1	3	0	5	14	1	2	0	17	2	71	10	0	83	1	114	3	0	118	223
11:45 AM	1	2	3	0	6	5	0	0	0	5	2	82	6	0	90	2	94	3	0	99	200
Total	4	4	13	0	21	33	2	2	0	37	7	285	24	0	316	4	359	9	0	372	746
Approach %	19.0	19.0	61.9	-	-	89.2	5.4	5.4	-	-	2.2	90.2	7.6	-	-	1.1	96.5	2.4	-	-	-
Total %	0.5	0.5	1.7	-	2.8	4.4	0.3	0.3	-	5.0	0.9	38.2	3.2	-	42.4	0.5	48.1	1.2	-	49.9	-
PHF	0.500	0.500	0.813	-	0.875	0.589	0.500	0.250	-	0.544	0.875	0.869	0.600	-	0.878	0.500	0.787	0.750	-	0.788	0.836
Lights	4	4	13	-	21	33	2	2	-	37	7	285	24	-	316	4	359	9	-	372	746
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Trucks	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

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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (11:00 AM)

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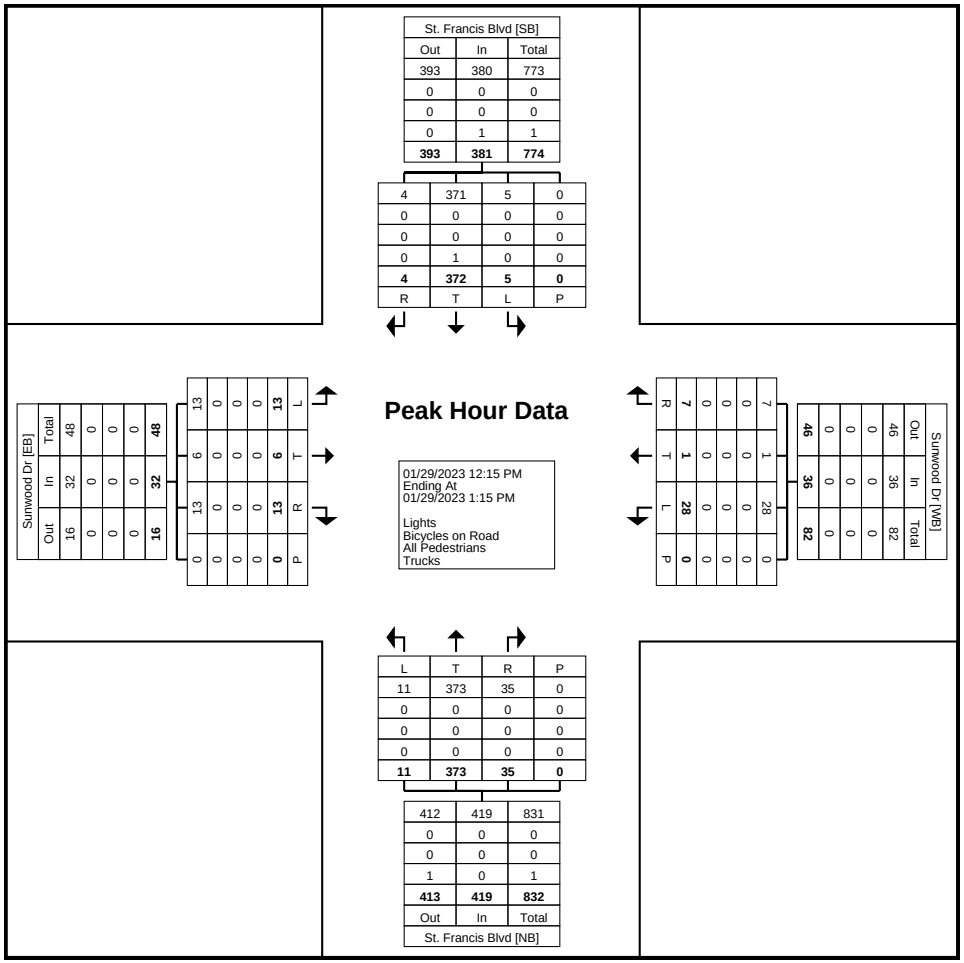
Turning Movement Peak Hour Data (12:15 PM)

Start Time	Sunwood Dr Eastbound					Sunwood Dr Westbound					St. Francis Blvd Northbound					St. Francis Blvd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
12:15 PM	2	2	5	0	9	11	0	2	0	13	4	84	4	0	92	1	111	1	0	113	227
12:30 PM	4	1	1	0	6	6	0	2	0	8	0	97	12	0	109	2	98	1	0	101	224
12:45 PM	3	3	3	0	9	5	1	3	0	9	2	91	13	0	106	0	78	1	0	79	203
1:00 PM	4	0	4	0	8	6	0	0	0	6	5	101	6	0	112	2	85	1	0	88	214
Total	13	6	13	0	32	28	1	7	0	36	11	373	35	0	419	5	372	4	0	381	868
Approach %	40.6	18.8	40.6	-	-	77.8	2.8	19.4	-	-	2.6	89.0	8.4	-	-	1.3	97.6	1.0	-	-	-
Total %	1.5	0.7	1.5	-	3.7	3.2	0.1	0.8	-	4.1	1.3	43.0	4.0	-	48.3	0.6	42.9	0.5	-	43.9	-
PHF	0.813	0.500	0.650	-	0.889	0.636	0.250	0.583	-	0.692	0.550	0.923	0.673	-	0.935	0.625	0.838	1.000	-	0.843	0.956
Lights	13	6	13	-	32	28	1	7	-	36	11	373	35	-	419	5	371	4	-	380	867
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	99.7	100.0	-	99.7	99.9
Bicycles on Road	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
All Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Trucks	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	0.3	0.0	-	0.3	0.1

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Count Name: St Francis Blvd & Sunwood Dr
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (12:15 PM)

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Count Name: Sunwood Dr & Cobalt St
Site Code:
Start Date: 01/26/2023

Turning Movement Data

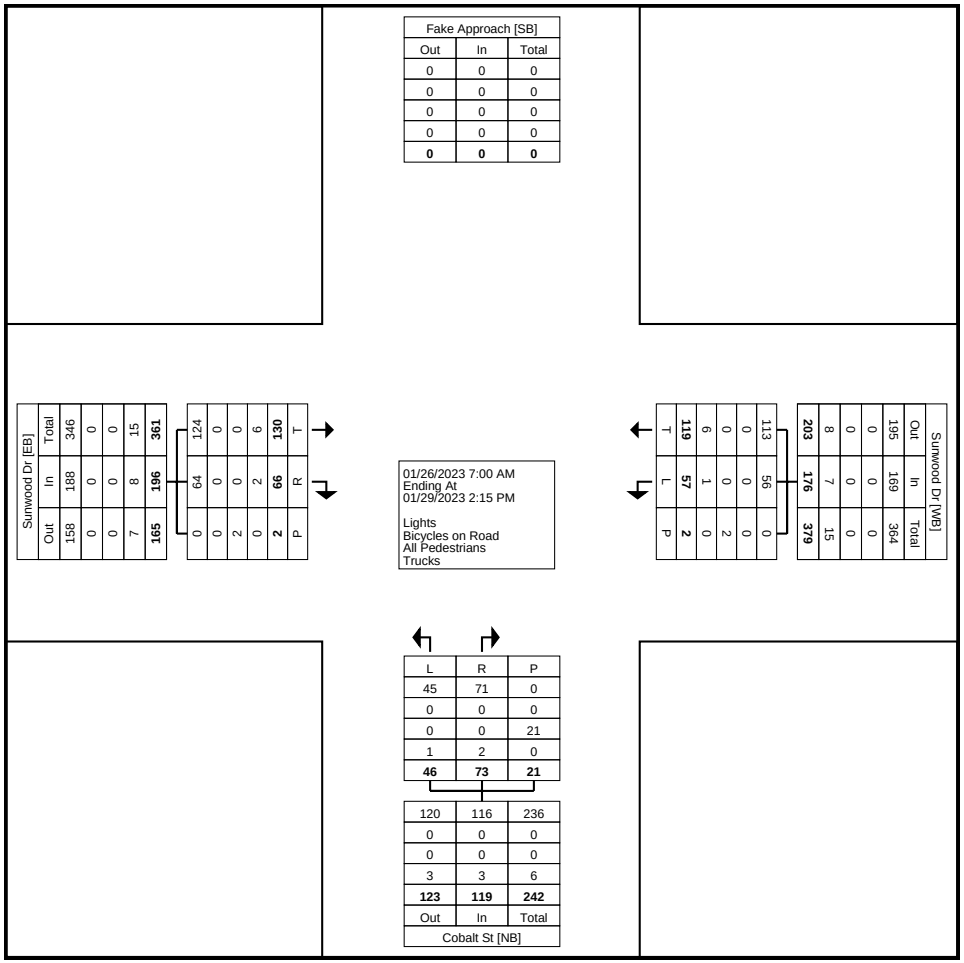
Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00 AM	3	1	0	4	0	5	0	5	6	4	0	10	19
7:15 AM	1	3	0	4	1	8	0	9	7	2	0	9	22
7:30 AM	2	2	0	4	0	10	2	10	4	4	0	8	22
7:45 AM	1	1	0	2	0	9	0	9	1	2	0	3	14
Hourly Total	7	7	0	14	1	32	2	33	18	12	0	30	77
8:00 AM	3	0	0	3	1	2	0	3	0	4	0	4	10
8:15 AM	2	1	0	3	0	3	0	3	0	2	0	2	8
8:30 AM	6	0	0	6	0	3	0	3	0	1	0	1	10
8:45 AM	2	2	0	4	0	6	0	6	2	4	4	6	16
Hourly Total	13	3	0	16	1	14	0	15	2	11	4	13	44
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	10	7	0	17	5	4	0	9	1	4	1	5	31
4:15 PM	3	4	0	7	0	3	0	3	2	2	12	4	14
4:30 PM	5	3	0	8	4	6	0	10	0	2	1	2	20
4:45 PM	13	5	1	18	5	2	0	7	1	0	0	1	26
Hourly Total	31	19	1	50	14	15	0	29	4	8	14	12	91
5:00 PM	8	4	1	12	5	4	0	9	0	1	0	1	22
5:15 PM	10	3	0	13	2	4	0	6	1	2	0	3	22
5:30 PM	9	2	0	11	2	5	0	7	1	2	1	3	21
5:45 PM	2	2	0	4	1	3	0	4	1	1	0	2	10
Hourly Total	29	11	1	40	10	16	0	26	3	6	1	9	75
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	3	1	0	4	3	1	0	4	1	1	1	2	10
10:15 AM	6	1	0	7	1	2	0	3	2	7	0	9	19
10:30 AM	1	0	0	1	2	1	0	3	1	3	0	4	8
10:45 AM	1	0	0	1	2	6	0	8	1	2	0	3	12
Hourly Total	11	2	0	13	8	10	0	18	5	13	1	18	49
11:00 AM	4	1	0	5	1	1	0	2	0	1	0	1	8
11:15 AM	1	4	0	5	2	3	0	5	0	2	0	2	12
11:30 AM	1	3	0	4	3	3	0	6	0	3	0	3	13
11:45 AM	3	0	0	3	4	1	0	5	1	3	0	4	12
Hourly Total	9	8	0	17	10	8	0	18	1	9	0	10	45

12:00 PM	2	1	0	3	2	6	0	8	2	3	0	5	16
12:15 PM	4	1	0	5	1	3	0	4	1	3	0	4	13
12:30 PM	5	1	0	6	0	1	0	1	1	1	0	2	9
12:45 PM	5	5	0	10	1	2	0	3	3	1	0	4	17
Hourly Total	16	8	0	24	4	12	0	16	7	8	0	15	55
1:00 PM	3	0	0	3	2	1	0	3	0	2	0	2	8
1:15 PM	4	3	0	7	2	3	0	5	2	1	0	3	15
1:30 PM	5	2	0	7	5	5	0	10	2	3	1	5	22
1:45 PM	2	3	0	5	0	3	0	3	2	0	0	2	10
Hourly Total	14	8	0	22	9	12	0	21	6	6	1	12	55
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	130	66	2	196	57	119	2	176	46	73	21	119	491
Approach %	66.3	33.7	-	-	32.4	67.6	-	-	38.7	61.3	-	-	-
Total %	26.5	13.4	-	39.9	11.6	24.2	-	35.8	9.4	14.9	-	24.2	-
Lights	124	64	-	188	56	113	-	169	45	71	-	116	473
% Lights	95.4	97.0	-	95.9	98.2	95.0	-	96.0	97.8	97.3	-	97.5	96.3
Bicycles on Road	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
All Pedestrians	-	-	2	-	-	-	2	-	-	-	21	-	-
% All Pedestrians	-	-	100.0	-	-	-	100.0	-	-	-	100.0	-	-
Trucks	6	2	-	8	1	6	-	7	1	2	-	3	18
% Trucks	4.6	3.0	-	4.1	1.8	5.0	-	4.0	2.2	2.7	-	2.5	3.7

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Turning Movement Data Plot

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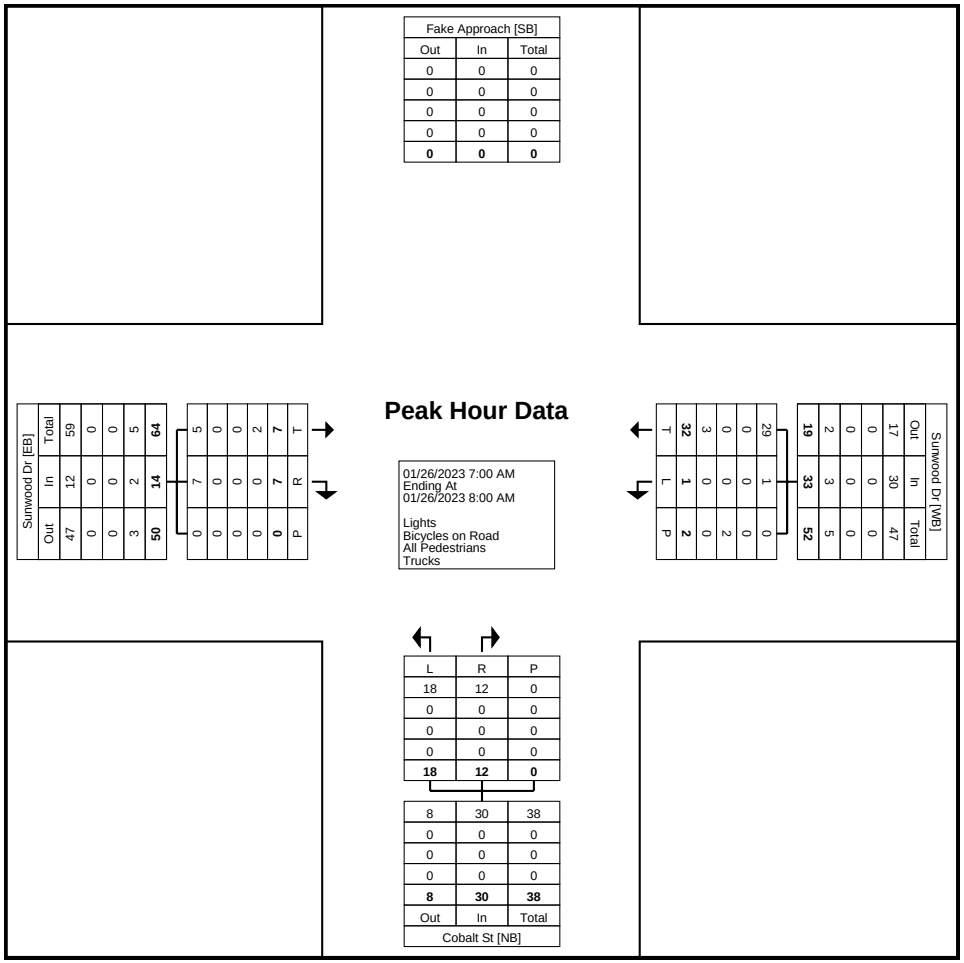
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00 AM	3	1	0	4	0	5	0	5	6	4	0	10	19
7:15 AM	1	3	0	4	1	8	0	9	7	2	0	9	22
7:30 AM	2	2	0	4	0	10	2	10	4	4	0	8	22
7:45 AM	1	1	0	2	0	9	0	9	1	2	0	3	14
Total	7	7	0	14	1	32	2	33	18	12	0	30	77
Approach %	50.0	50.0	-	-	3.0	97.0	-	-	60.0	40.0	-	-	-
Total %	9.1	9.1	-	18.2	1.3	41.6	-	42.9	23.4	15.6	-	39.0	-
PHF	0.583	0.583	-	0.875	0.250	0.800	-	0.825	0.643	0.750	-	0.750	0.875
Lights	5	7	-	12	1	29	-	30	18	12	-	30	72
% Lights	71.4	100.0	-	85.7	100.0	90.6	-	90.9	100.0	100.0	-	100.0	93.5
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	2	-	-	-	0	-	-
% All Pedestrians	-	-	-	-	-	-	100.0	-	-	-	-	-	-
Trucks	2	0	-	2	0	3	-	3	0	0	-	0	5
% Trucks	28.6	0.0	-	14.3	0.0	9.4	-	9.1	0.0	0.0	-	0.0	6.5

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Turning Movement Peak Hour Data Plot (7:00 AM)

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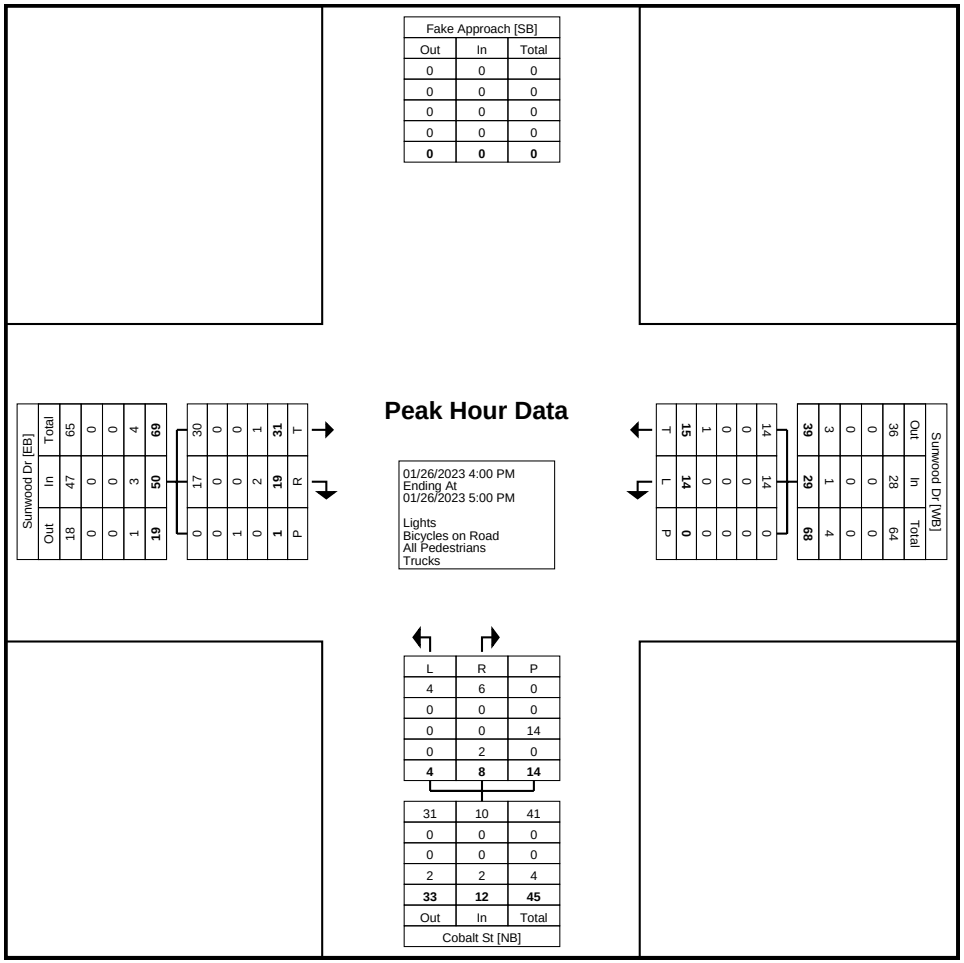
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
4:00 PM	10	7	0	17	5	4	0	9	1	4	1	5	31
4:15 PM	3	4	0	7	0	3	0	3	2	2	12	4	14
4:30 PM	5	3	0	8	4	6	0	10	0	2	1	2	20
4:45 PM	13	5	1	18	5	2	0	7	1	0	0	1	26
Total	31	19	1	50	14	15	0	29	4	8	14	12	91
Approach %	62.0	38.0	-	-	48.3	51.7	-	-	33.3	66.7	-	-	-
Total %	34.1	20.9	-	54.9	15.4	16.5	-	31.9	4.4	8.8	-	13.2	-
PHF	0.596	0.679	-	0.694	0.700	0.625	-	0.725	0.500	0.500	-	0.600	0.734
Lights	30	17	-	47	14	14	-	28	4	6	-	10	85
% Lights	96.8	89.5	-	94.0	100.0	93.3	-	96.6	100.0	75.0	-	83.3	93.4
Bicycles on Road	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
All Pedestrians	-	-	1	-	-	-	0	-	-	-	14	-	-
% All Pedestrians	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-
Trucks	1	2	-	3	0	1	-	1	0	2	-	2	6
% Trucks	3.2	10.5	-	6.0	0.0	6.7	-	3.4	0.0	25.0	-	16.7	6.6

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Turning Movement Peak Hour Data Plot (4:00 PM)

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Site Code:
Start Date: 01/26/2023

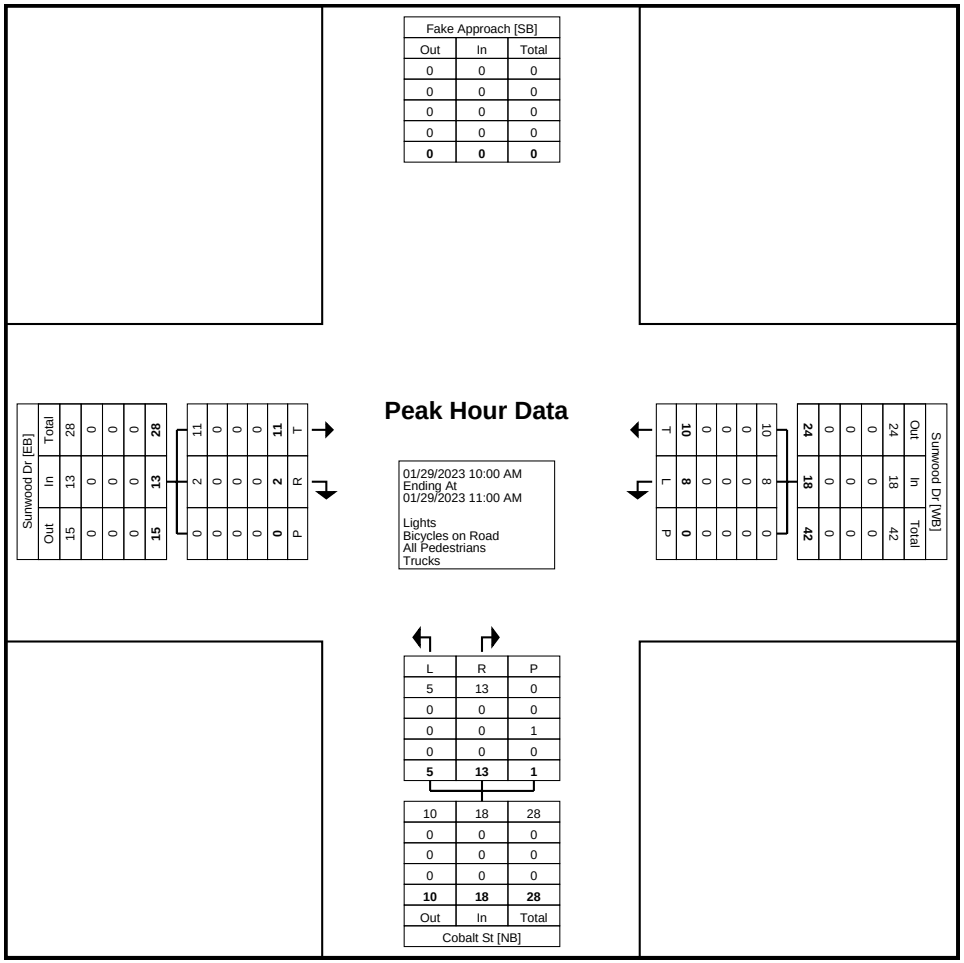
Turning Movement Peak Hour Data (10:00 AM)

Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
10:00 AM	3	1	0	4	3	1	0	4	1	1	1	2	10
10:15 AM	6	1	0	7	1	2	0	3	2	7	0	9	19
10:30 AM	1	0	0	1	2	1	0	3	1	3	0	4	8
10:45 AM	1	0	0	1	2	6	0	8	1	2	0	3	12
Total	11	2	0	13	8	10	0	18	5	13	1	18	49
Approach %	84.6	15.4	-	-	44.4	55.6	-	-	27.8	72.2	-	-	-
Total %	22.4	4.1	-	26.5	16.3	20.4	-	36.7	10.2	26.5	-	36.7	-
PHF	0.458	0.500	-	0.464	0.667	0.417	-	0.563	0.625	0.464	-	0.500	0.645
Lights	11	2	-	13	8	10	-	18	5	13	-	18	49
% Lights	100.0	100.0	-	100.0	100.0	100.0	-	100.0	100.0	100.0	-	100.0	100.0
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	1	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-
Trucks	0	0	-	0	0	0	-	0	0	0	-	0	0
% Trucks	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Sunwood Dr & Cobalt St
Site Code:
Start Date: 01/26/2023



Turning Movement Peak Hour Data Plot (10:00 AM)

Kimley-Horn and Associates, Inc.
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(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Sunwood Dr & Cobalt St
Site Code:
Start Date: 01/26/2023

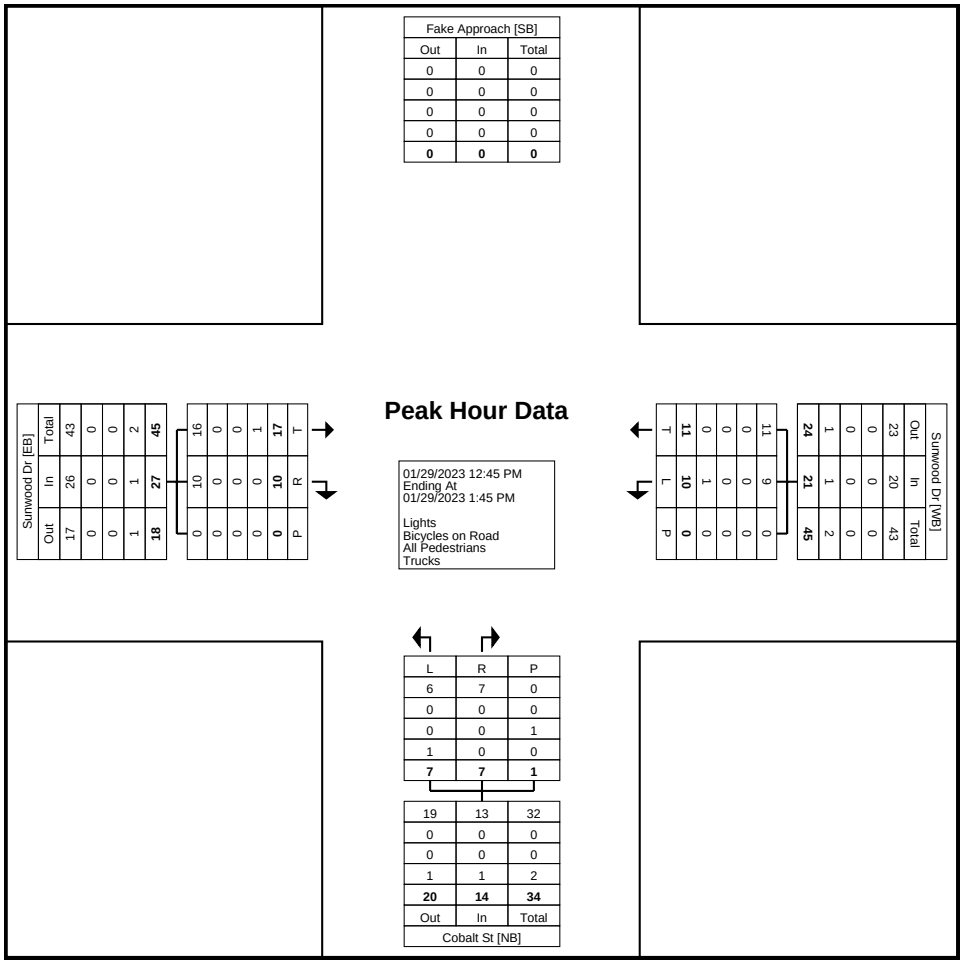
Turning Movement Peak Hour Data (12:45 PM)

Start Time	Sunwood Dr Eastbound				Sunwood Dr Westbound				Cobalt St Northbound				
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
12:45 PM	5	5	0	10	1	2	0	3	3	1	0	4	17
1:00 PM	3	0	0	3	2	1	0	3	0	2	0	2	8
1:15 PM	4	3	0	7	2	3	0	5	2	1	0	3	15
1:30 PM	5	2	0	7	5	5	0	10	2	3	1	5	22
Total	17	10	0	27	10	11	0	21	7	7	1	14	62
Approach %	63.0	37.0	-	-	47.6	52.4	-	-	50.0	50.0	-	-	-
Total %	27.4	16.1	-	43.5	16.1	17.7	-	33.9	11.3	11.3	-	22.6	-
PHF	0.850	0.500	-	0.675	0.500	0.550	-	0.525	0.583	0.583	-	0.700	0.705
Lights	16	10	-	26	9	11	-	20	6	7	-	13	59
% Lights	94.1	100.0	-	96.3	90.0	100.0	-	95.2	85.7	100.0	-	92.9	95.2
Bicycles on Road	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
All Pedestrians	-	-	0	-	-	-	0	-	-	-	1	-	-
% All Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-
Trucks	1	0	-	1	1	0	-	1	1	0	-	1	3
% Trucks	5.9	0.0	-	3.7	10.0	0.0	-	4.8	14.3	0.0	-	7.1	4.8

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Count Name: Sunwood Dr & Cobalt St
Site Code:
Start Date: 01/26/2023

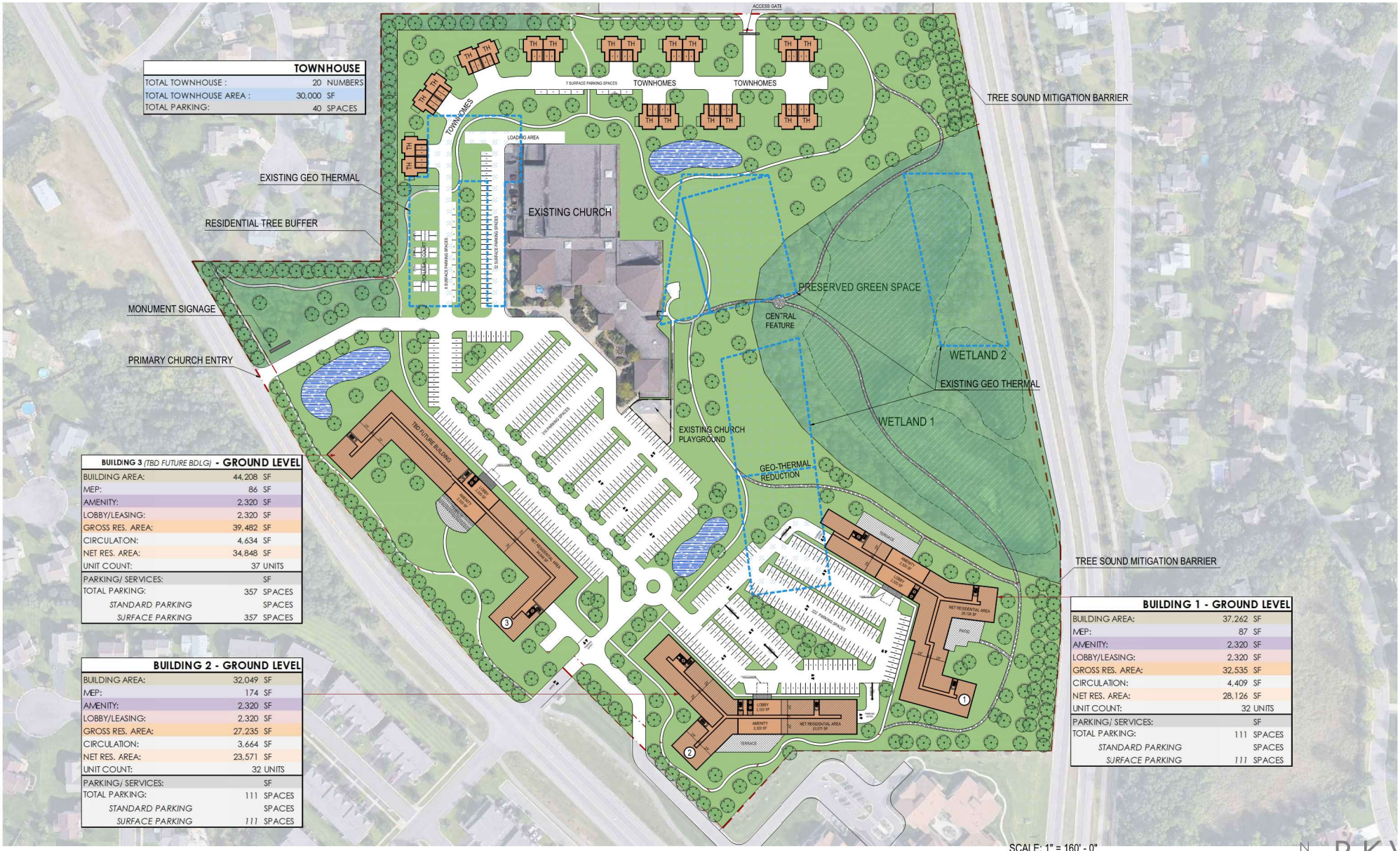


Turning Movement Peak Hour Data Plot (12:45 PM)

C. Site Layout Exhibit

GROUND LEVEL

OPTION D2-A



TOWNHOUSE		
TOTAL TOWNHOUSE :	20	NUMBERS
TOTAL TOWNHOUSE AREA :	30,000	SF
TOTAL PARKING:	40	SPACES

BUILDING 3 *(TBD FUTURE BDLG)* - GROUND LEVEL		
BUILDING AREA:	44,208	SF
MEP:	86	SF
AMENITY:	2,320	SF
LOBBY/LEASING:	2,320	SF
GROSS RES. AREA:	39,482	SF
CIRCULATION:	4,634	SF
NET RES. AREA:	34,848	SF
UNIT COUNT:	37	UNITS
PARKING/ SERVICES:		SF
TOTAL PARKING:	357	SPACES
STANDARD PARKING		SPACES
SURFACE PARKING	357	SPACES

BUILDING 2 - GROUND LEVEL		
BUILDING AREA:	32,049	SF
MEP:	174	SF
AMENITY:	2,320	SF
LOBBY/LEASING:	2,320	SF
GROSS RES. AREA:	27,235	SF
CIRCULATION:	3,664	SF
NET RES. AREA:	23,571	SF
UNIT COUNT:	32	UNITS
PARKING/ SERVICES:		SF
TOTAL PARKING:	111	SPACES
STANDARD PARKING		SPACES
SURFACE PARKING	111	SPACES

BUILDING 1 - GROUND LEVEL		
BUILDING AREA:	37,262	SF
MEP:	87	SF
AMENITY:	2,320	SF
LOBBY/LEASING:	2,320	SF
GROSS RES. AREA:	32,535	SF
CIRCULATION:	4,409	SF
NET RES. AREA:	28,126	SF
UNIT COUNT:	32	UNITS
PARKING/ SERVICES:		SF
TOTAL PARKING:	111	SPACES
STANDARD PARKING		SPACES
SURFACE PARKING	111	SPACES

SCALE: 1" = 160' - 0"

0' 80' 160' 240' 320'

BKV GROUP

D. SimTraffic Analysis Results

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.5	0.7
Total Del/Veh (s)	13.7	11.0	6.9	13.9	11.1	1.5	2.0	0.8	0.2	1.3	0.1	2.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.2	0.1
Total Del/Veh (s)	2.1	2.4	1.7	0.6	4.5	2.3	1.9

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.8	0.0	0.0	4.1	0.9	0.1	0.0	0.0	0.0	3.1	0.5	3.9
Total Del/Veh (s)	44.8	45.0	6.3	40.1	41.8	5.8	51.8	5.8	3.5	63.6	3.5	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	7.2

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.6	5.1	10.0	2.2	0.4	0.1	1.3	0.4	1.4

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	2.3	0.4	0.7	0.6

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.1	6.3	6.1	0.7	0.2	0.7	1.3	0.2	1.7

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.2	0.8	11.3	1.3	15.2	5.1	2.7

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.3	0.4	3.7	0.6	3.0	0.0	0.0	0.2
Total Del/Veh (s)	23.2	34.5	3.5	42.1	32.8	6.6	46.3	6.6	1.4	45.7	18.5	6.8

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	16.8

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	23.2

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	48	62	74	21	22
Average Queue (ft)	12	19	30	1	4
95th Queue (ft)	32	44	68	7	17
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	46
Average Queue (ft)	15
95th Queue (ft)	40
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	42	86	118	26	98	26	46	122	26
Average Queue (ft)	6	10	31	8	4	18	5	6	42	5
95th Queue (ft)	23	29	61	46	17	57	22	25	104	21
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0	0						
Queuing Penalty (veh)			0	0						

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	47	25	50
Average Queue (ft)	15	5	3
95th Queue (ft)	37	20	19
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	NB
Directions Served	LT	R	L
Maximum Queue (ft)	24	65	43
Average Queue (ft)	3	25	6
95th Queue (ft)	17	52	24
Link Distance (ft)	278	278	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			290
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7:

Movement	EB	EB	WB	NB	NB
Directions Served	T	R	L	L	R
Maximum Queue (ft)	22	22	90	53	46
Average Queue (ft)	1	1	27	23	21
95th Queue (ft)	7	8	68	54	41
Link Distance (ft)	659			345	345
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		300	120		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	24	43	146	121	189	128	99	23	26	359	60
Average Queue (ft)	7	20	72	19	83	31	34	2	8	153	4
95th Queue (ft)	23	47	129	58	149	87	83	14	24	273	21
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			9	0						2	
Queuing Penalty (veh)			3	0						1	

Network Summary

Network wide Queuing Penalty: 4

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	4.2	0.1	0.1	4.2	0.0	0.0	0.0	0.1	0.3	3.7
Total Del/Veh (s)	21.0	9.0	2.2	28.6	15.8	1.4	1.8	2.8	1.7	1.2	1.1	0.3

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	3.6

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.0	0.4	3.4	1.3	3.6	2.0	2.2

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	4.2	0.1	0.0	0.1	0.0	2.0	0.4	2.8	0.4
Total Del/Veh (s)	49.3	0.2	3.4	59.1	72.1	31.3	13.4	7.7	20.1	2.9	0.0	13.1

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.6	0.3	0.5	0.0	0.5	0.1	0.6

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	2.4	0.4	0.4	0.4

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.7	0.0	0.0
Total Del/Veh (s)	40.2	2.8	1.3	0.0	7.9	0.5	1.5

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	1.4	0.3	3.4	1.9	8.4	3.6	2.5

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.2	0.1	0.1	2.7	1.7	3.5	0.0	0.0	0.0
Total Del/Veh (s)	58.1	26.8	1.6	58.3	55.6	39.3	40.2	9.6	2.2	34.3	13.7	12.9

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	1.2
Total Del/Veh (s)	20.4

Total Network Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	24.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LT	LT	R
Maximum Queue (ft)	25	21	92	25	47	21	13
Average Queue (ft)	19	11	50	5	19	4	3
95th Queue (ft)	35	26	88	21	57	18	11
Link Distance (ft)	414		1298		784	478	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		270		270			270
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (ft)	24	20	66	37	51	306	30	22	52
Average Queue (ft)	10	5	44	11	10	133	11	8	26
95th Queue (ft)	29	18	77	35	44	345	35	25	63
Link Distance (ft)		1064		520		3458			761
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100		240		240	240	
Storage Blk Time (%)						5			
Queuing Penalty (veh)						4			

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB
Directions Served	LTR
Maximum Queue (ft)	23
Average Queue (ft)	9
95th Queue (ft)	27
Link Distance (ft)	303
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	11
95th Queue (ft)	34
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	SB
Directions Served	LT	R	L
Maximum Queue (ft)	24	40	50
Average Queue (ft)	5	15	26
95th Queue (ft)	21	39	53
Link Distance (ft)	278	278	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	31	72	75
Average Queue (ft)	12	45	41
95th Queue (ft)	37	79	73
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	66	62	50	125	185	149	164	24	22	131	17
Average Queue (ft)	28	18	22	84	154	99	115	14	4	78	3
95th Queue (ft)	68	55	48	136	194	161	199	33	19	137	15
Link Distance (ft)		384		244			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)				24							
Queuing Penalty (veh)				13							

Network Summary

Network wide Queuing Penalty: 17

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.2	4.0	0.1	0.0	2.1	0.0	0.0	0.0	0.2	3.4	0.5
Total Del/Veh (s)	5.2	7.2	2.5	5.5	8.5	1.5	1.4	1.2	0.1	0.8	0.1	1.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.4	1.6	1.9	1.1	2.1	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.4	0.0	0.0	4.1	0.1	0.1	0.0	0.0	0.0	3.2	0.3	3.1
Total Del/Veh (s)	36.6	16.1	5.6	44.1	36.8	5.7	30.1	5.7	3.2	31.5	2.9	0.1

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	7.1

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.3	2.5	4.2	0.4	0.6	0.1	0.4	0.6	0.6

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0
Total Del/Veh (s)	6.3	2.6	0.5	0.3	0.7

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.1	2.8	4.8	5.7	2.5	1.7	0.7	0.1	3.2	0.6	0.1	0.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.0	0.1	4.4	1.4	8.4	2.6	1.5

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.0	0.1	0.3	3.3	0.7	3.1	0.0	0.0	0.0
Total Del/Veh (s)	64.2	41.1	2.0	51.4	37.6	21.7	46.7	5.2	1.4	68.5	14.6	3.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	17.3

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	23.3

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	49	60	29	25	22
Average Queue (ft)	12	15	11	2	3
95th Queue (ft)	34	38	34	12	15
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (ft)	24	20	110	18	50	72	27	22	73
Average Queue (ft)	2	8	36	2	7	17	3	2	29
95th Queue (ft)	12	23	82	11	29	53	15	12	66
Link Distance (ft)		1064		520		3458			761
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100		240		240	240	
Storage Blk Time (%)			2						
Queuing Penalty (veh)			0						

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	25	25
Average Queue (ft)	8	3
95th Queue (ft)	26	17
Link Distance (ft)	303	354
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	51
Average Queue (ft)	17
95th Queue (ft)	40
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	23	44	20	24	23
Average Queue (ft)	2	13	2	1	1
95th Queue (ft)	11	34	12	8	8
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	53	49	46
Average Queue (ft)	5	14	18
95th Queue (ft)	29	40	40
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	44	46	108	56	185	146	152	42	69	307	16
Average Queue (ft)	11	21	38	13	77	17	52	5	23	109	1
95th Queue (ft)	35	45	83	37	154	81	121	22	60	203	8
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			2							1	
Queuing Penalty (veh)			1							0	

Network Summary

Network wide Queuing Penalty: 1

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.2	4.1	0.1	0.0	0.7	0.0	0.0	0.0	0.6	0.5	3.2
Total Del/Veh (s)	8.5	11.6	6.2	11.3	11.8	2.6	4.4	0.8	0.2	0.7	1.3	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	2.4

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0		0.0	0.1	0.1	0.1
Total Del/Veh (s)	2.3	1.5		1.0	4.4	2.2	2.3

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.0	0.0	4.1	0.2	0.3	0.0	0.0	0.0	3.3	0.5	3.6
Total Del/Veh (s)	46.6	50.1	7.6	44.2	48.4	5.4	39.1	5.4	3.1	50.9	4.3	1.1

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	8.7

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0
Total Del/Veh (s)	11.8	5.1	9.8	3.2	0.6	0.0	1.3	0.4	1.5

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	1.4	0.3	0.7	0.6

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0
Total Del/Veh (s)	8.9	7.6	6.0	0.6	0.2	1.8	1.3	0.2	1.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.2	0.8	8.8	1.2	14.1	6.0	2.5

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.3	0.4	3.6	0.6	3.5	0.4	0.0	0.2
Total Del/Veh (s)	39.0	37.0	3.6	48.3	34.9	12.1	47.3	6.0	1.6	43.9	18.1	6.4

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	17.1

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	23.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	R
Maximum Queue (ft)	47	79	73	25	48	3
Average Queue (ft)	12	23	30	4	4	0
95th Queue (ft)	34	53	57	19	24	2
Link Distance (ft)	414		1298		784	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		270
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	19
95th Queue (ft)	44
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	54	99	30	26	108	37	29	146	20
Average Queue (ft)	3	11	40	6	5	19	4	5	48	1
95th Queue (ft)	14	38	82	21	20	63	21	21	115	9
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)		0	1							
Queuing Penalty (veh)		0	0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	55	28	59
Average Queue (ft)	18	9	3
95th Queue (ft)	40	28	25
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	6
Average Queue (ft)	0
95th Queue (ft)	6
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	NB	SB
Directions Served	LT	R	L	L
Maximum Queue (ft)	19	86	48	14
Average Queue (ft)	2	26	5	0
95th Queue (ft)	14	51	26	5
Link Distance (ft)	278	278		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			290	300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	9	81	75	54
Average Queue (ft)	1	25	23	17
95th Queue (ft)	7	62	55	44
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	32	77	160	134	172	134	106	27	67	339	37
Average Queue (ft)	8	21	73	19	76	29	28	4	15	147	6
95th Queue (ft)	27	55	134	69	150	87	73	19	46	279	23
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			15	0						3	
Queuing Penalty (veh)			5	1						1	

Network Summary

Network wide Queuing Penalty: 7

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	4.1	0.1	0.1	1.8	0.0	0.0	0.0	0.3	0.4	3.6
Total Del/Veh (s)	10.3	9.8	2.6	15.0	8.2	3.4	2.9	3.2	0.6	2.5	1.1	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	2.6

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.3	2.1	2.7	1.9	4.5	2.1	1.7

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.2	0.3	0.2	0.0	0.0	0.0	3.3	0.4	4.2
Total Del/Veh (s)	53.0	44.0	10.0	55.9	75.6	14.5	79.0	13.0	8.1	84.1	4.5	0.0

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.2

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Total Del/Veh (s)	6.7	2.8	11.9	1.4	1.3	0.2	1.9	0.6	0.0	1.0

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	4.3	5.8	0.7	0.4	0.6

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.5	0.0	0.0	0.0
Total Del/Veh (s)	9.5	3.9	8.1	1.7	1.5	0.4	5.0	0.7	0.1	1.6

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	1.6	0.5	9.4	2.4	12.6	3.8	3.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.1	4.1	0.3	0.1	2.9	1.6	3.2	0.0	0.0	0.0
Total Del/Veh (s)	48.0	44.1	2.2	56.9	47.1	25.6	42.1	12.2	1.7	58.2	25.6	7.6

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	1.2
Total Del/Veh (s)	22.9

Total Network Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	30.5

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	LT
Maximum Queue (ft)	65	54	53	25	70	21
Average Queue (ft)	17	15	21	6	18	3
95th Queue (ft)	42	37	44	22	48	15
Link Distance (ft)	414		1298		784	478
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	8
95th Queue (ft)	29
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (ft)	46	82	65	54	52	330	28	27	168
Average Queue (ft)	16	21	27	14	14	110	6	7	46
95th Queue (ft)	42	51	59	38	39	251	23	23	111
Link Distance (ft)		1064		520		3458			761
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100		240		240	240	
Storage Blk Time (%)		0				1			
Queuing Penalty (veh)		0				1			

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	49	24	50	22
Average Queue (ft)	9	1	6	1
95th Queue (ft)	32	8	27	8
Link Distance (ft)	303	354	585	784
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	SB
Directions Served	LT	R	LTR	L
Maximum Queue (ft)	24	66	20	49
Average Queue (ft)	4	17	6	15
95th Queue (ft)	18	40	20	42
Link Distance (ft)	278	278	203	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	94	91	54
Average Queue (ft)	18	41	30
95th Queue (ft)	61	76	46
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	R	L	L	T	R	L	T	R
Maximum Queue (ft)	88	105	85	125	8	229	193	445	29	48	376	20
Average Queue (ft)	41	37	45	40	1	152	99	160	6	13	145	1
95th Queue (ft)	79	76	80	92	4	214	177	331	24	37	264	7
Link Distance (ft)		384		244	244			607			3458	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		80			500	500		290	210		210
Storage Blk Time (%)		0	1	4				2			3	
Queuing Penalty (veh)		0	1	2				8			1	

Network Summary

Network wide Queuing Penalty: 13

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	4.2	0.0	0.1	4.2	0.0	0.0	0.0	0.2	3.0	0.4
Total Del/Veh (s)	4.5	7.8	1.6	6.4	6.5	1.4	1.7	1.3	0.5	0.6	0.2	1.6

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.3	1.3	2.0	0.9	2.0	1.4

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.1	0.1	0.1	0.0	0.0	0.1	1.5	0.3	2.9
Total Del/Veh (s)	76.4	48.8	4.0	36.0	57.2	3.1	45.6	5.4	2.6	29.3	3.7	0.8

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	7.0

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	4.2	0.0
Total Del/Veh (s)	2.7	4.2	0.5	0.8	0.1	0.4	0.1	0.7

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	5.5	3.5	0.6	0.2	0.5

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBT	EBR	WBL	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	9.8	2.5	4.4	1.6	0.9	0.0	2.7	0.4	0.0	0.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.0	0.2	4.1	1.9	4.6	1.6	1.6

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.0	0.2	0.3	3.4	0.6	3.7	0.0	0.0	0.0
Total Del/Veh (s)	58.6	32.2	1.7	55.0	43.2	11.1	55.5	7.5	1.4	56.4	15.1	6.0

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	20.0

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	24.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	48	44	29	25	22
Average Queue (ft)	12	10	17	1	2
95th Queue (ft)	35	30	39	8	10
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	46
Average Queue (ft)	9
95th Queue (ft)	32
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	37	88	18	52	95	27	23	92	26
Average Queue (ft)	2	7	29	4	9	20	1	1	31	3
95th Queue (ft)	13	24	69	16	32	61	9	8	74	15
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0							
Queuing Penalty (veh)			0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	25	25	23
Average Queue (ft)	8	3	1
95th Queue (ft)	27	18	8
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	12
95th Queue (ft)	35
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	23	19	20	28	24
Average Queue (ft)	0	12	1	4	1
95th Queue (ft)	0	26	7	19	8
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	31	29	27
Average Queue (ft)	11	11	13
95th Queue (ft)	35	33	34
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	24	65	138	92	165	129	150	24	90	236	22
Average Queue (ft)	4	18	57	19	91	31	61	3	27	91	3
95th Queue (ft)	17	47	116	58	152	98	137	16	63	196	14
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			7	2						0	
Queuing Penalty (veh)			2	1						0	

Network Summary

Network wide Queuing Penalty: 3

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	4.1	0.0	0.0	1.3	0.0	0.0	0.0	0.1	0.6	3.0
Total Del/Veh (s)	13.6	12.3	7.6	13.6	15.4	2.1	5.0	1.2	0.2	0.5	1.4	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	2.8

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0		0.0	0.1	0.2	0.1
Total Del/Veh (s)	1.8	1.9		1.1	4.2	2.4	2.2

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.0	0.0	4.1	0.2	0.4	0.0	0.0	0.0	3.4	0.5	2.9
Total Del/Veh (s)	44.9	38.0	7.3	48.9	39.6	5.2	59.5	5.7	3.2	53.5	4.2	0.9

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	8.2

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.0	0.0	0.2	0.0	0.4	0.0
Total Del/Veh (s)	11.6	7.8	10.6	4.2	0.6	0.0	1.5	0.4	1.7

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	3.1	0.4	0.7	0.7

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.1	0.0	0.0	0.4	0.0	0.0	0.0
Total Del/Veh (s)	25.0	9.5	6.0	0.7	0.2	1.7	1.5	0.3	2.1

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.6	1.0	13.2	1.3	18.1	7.4	3.0

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.5	0.4	3.5	0.7	3.6	0.1	0.0	0.2
Total Del/Veh (s)	36.9	34.9	4.0	50.4	32.5	5.9	46.1	6.4	1.6	47.3	19.1	6.2

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	17.7

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	24.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	42	62	104	25	71
Average Queue (ft)	11	23	32	4	6
95th Queue (ft)	33	49	70	20	34
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	18
95th Queue (ft)	42
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	40	88	36	37	95	31	32	183	13
Average Queue (ft)	3	8	36	7	6	20	3	4	52	1
95th Queue (ft)	16	29	75	25	23	66	18	18	131	11
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0						0	
Queuing Penalty (veh)			0						0	

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	60	25	52
Average Queue (ft)	20	7	4
95th Queue (ft)	46	26	25
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	17
Average Queue (ft)	1
95th Queue (ft)	7
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	NB	SB
Directions Served	LT	R	L	L
Maximum Queue (ft)	28	86	39	15
Average Queue (ft)	2	28	7	1
95th Queue (ft)	12	59	27	8
Link Distance (ft)	278	278		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			290	300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	34	86	52	51
Average Queue (ft)	2	33	21	18
95th Queue (ft)	16	73	48	45
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	36	81	175	99	176	140	95	33	59	339	29
Average Queue (ft)	8	20	91	16	82	32	28	3	20	164	7
95th Queue (ft)	28	54	156	56	155	95	67	16	49	277	24
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)		0	21	0						3	
Queuing Penalty (veh)		2	7	0						2	

Network Summary

Network wide Queuing Penalty: 11

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	4.0	0.1	0.1	2.4	0.0	0.0	0.0	0.5	0.5	3.4
Total Del/Veh (s)	11.4	15.8	3.8	14.3	13.4	3.5	4.3	4.4	1.3	2.7	1.3	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	3.6

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.2	1.1	3.0	1.2	4.1	1.9	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	4.1	0.1	0.2	0.0	0.0	0.1	3.4	0.4	3.5
Total Del/Veh (s)	60.1	64.7	14.1	58.6	57.1	15.5	60.0	13.7	8.5	64.9	3.8	1.0

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.0

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0
Total Del/Veh (s)	10.0	3.9	10.7	2.1	1.3	0.1	3.8	1.0	0.5	1.3

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	14.1	5.4	0.9	0.6	0.8

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2		0.0	0.0	0.4	0.0	0.3	0.1
Total Del/Veh (s)	12.5	3.5	15.4	10.6		1.8	0.3	5.5	0.8	0.2	1.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.3	0.0	0.2	0.2	0.0
Total Del/Veh (s)	1.8	0.2	7.0	3.0	17.0	5.5	3.9

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.2	3.9	0.3	0.3	3.1	1.8	3.2	0.1	0.0	0.0
Total Del/Veh (s)	55.2	37.3	2.5	46.4	45.2	29.6	50.9	11.9	2.3	50.9	20.8	5.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	22.7

Total Network Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	31.0

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LT	LT	R
Maximum Queue (ft)	57	45	50	25	114	42	4
Average Queue (ft)	20	16	24	6	30	5	0
95th Queue (ft)	46	36	47	22	80	26	2
Link Distance (ft)	414		1298		784	478	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		270		270			270
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	27	32
Average Queue (ft)	1	7
95th Queue (ft)	12	26
Link Distance (ft)	1064	511
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	49	64	87	65	56	367	126	45	143	24
Average Queue (ft)	10	15	33	11	16	107	14	8	37	1
95th Queue (ft)	33	46	71	38	44	284	77	27	95	10
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0	0		1				
Queuing Penalty (veh)			0	0		1				

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	30	24	51	55
Average Queue (ft)	11	2	6	3
95th Queue (ft)	32	13	28	25
Link Distance (ft)	303	354	585	784
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	SB
Directions Served	LT	R	LTR	L
Maximum Queue (ft)	23	36	33	68
Average Queue (ft)	2	13	6	20
95th Queue (ft)	13	29	23	51
Link Distance (ft)	278	278	203	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7:

Movement	WB	WB	WB	NB	NB
Directions Served	L	T	T	L	R
Maximum Queue (ft)	57	82	84	109	89
Average Queue (ft)	14	3	3	48	36
95th Queue (ft)	42	60	61	88	67
Link Distance (ft)		384	384	345	345
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)	120				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	142	133	113	130	297	211	347	32	65	287	20
Average Queue (ft)	60	34	45	58	176	118	156	8	16	125	3
95th Queue (ft)	118	85	93	116	268	216	288	27	49	218	13
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)		0	5	9			1			1	
Queuing Penalty (veh)		2	5	6			4			0	

Network Summary

Network wide Queuing Penalty: 18

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	4.1	0.1	0.1	2.1	0.0	0.0	0.1	0.2	3.9	0.5
Total Del/Veh (s)	5.4	7.8	2.2	5.7	7.9	2.4	1.2	1.2	0.2	0.7	0.1	1.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0		0.1	0.0
Total Del/Veh (s)	1.2	1.5	2.5	0.7		2.1	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.0	0.0	4.1	0.1	0.1	0.0	0.0	0.0	2.9	0.4	3.2
Total Del/Veh (s)	37.4	29.8	6.3	39.7	31.1	2.0	43.7	5.2	3.4	39.3	3.2	0.5

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	6.5

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)		0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		2.8	6.0	1.2	0.6	0.1	0.5	0.3	0.7

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	5.8	3.2	0.4	0.3	0.5

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	8.8	3.3	2.9	6.8	15.3	2.3	2.1	0.7	0.1	1.7	0.5	0.1

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	0.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.5	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.0	0.2	4.3	1.5	6.5	2.2	1.5

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.1	0.3	0.2	3.2	0.7	3.4	0.1	0.0	0.5
Total Del/Veh (s)	46.8	42.2	2.0	55.5	45.7	11.9	50.6	5.7	1.3	62.0	13.1	4.9

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	17.6

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	22.7

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	40	57	46	19	39
Average Queue (ft)	13	15	18	2	4
95th Queue (ft)	34	37	44	12	20
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	18	39
Average Queue (ft)	1	8
95th Queue (ft)	8	29
Link Distance (ft)	1064	511
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	32	42	75	17	55	93	32	26	118	15
Average Queue (ft)	2	10	24	2	11	17	2	3	30	1
95th Queue (ft)	15	32	56	10	38	61	12	16	82	10
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0							
Queuing Penalty (veh)			0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	25	25	19
Average Queue (ft)	11	4	1
95th Queue (ft)	30	20	10
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	37
Average Queue (ft)	15
95th Queue (ft)	39
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	23	36	20	27	10
Average Queue (ft)	2	11	3	4	0
95th Queue (ft)	12	29	15	20	5
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	4	39	46	48
Average Queue (ft)	0	9	16	16
95th Queue (ft)	3	33	41	41
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	40	60	117	90	186	148	155	29	73	212	20
Average Queue (ft)	8	20	48	16	93	27	54	3	26	95	3
95th Queue (ft)	26	50	98	53	164	102	120	18	62	173	14
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			4	1						0	
Queuing Penalty (veh)			1	0						0	

Network Summary

Network wide Queuing Penalty: 2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	4.1	0.0	0.0	2.0	0.0	0.0	0.0	0.9	0.5	3.2
Total Del/Veh (s)	9.9	12.4	5.0	12.8	12.2	3.0	4.4	0.8	0.1	1.5	1.4	0.1

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	2.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0		0.0	0.1	0.1	0.1
Total Del/Veh (s)	2.0	1.7		0.9	4.2	2.4	2.2

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.0	0.0	4.1	0.2	0.1	0.0	0.0	0.0	2.7	0.5	3.6
Total Del/Veh (s)	99.8	41.2	5.4	43.9	47.3	3.5	53.0	5.0	2.9	42.1	3.6	0.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	7.4

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.0
Total Del/Veh (s)	14.8	5.4	9.3	2.9	0.6	0.0	1.3	0.5	1.5

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.0	0.4	0.1	0.7	0.7

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0
Total Del/Veh (s)	15.4	17.6	26.3	7.1	5.7	0.7	0.4	2.1	2.1	0.3	5.3

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.8	1.2	12.6	1.2	22.8	7.4	3.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.5	0.1	3.5	0.7	3.5	0.2	0.0	0.2
Total Del/Veh (s)	38.9	34.7	4.0	49.6	30.7	5.0	45.3	5.8	1.1	47.2	16.8	6.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	16.9

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	25.0

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	LT
Maximum Queue (ft)	44	64	80	24	42	4
Average Queue (ft)	13	21	34	3	4	0
95th Queue (ft)	36	45	64	15	21	3
Link Distance (ft)	414		1298		784	478
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	57
Average Queue (ft)	21
95th Queue (ft)	48
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	19	52	99	30	25	107	30	27	176	16
Average Queue (ft)	1	12	34	7	3	19	3	3	45	1
95th Queue (ft)	10	35	79	23	15	65	18	16	126	7
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0						0	
Queuing Penalty (veh)			0						0	

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	51	29	30
Average Queue (ft)	20	7	4
95th Queue (ft)	45	25	20
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	5
95th Queue (ft)	22
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	24	109	128	31	15
Average Queue (ft)	3	35	45	5	1
95th Queue (ft)	14	80	94	22	10
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	18	84	74	53
Average Queue (ft)	1	31	26	19
95th Queue (ft)	8	67	58	46
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	R	L	L	T	R	L	T	R
Maximum Queue (ft)	62	67	164	110	6	189	153	90	28	67	275	36
Average Queue (ft)	19	20	81	18	0	82	50	26	2	17	139	7
95th Queue (ft)	51	53	151	65	3	158	116	67	14	48	240	25
Link Distance (ft)		384		244	244			607			3458	
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	200		80			500	500		290	210		210
Storage Blk Time (%)			16	0							1	
Queuing Penalty (veh)			4	0							1	

Network Summary

Network wide Queuing Penalty: 5

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	4.1	0.1	0.1	2.3	0.0	0.0	0.0	0.4	0.4	3.6
Total Del/Veh (s)	13.4	13.4	3.2	13.8	13.2	3.6	4.0	3.7	1.1	2.3	1.3	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	3.3

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.2	1.5	3.0	1.4	4.0	2.2	1.7

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	4.1	0.2	0.2	0.0	0.0	0.1	3.4	0.3	3.3
Total Del/Veh (s)	59.9	62.9	10.5	59.2	51.6	12.2	66.7	16.4	8.9	62.1	3.6	0.4

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	15.8

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	14.0	4.1	9.4	2.6	1.4	0.2	2.5	0.9	0.3	1.3

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.6	1.0	0.3	0.5	0.7

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.1
Total Del/Veh (s)	14.4	4.8	22.1	9.4	1.9	1.6	0.9	5.7	1.0	0.1	2.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	0.2	0.0
Total Del/Veh (s)	1.9	0.4	7.6	2.2	17.8	4.6	3.6

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.1	3.8	0.4	0.1	3.0	1.9	3.1	0.0	0.0	0.1
Total Del/Veh (s)	56.7	42.5	2.4	52.8	48.0	23.4	43.9	10.2	2.0	61.5	23.2	6.0

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	22.5

Total Network Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	31.9

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	LT	R	LT	R	LT	R
Maximum Queue (ft)	51	41	64	29	89	14	42	3
Average Queue (ft)	18	15	25	6	25	0	3	0
95th Queue (ft)	43	33	51	24	68	8	19	2
Link Distance (ft)	414		1298		784		478	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		270		270		270		270
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	18	31
Average Queue (ft)	0	7
95th Queue (ft)	6	27
Link Distance (ft)	1064	511
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	48	76	91	63	121	711	122	32	141	4
Average Queue (ft)	12	17	32	12	16	141	14	8	36	0
95th Queue (ft)	38	54	75	38	78	406	76	25	93	3
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)		0	1	0		3				
Queuing Penalty (veh)		0	0	0		3				

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	29	25	70	38
Average Queue (ft)	12	3	8	2
95th Queue (ft)	32	17	38	16
Link Distance (ft)	303	354	585	784
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	NB	SB
Directions Served	LT	R	LTR	L	R	L
Maximum Queue (ft)	28	48	97	4	15	72
Average Queue (ft)	3	15	34	0	1	19
95th Queue (ft)	16	35	73	3	6	49
Link Distance (ft)	278	278	203		659	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				290		300
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	45	106	70
Average Queue (ft)	15	48	34
95th Queue (ft)	43	88	56
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	R	L	L	T	R	L	T	R
Maximum Queue (ft)	150	98	105	150	32	274	227	321	40	55	250	29
Average Queue (ft)	62	32	41	54	2	174	131	139	8	13	130	6
95th Queue (ft)	117	78	88	120	18	253	209	265	28	41	215	21
Link Distance (ft)		384		244	244			607			3458	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		80			500	500		290	210		210
Storage Blk Time (%)		0	4	7				0			1	
Queuing Penalty (veh)		0	3	4				2			0	

Network Summary

Network wide Queuing Penalty: 12

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	4.1	0.1	0.1	2.1	0.0	0.0	0.1	0.2	3.3	0.5
Total Del/Veh (s)	4.5	7.1	2.4	5.4	7.9	1.4	1.5	1.0	0.3	0.7	0.1	1.4

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0		0.1	0.0
Total Del/Veh (s)	1.4	1.2	2.7	0.7		2.1	1.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.0	0.0	4.2	0.1	0.1	0.0	0.0	0.0	3.1	0.3	2.7
Total Del/Veh (s)	44.1	20.8	5.5	42.7	33.2	5.6	40.0	5.5	3.5	45.2	2.6	0.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	6.2

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.4	2.7	5.5	1.5	0.8	0.1	0.5	0.1	0.7

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.3	0.5	0.1	0.2	0.4

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.2	14.7	3.0	7.9	5.1	3.7	2.5	0.8	0.8	1.1	0.8	0.1

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	1.9

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.2	0.4	5.3	1.3	7.4	3.1	1.6

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.1	0.2	0.1	3.3	0.7	3.6	0.0	0.0	0.1
Total Del/Veh (s)	52.3	33.3	2.1	53.4	47.2	10.5	56.7	6.4	1.6	62.4	12.1	4.1

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	19.4

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	24.2

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB
Directions Served	LT	R	LT	R	LT
Maximum Queue (ft)	33	44	45	24	35
Average Queue (ft)	12	16	15	1	3
95th Queue (ft)	32	35	41	10	16
Link Distance (ft)	414		1298		784
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		270		270	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	12	42
Average Queue (ft)	1	10
95th Queue (ft)	8	33
Link Distance (ft)	1064	511
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	36	72	18	27	100	25	22	112	10
Average Queue (ft)	3	10	21	2	6	18	2	3	25	1
95th Queue (ft)	16	30	52	12	22	64	13	15	73	8
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0							
Queuing Penalty (veh)			0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	25	29	40
Average Queue (ft)	9	4	2
95th Queue (ft)	28	19	18
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	8
95th Queue (ft)	28
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	NB	SB
Directions Served	LT	R	LTR	L	R	L
Maximum Queue (ft)	19	37	74	31	3	25
Average Queue (ft)	2	12	28	5	0	1
95th Queue (ft)	12	30	57	21	2	10
Link Distance (ft)	278	278	203		659	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				290		300
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	4	45	43	63
Average Queue (ft)	0	9	18	15
95th Queue (ft)	3	36	42	42
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	R	L	L	T	R	L	T	R
Maximum Queue (ft)	64	79	108	70	5	186	156	174	38	81	207	32
Average Queue (ft)	16	21	45	17	0	91	57	52	3	25	84	3
95th Queue (ft)	44	57	94	51	2	164	126	127	20	62	167	17
Link Distance (ft)		384		244	244			607			3458	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		80			500	500		290	210		210
Storage Blk Time (%)		0	4	0							0	
Queuing Penalty (veh)		0	1	0							0	

Network Summary

Network wide Queuing Penalty: 1

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.2	4.0	0.0	0.0	0.8	0.0	0.0	0.0	1.4	0.7	2.7
Total Del/Veh (s)	12.1	14.3	7.9	14.0	14.2	2.8	5.1	1.1	0.4	3.4	1.5	0.2

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	2.8

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0		0.0	0.1	0.1	0.1
Total Del/Veh (s)	2.0	1.6		1.0	4.4	2.2	2.2

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.3	0.0	0.0	4.1	0.2	0.3	0.0	0.0	0.0	3.3	0.5	3.1
Total Del/Veh (s)	67.8	37.3	8.7	47.1	46.2	3.6	43.1	5.7	3.0	56.5	3.6	0.8

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	7.6

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	11.8	6.9	13.6	5.9	0.7	0.1	1.6	0.7	1.9

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.3	0.5	0.2	0.9	0.8

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	1.4	1.2	0.0	0.0	0.0	0.1	0.0	0.1	0.1
Total Del/Veh (s)	14.7	25.5	45.0	28.0	7.7	0.8	0.3	1.9	2.3	0.4	7.4

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.1	1.3	15.7	1.2	33.9	9.0	3.8

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	3.9	0.5	0.4	3.5	0.7	3.3	0.2	0.0	0.2
Total Del/Veh (s)	38.0	33.7	4.5	40.0	31.4	8.2	56.7	6.7	1.1	48.5	20.6	6.2

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	18.7

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	28.6

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	LT
Maximum Queue (ft)	45	85	81	20	42	19
Average Queue (ft)	13	25	32	4	6	1
95th Queue (ft)	36	53	65	18	26	9
Link Distance (ft)	414		1298		784	478
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	NB
Directions Served	LR
Maximum Queue (ft)	57
Average Queue (ft)	20
95th Queue (ft)	46
Link Distance (ft)	511
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	57	86	35	25	101	33	38	140	15
Average Queue (ft)	2	9	36	6	3	24	3	4	38	1
95th Queue (ft)	14	31	75	22	16	70	18	20	95	9
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0							
Queuing Penalty (veh)			0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	51	29	49
Average Queue (ft)	20	7	5
95th Queue (ft)	43	26	31
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	8
95th Queue (ft)	28
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	28	113	162	46	20
Average Queue (ft)	4	35	65	6	1
95th Queue (ft)	19	79	135	28	9
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)			2		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	40	88	86	58
Average Queue (ft)	2	30	25	19
95th Queue (ft)	17	69	63	44
Link Distance (ft)			345	345
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	120		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	71	67	199	97	175	145	108	23	52	349	35
Average Queue (ft)	22	22	88	17	92	52	31	3	16	178	8
95th Queue (ft)	58	53	161	65	157	111	82	17	44	309	25
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)			14	0						5	
Queuing Penalty (veh)			5	0						3	

Network Summary

Network wide Queuing Penalty: 8

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.3	4.1	0.1	0.1	2.6	0.0	0.0	0.0	0.5	0.5	3.3
Total Del/Veh (s)	16.0	14.5	4.5	18.8	16.2	4.7	5.0	4.4	1.1	2.5	1.4	0.3

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	3.9

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.3	0.9	3.0	1.1	4.7	2.2	1.5

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	4.0	0.2	0.2	0.0	0.0	0.0	3.6	0.3	3.3
Total Del/Veh (s)	54.6	52.0	11.5	56.3	55.9	13.5	69.7	14.3	8.5	72.4	4.1	0.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.4

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	8.5	3.4	16.1	2.9	1.5	0.2	1.2	1.0	0.4	1.3

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	9.8	4.4	1.0	0.3	0.6	0.8

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2		0.0	0.0	0.3	0.0	0.9	0.1
Total Del/Veh (s)	14.3	4.6	26.3	18.0		2.1	0.8	6.5	1.1	0.3	3.2

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	0.1	0.0
Total Del/Veh (s)	2.0	0.4	7.9	2.6	21.4	6.2	4.0

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.2	3.9	0.4	0.4	3.2	2.2	3.4	0.0	0.0	0.1
Total Del/Veh (s)	56.2	38.4	2.6	50.3	45.1	23.9	46.9	12.4	2.1	56.4	23.9	7.3

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	1.5
Total Del/Veh (s)	23.4

Total Network Performance

Denied Del/Veh (s)	1.6
Total Del/Veh (s)	32.5

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LT	LT	R
Maximum Queue (ft)	57	60	71	26	162	41	5
Average Queue (ft)	19	18	25	5	36	5	0
95th Queue (ft)	45	42	55	21	94	27	3
Link Distance (ft)	414		1298		784	478	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		270		270			270
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	27
Average Queue (ft)	0	7
95th Queue (ft)	4	26
Link Distance (ft)	1064	511
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	48	67	89	70	55	281	51	38	157	5
Average Queue (ft)	11	17	32	15	15	121	10	8	37	0
95th Queue (ft)	35	47	73	44	45	247	35	29	100	5
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)		0	0	0		1				
Queuing Penalty (veh)		0	0	0		1				

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	37	24	76	14
Average Queue (ft)	12	2	7	0
95th Queue (ft)	33	12	38	6
Link Distance (ft)	303	354	585	784
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	7
95th Queue (ft)	26
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	R	L
Maximum Queue (ft)	24	39	107	17	75
Average Queue (ft)	2	14	36	1	25
95th Queue (ft)	14	31	82	10	57
Link Distance (ft)	278	278	203	659	
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)					300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	44	118	84
Average Queue (ft)	15	51	34
95th Queue (ft)	42	93	62
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	141	100	122	140	297	242	373	27	60	255	36
Average Queue (ft)	69	37	46	58	187	142	175	7	15	136	7
95th Queue (ft)	125	79	96	118	270	222	321	25	45	232	24
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)	0	0	4	7			1			2	
Queuing Penalty (veh)	2	0	4	5			6			1	

Network Summary

Network wide Queuing Penalty: 18

1: Nowthen Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	4.1	0.1	0.0	3.4	0.0	0.0	0.0	0.2	4.3	0.5
Total Del/Veh (s)	5.0	8.0	2.3	5.9	6.4	3.0	1.7	1.3	0.4	0.7	0.1	1.5

2: Cobalt St NW & Sunwood Dr NW Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.2	1.0	1.9	0.5	2.0	1.2

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.0	0.1	4.1	0.1	0.1	0.0	0.0	0.1	2.9	0.4	3.6
Total Del/Veh (s)	47.4	44.1	6.6	39.8	40.7	3.6	44.9	5.6	3.6	60.0	2.9	0.6

3: St Francis Blvd NW & Sunwood Dr NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	6.5

4: Nowthen Blvd NW & 146th Ave NW Performance by movement

Movement	EBL	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)		0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		2.9	5.7	1.1	0.8	0.1	0.5	0.1	0.8

5: Nowthen Blvd NW & Lord of Life Access Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.9	0.6	0.0	0.3	0.4

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.4	0.0	0.6
Total Del/Veh (s)	7.0	9.4	4.1	8.3	6.1	3.6	2.0	0.9	0.7	1.3	0.8	0.1

6: Nowthen Blvd NW & Iodine St NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	1.8

7: Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.5	0.4	5.2	1.3	8.4	3.2	1.8

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	4.0	0.3	0.2	3.4	0.8	3.4	0.1	0.0	0.0
Total Del/Veh (s)	52.1	34.4	2.1	53.1	48.3	11.5	48.8	6.8	1.3	64.1	16.4	4.7

8: St Francis Blvd NW & Nowthen Blvd NW Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	19.1

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	23.6

Intersection: 1: Nowthen Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LT	R
Maximum Queue (ft)	30	34	38	10	48	2
Average Queue (ft)	12	13	14	1	5	0
95th Queue (ft)	33	29	37	8	24	2
Link Distance (ft)	414		1298		784	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		270		270		270
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cobalt St NW & Sunwood Dr NW

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	43
Average Queue (ft)	0	7
95th Queue (ft)	4	28
Link Distance (ft)	1064	511
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: St Francis Blvd NW & Sunwood Dr NW

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	28	37	70	22	33	116	29	28	116	20
Average Queue (ft)	3	7	24	2	7	22	2	4	31	1
95th Queue (ft)	17	25	57	12	24	77	15	18	84	9
Link Distance (ft)		1064		520		3458			761	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100		100		240		240	240		240
Storage Blk Time (%)			0							
Queuing Penalty (veh)			0							

Intersection: 4: Nowthen Blvd NW & 146th Ave NW

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	25	25	20
Average Queue (ft)	11	4	2
95th Queue (ft)	30	20	15
Link Distance (ft)	303	354	585
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Nowthen Blvd NW & Lord of Life Access

Movement	WB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	7
95th Queue (ft)	28
Link Distance (ft)	225
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Nowthen Blvd NW & Iodine St NW

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	24	48	72	34	20
Average Queue (ft)	2	14	25	4	1
95th Queue (ft)	13	35	49	21	11
Link Distance (ft)	278	278	203		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				290	300
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7:

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	40	51	30
Average Queue (ft)	9	16	14
95th Queue (ft)	33	42	36
Link Distance (ft)		345	345
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	120		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: St Francis Blvd NW & Nowthen Blvd NW

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	TR	L	L	T	R	L	T	R
Maximum Queue (ft)	65	80	118	72	175	150	205	29	79	242	30
Average Queue (ft)	20	20	47	16	94	53	55	3	22	106	6
95th Queue (ft)	50	55	98	48	151	118	136	18	58	199	23
Link Distance (ft)		384		243			607			3458	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	200		80		500	500		290	210		210
Storage Blk Time (%)		0	4	0						0	
Queuing Penalty (veh)		0	1	0						0	

Network Summary

Network wide Queuing Penalty: 2

RESOLUTION #23-223

RESOLUTION APPROVING RECORD OF DECISION AND THE NEGATIVE DECLARATION OF NEED FOR AN ENVIRONMENTAL IMPACT STATEMENT FOR THE HAVILAND FIELDS DEVELOPMENT

WHEREAS, Senior Housing Partners ("Proposer") proposes to redevelop a 35.5-acre site to construct 22 townhomes and three multifamily residential buildings with 476 total units located between MN Highway 47 (St. Francis Blvd NW) and County Rd 5 (Nowthen Blvd NW) in Ramsey; and

WHEREAS, the project crosses the threshold of a mandatory environmental assessment worksheet ("EAW") by having a total of more than 375 attached units for a residential development per Minnesota Rules, part 4410.4300, subpart 19; and

WHEREAS, the EAW was prepared by Kimley-Horn on behalf of the Proposer, who submitted completed data portions of the EAW to the City of Ramsey consistent with Minnesota Rules, part 4410.1400; and

WHEREAS, the EAW was prepared using the form approved by the Minnesota Environmental Quality Board (EQB) for EAWs in accordance with Minnesota Rules, part 4410.1300; and

WHEREAS, the City of Ramsey submitted a copy of the EAW to all public agencies on the EAW distribution list and published EAW availability in the EQB Monitor on August 1, 2023, in accordance with applicable state laws, rules, and regulations; and

WHEREAS, the EAW comment period lasted from August 1, 2023 to August 31, 2023, and five (5) regulatory agencies and seven (7) members of the public submitted written comments during the comment period; and

WHEREAS, the City of Ramsey acknowledges the comments received from the Metropolitan Council, Minnesota Department of Agriculture, Minnesota Department of Natural Resources, Minnesota Department of Transportation, Anoka County Highway Department, and seven (7) members of the public; and

WHEREAS, city staff reviewed the proposed record of decision and finds it to be consistent with the evidence submitted to the city and the applicable statutes and regulations, to the best of their knowledge, and recommends the city council approve the findings of fact and record of decision dated September 2023 and determine that no environmental impact statement ("EIS") is necessary, reasonable or warranted with respect to the Project under the circumstances; and

WHEREAS, the City Council reviewed the EAW at its meeting on September 26, 2023, and determined that the Traffic Impact Analysis needed further review; and

WHEREAS, on October 24, 2023, the City Council reviewed an updated Traffic Impact Analysis that was made with added consultation with the Anoka County Highway Department; and

WHEREAS, the City Council desires to make findings of fact and a record of decision that no EIS is required with respect to the Project ("Negative Declaration").

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, COUNTY OF ANOKA, STATE OF MINNESOTA, as follows:

1. Adopt and approve the findings of fact and record of decision for the Haviland Fields 2 Development environmental assessment worksheet in the form which is attached hereto as Exhibit A and hereby makes the findings of fact and conclusions which are contained therein; and

2. Find and determine that, based upon the findings of fact and record of decision, no environmental impact statement is required for the Project pursuant to the Minnesota Environmental Policy Act or Minnesota Rules, parts 4410.0200 to 4410.6500

HAVILAND FIELDS DEVELOPMENT
Findings of Fact and Record of Decision

City of Ramsey
October 2023

1. Administrative Background

Senior Housing Partners is proposing to redevelop an approximately 35.5-acre site. The Haviland Fields project is a proposed development that is anticipated to consist of 22 townhomes and three multifamily residential buildings with 476 total units located between MN Highway 47 (St. Francis Blvd NW) and County Rd 5 (Nowthen Blvd NW) in Ramsey, Anoka County, Minnesota. The 35.5-acre site consists of existing institutional use and two residential properties. Only the two existing residential buildings will be demolished.

The City of Ramsey is the Responsible Governmental Unit (RGU) for this project. An Environmental Assessment Worksheet (EAW) has been prepared in accordance with Minnesota Rules Chapter 4410. The EAW was mandatory per Minnesota Rules, part 4410.4300, subpart 19: Residential Development.

The EAW was filed with the Minnesota Environmental Quality Board (EQB) and circulated for review and comment to the required distribution list. A notice of availability was published in the *EQB Monitor* on August 1, 2023. This notice included a description of the project, information on where copies of the EAW were available, and invited the public to provide comments.

The EAW was made available electronically on the City of Ramsey's website at https://cityoframsey.com/989/Haviland-Fields.

The EAW comment period extended from August 1 to August 31, 2023. Written comments were received from four agencies and seven members of the public during the comment period. An additional comment letter from Anoka County was received on October 12, 2023, after further discussion on the traffic impact study and is included in this document. All comments received were considered in determining the potential for significant environmental impacts.

Based on the information in the record, which is composed of the EAW for the proposed project, the comments submitted during the public comment period, the responses to comments, and other supporting documents, the City of Ramsey makes the following Findings of Fact and Conclusions.

2. Findings of Fact

2.1 Project Description

Senior Housing Partners are proposing to develop an approximately 35.5-acre site is located between MN Highway 47 (St. Francis Blvd NW) and County Rd 5 (Nowthen Blvd NW) in Ramsey, Minnesota. The Haviland Fields Development consists of one parcel with consisting of an existing institutional building and two residential properties. The institutional building will remain; the two existing residential buildings will be demolished. The residential development proposal will include 22 townhomes and three multifamily residential buildings. Construction is anticipated to begin in Spring 2024 and be completed in multiple phases over the next three to four years.

2.2 Corrections to the EAW or Changes to the Project since the EAW was Published

Section 12.iii, Water Appropriation has been updated to including information regarding water supply for the proposed development, which will be obtained from the City of Ramsey's water system. The existing city water supply is capable of handling the new development. See the EAW for more detail.

Appendix E of the EAW (Traffic Analysis) has been updated to reflect the right in/right out north access on CSAH 5 and the gated access connecting to Cobalt St that restricts traffic from entering and exiting this access.

The revised EAW and appendices can be found in Attachment B of this document.

2.3 Substantive Comments/Comments Received and Responses to These Comments

The City received four agency comment letters and seven public comment letters during the public comment period, which extended from August 1 to August 31, 2023. One additional comment letter was received after the comment period ended from Anoka County on October 12, 2023, and is included below:

Agency Comments

1. Metropolitan Council (August 14, 2023)
2. Minnesota Department of Agriculture (August 1, 2023)
3. Minnesota Department of Natural Resources (August 29, 2023)
4. Minnesota Department of Transportation (August 31, 2023)
5. Anoka County (October 12, 2023)

Public Comments

6. Brandon Folta (August 1, 2023)
7. David Drake (August 3, 2023)
8. Alexandria St John (August 1, 2023)
9. Anonymous Ramsey Resident (July 28, 2023)

10. Ben Flake (August 30, 2023)
11. Rick Bailey (August 22, 2023)
12. Logan Lewis (August 30, 2023)

The following sections provide a summary of these comments and responses to them. See Attachment A for the comment letters.

Agency Comments and Responses

Agency	Comment	Response
Metropolitan Council	Our Water Resources reviewers have determined that the EAW – Haviland Fields is Incomplete because the EAW doesn't discuss water supply. The following is needed before an EIS determination is made: Our Water Resources reviewers have determined that the EAW – Haviland Fields is Incomplete because the EAW doesn't discuss water supply. The following is needed before an EIS determination is made: The EAW does not include information under the water appropriation section regarding the water supply source. If connecting to the municipal system, please ensure the water demand for the development can be met and aligns with the Ramsey local water supply plan.	The water supply will be obtained from the City of Ramsey's water system, which is a groundwater based public water supply. Water mains to service the site area provided within adjacent roadway right-of-way, and a preliminary review indicates that the existing infrastructure is sufficient for the anticipated development. The City is in process of building a new water treatment facility that is anticipated to be online late 2024. This has been added to the EAW in Attachment B.
	The project is adjacent to a city of Ramsey drinking water supply management area (DWSMA). Source water protection objectives and activities are outlined in the Ramsey wellhead protection plan. The project would benefit by considering source water protection goals and strategies during the development and post-development activities on site.	Comment noted. Water protection goals and strategies will be evaluated and implemented as appropriate as design plans are finalized.
	The wetland within the project area is mapped as having a connection to underlying aquifers and is surrounded by sandy surficial deposits. Any contaminants that enter the ground on site may move relatively easily to the wetland and underlying groundwater system.	Comment noted. Effective erosion prevention and sediment control practices will be implemented and maintained near the water resources on site throughout the duration of the project.
	Two domestic wells have been identified on site. Sealing these wells according to MDH guidelines is essential to protect groundwater and water supplies. Additionally, 2 storage tanks are identified on site. The recommended Phase 2 subsurface investigation should be conducted. Tank removal and remediation would benefit nearby source waters.	Comment noted. The proposed plan is to abandon and seal per MPCA/MDH requirements and connect to the City water system.
	The EAW mentions repurposing these wells for irrigation on site. This activity should be evaluated to determine if the wells are in condition to meet the irrigation demands. Potential impacts on the groundwater source and related connection to the nearby wetland should also be considered. To avoid the need for irrigated water from a groundwater source on site or from a treated municipal supply, on-site reuse options should be explored. Sites planted with native drought tolerant landscaping require less water and fertilizers than turfgrasses. In areas planted	Comment noted. These factors will be considered when deciding if the wells can be used for irrigation.

Agency	Comment	Response
	with turfgrasses, selecting low-input (water and nutrients) species will help to limit unnecessary water use and lower maintenance costs. If irrigation systems will be installed on-site, using smart irrigation controllers that are connected to soil moisture sensors and real-time weather data will help to ensure that water is used efficiently, helping to keep costs down and lessen stress on water resources.	
	Forecasts (Todd Graham, 651-602-1322) The development proposal includes 498 housing units, mainly in multifamily buildings. This equates to one-quarter of the current decade growth forecasted in Ramsey. Council and City staff can discuss this at the time of the next comprehensive plan amendment. Should this project advance, Transportation Analysis Zone allocations for Ramsey will need updates. The Haviland Fields site is the southern end of TAZ #54. The City anticipated minimal growth in this area. The City's 2040 Plan expects TAZ #54 to gain 12 (twelve) households and no population during 2020-2040. These expectations will need revision to account for the proposed 498 households.	Comment noted. If this occurs, the city will coordinate with the Metropolitan Council to determine any changes needed to TAZ forecasts.
	Housing (Olivia Boerschinger, 651-602-1327) The City is currently inconsistent with the Council's *Housing Policy Plan*. The 2040 Plan provides insufficient land guided to address the City's share of the region's 2021-2030 need for affordable housing by 233 units. The proposed development in the EAW increases the City's inventory of land guided to support the development of low- and moderate-income housing. A comprehensive plan amendment has not been submitted for this development/change but will be needed. With the development proposed in the EAW, the Plan would guide approximately 35 acres of previously low density residential, to high density residential, such that 280 units could be built. This proposal would provide sufficient land guided for affordable housing and address the City's share of housing need. The proposed development does not specify if any units will be made affordable. When the City submits a comprehensive plan amendment determined consistent with the *Housing Policy Plan,* eligibility for participation in Livable Communities Act (LCA) programs can be restored.	Comment noted. The project will note whether any affordable housing units will be included during the submittal of the comprehensive plan amendment.
	Item 10 – Transportation (Victoria Dan, Metro Transit 612-349-7648) While it is true that there is no transit service currently operating within one mile of the site, the nearest park-and-ride facility is at Anoka Station approximately 2 miles away, providing access to Northstar Commuter Rail as well as suburban local Route 805.	Comment noted. Thank you for your review.
MN Department of Agriculture	Minnesota Department of Agriculture appreciates the opportunity to review and comment on the Haviland Fields EAW. After reviewing the document I have	Comment noted. Thank you for your review.

Agency	Comment	Response
	determined that this project will pose no impacts to agricultural lands or activities. We have no further comments.	
MN DNR	**Page 14, Stormwater**. The increase in impervious surfaces will also increase the amount of road salt used in the project area. Chloride released into groundwater as well as local lakes and streams does not break down, and instead accumulates in the environment, potentially reaching levels that are toxic to aquatic wildlife and plants. Consider promoting local business and city participation in the Smart Salting Training offered through the Minnesota Pollution Control Agency. There are a variety of classes available for road applicators, sidewalk applicators, and property managers. More information and resources can be found at this website. Many winter maintenance staff who have attended the Smart Salting training — both from cities and counties and from private companies — have used their knowledge to reduce salt use and save money for their organizations. We also encourage cities and counties to consider how they may participate in the Statewide Chloride Management Plan and provide public outreach to reduce the overuse of chloride. Here are some educational resources for residents as well as a sample ordinance regarding chloride use.	Comment noted. The project proposer and/or building manager will complete the Smart Salting Training offered through the MPCA to help reduce salt and chloride use. The City will also consider how they participate in the Statewide Chloride Management Plan and project public outreach to reduce chloride use.
	Page 14, Stormwater. We encourage the development to use weed-free, native seed mixes in landscaping and stormwater features to the greatest extent possible in order to provide pollinator and wildlife habitat.	Comment noted. Disturbed areas will be reestablished using appropriate native seed mixes, and native plants will be used in landscaping to help absorb water and reduce the water demand for irrigation.
	Page 14, Stormwater. Please make sure that all required avoidance measures for the Blanding's turtle (state-threatened), are incorporated into the SWPPP and construction plans. This section should mention that only wildlife-friendly erosion control materials will be used.	Comment noted. The Threatened and Endangered Species section notes that the use of erosion control blankets shall be limited to "bio-netting" or "natural-netting" types, and specifically not products containing plastic mesh netting or other plastic components.
	Page 21, Rare Features. This section states that minimal tree removal will be required as part of the project, however, Table 3: Cover Types shows that the project proposes to remove over seven acres of trees, which is a large impact in such a developed area and near a river corridor. Even if significant trees are replaced, it will take decades for new trees to grow enough to provide the same ecological benefit. We strongly encourage the proposer to preserve as many trees as possible.	Comment noted. Further ways to minimize tree removal will be considered as the project design advances.

Agency	Comment	Response
	Page 21, Rare Species. This section states that no impacts to Blanding's turtles are anticipated because the project will not be impacting wetlands. That is incorrect since Blanding's turtles also use upland sites and can travel great distances. The EAW should identify which fact sheet recommendations the proposer is willing to commit to in addition to the required avoidance measures. The Blanding's turtle fact sheet contains several measures regarding wetland buffers, roads, utilities, and landscaping that are pertinent to this type of project. The DNR recommends a wider buffer than the proposed 16.5' wetland buffer as well as the use of surmountable curbs. Please also refer to the required avoidance measures for Blanding's turtle that were provided in the July 7, 2023 Natural Heritage letter and have been copied below: Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been documented in the vicinity of the proposed project. Blanding's turtles use upland areas up to and over a mile distant from wetlands, waterbodies, and watercourses. Uplands are used for nesting, basking, periods of dormancy, and traveling between wetlands. Factors believed to contribute to the decline of this species include collisions with vehicles, wetland drainage and degradation, and the development of upland habitat. Any added mortality can be detrimental to populations of Blanding's turtles, as these turtles have a low reproduction rate that depends upon a high survival rate to maintain population levels. This project has the potential to impact this rare turtle through direct fatalities and habitat disturbance/destruction due to excavation, fill, and other construction activities associated with the project. Minnesota's Endangered Species Statute (*Minnesota Statutes*, section 84.0895) and associated Rules (*Minnesota Rules*, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. As such, the following avoidance measures are required: Avoid wetland and aquatic impacts during hibernation season, between September 15th and April 15th, if the area is suitable for hibernation. The use of erosion control blanket shall be limited to 'bio-netting' or 'natural-netting' types, and specifically not products containing plastic mesh netting or other plastic components. Also, be aware that hydro-mulch products may contain small synthetic (plastic) fibers to aid in their matrix strength. These loose fibers could potentially	Comment noted. The project proposer is committed to following the measures identified in the Blanding's turtle fact sheet as noted in Section 14 of the EAW.

Agency	Comment	Response
	re-suspend and make their way into Public Waters. As such, please review mulch products and do not allow any materials with synthetic (plastic) fiber additives in areas that drain into Public Waters. Construction areas, especially aquatic or wetland areas, should be thoroughly checked for turtles before the use of heavy equipment or any ground disturbance. The Blanding's turtle flyer must be given to all contractors working in the area. Monitor for turtles during construction and report any sightings to the DNR Nongame Specialist, Erica Hoaglund (Erica.Hoaglund@state.mn.us). If turtles are in imminent danger they must be moved by hand out of harm's way, otherwise, they are to be left undisturbed. If following the above avoidance measures is not possible, please contact NHIS.Review@state.mn.us as further action may be needed. For additional information, see the Blanding's turtle fact sheet, which describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. Please refer to both lists of recommendations and apply those that are relevant to your project. For further assistance regarding the Blanding's turtle, please contact the DNR Regional Nongame Specialist, Erica Hoaglund.	
	Page 22, Visual. Given the proximity to a river corridor, development lighting is an important consideration. Animals depend on the daily cycle of light and dark for behaviors such as hunting, migrating, sleeping, and protection from predators. Light pollution can affect their sensitivity to the night environment and alter their activities. In addition to the undesirable effects of upward facing lighting, the hue of lights can also affect wildlife. LED lighting has become increasingly popular due to its efficiency and long lifespan. However, these bright lights tend to emit blue light, which can be harmful to birds, insects, and fish. The DNR recommends that any projects using LED luminaries follow the MnDOT Approved Products for luminaries, which limits the uplight rating to 0, and the maximum nominal color temperature to 4000K.	Comment noted. The project will consider MnDOT Approved Products. Thank you for your review.
MnDOT	**Right of Way** The residential driveway connecting to MN 47 should be removed early in the construction process and should not be used for construction vehicle use. Please contact Mike Lynch, Metro Right of Way, at 651-234-7558 or Mike.lynch@state.mn.us with any questions	Comment noted.

Agency	Comment	Response
	Pedestrian and Bicycle Currently there is a trail running NW, on the north side of CR 5, from the intersection of MN 47 and CR 5. There is also a trail running N/S on the east side of MN 47. MnDOT will be completing a mill and overlay of this section of MN 47 in 2028. Some trail connections and crossings will change at that time. As part of this project, MnDOT will be removing the pedestrian crossing on the south leg of the MN 47/CR 5 intersection. There are no destinations or sidepath in the SW quadrant, and the channelized right turn is hazardous to pedestrians without a clear destination. MnDOT suggests the developer work with the county to install a pedestrian crossing across CR 5 to Iodine St NW to provide access to the trail. MnDOT recommends the developer ensure that the both the sidewalk ramps on the driveways and the ramps for the internal crosswalk through the parking lot meet American with Disabilities Act (ADA) standards. We also advise that the internal crosswalk and sidewalks around the building should maintain a Pedestrian Access Route (PAR) of at least 4 feet in width. Standard plans are available on MnDOT's ADA page here: http://dot.state.mn.us/ada/design.html. We also strongly recommend raising the street level to meet major trail crossings so that the trails remain level for their users and vehicles have extra reinforcement for giving pedestrian and cyclists the right of way. Please contact Sara Dunlap, Pedestrian, Bicycle and ADA Planning, at sara.dunlap@state..mn.us or 651-234-7725 with any questions.	The project proposer will evaluate the need for potential pedestrian crossings.
	Traffic This project will likely add stress to the MN 47/CR 5 intersection. This intersection is already in disrepair and has an acceleration lane to SB MN 47 that backs up the morning rush hour. This intersection should be monitored closely once the development approaches or reaches build conditions. Please contact Danial Backsen, Anoka Truck Station Supervisor, at 763-279-4050 or danial.backsen@state.mn.us with any questions. The 2028 mill and overlay project will also put fiber and cameras in place to monitor this intersection. Please contact Ashley Hansen, North Area Traffic Safety, at 651-234-7815 orrojecy.hansen@state.mn.us with any questions. Please contact Ashley Hansen, North Area Traffic Safety, at 651-234-7815 orrojecy.hansen@state.mn.us with any questions.	Comment noted.
	Water Resources A MnDOT drainage permit is required before development occurs. The permit applicant shall demonstrate that the off-site runoff entering MnDOT	The project proposer will apply for a drainage permit before development occurs.

Agency	Comment	Response
	drainage system(s) and/or right of way will not increase. The drainage permit application, including the information below, should be submitted online to: https://olpa.dot.state.mn.us/OLPA/. Please upload this letter with the drainage permit application. The following information must be submitted with the drainage permit application: 1. Grading plans, drainage plans, and hydraulic calculations demonstrating that proposed flows to MnDOT right of way remain the same as existing conditions or are reduced. 2. Existing and proposed drainage area maps with flow arrows and labeling that corresponds with the submitted calculations. 3. Hydro CAD model and PDF of output for the 2, 10, and 100-year Atlas 14 storm events. Once a drainage permit application is submitted, a thorough review will be completed and additional information may be requested. Please contact Jason Swenson, Water Resources Engineering, at 651-234-7539 or jason.swenson@state.mn.us with any questions. Please contact Jason Swenson, Water Resources Engineering, at jason.swenson@state.mn.us or 651-234-7539 or with any questions.	
	Noise MnDO''s policy is to assist local governments in promoting compatibility between land use and highways. Residential uses adjacent to highways often result in complaints about traffic noise. Traffic noise from this highway could exceed noise standards established by the Minnesota Pollution Control Agency (MPCA), the U.S. Department of Housing and Urban Development, and the U.S. Department of Transportation. Minnesota Rule 7030.0030 states that municipalities with the authority to regulate land use shall take all reasonable measures to prevent the establishment of land use activities, listed in the MPC''s Noise Area Classification (NAC), anywhere that the establishment of the land use would result in immediate violations of established State noise standards. MnDOT policy regarding development adjacent to existing highways prohibits the expenditure of highway funds for noise mitigation measures in such developed areas. The project proposer is required to assess the existing noise situation and take the action deemed necessary to minimize the impact to the proposed development from any highway noise. If you have any questions regarding MnDO''s noise policy, please contact Natalie Ries in Metro District's Noise and Air Quality Unit at 651-234-7681 orrojecte.ries@state.mn.us.	A noise study will be completed as part of the City's entitlement process to understand the existing and proposed noise conditions and identify any potential mitigation that may be needed so the proposed project complies with the local and state regulations.

Agency	Comment	Response
	Permits Any other work that affects MnDOT right of way will require an appropriate permit. All permits are available and should be submitted at: https://olpa.dot.state.mn.us/OLPA/. Please upload this letter when applying for any permits. For questions regarding permit submittal requirements, please contact Buck Craig of MnDOT's Metro District Permits Section at 651-775-0405 (cell) or buck.craig@state.mn.us.	The project proposer will apply for permits if additional work is done that affects MnDOT right of way.
Anoka County	**Traffic** 1. The north access to CSAH 5 (Nowthen Blvd) does not meet our access spacing guidelines for full (or secondary) access. We believe this should be a right in/right out only access with a NB CSAH 5 right turn lane. 2. The south access to CSAH 5 should have a separate NB right turn lane to eliminate the lane trap that currently exists. The NB right turn lane will need to be constructed to run alongside the merge taper for the outermost NB thru lane. 3. We have some issues with when the traffic counts were done, as winter has lower volumes and January is not a good month to be using to forecast data. 4. We would like to see an updated traffic model reflecting the RI/RO north access on CSAH 5 and the gated access connecting to Cobalt St that restricts traffic from entering and exiting this access.	1. Noted, this has been updated in the traffic study. The team is willing to change the north access to right in/right out. 2. Noted. The proposer will review design options with the city and county to determine the appropriate site design. 3. Because January is not historically one of the higher traffic months, peak hour volumes were looked at on the study area roadways and compared to MnDOT Annual Average Daily Traffic (AADT) counts. PM peak hour volumes were between 8% and 10% of MnDOT AADT volumes, therefore it was assumed that the traffic volumes were reasonable, and no adjustments were made. Additionally, for the purposes of the EAW review, the unit count is 10% higher than the actual proposed project, so the traffic count is in line with the expected peak season volumes. 4. The traffic analysis for the build condition has been updated to reflect the two access changes and is included in the updated traffic study (Attachment B).

Public Comments and Responses

Name	Comment	Response
Bandon Folta	As a resident of Ramsey I am sick and tired of all the townhouses and apartments being put up in the city leave the city alone !! We are loosing the country feel!!	Comment noted.
David Drake	I have looked at the info from Havilland Fields & disagree with the report on page 28 to30, concerning the entrance into this new building from co. rd 5	Comment noted. Regarding the site's generated traffic, it was estimated that the number of units

Name	Comment	Response
	(church property). The LOS data on traffic flow at A. This fine for 2023 but not for 2027. The LOS for the latter date is also A, which I believe is a gross error. It should be either C or D. I currently live at Stoney River & see the actual traffic every AM & know that the real traffic loads as shown on the data report can't be correct. I request that more info be obtained at this intersection. Thank you. DD	should be estimated 10% higher than the current design includes.
Alexandria St John	Dear Mr Larson I am writing to express my vehement objection to the proposed development of the Lord of Life property in our community. As a concerned resident, I feel compelled to outline the potential devastating impact this development could have on our surrounding communities, families, and neighbors. First and foremost, the increase in traffic, landscape alterations, and population growth resulting from this development will undoubtedly disrupt the peaceful and safe environment that we currently enjoy. The influx of additional vehicles will lead to congestion, making it harder for residents to commute and risking the safety of pedestrians, especially children and elderly individuals. Furthermore, the proposed development does not seem to align with the recent developments in surrounding communities, which have not shown a need for such expansion. Instead, it appears to be driven by developers' interests without considering the genuine needs and desires of the families in our community. Speaking of which, I want to emphasize that the families in our neighborhood do not want this development. Many of the residents have made their voices heard in various forums, expressing their strong opposition to this project. It is crucial to respect the wishes of the community members who will be directly affected by this development. The potential consequences of this development extend beyond mere inconvenience; it has the potential to push the area to be overpopulated, leading to the displacement of many long-standing residents. Moreover, our already burdened schools would be overwhelmed by the influx of new students, making it challenging for them to provide quality education. Another grave concern is the increase in crime that often accompanies rapid urbanization and population growth. The introduction of a large development like this can bring in outsiders and transient populations, leading to potential security risks and jeopardizing the safety of our families.	Comment noted.
Anonymous (Ramsey Resident)	To Whom it May Concern, Minnesota Rule 4410.1100 requires that EAWs shall address “known government approvals, reviews, or	Comment noted. TIF assistance from the city has not been approved.

Name	Comment	Response
	financing required, applied for, or anticipated and the status of any applications made, including permit conditions that may have been ordered or are being considered". Additionally, page 8 of the EAW states that the applicant is supposed to list "all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing, and infrastructure". Despite these requirements, the Haviland Fields EAW makes no reference to and does not address the Business Assistance Application for Tax Increment Financing (TIF) made to the City of Ramsey and reviewed by the city of Ramsey Economic Development Authority at their July 13, 2023 meeting. Therefore, the Haviland Fields EAW does not meet the EAW Content requirements established by Minnesota Rule 4410.1100 and should not have been distributed for public comment as it contains insufficient information to adequately be reviewed by residents of the community. The City Council should find the EAW insufficient and require an additional public comment period once the required information on public financing is included within the EAW. Sincerely, Ramsey Resident Haviland Fields EAW Comments: 1. In what ways will stormwater management facilities be designed to reduce the risks of flooding? 2. Currently the EAW shows that no trees will be planted, however, wouldn't the City of Ramsey require a certain number of trees to be replanted at a minimum? IF so, how many trees would that be? 3. The EAW indicates that a comprehensive plan amendment, as well as various other applications, would be applied for if needed. Isn't the applicant or the City of Ramsey aware of what applications are needed at this time? Since a site plan has already been submitted for review along with the application for business assistance it seems like the City of Ramsey and the applicant should have at least some idea of what permits are required for the project, such as comprehensive plan amendment, and that information should have been included within the EAW. 4. Section 14.C states that there will be minimal tree removal, however, the EAW indicates that 7.37 acres of wooded forested acres will be removed constituting over half of the	1. Per section 10.a.iv, the project is outside of FEMA 100-year floodplain areas; therefore, minimal flood risk is anticipated. 2. The landscape architecture plan, including the tree mitigation plan, will be development as the project moves forward. Per the City of Ramsey Code of Ordinances, Selective removal of natural vegetation is allowed, provided that sufficient vegetative cover remains to screen cars, dwellings and other structures when viewed from the water. 3. Comment noted. 4. Comment noted, the landscape architecture plan, including the tree mitigation plan, will be development as the project moves forward. 5. The project manager will promote travel options that will reduce the use of greenhouse gases. 6. Per section 20.a, the project will include approximately 619 new parking spots. 7. Traffic analysis is completed using a simulation to represent actual conditions. In the case of Iodine Street, there are few turning movements so the LOS is impacted more significantly if a single vehicle experiences higher delay. 8. Comment noted, see above. 9. Comment noted. 10. A Residential New Townhouse Unit is a required permit for this development. The permit application must include a site plan, a Certificate of Survey, a Residential Energy Code Compliance Certificate, and a Sub-Contractor List. The building

Name	Comment	Response
	trees on site. How is this minimal tree removal? 5. Section 18.b.ii indicates that the project will develop a travel demand management plan to reduce use of single occupancy motor vehicles, and increase walking, bicycling, and transit as primary modes of travel to reduce GHG emissions from mobile sources. How will this be developed, given the limited transit in the community and limited suitable weather to bike and walk? The EAW itself states that no transit facilities are within 1 mile of the project, so is the project proposing to create their own transit network and facilities? Say, to link their project with the nearest MetroTransit bus stop or train station via their own private bus service? 6. Is the plan for the residential areas to utilize the church parking lot? 7. CSAH 5 & Iodine St level of service starts at E in the PM for existing year 2023 but then goes to A in opening year no build and D in opening year 2027/ The text does not indicate any changes to this intersection, so if the project isn't built how would the level of service improve from E to A as the traffic analysis suggests? 8. On page 7, the EAW states that based on the "land surface temperate" at the project site during a heatwave in 2016 the site is susceptible to extreme heat. Won't removal of 59.4% of the tree canopy and no additional plantings contribute to the urban heat island effect and/or make the site a less desirable place to live? 9. There are lots of conflicting statements throughout the EAW that indicate that natural resources will be preserved, however in reality the majority of natural resources are going to be impacted and/or removed as part of the project. 10. On page 9 the EAW indicates that a "Residential New Townhouse Unit" as a type of application. What is a "Residential New Townhome Unit Application"?	permit shall be kept on the site of work until the completion of the project, and shall specify the name and address of the applicant and the general contractor.
Ben Flake	My name is Ben Flake, I live on Fluorine Street with me wife and four small children. We were originally under the impression that there would be no buildings next to our property. However, we were disappointed to see that in the recent Haviland Fields proposal, the townhomes would back up to our house. If the project moves forward we would feel much more comfortable if they installed a barrier between our property and the townhomes. Whether that barrier be a fence or a	Comment noted. Aspects of the site plan may change as the project develops. Vegetation along the existing fence line will be considered.

Name	Comment	Response
	green barrier made up of plants like white pines and shrubs. I believe most the neighbors would agree with the installation of a barrier. Thanks	
Rick Bailey	My name is Rick Bailey and I live @ 5021 Xkimo Ct. Nw., on the east side of 47 across from Stoney River and Lord of Life. From the letter we received it mentioned to direct questions and comments to you regarding the Haviland Fields proposed development. My primary concerns with such a large development are regarding noise levels. The noise pollution that would result alone from the increase in traffic is part of it (as 47 and 5 are already heavily congested) and noise levels are high, and equally important/of concern is traffic noise deflecting off of the buildings and into our neighborhoods. For example, when Stoney River was built, it unfortunately brought quite a bit of additional noise into our neighborhood as there is no existing noise wall in place. My related question is if the development is approved to proceed, will there be/can there be a requirement to build a noise wall on the east side of 47, to protect the existing neighborhoods? I'm also cc'ing a few of my neighbors in our cul-de-sac so they can hear any updates/information and Deb Musgrove who is familiar with our existing noise concerns. Thank you	A noise study will be completed as part of the City's entitlement process to confirm that the proposed project complies with the local and state regulations. MnDOT and Federal Highway Association (FHWA) have published studies analyzing the reflective affect of structures on adjacent communities. As a vehicle travels along a highway, it generates sound. Tires, engines, and exhaust systems are the biggest contributors to the sound you hear. As the sound travels outward, it interacts with the ground, buildings, and highway noise barriers. Sound can be reflected or absorbed by these objects. Reflections off a structure increase the level of sound by a small amount on the opposite side of the highway. In this case, you may hear both the direct sound from the vehicle and the sound reflected off the barrier. Your experience of reflected sound will depend on the vehicle type and your distance from the barrier as well as the angle of the reflection, the characteristics of the ground and terrain, distance, barrier dimensions, and other nearby noise sources. The noise increase is usually small and may not be noticeable, but other times it may seem louder because the reflections make the sound of each passing vehicle seem to last longer. More information is available at the following links: https://www.dot.state.mn.us/environment/noise/studies.html https://www.trb.org/NCHRP/Blurbs/178305.aspx It is unlikely that given the traffic volumes on Hwy 47 (approximately 12,000 vehicles per day in 2021) and speeds (55mph posted speed limits) that this situation would result in noise levels that are above the city

Name	Comment	Response
		standards east of the highway; however, the need to analyze this affect, as well as any mitigation, will be determined in the noise study.
Logan Lewis	1. I have a few observations after reading through the EAW, but my first one regards to 6d on pg3. Sources and detailed information are plentiful throughout the document, but all this subsection states is that the project aims to address the housing needs in Ramsey. What set of research and sources is this goal utilizing? What are the referenced housing needs of Ramsey? 2. 14c. This section states "Minimal tree remove will be required as part of the project." However, this is contradicted in "Table 5: Trees" where number of trees to be removed is approximated at 964 trees, or 59.4% of existing trees in the project area. "Minimal" needs a set definition as it pertains to this document. Additional tree cover will only reduce the short- and long-term negative impact of the GHG effect, especially with so much additional asphalt surface being added in the project site. Please place significant consideration and effort into maintaining as much existing tree cover as possible. 3. Along with the approximated amount of tree removal, maintaining a wall of wooded tree cover between the project area and the south side of Birch Hill Lodges' southeastern most side street would greatly benefit the existing townhome community by combatting noise pollution (both during and after the project) and heat from the nearly doubling of nearby asphalt surface, as well as reducing the projected tree removal. Please seriously consider incorporating a portion of this existing wooded wall into the north edge building setback, as well as adding a similar wooded buffer on the adjacent side street also bordering the north edge of the project site. It would also promote additional privacy for both the existing townhomes and the potential new townhomes. 4. **Ideally, the described existing wooded area would prove beneficial and resourceful if trails are being considered as a part of this project. Why not leave the tree cover there and only clear what is needed to construct a path?** Additionally, allowing those trees to	1. Comment noted. Cities are allocated housing units by the Metropolitan Council as part of the region's growth goals. Based on feedback from our business community trying to attract employees, there is a demand for high-quality rentals in the community to provide housing for the jobs in Ramsey. 2. Aspects of the site plan may change as the project develops. The project aims to minimize tree clearing as possible, and further ways to minimize tree removal, including planting new tress, will be considered as the project design advances. 3. Vegetation along the fence line will be considered to promote additional privacy for both existing homes and new townhomes. 4. Walking trails are not being considered as part of the project in this area, as the neighborhood generally objected to public spaces and walking rails during the neighborhood meeting in fall 2022. Minimal impacts to bat species are anticipated as part of this project. 5. Comment noted. Aspects of the site plan may change as the project develops. 6. Comment noted. Study intersections were determined based on conversations with the City.

Name	Comment	Response
	remain untouched would greatly benefit the endangered Northern Long-eared Bat and the proposed-endangered Tricolored Bat. The DNR's listed protections and actions concerning the threatened/endangered/proposed-endangered species don't actually seem to be stipulating much protection of their existing homes, albeit not officially designated "critical habitats." (Appendix C, pg 1-4 plus succeeding detailed pages.) 5. 18b. and 7b. The Geothermal energy source "may" continue to be used. This should be necessary and confirmed, especially considering the amount of tree removal estimated to take place (approximated in "Table 5: Trees"). The geothermal source is also referenced in Table 2: Climate Considerations and Adaptations. It is stated in the last row of this table that, in regards to project construction, "Existing on-site geothermal panels will provide a portion of the sites energy usage." Please consider this being a requirement along with a minimum % goal for the length of construction. 6. 20a-b. Traffic studies. Additional signalized intersection should be included in the traffic study, as the majority of bottlenecking occurs in north and south directions: MN-47 & Bunker Lake Blvd // MN-47 & Pleasant St. Severe bottlenecks occur in both AM and PM rush periods which would be further exacerbated by an additional 113-168 trips estimated in "Table 7: Trip Generation Forecast." I also feel that this table underestimates the potential effects the additional vehicle flow will cause at the CSAH 5 & Lord of Life Access intersection, namely during AM and Sunday peak hours, requiring left-hand turns onto CSAH 5 from the Lord of Life Access into often relentless eastbound traffic.	

3. Conclusions

1. All requirements for environmental review of the proposed project have been met.
2. The EAW and the permit development processes related to the project have generated information that is adequate to determine whether the project has the potential for significant environmental effects.

3. Areas where potential environmental effects have been identified will be addressed during the final design of the project. Mitigation will be provided where impacts are expected to result from project construction, operation, or maintenance. Mitigation measures are incorporated into project design and have been or will be coordinated with state and federal agencies during the permit process.
4. Based on the criteria in Minnesota Rules, part 4410.1700, the project does not have the potential for significant environmental effects.
5. An environmental impact statement is not required for the proposed project.

For the City of Ramsey

_____ _____

Mark E. Kuzma, Mayor Brian Hagen, City Administrator

Attachment A. Comment Letters

August 29, 2023

Todd Larson, Planning Manager
City of Ramsey
2823 Hamline Avenue North
Ramsey, MN 55113

RE: **Environmental Assessment Worksheet (EAW) – Haviland Fields**
Metropolitan Council Review File No. 22890-1
Metropolitan Council District No. 9

Dear Todd Larson:

Council staff reviewed the environmental assessment worksheet (EAW) for the Haviland Fields project. The proposal involves an anticipated development consisting of 22 townhomes and three multifamily residential buildings located between MN Highway 47 and County Rd 5 in the city of Ramsey.

Staff finds this EAW to be incomplete. Consequently, we are unable to determine at this time whether the project is in conformity with regional system plans and whether an EIS may be needed. As the RGU, if the City finds the missing information is not critical to the EIS need decision, in its record of decision, the City can describe the missing information and how it will be obtained and used. The City can also withdraw and republish the EAW with the missing data, or issue a supplemental EAW to address the missing data.

Incomplete Items

Item 12 – Water Resources (John Clark, MCES 651-602-1452)
The Haviland Fields EAW for the city of Ramsey appears incomplete. The following is needed before an EIS determination is made.

The EAW does not include information under the water appropriation section regarding the water supply source. If connecting to the municipal system, please ensure the water demand for the development can be met and aligns with the Ramsey local water supply plan.

Please consider having the project proposer add supplemental information to the EAW that sufficiently addresses water supply.

Advisory Comments

Forecasts (Todd Graham, 651-602-1322)
The development proposal includes 498 housing units, mainly in multifamily buildings. This equates to one-quarter of the current decade growth forecasted in Ramsey. Council and City staff can discuss this at the time of the next comprehensive plan amendment.

Should this project advance, Transportation Analysis Zone allocations for Ramsey will need updates. The Haviland Fields site is the southern end of TAZ #54. The City anticipated minimal

growth in this area. The City's 2040 Plan expects TAZ #54 to gain 12 (twelve) households and no population during 2020-2040. These expectations will need revision to account for the proposed 498 households.

Housing (Olivia Boerschinger, 651-602-1327)
The City is currently inconsistent with the Council's *Housing Policy Plan*. The 2040 Plan provides insufficient land guided to address the City's share of the region's 2021-2030 need for affordable housing by 233 units. The proposed development in the EAW increases the City's inventory of land guided to support the development of low- and moderate-income housing. A comprehensive plan amendment has not been submitted for this development/change but will be needed. With the development proposed in the EAW, the Plan would guide approximately 35 acres of previously low density residential, to high density residential, such that 280 units could be built. This proposal would provide sufficient land guided for affordable housing and address the City's share of housing need. The proposed development does not specify if any units will be made affordable.

When the City submits a comprehensive plan amendment determined consistent with the *Housing Policy Plan,* eligibility for participation in Livable Communities Act (LCA) programs can be restored.

Item 10 – Transportation (Victoria Dan, Metro Transit 612-349-7648)
While it is true that there is no transit service currently operating within one mile of the site, the nearest park-and-ride facility is at Anoka Station approximately 2 miles away, providing access to Northstar Commuter Rail as well as suburban local Route 805.

Item 12 – Water Resources (John Clark, MCES 651-602-1452)
The project is adjacent to a city of Ramsey drinking water supply management area (DWSMA). Source water protection objectives and activities are outlined in the Ramsey Wellhead Protection Plan. The project would benefit by considering source water protection goals and strategies during the development and post-development activities on site.

The wetland within the project area is mapped as having a connection to underlying aquifers and is surrounded by sandy surficial deposits. Any contaminants that enter the ground on site may move relatively easily to the wetland and underlying groundwater system.

Two domestic wells have been identified on site. Sealing these wells according to MDH guidelines is essential to protect groundwater and water supplies. Additionally, two storage tanks are identified on site. The recommended Phase 2 subsurface investigation should be conducted. Tank removal and remediation would benefit nearby source waters.

The EAW mentions repurposing these wells for irrigation on site. This activity should be evaluated to determine if the wells are in condition to meet the irrigation demands. Potential impacts on the groundwater source and related connection to the nearby wetland should also be considered. To avoid the need for irrigated water from a groundwater source on site or from a treated municipal supply, on-site reuse options should be explored. Sites planted with native drought tolerant landscaping require less water and fertilizers than turfgrasses. In areas planted with turfgrasses, selecting low-input (water and nutrients) species will help to limit unnecessary water use and lower maintenance costs. If irrigation systems will be installed on-site, using smart irrigation controllers that are connected to soil moisture sensors and real-time weather data will help to ensure that water is used efficiently, helping to keep costs down and lessen stress on water resources.

If you have any questions or need further information with respect to these matters, please contact Eric Wojchik, Principal Reviewer, at 651-602-1330 or via email at eric.wojchik@metc.state.mn.us.

Sincerely,



Angela R. Torres, AICP, Senior Manager
Local Planning Assistance

CC: Tod Sherman, Development Reviews Coordinator, MnDOT - Metro Division
Stephanie Hanson, City of Ramsey
Diego Morales, Metropolitan Council District No. 9
Eric Wojchik, Sector Representative/Principal Reviewer
Reviews Coordinator
Paul Hanson, GIS

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From: Roos, Stephan (MDA)
To: Todd Larson
Subject: Haviland Fields EAW
Date: Tuesday, August 1, 2023 11:51:22 AM

Hi Todd,
Minnesota Department of Agriculture appreciates the opportunity to review and comment on the Haviland Fields EAW. After reviewing the document I have determined that this project will pose no impacts to agricultural lands or activities. We have no further comments.
Thank you,
Steve

Steve Roos
Environmental Planner
Energy and Environment Section
Agricultural Marketing and Development Division
Minnesota Department of Agriculture
625 Robert Street North
Saint Paul, MN 55155-2538
Ph: 651-201-6631 office



www.mda.state.mn.us

DEPARTMENT OF NATURAL RESOURCES

Division of Ecological and Water Resources
Region 3 Headquarters
1200 Warner Road
Saint Paul, MN 55106

Transmitted by Email

August 29, 2023

Todd Larson, Community Development
City of Ramsey
7550 Sunwood Drive NW
Ramsey, MN 55303

Dear Todd Larson,

Thank you for the opportunity to review the Haviland Fields Environmental Assessment Worksheet (EAW) located in Anoka County. The DNR respectfully submits the following comments for your consideration:

1. Page 14, Stormwater. The increase in impervious surfaces will also increase the amount of road salt used in the project area. Chloride released into groundwater as well as local lakes and streams does not break down, and instead accumulates in the environment, potentially reaching levels that are toxic to aquatic wildlife and plants. Consider promoting local business and city participation in the Smart Salting Training offered through the Minnesota Pollution Control Agency. There are a variety of classes available for road applicators, sidewalk applicators, and property managers. More information and resources can be found at this website. Many winter maintenance staff who have attended the Smart Salting training — both from cities and counties and from private companies — have used their knowledge to reduce salt use and save money for their organizations.

   We also encourage cities and counties to consider how they may participate in the Statewide Chloride Management Plan and provide public outreach to reduce the overuse of chloride. Here are some educational resources for residents as well as a sample ordinance regarding chloride use.

2. Page 14, Stormwater. We encourage the development to use weed-free, native seed mixes in landscaping and stormwater features to the greatest extent possible in order to provide pollinator and wildlife habitat.

3. Page 14, Stormwater. Please make sure that all required avoidance measures for the Blanding's turtle (state-threatened), are incorporated into the SWPPP and construction plans. This section should mention that only wildlife-friendly erosion control materials will be used.

4. Page 21, Rare Features. This section states that minimal tree removal will be required as part of the project, however, Table 3: Cover Types shows that the project proposes to remove over seven acres of trees, which is a large impact in such a developed area and near a river corridor. Even if significant trees are replaced, it will take decades for new trees to grow enough to provide the same ecological benefit. We strongly encourage the proposer to preserve as many trees as possible.

   We recommend that any revegetation plan for the site utilize native plants to the greatest degree possible. Please be aware that turf grass does not provide any ecological benefits and requires more maintenance, inputs, and irrigation than native species.

5. Page 21, Rare Species. This section states that no impacts to Blanding's turtles are anticipated because the project will not be impacting wetlands. That is incorrect since Blanding's turtles also use upland sites and can travel great distances. The EAW should identify which fact sheet recommendations the proposer is willing to commit to in addition to the required avoidance measures. The Blanding's turtle fact sheet contains several measures regarding wetland buffers, roads, utilities, and landscaping that are pertinent to this type of project. The DNR recommends a wider buffer than the proposed 16.5' wetland buffer as well as the use of surmountable curbs. Please also refer to the required avoidance measures for Blanding's turtle that were provided in the July 7, 2023 Natural Heritage letter and have been copied below:

   Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been documented in the vicinity of the proposed project. Blanding's turtles use upland areas up to and over a mile distant from wetlands, waterbodies, and watercourses. Uplands are used for nesting, basking, periods of dormancy, and traveling between wetlands. Factors believed to contribute to the decline of this species include collisions with vehicles, wetland drainage and degradation, and the development of upland habitat. Any added mortality can be detrimental to populations of Blanding's turtles, as these turtles have a low reproduction rate that depends upon a high survival rate to maintain population levels.

   This project has the potential to impact this rare turtle through direct fatalities and habitat disturbance/destruction due to excavation, fill, and other construction activities associated with the project. Minnesota's Endangered Species Statute (*Minnesota Statutes*, section 84.0895) and associated Rules (*Minnesota Rules*, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. As such, **the following avoidance measures are required:**

   - Avoid wetland and aquatic impacts during hibernation season, between September 15th and April 15th, if the area is suitable for hibernation.
   - The use of erosion control blanket shall be limited to 'bio-netting' or 'natural-netting' types, and specifically not products containing plastic mesh netting or other plastic components.

- Also, be aware that hydro-mulch products may contain small synthetic (plastic) fibers to aid in their matrix strength. These loose fibers could potentially re-suspend and make their way into Public Waters. As such, please review mulch products and do not allow any materials with synthetic (plastic) fiber additives in areas that drain into Public Waters.
- Construction areas, especially aquatic or wetland areas, should be thoroughly checked for turtles before the use of heavy equipment or any ground disturbance.
    - The Blanding's turtle flyer must be given to all contractors working in the area.
    - Monitor for turtles during construction and report any sightings to the DNR Nongame Specialist, Erica Hoaglund (Erica.Hoaglund@state.mn.us).
    - If turtles are in imminent danger they must be moved by hand out of harm's way, otherwise, they are to be left undisturbed.

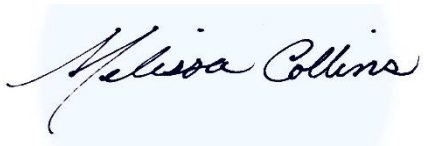
If following the above avoidance measures is not possible, please contact NHIS.Review@state.mn.us as further action may be needed.

For additional information, see the Blanding's turtle fact sheet, which describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. **Please refer to both lists of recommendations and apply those that are relevant to your project.** For further assistance regarding the Blanding's turtle, please contact the DNR Regional Nongame Specialist, Erica Hoaglund.

6. Page 22, Visual. Given the proximity to a river corridor, development lighting is an important consideration. Animals depend on the daily cycle of light and dark for behaviors such as hunting, migrating, sleeping, and protection from predators. Light pollution can affect their sensitivity to the night environment and alter their activities. In addition to the undesirable effects of upward facing lighting, the hue of lights can also affect wildlife. LED lighting has become increasingly popular due to its efficiency and long lifespan. However, these bright lights tend to emit blue light, which can be harmful to birds, insects, and fish. The DNR recommends that any projects using LED luminaries follow the MnDOT Approved Products for luminaries, which limits the uplight rating to 0, and the maximum nominal color temperature to 4000K.

Thank you again for the opportunity to review this document, and please let me know if you have any questions.

Sincerely,



Melissa Collins

Regional Environmental Assessment Ecologist | Ecological and Water Resources
Minnesota Department of Natural Resources
1200 Warner Road
St. Paul, MN 55106
Phone: 651-259-5755
Email: melissa.collins@state.mn.us

CC: Sam Jagodzinski, Senior Housing Partners

Equal Opportunity Employer

DEPARTMENT OF TRANSPORTATION

Metropolitan District
1500 County Road B-2 West
Roseville, MN 55113

August 31, 2023

Todd Larson
Planning Manager
7550 Sunwood Dr. NW
Ramsey, MN 55303

SUBJECT: Haviland Fields EAW
MnDOT Review #EAW23-006
NNW quadrant of MN 47 and Nowthen Blvd/CH 5
Ramsey, Anoka County

Dear Todd Larson,

Thank you for the opportunity to review the Haviland Fields EAW. Please note that MnDOT's review of this EAW does not constitute approval of a regional traffic analysis and is not a specific approval for access or new roadway improvements. As plans are refined, we would like the opportunity to coordinate with our partners and to review the updated information. MnDOT's staff has reviewed the document and has the following comments:

Right of Way
The residential driveway connecting to MN 47 should be removed early in the construction process and should not be used for construction vehicle use.

Please contact Mike Lynch, Metro Right of Way, at 651-234-7558 or Mike.lynch@state.mn.us with any questions.

Pedestrian and Bicycle
Currently there is a trail running NW, on the north side of CR 5, from the intersection of MN 47 and CR 5. There is also a trail running N/S on the east side of MN 47. MnDOT will be completing a mill and overlay of this section of MN 47 in 2028. Some trail connections and crossings will change at that time. As part of this project, MnDOT will be removing the pedestrian crossing on the south leg of the MN 47/CR 5 intersection. There are no destinations or sidepath in the SW quadrant, and the channelized right turn is hazardous to pedestrians without a clear destination.

MnDOT suggests the developer work with the county to install a pedestrian crossing across CR 5 to Iodine St NW to provide access to the trail. MnDOT recommends the developer ensure that the both the sidewalk ramps on the driveways and the ramps for the internal crosswalk through the parking lot meet American with Disabilities Act (ADA) standards. We also advise that the internal crosswalk and sidewalks around the building should maintain a Pedestrian Access Route (PAR) of at least 4 feet in width. Standard plans are available on MnDOT's ADA page here: http://dot.state.mn.us/ada/design.html. We also strongly recommend raising the street level to meet major trail crossings so that the trails remain level for their users and vehicles have extra reinforcement for giving pedestrian and cyclists the right of way.

Please contact Sara Dunlap, Pedestrian, Bicycle and ADA Planning, at sara.dunlap@state..mn.us or 651-234-7725 with any questions.

Traffic

This project will likely add stress to the MN 47/CR 5 intersection. This intersection is already in disrepair and has an acceleration lane to SB MN 47 that backs up the morning rush hour. This intersection should be monitored closely once the development approaches or reaches build conditions.

Please contact Danial Backsen, Anoka Truck Station Supervisor, at 763-279-4050 or danial.backsen@state.mn.us with any questions.

The 2028 mill and overlay project will also put fiber and cameras in place to monitor this intersection.

Please contact Ashley Hansen, North Area Traffic Safety, at 651-234-7815 or ashley.hansen@state.mn.us with any questions.

Water Resources

A MnDOT drainage permit is required before development occurs. The permit applicant shall demonstrate that the off-site runoff entering MnDOT drainage system(s) and/or right of way will not increase. The drainage permit application, including the information below, should be submitted online to: https://olpa.dot.state.mn.us/OLPA/. Please upload this letter with the drainage permit application.

The following information must be submitted with the drainage permit application:

1. Grading plans, drainage plans, and hydraulic calculations demonstrating that proposed flows to MnDOT right of way remain the same as existing conditions or are reduced.
2. Existing and proposed drainage area maps with flow arrows and labeling that corresponds with the submitted calculations.
3. Hydro CAD model and PDF of output for the 2, 10, and 100-year Atlas 14 storm events.

Once a drainage permit application is submitted, a thorough review will be completed and additional information may be requested. Please contact Jason Swenson, Water Resources Engineering, at 651-234-7539 or jason.swenson@state.mn.us with any questions.

Please contact Jason Swenson, Water Resources Engineering, at jason.swenson@state.mn.us or 651-234-7539 or with any questions.

Noise

MnDOT's policy is to assist local governments in promoting compatibility between land use and highways. Residential uses adjacent to highways often result in complaints about traffic noise. Traffic noise from this highway could exceed noise standards established by the Minnesota Pollution Control Agency (MPCA), the U.S. Department of Housing and Urban Development, and the U.S. Department of Transportation. Minnesota Rule 7030.0030 states that municipalities with the authority to regulate land use shall take all reasonable measures to prevent the establishment of land use activities, listed in the MPCA's Noise Area Classification (NAC), anywhere that the establishment of the land use would result in immediate violations of established State noise standards.

MnDOT policy regarding development adjacent to existing highways prohibits the expenditure of highway funds for noise mitigation measures in such developed areas. The project proposer is required to assess the existing noise situation and take the action deemed necessary to minimize the impact to the proposed development from any highway noise.

If you have any questions regarding MnDOT's noise policy, please contact Natalie Ries in Metro District's Noise and Air Quality Unit at 651-234-7681 or natalie.ries@state.mn.us.

Permits

Any other work that affects MnDOT right of way will require an appropriate permit. All permits are available and should be submitted at: https://olpa.dot.state.mn.us/OLPA/. Please upload this letter when applying for any permits.

For questions regarding permit submittal requirements, please contact Buck Craig of MnDOT's Metro District Permits Section at 651-775-0405 (cell) or buck.craig@state.mn.us.

Review Submittal Options

MnDOT's goal is to complete reviews within 30 calendar days. Review materials received electronically can be processed more rapidly. Do not submit files via a cloud service or SharePoint link. In order of preference, review materials may be submitted as:

1. Email documents and plans in PDF format to metrodevreviews.dot@state.mn.us. Attachments may not exceed 20 megabytes per email. Documents can be zipped as well. If multiple emails are necessary, number each message.
2. For files over 20 megabytes, upload the PDF file(s) to MnDOT's Web Transfer Client site: https://mft.dot.state.mn.us. Contact MnDOT Planning development review staff using the same email above for uploading instructions, and send an email listing the file name(s) after the document(s) has/have been uploaded.

You are welcome to contact me at david.kratz@state.mn.us (preferred), or 651-234-7792 with any questions.

Sincerely,

David Kratz
Principal Planner

Copy sent via email:

Jason Swenson, Water Resources
Buck Craig, Permits
Mike Lynch, Right of Way
Brandi Kastner, Traffic

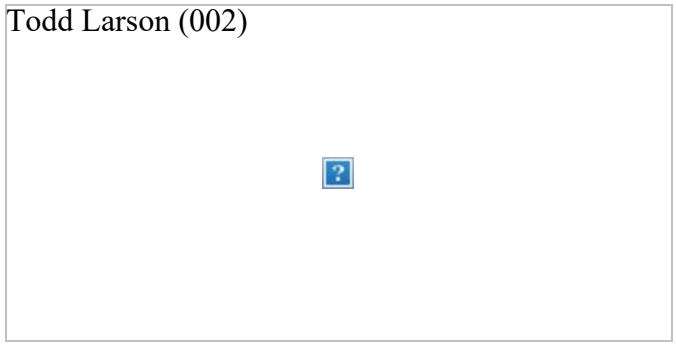
Ashley Hansen, Traffic
Natalie Ries, Noise
Mike Kronzer, Area Engineer
Michael Kowski, Maintenance
Danial Backsen, Maintenance
Sara Dunlap, Ped/Bike/ADA Planning
Tod Sherman, Planning
Cameron Muhic, Planning
Joseph Widing, Metropolitan Council

From: Brandon Folta
To: Todd Larson
Subject: Haviland fields
Date: Tuesday, August 1, 2023 8:18:08 PM

As a resident of Ramsey I am sick and tired of all the townhouses and apartments being put up in the city leave the city alone !! We are loosing the country feel!!
Sent from my iPhone

From: David Drake
To: Todd Larson
Subject: Re: address
Date: Thursday, August 3, 2023 3:05:19 PM
Attachments: image001.png
image001.png

On Thu, Aug 3, 2023, 2:59 PM Todd Larson <tlarson@ci.ramsey.mn.us> wrote:

> Thank you David,
>
> Can you please provide your address for the public record?
>
> Thanks,
>
> Todd
>
> Todd Larson (002)
>
> 
>
> My address is 14401 Noethen Blvd nw, Ramsey, Mn
>
> **From:** David Drake <dsdrake042@gmail.com>
> **Sent:** Thursday, August 3, 2023 1:39 PM
> **To:** Todd Larson <tlarson@ci.ramsey.mn.us>
> **Subject:**
>
> I have looked at the info from Havilland Fields & disagree with the report on page 28 to30, concerning the entrance into this new building from co. rd 5 (church property). The LOS data on traffic flow at A. This fine for 2023 but not for 2027. The LOS for the latter date is also A, which I believe is a gross error. It should be either C or D. I currently live at Stoney

River & see the actual traffic every AM & know that the real traffic loads as shown on the data report can't be correct. I request that more info be obtained at this intersection. Thank you. DD

From: Alexandria St John
To: Todd Larson
Subject: Strong Objection to Development of Lord of Life Property
Date: Tuesday, August 1, 2023 8:40:40 PM

Dear Mr Larson

I am writing to express my vehement objection to the proposed development of the Lord of Life property in our community. As a concerned resident, I feel compelled to outline the potential devastating impact this development could have on our surrounding communities, families, and neighbors.

First and foremost, the increase in traffic, landscape alterations, and population growth resulting from this development will undoubtedly disrupt the peaceful and safe environment that we currently enjoy. The influx of additional vehicles will lead to congestion, making it harder for residents to commute and risking the safety of pedestrians, especially children and elderly individuals.

Furthermore, the proposed development does not seem to align with the recent developments in surrounding communities, which have not shown a need for such expansion. Instead, it appears to be driven by developers' interests without considering the genuine needs and desires of the families in our community.

Speaking of which, I want to emphasize that the families in our neighborhood do not want this development. Many of the residents have made their voices heard in various forums, expressing their strong opposition to this project. It is crucial to respect the wishes of the community members who will be directly affected by this development.

The potential consequences of this development extend beyond mere inconvenience; it has the potential to push the area to be overpopulated, leading to the displacement of many long-standing residents. Moreover, our already burdened schools would be overwhelmed by the influx of new students, making it challenging for them to provide quality education.

Another grave concern is the increase in crime that often accompanies rapid urbanization and population growth. The introduction of a large development like this can bring in outsiders and transient populations, leading to potential security risks and jeopardizing the safety of our families.

In light of these numerous and compelling reasons, I urge you to reconsider the approval of the development of the Lord of Life property. Instead, let us focus on fostering sustainable growth that respects the needs and wishes of the community and preserves the safety, serenity, and well-being of our neighborhood.

Thank you for considering my objections. I hope that you will carefully weigh the consequences of this development on the surrounding communities before making any decisions.

Sincerely,

One of Many.

July 28, 2023

City of Ramsey
Attn: Todd Larson, Planning Manager
7550 Sunwood Dr NW
Ramsey, MN 55303

Re: Haviland Fields EAW

To Whom it May Concern:

Minnesota Rule 4410.1100 requires that EAWs shall address "known government approvals, reviews, *or financing required, applied for, or anticipated* and the status of any applications made, including permit conditions that may have been ordered or are being considered". Additionally, page 8 of the EAW states that the applicant is supposed to list "all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing, and infrastructure".

Despite these requirements, the Haviland Fields EAW makes no reference to and does not address the Business Assistance Application for Tax Increment Financing (TIF) made to the City of Ramsey and reviewed by the City of Ramsey Economic Development Authority at their July 13, 2023 meeting.

Therefore, the Haviland Fields EAW does not meet the EAW Content requirements established by Minnesota Rule 4410.1100 and should not have been distributed for public comment as it contains insufficient information to adequately be reviewed by residents of the community. The City Council should find the EAW insufficient and require an additional public comment period once the required information on public financing is included within the EAW.

Sincerely,

Ramsey Resident

Haviland Fields EAW Comments:

- In what ways will stormwater management facilities be designed to reduce the risks of flooding?
- Currently the EAW shows that no trees will be planted, however, wouldn't the City of Ramsey require a certain number of trees to be replanted at a minimum? If so, how many trees would that be?
- The EAW indicates that a comprehensive plan amendment, as well as various other applications, would be applied for if needed. Isn't the applicant or the City of Ramsey aware of what applications are needed at this time? Since a site plan has already been submitted for review along with the application for business assistance it seems like the City of Ramsey and the applicant should have at least some idea of what permits are required for the project, such as a comprehensive plan amendment, and that information should have been included within the EAW.
- Section 14.C. states that there will be minimal tree removal, however, the EAW indicates that 7.37 acres of wooded/forested acres will be removed constituting over half of the trees on the site. How is this minimal tree removal?
- Section 18.b.ii indicates that the project will develop a travel demand management plan to reduce use of single occupancy motor vehicles, and increase walking, bicycling, and transit as primary modes of travel to reduce GHG emissions from mobile sources. How will this be developed, given the limited transit in the community and limited suitable weather to bike and walk? The EAW itself states that no transit facilities are within 1 mile of the project, so is the project proposing to create their own transit network and facilities? Say, to link their project with the nearest MetroTransit bus stop or train station via their own private bus service?
- Is the plan for the residential areas to utilize the church parking lot?
- CSAH 5 & Iodine St level of service starts at E in the PM for existing year 2023 but then goes to A in opening year no build and D in opening year 2027. The text does not indicate any changes to this intersection, so if the project isn't built how would the level of service improve from E to A as the traffic analysis suggests?
- On page 7, the EAW states that based on the "land surface temperate" at the project site during a heatwave in 2016 the site is susceptible to extreme heat. Won't removal of 59.4% of the tree canopy and no additional plantings contribute to the urban heat island effect and/or make the site a less desirable place to live?
- There are lots of conflicting statements throughout the EAW that indicate that natural resources will be preserved, however in reality the majority of natural resources are going to be impacted and/or removed as part of the project.
- On page 9 the EAW indicates that a "Residential New Townhouse Unit" as a type of application. What is a "Residential New Townhome Unit Application"?

Todd,

My name is Ben Flake, I live on Fluorine Street with me wife and four small children. We were originally under the impression that there would be no buildings next to our property. However, we were disappointed to see that in the recent Haviland Fields proposal, the townhomes would back up to our house. If the project moves forward we would feel much more comfortable if they installed a barrier between our property and the townhomes. Whether that barrier be a fence or a green barrier made up of plants like white pines and shrubs. I believe most the neighbors would agree with the installation of a barrier.

Thanks,
Ben Flake

Hi Todd,

My name is Rick Bailey and I live @ 5021 Xkimo Ct. Nw., on the east side of 47 across from Stoney River and Lord of Life. From the letter we received it mentioned to direct questions and comments to you regarding the Haviland Fields proposed development.

My primary concerns with such a large development are regarding noise levels. The noise pollution that would result alone from the increase in traffic is part of it (as 47 and 5 are already heavily congested) and noise levels are high, and equally important/of concern is traffic noise deflecting off of the buildings and into our neighborhoods. For example, when Stoney River was built, it unfortunately brought quite a bit of additional noise into our neighborhood as there is no existing noise wall in place.

My related question is if the development is approved to proceed, will there be/can there be a requirement to build a noise wall on the east side of 47, to protect the existing neighborhoods? I'm also cc'ing a few of my neighbors in our cul-de-sac so they can hear any updates/information and Deb Musgrove who is familiar with our existing noise concerns.

Thank you~

Rick

Todd, I apologize for the last minute start here as my month has not been predictable.
I have a few observations after reading through the EAW, but my first one regards to 6d on pg3. Sources and detailed information are plentiful throughout the document, but all this subsection states is that the project aims to address the housing needs in Ramsey. What set of research and sources is this goal utilizing? What are the referenced housing needs of Ramsey?

I'll gather my observations when I get home today, but I wanted to get this one out as it's the most prevelant to the project itself.

Thanks!

14c. This section states “Minimal tree remove will be required as part of the project.” However, this is contradicted in “Table 5: Trees” where number of trees to be removed is approximated at 964 trees, or 59.4% of existing trees in the project area. “Minimal” needs a set definition as it pertains to this document. Additional tree cover will only reduce the short- and long-term negative impact of the GHG effect, especially with so much additional asphalt surface being added in the project site. Please place significant consideration and effort into maintaining as much existing tree cover as possible.

Along with the approximated amount of tree removal, maintaining a wall of wooded tree cover between the project area and the south side of Birch Hill Lodges’ southeastern most side street would greatly benefit the existing townhome community by combatting noise pollution (both during and after the project) and heat from the nearly doubling of nearby asphalt surface, as well as reducing the projected tree removal. Please seriously consider incorporating a portion of this existing wooded wall into the north edge building setback, as well as adding a similar wooded buffer on the adjacent side street also bordering the north edge of the project site. It would also promote additional privacy for both the existing townhomes and the potential new townhomes.

Ideally, the described existing wooded area would prove beneficial and resourceful if trails are being considered as a part of this project. Why not leave the tree cover there and only clear what is needed to construct a path? Additionally, allowing those trees to remain untouched would greatly benefit the endangered Northern Long-eared Bat and the proposed-endangered Tricolored Bat. The DNR’s listed protections and actions concerning the threatened/endangered/proposed-endangered species don’t actually seem to be stipulating much protection of their existing homes, albeit not officially designated “critical habitats.” (Appendix C, pg 1-4 plus succeeding detailed pages.)

18b. and 7b.
The Geothermal energy source “may” continue to be used. This should be necessary and confirmed, especially considering the amount of tree removal estimated to take place (approximated in “Table 5: Trees”). The geothermal source is also referenced in Table 2: Climate Considerations and Adaptations. It is stated in the last row of this table that, in regards to project construction, “Existing on-site geothermal panels will provide a portion of the sites energy usage.” Please consider this being a requirement along with a minimum % goal for the length of construction.

20a-b. Traffic studies.
Additional signalized intersection should be included in the traffic study, as the majority of bottlenecking occurs in north and south directions: MN-47 & Bunker Lake Blvd // MN-47 & Pleasant St. Severe bottlenecks occur in both AM and PM rush periods which would be further exacerbated by an additional 113-168 trips estimated in “Table 7: Trip Generation Forecast.” I also feel that this table underestimates the potential effects the additional vehicle flow will cause at the CSAH 5 & Lord of Life Access intersection, namely during AM and Sunday peak hours, requiring left-hand turns onto CSAH 5 from the Lord of Life Access into often relentless eastbound traffic.

Logan Hart Lewis
14661 Cobalt St NW Unit 27

Anoka County's comment on the Haviland Fields EAW is below:

- The north access to CSAH 5 (Nowthen Blvd) does not meet our access spacing guidelines for full (or secondary) access. We believe this should be a right in/right out only access with a NB CSAH 5 right turn lane.
- The south access to CSAH 5 should have a separate NB right turn lane to eliminate the lane trap that currently exists. The NB right turn lane will need to be constructed to run alongside the merge taper for the outermost NB thru lane.
- We have some issues with when the traffic counts were done, as winter has lower volumes and January is not a good month to be using to forecast data.
- We would like to see an updated traffic model reflecting the RI/RO north access on CSAH 5 and the gated access connecting to Cobalt St that restricts traffic from entering and exiting this access.

News Release

July 25th, 2023

Contact:

Todd Larson
Planning Manager | City of Ramsey
(763) 433-9821
tlarson@cityoframsey.com

Notice of Availability for Haviland Fields Environmental Assessment Worksheet (EAW)

Ramsey, Minn. – As the Responsible Governmental Unit (RGU), the City of Ramsey has prepared an Environmental Assessment Worksheet (EAW) for the Haviland Fields residential development. The notice of document availability will be published in the *EQB Monitor* on August 1, 2023.

The Haviland Fields development is located on an approximately 35-acre site at 14501 Nowthen Blvd NW, Ramsey MN. The proposed project will include 22 townhouse units and 3 multifamily residential buildings with 476 total units. The development will also include stormwater management areas and preserved green space.

The EAW can be accessed electronically on the City of Ramsey's website at:

www.ci.ramsey.mn.us/989/Haviland-Fields

The City will accept public comments on the EAW through August 31, 2023 at 4:00 PM, directed to:

Todd Larson, Planning Manager | City of Ramsey
7550 Sunwood Drive NW
Ramsey, MN 55303
tlarson@cityoframsey.com

CC Regular Session

Meeting Date: 10/24/2023

Primary Strategic Plan Initiative: Create a positive image for residential neighborhoods, business districts and key corridors.

Information

Title:

Adopt Ordinance #23-15, Amending Chapter 34 Regarding Tobacco and Cannabis Use of Public Property

Purpose/Background:

On October 10, 2023, City Council introduced Ordinance #23-15 Amending Chapter 24, regarding tobacco and cannabis use on public property.

In summary, the ordinance prohibits smoking or vaping tobacco and cannabis on all city-owned or leased property, including city-owned vehicles and equipment. It will not prohibit the use of tobacco products within a vehicle by someone who is driving on city streets or sitting in a vehicle on public property. It allows smoking in designated areas as marked by signage.

Notification:

Notification is not required.

Time Frame/Observations/Alternatives:

Timeframe:
After adoption of Ordinance #23-15, it becomes effective 30 days after publication.

Alternatives:
1. Adopt the ordinance as presented.
2. Adopt the ordinance with changes.
3. Deny the adoption of the ordinance.

Recommendation:

City staff recommends the adoption of Ordinance #23-15 Amending Chapter 34 Regarding Tobacco and Cannabis Use on Public Property as presented.

Outcome/Action:

Motion to waive the City Charter Requirement that the Ordinance be read aloud and adopt Ordinance #23-15 Amending Chapter 34 Offenses and Miscellaneous Provisions, Article I. In General, of the City Code by Adding Section 34-2 Regarding Tobacco and Cannabis Use Within Public Property.

Roll Call Vote:
Councilmember Olson
Councilmember Woestehoff
Councilmember Specht
Councilmember Mugrove
Councilmember Howell
Councilmember Riley
Mayor Kuzma

Attachments

Ordinance #23-15

Form Review

Inbox	Reviewed By	Date
Brian Hagen	Brian Hagen	10/19/2023 07:37 AM
Form Started By: Stephanie Hanson		Started On: 10/13/2023 02:12 PM
Final Approval Date: 10/19/2023		

ORDINANCE #23-15
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA

AN ORDINANCE OF THE CITY OF RAMSEY, MINNESOTA, AMENDING CHAPTER 34 OFFENSES AND MISCELLANEOUS PROVISIONS, ARTICLE I. IN GENERAL, OF THE CITY CODE, BY ADDING SECTION 34-2 REGARDING TOBACCO AND CANNABIS USE WITHIN PUBLIC PROPERTY

The City Council of Ramsey ordains:
Chapter 34, Article I. In General, in the Ramsey City Code is hereby amended by adding Section 34-2 to read as follows:

SECTION 34-2. TOBACCO AND CANNABIS USE WITHIN PUBLIC PROPERTY

SECTION 1. DEFINITIONS.
For purposes of this section, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

PUBLIC PROPERTY. Property, real and personal, that is owned, managed, or controlled by the City, including, but not limited to: City buildings and all the land thereon, parking lots, parks, pathways and trails, and city rights-of-way consisting of both the traveled portion and the abutting boulevard, sidewalks and trails, and any City personal property, such as motor vehicles, city equipment, and the like.

CANNABIS FLOWER, CANNABIS PRODUCTS, LOWER-POTENCY HEMP EDIBLES, and HEMP-DERIVED CONSUMER PRODUCTS shall have the meanings as defined in Minn. Stat. §342.01 (enacted under Minnesota Laws 2023).

TOBACCO and TOBACCO RELATED PRODUCTS shall have meanings as defined in Ramsey City Code Chapter 26, Article XVI. Tobacco. This includes, but not limited to, any product containing, made, or derived from tobacco and tobacco-related devices, electronic delivery devices, and nicotine or lobelia delivery products.

SECTION 2. TOBACCO USE PROHIBITED.
No person shall use tobacco within public property in a manner that involves inhalation of smoke, aerosol, or vapor, or use any devices that emit smoke, with the exception of the use of tobacco and tobacco related products on sidewalks, trails, and within a vehicle or in a designated area, marked by signage.

SECTION 3. CANNABIS USE PROHIBITED.
No person shall use cannabis flower, cannabis products or hemp-derived consumer products within public property in a manner that involves inhalation of smoke, aerosol, or vapor; or use any devices that emit smoke.

SECTION 4. PENALTY. A violation of this Section is a petty misdemeanor.

SECTION 5. EFFECTIVE DATE. This ordinance becomes effective 30 days after its passage and publication, subject to charter section 5.04.

SECTION 6. SUMMARY. That the following summary clearly informs the public of the intent and effect of the Ordinance and is approved for publication: The purpose of this Ordinance is to regulate tobacco and cannabis use within public property and public places.

PASSED by the City Council of the City of Ramsey, Minnesota, the ____day of _____, 2023.

_____
Mayor

ATTEST:

_____
City Clerk

Roll Call:
Councilmember Olson
Councilmember Woestehoff
Councilmember Specht
Councilmember Musgrove
Councilmember Howell
Councilmember Riley
Mayor Kuzma

Introduction Date
Posting Dates Adoption
Date Publication Date
Effective Date