Planning Department

W240N3065 Pewaukee Road
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SECOND REVISION

PLAN COMMISSION
MEETING NOTICE AND AGENDA
Thursday, December 21, 2023
6:00 PM

Pewaukee City Hall Common Council Chambers
W240 N3065 Pewaukee Road, Pewaukee, WI 53072

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1. Call to Order and Pledge of Allegiance

2. Conduct Public Hearing Regarding Request for a Conditional Use Permit for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

3. Discussion and Action on Potential Approval of a Conditional Use Permit for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

4. Discussion and Action Regarding the Site and Building Plans for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

5. Discussion and Action and Public Hearing for Junior Cup Golf, Inc. for a Conditional Use Permit for Property Located at W229 N2494 Redford Boulevard for the Purpose of Running a Non-Profit Junior Golf and Athletics Center (PWC 0915990001)

6. Discussion and Action Regarding a Recommendation to the Common Council for a Comprehensive Master Plan Amendment to Change the Year 2050 Land Use/Transportation Plan Use Designation for the City of Pewaukee for Fox Run Development Partners, LLC for Property Located at N15 W22261 Watertown Road from Office/Commercial and Floodplains, Lowland and Upland Conservancy, and Other Natural Areas to Manufacturing/Fabrication/Warehousing and Floodplains, Lowland and Upland Conservancy, and Other Natural Areas (PWC 0960987)

7. Discussion and Action and Public Hearing for Fox Run Development Partners, LLC to Rezone Property Located at N15 W22261 Watertown Road from Rs-1 Single-Family Residential and LC Lowland Conservancy to M-2 Limited Industrial and LC Lowland Conservancy for the Purpose of Developing an Industrial Flex Building (PWC 0960987)

8. Discussion and Action Regarding the Site and Building Plans for Fox Run Development Partners, LLC for Property Located at N15 W22261 Watertown Road for the Purpose of Developing an Industrial Flex Building (PWC 0960987)

9. Discussion and Action Regarding the Site and Building Plans for Zeilhofer Properties, LLC for Property Located at N4 W22540 Bluemound Road for the Purpose of Constructing an Attached Garage Addition and Front Porch Modifications to the Existing Structure (PWC 0963997)

10. Discussion and Action Regarding a Certified Survey Map for Yench, LLC for Property Located on the West Side of Yench Road for the Purpose of Subdividing the Existing Property Into Three Lots and One Outlot (PWC 0885996006)

11. Discussion and Action Regarding a Certified Survey Map for Yench, LLC for Property Located on the West Side of Yench Road for the Purpose of Further Subdividing the Property Into Two Lots (PWC 0885996006)

12. Discussion and Action Regarding a Conceptual Review for Land by Label Development Company for a Mixed-Use Residential Re-Development of the Willow Run Golf Course Located at N12 W26506 Golf Road (PWC 0944994 & PWC 0941988094 through 0941988103)

13. Discussion and Action and Public Hearing Regarding Revisions to Section 17.0500 of the City's Zoning Code Related to Review and Approval and Public Hearing Requirements for Conditional Use Permits

14. Discussion and Action and Public Hearing Regarding Revision and Codification of Chapter 17 Zoning as Chapter 340 of the City's Municipal Code

15. Adjournment

Ami Hurd
Deputy Clerk

12/20/2023 10:00am

NOTICE

It is possible that members of other governmental bodies of the municipality may be in attendance to gather information that may form a quorum. At the above stated meeting, no action will be taken by any governmental body other than the governmental body specifically referred to above in this notice.

Any person who has a qualifying disability under the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible format must contact the City Planner, Nick Fuchs, at (262) 691-6007 three business days prior to the meeting so that arrangements may be made to accommodate your request.

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 2.

DATE: December 21, 2023

DEPARTMENT: Clerk/Treasurer

PROVIDED BY:

SUBJECT:

Conduct Public Hearing Regarding Request for a Conditional Use Permit for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 3.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY: Nick Fuchs

SUBJECT:

Discussion and Action on Potential Approval of a Conditional Use Permit for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

BACKGROUND:

The Conditional Use and Site and Building Plan Review applications were tabled at the March 16, 2023 Plan Commission meeting following concerns from neighbors. Concerns were expressed from residents of the Broken Hills subdivision regarding cars and customers of the Montessori school cutting through the neighborhood to get to their destination.

At that meeting, the applicant agreed to complete a Traffic Impact Analysis, which is attached for review.

FINANCIAL IMPACT:

RECOMMENDED MOTION:

A motion to recommend approval of the Conditional Use Permit for the Guidepost Montessori School.

and

A motion to approve the Site and Building Plans for the Guidepost Montessori School, contingent upon the Common Council approval of the concurrently submitted Conditional Use Permit.

ATTACHMENTS:

Description

Quattro Development staff report 12.21.23
Quattro Development staff report 2.16.23
Higher Ground project narrative
Higher Ground response comments
Quattro Development draft Resolution
Quattro Development draft Conditional Use Permit

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REPORT TO THE PLAN COMMISSION

Meeting of December 21, 2023

Date: December 8, 2023

Project Name: Guidepost Montessori Conditional Use and Site & Building Plan Review

Project Address/Tax Key No.: Highfield Court/PWC 0906994

Applicant: Quattro Development, LLC

Property Owner: KB Pewaukee, LLC

Current Zoning: B-6 Mixed Use Business

2050 Land Use Map Designation: Office/Commercial

Use of Surrounding Properties: Capitol Dr to the south, Highfield Ct to the north, a daycare to the east and bank to the west.

Background

The applicant, Quattro Development LLC, submitted a Conditional Use Application and Site & Building Plans for a proposed childcare facility on a mostly vacant lot located along Highfield Court and Capitol Drive between HWY 164 and Highfield Road.

This project was previously reviewed by the Plan Commission and Common Council and denied due primarily to traffic concerns.

Following denial of the Conditional Use Application, the applicant correctly pointed out to staff that per the Zoning Code, the public hearing should have been held by the Plan Commission, not the Common Council.

As such, the application has been re-noticed for public hearing at the December 21, 2023 Plan Commission meeting. There have not been any changes to the application or plans previously provided by the applicant. Those same plans are attached for Plan Commission review.

Below are excerpts from meeting minutes related to this proposal in order to provide a complete history of this project. Also attached are previous staff reports.

History

February 16, 2023 Plan Commission: Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit and Site and Building Plans for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

Meeting cancelled due to weather.

March 6, 2023 Common Council: PUBLIC HEARING, Discussion and Possible Action Regarding a Conditional Use Permit for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906-994)

Mr. Fuchs stated this item was supposed to be discussed at the March Plan Commission meeting, but it was cancelled. He asked the Council to table this item to the April 3rd Common Council meeting.

March 16, 2023 Plan Commission: Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit and Site and Building Plans for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

Mr. Fuchs stated the request is for an 11,836 square foot Montessori school and includes two playground areas and a fence adjacent to Capitol Drive. Staff recommended that fencing be on the north side, which is the Highfield Court side of the property. There is also a 45-footright-of-way reservation, and the applicant is requesting the City remove that reservation. Mr. Fuchs added that there is a condition related to the construction of a bell tower. There was a requirement for the property to the west to construct a bell tower within a certain time frame, and the applicant would like that responsibility removed from the previous Conditional Use Permit. The last condition is the standard approval of the final grading, erosion control, and stormwater by the Engineering Department.

It was pointed out that this would be directly next door to the current childcare center on that road.

The applicant noted the classrooms exit directly to the playground, so it was critical to keep the distance down that the kids must travel between the playground and the classroom. He stated they would be increasing the landscape buffer on the south side so that it would be heavily screened from Capitol Drive. The fencing around the perimeter of the playgrounds would be wrought iron, and the dividing fences between each portion of the playground would be PVC vinyl fencing.

The applicant also pointed out that drop offs in the morning and pick ups in the afternoon are over a two-to three-hour period, so it is not like a school where everyone is funneling in and out at one time.

Commissioner Brown was concerned about having two daycares right next to each other in a residential subdivision.

Brian Schultz (N36W23835 Broken Hill Circle South) stated they have seen an increase in traffic since the first daycare was built and he felt people would cut through their neighborhood.

Greg Phelps (N37 W23840 Broken Hill Circle South) was concerned that the entrance and exits would funnel cars into their street. The likelihood of someone being injured is increased because of the volume of traffic.

Further discussion took place regarding traffic patterns in the area. Chairman Bierce felt a traffic study would need to be done, and the applicant stated they had no problem doing that.

Ms. Wagner stated she had a condition to add that there must be separate laterals on the property. It is currently set up as a shared lateral because it was originally one lot, but once the CSM split the property into two, it became a requirement to have separate laterals.

The applicant confirmed that they would have a traffic study completed and would request to be put on a future agenda.

April 3, 2023 Common Council: PUBLIC HEARING, Discussion and Possible Action Regarding a Conditional Use Permit for Quattro Development/Higher Ground Education for Property Located on Highfield Court (PWC 0906-994) for the Purpose of Constructing a Childcare Facility [Fuchs]

Postpone to 5/1/2023

May 18, 2023 Plan Commission: Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit and Site and Building Plans for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

Discussion and Action Regarding a Recommendation to the Common Council for a Conditional Use Permit and Site and Building Plans for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

Mr. Fuchs stated this item was before the Plan Commission at the March 16thmeeting and was tabled following concerns from the Broken Hill subdivision residents regarding traffic. The school has a maximum occupancy of 152 children and a maximum of 15 full-time employees. The site is approximately two acres, and the single-story building is approximately 11,836 square feet. There are two playgrounds, one on the south side adjacent to Capitol Drive and one on the north side adjacent to Highfield Court. Both are fenced in with a six-foot wrought iron fence. Mr. Fuchs noted there was a condition listed in the staff report to locate the playground areas and any other accessory structure or amenities on the north side of the building, as opposed to being visible from Capitol Drive. He noted that the daycare to the east does have a fence adjacent to Capitol Drive. Mr. Fuchs stated the applicant did provide a traffic impact analysis, and he recommended approval of the Conditional Use and Site and Building Plans.

Discussion took place regarding the traffic impact analysis.

Commissioner Brown felt there was a need for this in the area, and she did like the look of the building, but she felt the location was not right, especially considering there is already a daycare right next door.

John Bieberitz with Traffic Analysis and Design stated he prepared the traffic study, and he gave some background about the report and broke down the information contained in the report.

The Commissioners were in agreement that they were concerned about the traffic situation in the area and could not get onboard with this development.

A motion was made and seconded (C. Brown, D. Linsmeier) to recommend denial of the Conditional Use Permit and Site and Building Plans. Motion Passed: 5-For, 0-Against.

June 5, 2023 Common Council: PUBLIC HEARING, Discussion and Possible Action Regarding a Conditional Use Permit for Quattro Development/Higher Ground Education for Property Located on Highfield Court (PWC 0906-994) for the Purpose of Constructing a Childcare Facility - Applicant Requests Item to be Tabled [Fuchs]

Mr. Fuchs stated the petitioner wishes to have this item tabled. They intend to submit new plans and there is no anticipated date for that as of yet.

September 5, 2023 Common Council: PUBLIC HEARRING, Discussion and Possible Action Regarding a Conditional Use Permit for Quattro Development/Higher Ground Education for the Property Located on Highfield Court (PWC 0906-994) for the Purpose of Constructing a Childcare Facility [Fuchs]

Mr. Fuchs stated this was a Conditional Use application for a Montessori school within a B-6 district. He said they are proposing a maximum capacity of 152 students and the hours of operation will be from 7:00 a.m. to 6:00 p.m., Monday through Friday. He said the applicant indicated none of the students will be bused to their facility. Mr. Fuchs stated they originally went before the Plan Commission on March 16th and the neighbors within the Broken Hill Subdivision indicated they had concerns regarding traffic. He said the Plan Commission had the same concerns and asked the applicant to complete a traffic study. Mr. Fuchs stated the applicant completed the traffic study and came back to the Plan Commission on May 18th to present the results of the traffic study, and Plan Commission continued to have concerns with traffic and recommended denial of the Conditional Use Permit. He said the applicant is coming back to the Council requesting approval and is providing a memo summarizing the traffic study.

Attorney Martell noted that Mayor Bierce and Alderperson Brown are on the Plan Commission and have heard the proposal and details of the project. He asked that they be fair and impartial based on what is being heard tonight. Attorney Martell added it is Quasi-Judicial and the decision is entirely made on what is presented at this meeting. He said under §62.23 there is substantial evidence standard, and decisions must be based on substantial evidence. He reiterated the City's code Section 17.0501 stating the purpose and intent are found not to be hazardous, harmful, offensive, or otherwise adverse to the environment or the value of the neighborhood or community.

Mayor Bierce stated Plan Commission meetings discuss more than just the Conditional Use Permit, and they talk about landscaping, lighting, building appearance and general conditions. He asked if this public hearing was strictly on the Conditional Use Permit and asked if they can discuss any other areas of the development. Attorney Martell stated if they are general conditions that would normally be discussed they can be addressed, but you can't bring in what was discussed previously. Mayor Bierce asked if they would have to go back to Plan Commission for approval or if they are able to build it the way they want if it goes in the developers favor and no one weighed in on lighting or the building at Plan Commission meeting. Mr. Fuchs stated based on the Plan Commission motion the applicant would have to go back to Plan Commission for review.

Mayor Bierce opened the public hearing.

Brett Hutter (N37 W23820 Broken Hill Circle South) said he has seen an increase in traffic since the initial daycare went in a couple of years ago. He added there are a large amount of dump trucks cutting through his subdivision to get to the development on Swan Boulevard and Highway 164. He said the traffic light is difficult, and his concerns are with the speed and traffic pattern.

Shannon Myhre (N36 W23526 Oak Hill Lane) said she is concerned with the traffic at the intersection of Highfield Court and Capitol Drive. She said it's not only the volume and complexity of the intersection but the blind hill. She said it is a mess and congested during certain hours of the day. She said the use will cause an extensive traffic increase and during a condensed time frame 150 cars going through that intersection will be very hazardous. She said she hopes the Council votes no.

Rob Myhre (N36 W23526 Oak Hill Lane) said cars are always stacked up and it's always a mess. He said he has written to the State, County and the City and feels there needs to be a light. He said he can't believe the City would even consider this. He feels it is one of the worst plans he has ever heard and asked the Common Council to listen to the residents.

Mayor Bierce asked if it is a City rule or State rule that Council can't consider Plan Commission. Attorney Martell said it is a State rule and how all Quasi-Judicial hearings operate.

Jill Schultz (N36 W23835 Broken Hill South) said she has seen a massive increase in traffic since KinderCare has gone in. She said there is a bus stop in there and the amount of speed going through is dangerous. She said there are many days when cars pass the bus, and traffic is a big concern.

Tom Gardner with Michael Best representing the applicant, noted that during the Plan Commission meeting there was a concern about bus traffic. The applicant proposed that the early childhood school would not use buses to transport students to and from the school.

Brett Dalman with Quattro Development stated the property has its limitations and is not very large. He said he is aware of the childcare center next door and noted the Montessori School has a completely different type of childcare education than KinderCare. He added that he understands the traffic concerns and has followed up with a report to try and compare it to other uses that could go on that property.

John Bieberitz with Traffic Analysis and Design stated he did the original traffic study. He said what is being proposed is not the highest volume generated use for the site. He said comparing other uses such

as a retail store, pharmacy or drive through restaurant would generate more traffic than what is being proposed. He said this is a Monday through Friday operation from 7 a.m. to 6 p.m. and the traffic volume would be a three-hour window in the morning and three hour window in the evening. He added there is no specific hard es start or end time like a traditional school, and you will not see a big peak at drop off or pick up.

Mayor Bierce asked about the morning peak on the study. Mr. Bieberitz said it was based on traditional rush hour traffic from 7 a.m.to 8 a.m. and they tried to represent the worst-case, highest volume of traffic on Capitol Drive.

Mr. Dziwulski asked how they determined the number of ins and outs. Mr. Bieberitz stated it is based on national standards and the ITE Trip Generation Manual, which is a combination of traffic studies done throughout the country at day care facilities and Montessori schools. Mr. Dziwulski stated that is an average and he questioned who's to say it wouldn't be higher. Mr. Bieberitz stated based off start and end times, drop off and pickups are spread out.

Discussion took place regarding peak time and cars per minute.

Ms. Brown said she hasn't checked to see if the DOT has the same numbers as the traffic study. She said according to the exhibit in the study it shows an increase in traffic on Capitol Drive and Highway 164 from 2018-2023. She said she finds it interesting that there is a high volume on these roads but was dumbfounded by the 24-hour counts. She said to add a little bit here and there seems minimal on heavy roads and the concern is keeping them out of the subdivision. Ms. Brown said she has heard complaints that there are not enough day cares in the area, but she struggles with the issue of increasing traffic in a subdivision and feels signage and increased officers are needed. Ms. Brown stated she feels Capitol Drive and Highway 164 can handle the traffic increase, but it's all about keeping traffic out of the subdivision.

A brief discussion took place regarding items to slow traffic down and the importance of enforcement.

Matt Knopf from Higher Ground said he hears the residents' complaints and concerns. He said operationally, all parents get an orientation package and specifics could be put in it regarding traffic flow.

Mayor Bierce asked what would be considered a bus and the age of children that are accepted. Mr. Knopf stated they do not bus children in and out to aftercare. He said it is not in their business model and noted Montessori Schools are different than standard schools. He added the children that are accepted are infants through the age of six. Mr. Knopf has a growth model and if there becomes a need in a community for an elementary school and they feel their families can support it, they will look for a location in the community.

Ms. Brown asked why they chose this property when there are larger properties available. Mr. Knopf stated although there are challenges to the site, the marketing team does extensive demographic studies and looks at what they call a magic mile number. This location met all those requirements and factors. Ms. Brown asked if the high traffic and congestion could hurt the business. Mr. Knopf said operationally Montessori allows flexibility where drop off and pickup times are dispersed, so you don't see typical congestion.

Mr. Dziwulski feels it is great to include the traffic flow in the orientation packet, but asked what happens when they do it for a week and then they start cutting through the subdivision. Mr. Knopf said they want to be a great neighbor and part of the community and if it becomes an issue they will work with the City.

Mr. Vetterkind asked who was going to volunteer in a million-dollar subdivision to have a slowdown sign or flashing light in their yard. He added that officers can't sit and police it every day.

Mr. Clark asked if similar conditions were made for KinderCare and if people were cutting through the subdivisions. Mr. Fuchs stated he was not aware of any conditions related to traffic and was only aware of traffic cutting through by comments made by residents.

Jill Schultz (N36W23835 Broken Hill Circle South) said she is pro-Montessori and would not be here if KinderCare wasn't already there. She said traffic and cars speeding through her neighborhood has increased drastically since KinderCare opened. She added this will increase traffic and everyone is already cutting through, including construction vehicles. Ms. Schultz noted adding more cars to the same time frame of traffic in the morning and afternoon is frustrating.

Rob Myhre (N36W23526 Oak Hill Lane) said he couldn't track the numbers since he didn't have the data that was presented but doesn't understand the math when it comes to the increase in cars. He added that the data is polluted.

Meagan Lind (N37W23740 Broken Hill Circle South) said the peak times that were discussed were also the peak times for buses, as pick up is between 7:45 - 8:15 a.m. She said the corner is bad and people are cutting through from Highway 164.

Shannon Myhre (N36W23526 Oak Lane) stated it is not about the numbers, it is the complexity. She noted there is only one way in and one way out. She added the cut through is real.

John Bieberitz with Traffic Analysis and Design stated the data from the traffic study was done in April of this year, not during Covid. He added the site is zoned B-6 and the trip generation shows other usages that may be allowed on the property could produce more traffic and even include weekend traffic.

Ms. Brown asked what the property was currently zoned and if Mr. Fuchs was considering putting it in B-4. Mr. Fuchs stated it is zoned B-6 and refers to B-4 and B-5 districts for permitting.

A brief discussion took place regarding the uses of B-4 and B-5 and permitted uses that would not require anything but a business plan of operation.

Mayor Bierce closed the public hearing.

Mayor Bierce stated this is a classic example of what small down government does. He said you need to ask yourself if allowing someone to create a business will adversely affect other families around them, or if it would be hazardous or harmful to the value of the neighborhood or community. Mayor Bierce noted there were good opinions and facts, and some facts could be used in either argument.

A motion was made and seconded (P. Vetterkind, B. Dziwulski) to reject the Conditional Use Permit for Quattro Development/Higher Ground Education. Motion Passed: 4-For, 0-Against on roll call vote. Attorney Martell advised each Council member to state their vote and reason for their vote. Mr. Vetterkind voted against the Conditional Use Permit based on it being a hazardous idea to add more traffic to an already congested area. He added the data shows it would make it more hazardous and there are other uses that could go on that site. Mr. Dziwulski seconded the motion based on the traffic in the subdivision. He said roads are narrow and adding more traffic is not acceptable. Ms. Brown voted in favor of the motion because it is adverse to the neighborhood and feels it would be a negative impact on the neighborhood. She encouraged Higher Ground to see if there is another location in the City for the development and stated this type of Montessori school is needed and wanted. She said her vote is based on the neighborhood and not because of the project itself. Mr. Clark voted in favor of the motion and concurred with Alderperson Brown.

September 5, 2023 Common Council: Discussion and Possible Action Regarding Resolution 23-09-14 Releasing a Forty-Five Foot Reserved Right-of-Way Restriction Upon Lots 1 and 2 of Certified Survey Map No. 10366 as Requested by Quattro Development Reservation

Mr. Fuchs stated no action is needed on this resolution since the Conditional Use Permit was not passed. There was no further discussion.

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REPORT TO THE PLAN COMMISSION

Meeting of February 16, 2023

Date: February 9, 2023

Project Name: Guidepost Montessori Conditional Use and Site & Building Plan Review

Project Address/Tax Key No.: Highfield Court/PWC 0906994

Applicant: Quattro Development, LLC

Property Owner: KB Pewaukee, LLC

Current Zoning: B-6 Mixed Use Business

2050 Land Use Map Designation: Office/Commercial

Use of Surrounding Properties: Capitol Dr to the south, Highfield Ct to the north, a daycare to the east and bank to the west.

Project Description/Analysis:

The applicant, Quattro Development LLC, submitted a Conditional Use Application and Site & Building Plans for a proposed childcare facility on a mostly vacant lot located along Highfield Court and Capitol Drive between HWY 164 and Highfield Road. The subject property is zoned B-6 Mixed Use Business District and designated as Office/Commercial on the City's Year 2050 Land Use/Transportation Plan map.

Conditional Use

The proposed use is more specifically a Montessori educational facility. The applicant anticipates 15 full-time employees, with a maximum child occupancy of 152 children. The hours of operation are from 7am to 6pm Monday through Friday.

The B-6 District refers to the B-4 and B-5 districts regarding allowed uses. Educational and childcare facilities is not specifically listed as an allowed use; however, the B-4 and B-5 districts allow uses similar to those that are listed as Permitted Uses within each district. Those uses not listed are required to apply for Conditional Use Permits.

The B-4 District generally allows offices, banks, and studios for fine arts. The B-5 District generally allows auto sales and services, hotels and motels, and restaurants.

Staff finds that the proposed use is most similar to B-4 type uses and would not have any adverse impacts to the surrounding area. The B-4 District is intended to consist of less intensive uses in order to be compatible with neighborhood residential uses, such as the residential subdivision to the north and condominiums to the east. Staff contends that the proposed use meets this intent and fits in with adjacent uses.

Furthermore, the abutting use to the east is also a childcare facility. This property is zoned B-1, which similarly does not specifically allow childcare facilities but allows similar uses as those permitted in

the B-1 District via Conditional Use Permit. The B-1 District generally allows retail and office type uses.

Site Plan
The subject property is about 2-acres and the total site disturbance of the project will be a total of 1.67 acres. The project results in about 50% greenspace, which is in conformance with City standards.

The proposed development consists of a new 11,836 square foot, single-story building. Two large playground areas are proposed at the north and south ends of the childcare facility. A smaller play area is also proposed on the east side of the building.

A dumpster enclosure is located beside the driveway, slightly northwest of the northernmost playground area. A 6-foot wrought iron fence runs from the north side of the building down to the south side of the building and 4-foot white vinyl fencing is used to separate play areas.

Overall, the proposed development complies with B-6 District development standards.

Staff recommends that the playground areas, fencing, and any other accessory structure and use be located behind the building on the north side of the property. The applicant has indicated that due to the building configuration and operation of the Montessori program, the playground locations as proposed are integral to their use.

Access
This site abuts both Capitol Drive and Highfield Court, but is only accessible from Highfield Court.

Additionally, there is an existing and unimproved 45' right-of-way reservation depicted along the south side of the property, adjacent to Capitol Drive, shown on Certified Survey Map No. 10366. The applicant is requesting that this reservation be released by the City.

Staff has reviewed this request and does not have any objections. It is anticipated that a resolution releasing this reservation will be brought forward to the Common Council for their review and approval.

Landscaping
The applicant is proposing to install 19 Deciduous Trees, 5 Evergreen Trees, 31 Deciduous Shrubs, and 29 Evergreen Shrubs. There are at least three different species of Deciduous Trees, Deciduous Shrubs, and Evergreen Shrubs provided and two different species of Evergreen Trees.

The landscape plan focuses many plantings on screening the fencing and playground area along Capitol Drive. Plantings are also provided directly around the dumpster enclosure.

Parking
The site plan includes 25 new parking spaces, of which three are ADA required spaces.

Additionally, there is existing parking located on the northwest side of the site, which is shared with the bank and office building to the west. There is an existing cross parking easement with the property to the west.

Parking spaces are 10’ x 18’ (180 square feet), which is in compliance with Zoning Code standards.

Architecture
The proposed building exterior consists of Hardie shank siding, thin concrete brick veneer, thin stone veneer, and asphalt shingles. The dumpsters will be enclosed in a decorative masonry enclosure matching the building’s exterior materials.

The mechanicals are located in a recessed rooftop penthouse, which screens them from public view.

Signage
A wall sign and monument sign are anticipated and shown for reference only in the plans. All signage must comply with standards set forth in Section 17.0700 of the City’s Zoning Code and will require separate review and approval by the City Planner as well as a Sign Permit from the Building Services Department, prior to installation.

Utilities
Public sewer and water are available and will serve the development.

Final grading, erosion control and storm water management plans shall be approved by the Engineering Department, prior to any land disturbing activities.

Lighting
The Lighting Plan consists of three parking lot lights. Light levels are at 0.0 footcandles at the property lines. The peak height of lights is 18-feet, which complies with the 20-foot maximum height requirement of the Zoning Code. The Wattage is under 150 and not visible from adjacent streets or residential properties.

Bell Tower
The subject property was previously part of the property to the west. In 2005, the City approved Conditional Use Permit No. COP-05-10-3, which included this property, and contained the conditions listed below related to the construction of a bell tower. The bell tower was being proposed by the property owner at that time along with the Bell Tower Memorial non-profit organization.

1. The bank would build a bell tower according to the plans that were developed and brought to the Plan Commission at their November 2005 meeting.
2. The bell tower would be constructed prior to occupancy of the second office building proposed for the site.
3. The second office building proposed for the site would be constructed within three (3) years or by October of 2008.
4. If the bell tower is not built by October 2008, the City will build the tower according to the plans submitted on November 17, 2005, and assess the Foundation Bank for the cost of the tower, plus any administrative costs.

The applicant is requesting that these conditions be removed and that there be no requirement to construct a bell tower. It is staff’s understanding that the Bell Tower Memorial organization is continuing to fundraise to construct the bell tower within the Pewaukee Kiwanis Village Park, opposed

to this location. The bell that was to be utilized for the tower at this site was also sold or given to another organization.

The Conditional Use Permit has been drafted to include language stating that "*The applicant shall not be responsible for the construction of a bell tower as conditioned within Conditional Use Permit No. COP-05-10-3.*"

Recommendation:

A motion to recommend approval of the Conditional Use Permit for Quattro Development LLC to locate a childcare facility upon property bearing Tax Key No. PWC 0906994.

and

A motion to approve the Site & Building Plans for the construction of a childcare facility upon property bearing Tax Key No. PWC 0906994, subject to the conditions contained within this report.

February 3, 2023

Project Narrative

Project: Higher Ground Education
East of N35W23877 Highfield Ct
Pewaukee, WI 53072
Excel Project No: 2245520

Quattro Development, LLC (partnered with Higher Ground Education) is requesting conditional use permit review and approval for a new childcare facility development located on parcel PWC 0906994, just east of N35W23877 Highfield Ct in the City of Pewaukee. The property is zoned B-6 Mixed Use Business and the proposed use requires a conditional use in this district. The existing site is vacant and undeveloped. Higher Ground Education provides Montessori-powered educational offerings.

The proposed project consists of a new 11,705 SF single story childcare facility. The existing site is 2 acres and the total site disturbance for the project will total 1.67 acres. The site can be accessed via the existing shared drive from Highfield Ct. An existing access easement is in place along with a cross parking easement. The proposed new parking will consist of 38 new stalls. Traffic access will be consistent with the existing facility to the west of the proposed development as the existing shared access drive will be utilized. Some new parking stalls will access directly off the existing driveway with the remaining being placed in a parking lot extension to the south. Truck unloading and deliveries will be at a minimum and when needed, the site drive west of the building will be utilized. The playground areas are strategically located in conjunction with the floor plan and provide ample dedicated area for outdoor play/activities.

Stormwater management for this property was accounted for by the adjacent/neighboring parent development to the west of the subject property. A stormwater wet pond is located west of the existing bank/office complex. Proposed stormwater from the development will surface drain consistent with the original stormwater plan to the neighboring stormwater facility. Final engineering documents will be provided to as-built and model the existing stormwater facility and show conformance with current stormwater management ordinances. Sanitary and water utilities will connect to existing public infrastructure as shown on the proposed Utility Plan.

Exterior materials as represented in the attached colored elevations and rendering will consist of the following: Hardie board lap/vertical siding, Hardie shake siding, thin stone veneer, and asphalt shingles. Refuse and recycling dumpsters will be enclosed in a decorative masonry enclosure to match the building's exterior materials. The enclosure will be located in the north parking field, aligning with perpendicular drive isle for access.

Landscaping will be provided in accordance with the City ordinance, in a fashion which ensures species resiliency and complimentary aesthetics. Site lighting will meet the City ordinance in a fashion that provides appropriate foot candles for safety, cut-off fixtures for zero up-lighting, and a decorative style that compliments the development and building architecture.

The proposed daycare/childcare center will have 15 full-time employees, and 0 part-time employees. The largest shift will be all 15 full-time employees. Maximum child occupancy will be 152. The daycare will be in operation from 7:00 a.m. to 6:00 p.m. during weekdays. No hazardous products or chemicals are located on the property nor is there outside storage. The estimated project value is $3,000,000 and an approximate start date is Spring of 2023.

In conjunction with the proposed development project, it is requested to remove the bell tower requirement that is tied to the title of the subject property. The bell tower is not proposed for this project and will not be provided.

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February 3, 2023

City of Pewaukee
Attn: Nick Fuchs
W240N3065 Pewaukee Road
Pewaukee, WI 53072

Re: Quattro Development - Guidepost Montessori Conditional Use and Site & Building Plan Review

Dear Mr. Fuchs,

This letter is in response to the staff comments dated January 20, 2023.

General Comments

1. There appears to be many inconsistencies on page C1.1 between the labels and arrows on the site plan and the Site Plan Keynotes. Below are several examples. Please double check these items and revise accordingly.
   a. 25 is listed as a flagpole yet no flagpole label on the plan.
      Excel Response: Number 25 has been removed from the Site Plan Keynotes as there is no proposed flagpole.

   b. 7 is listed as dumpster pad/apron concrete yet no dumpster pan/apron concrete label is on the plan.
      Excel Response: The mentioned label has been adjusted on the site plan.

   c. 29, 30, & 31 are included within the middle of the building with their arrows not directed at any element on the plan.
      Excel Response: The mentioned labels have been adjusted on the site plan.

   d. 28 is listed as traffic arrows yet they are labeled around the playgrounds. Why are there traffic arrows around the playgrounds?
      Excel Response: The traffic arrows designate the direction of travel around the playgrounds for a tricycle loop.

2. What is directly abutting the north playground to the east?
   Excel Response: This area is designated as an outdoor seating area.

3. Was the poured rubber playground surface included in the impervious surface calculations?
   Excel Response: The poured rubber playground surface was included in the impervious surface calculations.

4. Where are mechanicals located? How are these screened?
   Excel Response: The mechanicals are located in a rooftop penthouse recessed out of view.

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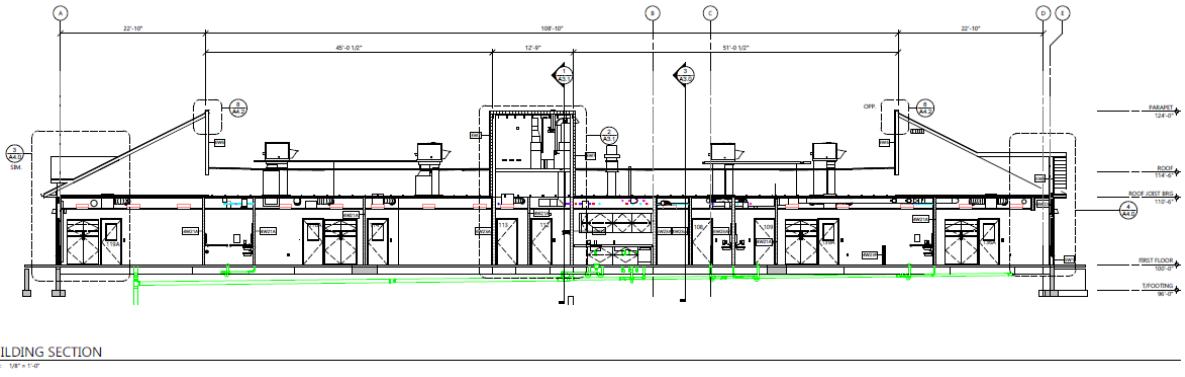
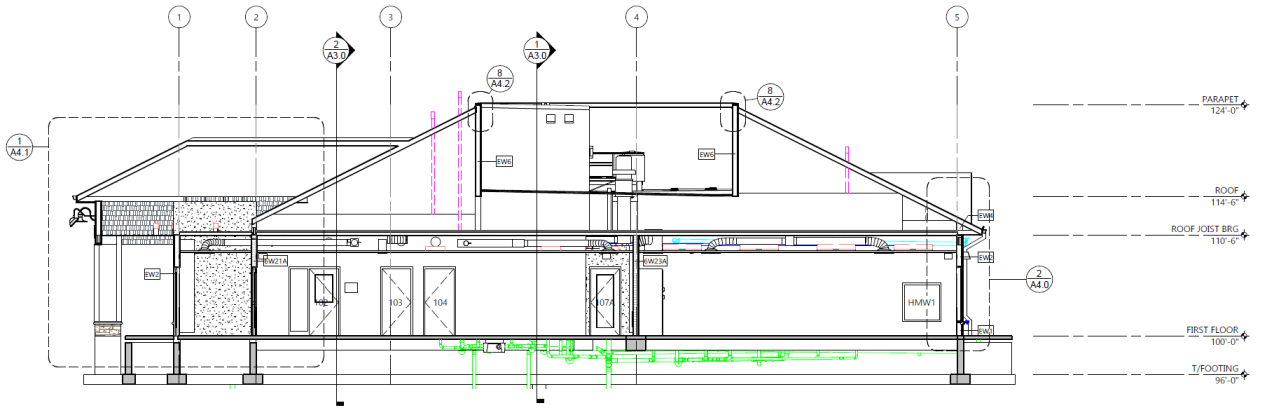


BUILDING SECTION



3 A3.0 BUILDING SECTION
SCALE: 1/8" = 1'-0"

Site Plan Comments

1. Please illustrate the 30-foot parking and loading setback along the south side of the property adjacent to Capitol Drive and remove any portion of the parking lot encroaching into that setback.
   Excel Response: The appropriate adjustments have been made on the site plan.

2. Staff recommends exploring ways to reconfigure the building and site layout to address the comments and recommendations below.
   a. It is recommended that the playground areas, fencing, and majority of parking be located behind the building.
      Excel Response: The site and building have been situated to maintain the intent of stormwater management that was set up at the time of the bank development. Modifications after discussions with staff are implemented in the revised site plans. The building layout cannot change and is specific to the Montessori learning with associated break-out playground areas around the building perimeter.

   b. It is recommended to revise the parking layout to avoid cars having to back out into the main drive aisle. Parking could potentially be configured to follow the layout of the adjacent parking to the west, which extends onto this property.
      Excel Response: Several parking stalls on the north side of the proposed parking lot have been removed to accommodate this. The site plan modifications were discussed with staff, the shared parking will be used for employee parking.

c. Relocate the dumpster enclosure where it can be better screened by landscaping.
Excel Response: The dumpster enclosure has been moved further to the east of its previous position to include landscaping around it.

d. It is recommended to not have the metal doors and service equipment facing Capitol Drive.
Excel Response: Doors have been removed from the south side of the building facing Capitol Drive.

e. Will there be a lot of drop off and pick up occurring onsite? If so, the site plan should be revised to accommodate that better.
Excel Response: Drop off and pick will be in the stalls immediately west of the building. Give the age group of the facility, parents will park and escort children into the building. A "drop off" scenario typical to schools is not applicable for this facility.

Architecture Comments

1. Consider incorporating additional masonry on the elevation facing Capitol Drive as well as additional elements to provide more variation in the footprint and roofline of the building. Materials and quality should match that of the adjacent buildings.
Excel Response: The Capitol Drive elevations have been updated to address this comment.

Parking Comments

1. On page C1.1 it states that three ADA spaces are required yet two ADA spaces are provided. Please revise and provide the appropriate number of ADA accessible parking spaces.
Excel Response: Three ADA spaces have been provided on the site plan.

Landscaping Comments

1. Staff suggests adding additional plantings adjacent to the playground areas. These may be more sporadic as the intent is not to necessarily require these areas to be fully screened.
Excel Response: Additional plantings have been included on the south and north side of the site plan.

2. As previously discussed, there is a requirement that a bell tower be constructed on this property. As part of the Conditional Use, please revise the project narrative to include a specific request to remove this requirement, assuming the bell tower is not being proposed as part of this development.
Excel Response: The CUP project narrative has been updated to remove the bell tower requirement.

Signage Comments

1. Please be aware that signage will require separate review and approval by the City Planner as well as a Sign Permit from the Building Services Department prior to installation.
Excel Response: The appropriate accommodations will be made.

2. Also note that per section 17.0706(c) a ground sign located within 660 feet of a residential zoning district boundary shall not be illuminated during the seven-hour period beginning at

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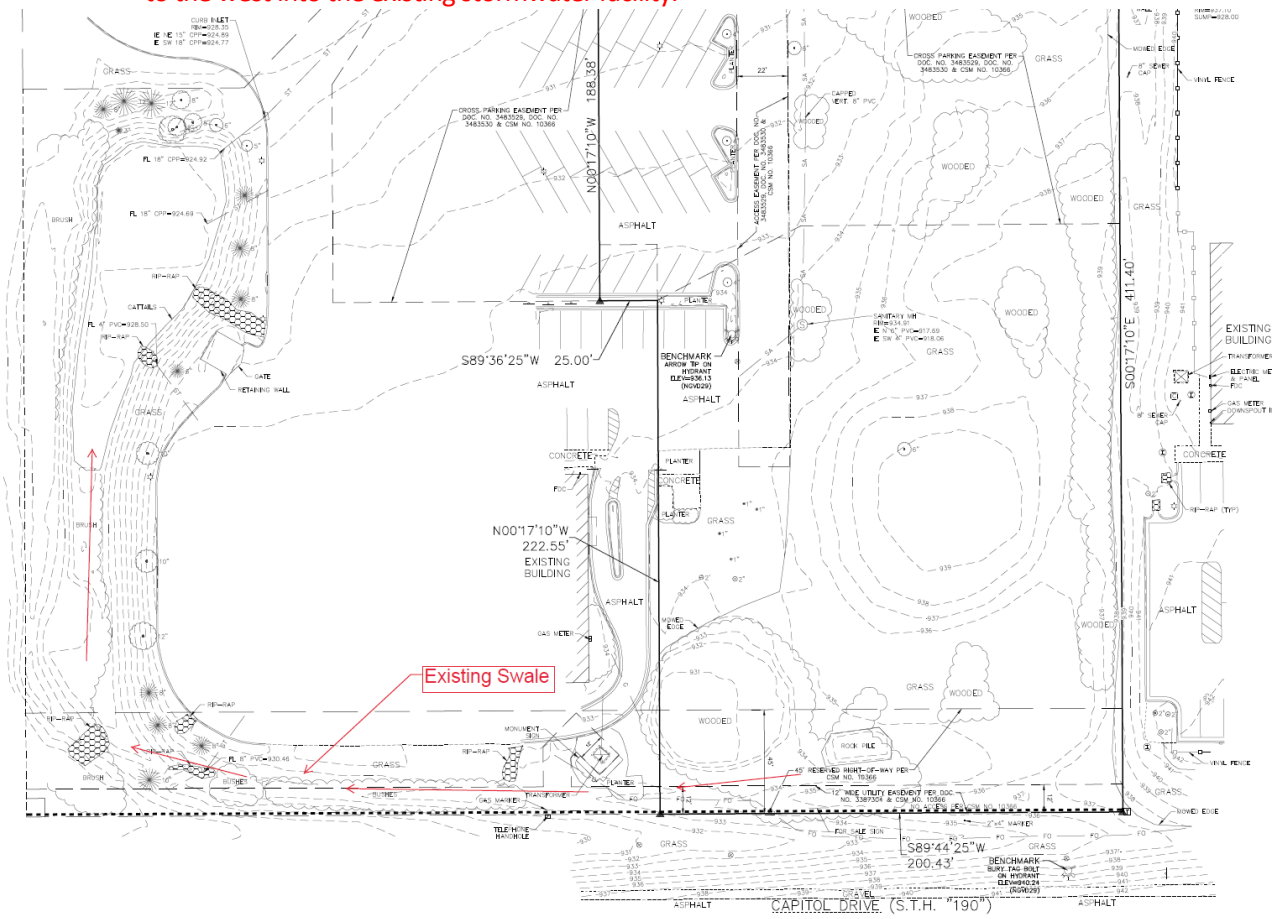
eleven (11) PM and ending at six (6) AM.
Excel Response: The appropriate accommodations will be made.

Engineering Department Comments

1. The project narrative outlines that the existing basin on the adjacent property will be used to address stormwater requirements. Below are comments relating to this strategy.
   a. A large portion of the proposed site appears to drain to the southwest corner of the site into an existing drainage swale. This drainage swale does not lead to the existing stormwater pond based on existing contours.
   Excel Response: There is an on-site drainage swale north of the R/W line that does direct runoff to the west into the existing stormwater facility.



   b. This stormwater facility is off-site. Documentation of agreements with adjacent landowner stating that this development can utilize the existing stormwater facility must be provided to the City. Note that it must also be shown that the existing facility can handle the additional flow.
   Excel Response: Understood.

   c. The north portion of the site is planned to sheet flow towards the neighbor's parking lot. Agreements must be provided stating that the neighbor is aware of this design, approves of it, and won't change their site in a way that would restrict the sheet flow. Calculations

shall be provided that show the existing conveyance systems (mostly storm sewer) are adequate for the additional flow.
Excel Response: Understood.

2. There is currently no stormwater maintenance agreement for the existing stormwater facilities. A stormwater maintenance agreement must be provided and signed by both the developer and the owner of the existing stormwater facilities.
Excel Response: Understood.

3. The proposed plan shows the development connecting to the existing sanitary lateral for the adjacent property which connects to a holding tank. Please note the requirements below:
   a. An easement will need to be created to accommodate the existing sanitary lateral.
   Excel Response: An easement will be provided.

   b. This service is currently connected to a holding bank. It will need to be connected to the sanitary sewer system during construction.
   Excel Response: Understood, a connection to the public sanitary system will be provided.

   c. Each lot will need to have a separate sampling manhole.
   Excel Response: Understood, sampling manholes will be provided.

The submittal documents have been revised per the comments above. Please accept for review and approval. Please let me know if you have any comments, questions, or need additional information.

Sincerely,

Excel Engineering, Inc.

Grant Duchac, P.E.
Project Manager

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WAUKESHA COUNTY CITY OF PEWAUKEE STATE OF WISCONSIN

RESOLUTION NO. __-__

A RESOLUTION AUTHORIZING THE RELEASE, WAIVER, VACATION AND REVISION OF A FORTY-FIVE FOOT RESERVED RIGHT-OF-WAY RESTRICTION UPON LOTS 1 AND 2 OF CERTIFIED SURVEY MAP NO. 10366 FOR PROPERTIES LOCATED AT APPROXIMATELY N35W23877 HIGHFIELD COURT BEARING TAX KEY NOS. 0906993 AND 0906994

WHEREAS, the Plan Commission having approved a Conditional Use and Site and Building Plan Review Application upon the application of Quattro Development, LLC on March 16, 2023, and the Plan Commission having conditioned approval thereof in part upon Common Council approval of the release of a 45' Reserved Right-of-Way restriction located upon Parcels 1 and 2 of Certified Survey Map No. 10366, recorded April 13, 2007 in Volume 98 of Certified Survey Maps on Pages 03 to 209, inclusive as Document No. 3472291 with the Office of the Register of Deeds for Waukesha County, Wisconsin, as further described below:

Release of the 45' Reserved Right-Of-Way located along the south property line of Parcel 1 of CSM No. 10366.

Release of the 45' Reserved Right-Of-Way located along the south property line of Parcel 2 of CSM No. 10366; and

WHEREAS, the City Engineering Department and City Planner have reviewed the proposed release of a 45' Reserved Right-of-Way restriction and recommended approval thereof to the Common Council; and

WHEREAS, the 45' Reserved Right-of-Way has been determined to no longer be needed considering the developments of the subject properties and adjacent parcels to the east; and

WHEREAS, the previously recorded 45' Reserved Right-of-Way restriction described above are located upon Certified Survey Map No. 10366, which properties are legally described as follows:

> Commencing at the Southwest comer of the Northwest ¼ of said Section; thence N00°20'35"W along the West line of the Northwest ¼ of said Section 671.90 feet; thence N89°36'25"E 430.02 feet to the Northwest comer of Parcel 2 of said Certified Survey Map; thence S00°17'10"E along the West line of Parcel 2 of said Certified Survey Map 155.00 feet to the point of beginning; thence N 89°36'25"E along the South right-of-way line of Highfield Drive; thence N44°14'24" E along the Southeasterly right-of-way line of said Drive 116.99 feet; thence N66°55'27"E along the Southeasterly right-of-way line of said Drive 30.47 feet; thence

N89°36'25"E along the South right-of-way line of said Drive 268.82 feet to a point on the East line of Parcel 2 of said Certified Survey Map; thence S00°17'10"E along the East line of Parcel 2 of said Certified Survey Map 411.40 feet to the Southeast comer of Parcel 2 of said Certified Survey Map and a point on the North right-of-way line of Capitol Drive; thence S89°44'25"W along the South line of Parcel 2 of said Certified Survey Map and the North right-of-way line of said Drive 474.81 feet to the Southwest comer of Parcel 2 of said Certified Survey Map; thence N00°17'10"W along the West line of Parcel 2 of said Certified Survey Map 315.31 feet to the point of beginning. Containing 4.17 acres of land more or less.

WHEREAS, Wis. Stats section 236.293 provides in part that any restriction placed on platted land by covenant, grant of easement or in any other manner, which was required by a public body vests in the public body the right to enforce the restriction at law or in equity and that the restriction may be released or waived in writing by the public body having the right of enforcement; and

WHEREAS, the Common Council has determined that the release, waiver, vacation and revision of the prior recorded 45' Reserved Right-of-Way is reasonable as it is no longer necessary for the orderly development of the subject properties or appropriate following the approval of the aforesaid site and building development plans submitted by Quattro Development, LLC.

NOW, THEREFORE, BE IT RESOLVED, by the Mayor and Common Council of the City of Pewaukee, Wisconsin, that the 45' Reserved Right-of-Way upon Parcels 1 and 2 of Certified Survey Map No. 10366, recorded April 13, 2007 in Volume 98 of Certified Survey Maps on Pages 03 to 209, inclusive as Document No. 3472291 with the Office of the Register of Deeds for Waukesha County, Wisconsin, be and the same are hereby waived and released.

BE IT FURTHER RESOLVED that the City Clerk is hereby directed to record this Resolution in the Office of the Register of Deeds for Waukesha County, Wisconsin following the approval of the proposed Quattro Development, LLC Conditional Use and Site and Building Plan Review applications.

Passed and adopted this __th day of _____, 2023.

FOR THE COMMON COUNCIL OF THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

ATTEST:

_____
Steve Bierce, Mayor

_____
Kelly Tarczewski, Clerk/Treasurer

A COVENANT
REGARDING THE ISSUANCE OF A
CONDITIONAL USE PERMIT
BY THE
CITY OF PEWAUKEE

TAX KEY NUMBER(S) OR PARCEL(S) INVOLVED:

PWC 0906994

CONDITIONAL USE PERMIT: NO. CUP-23-12-1

Recording area

Name & Return Address

City of Pewaukee
W240N3065 Pewaukee Rd
Pewaukee, WI 53072

LEGAL DESCRIPTION:

LOT 2 CERT SURV 10366 VOL 98/203 2.00 AC PT NW1/4 SEC 11 T7N R19E DOC# 3482373

PERSON(S), AGENT(S) OR CORPORATION(S) PETITIONING FOR PERMIT:

Quattro Development/Higher Ground Education

WHEREAS, It is understood by all parties to this covenant that Section 62.23 of WIS. Statutes prescribes the legal basis for the granting of a conditional use permit by a City and Chapter 17 of the City Codes and Ordinances provides for the issuance of such permits as well as the standards by which all such uses will be measured; and,

WHEREAS, The City Plan Commission has held a public hearing on December 21, 2023; has reviewed the various elements of the petitioner's proposal; and has recommended that a Conditional Use Permit be granted to the above-named petitioner for the property/parcel identified above; and,

WHEREAS, The City Common Council, at their meeting held on January 15, 2024 concurred with the Plan Commission.

NOW, THEREFORE, let it be known that the City Common Council, by its action on January 15, 2024 has, hereby, granted a Conditional Use Permit for the following use(s):

Construction of a childcare facility.

FURTHER, such approved use of the above designated parcel(s) are hereby allowed based on the following conditions being continually met:

1. Staff recommends that the playground areas, fencing, and any other accessory structure and use be located behind the building on the north side of the property.
2. Final grading, erosion control and storm water management plans shall be approved by the Engineering Department, prior to any land disturbing activities.
3. The applicant shall not be responsible for the construction of a bell tower as conditioned within Conditional Use Permit No. COP-05-10-3.

The parties hereto, namely the City of Pewaukee and the Equitable Owner of the property for which this conditional use has been sought, set their signatures or the signatures of their representatives below, thereby agreeing to the provisions and conditions set forth in this covenant.

_____ _____

Attest: Signature of equitable owner

_____

Date

_____ _____

Kelly Tarczewski
City Clerk

Steve Bierce
Mayor, City of Pewaukee

_____

Date

State of Wisconsin
County of Waukesha

Signed or attested before me on _____, 2024 by Steve Bierce, Mayor and Kelly Tarczewski, Clerk.

_____

(Seal) Ami Hurd
My Commission expires _____

This instrument was drafted by Ami Hurd, Deputy Clerk

DRAFT

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 4.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding the Site and Building Plans for Quattro Development/Higher Ground Education for Property Located on Highfield Court for the Purpose of Constructing a Childcare Facility (PWC 0906994)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Quattro Development civil & architectural plans

Quattro Development CSM

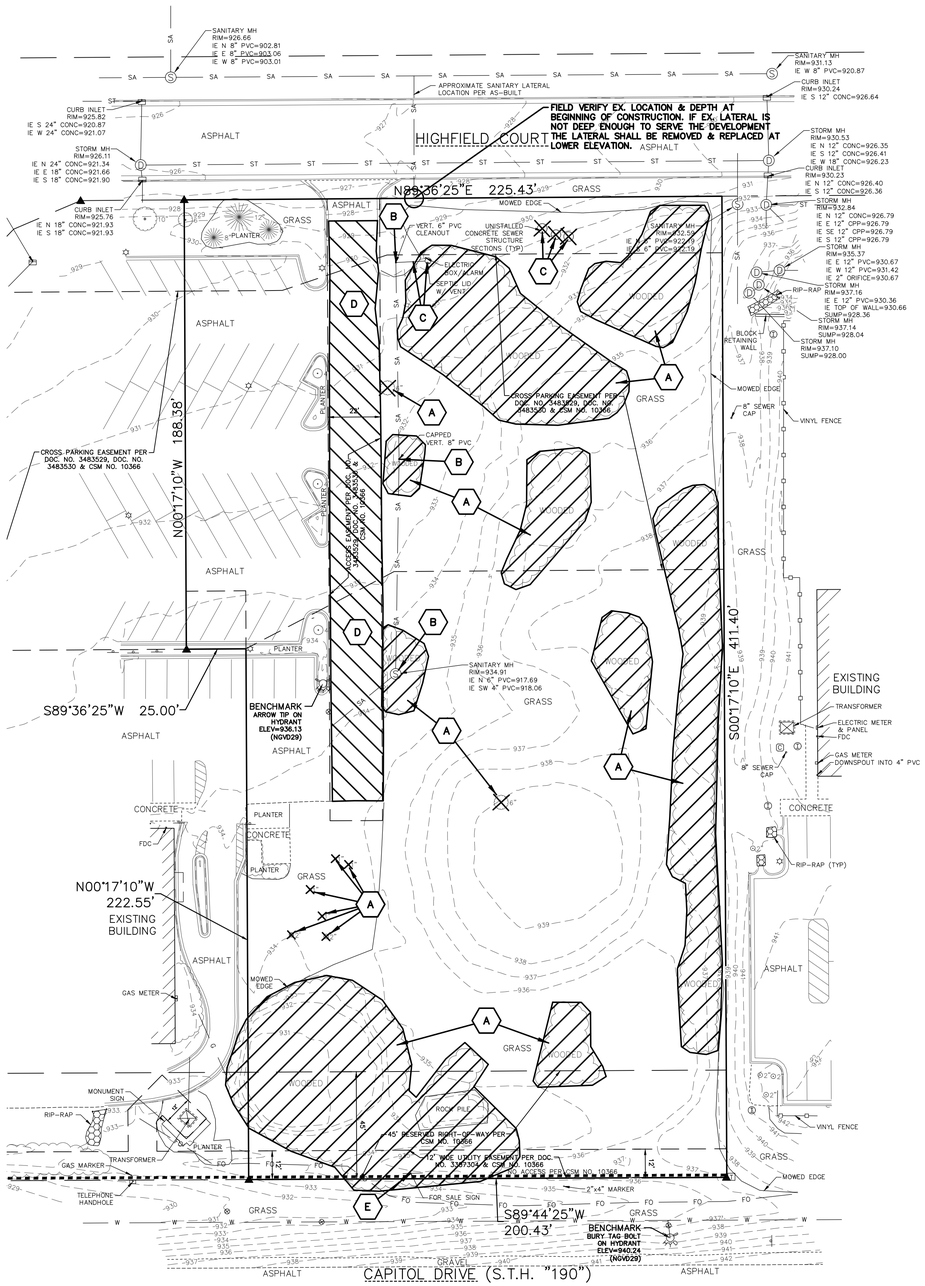
Quattro Development ROW release request

Quattro Development TIA

Quattro Development alternative routes memo 12.20.23

Quattro Development project overview presentation

SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS



DEMOLITION PLAN KEYNOTES

A	CLEAR & GRUB TREES/BRUSH
B	PROTECT SANITARY ITEMS
C	REMOVE SANITARY ITEMS. VERIFY INACTIVE PRIOR TO REMOVAL.
D	REMOVE ASPHALT
E	REMOVE SIGN

X(X) IDENTIFICATION: KEYNOTE ITEM(QUANTITY) – IF NO () = QUANTITY IS 1

NORTH

1"= 30' SCALE 30' 0 30' 60' FEET

CIVIL EXISTING SITE AND DEMOLITION PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

PRELIMINARY DATES
DEC. 12, 2022
JAN. 4, 2023
FEB. 3, 2023

NOT FOR CONSTRUCTION

JOB NUMBER
2245520

SHEET NUMBER
C1.0

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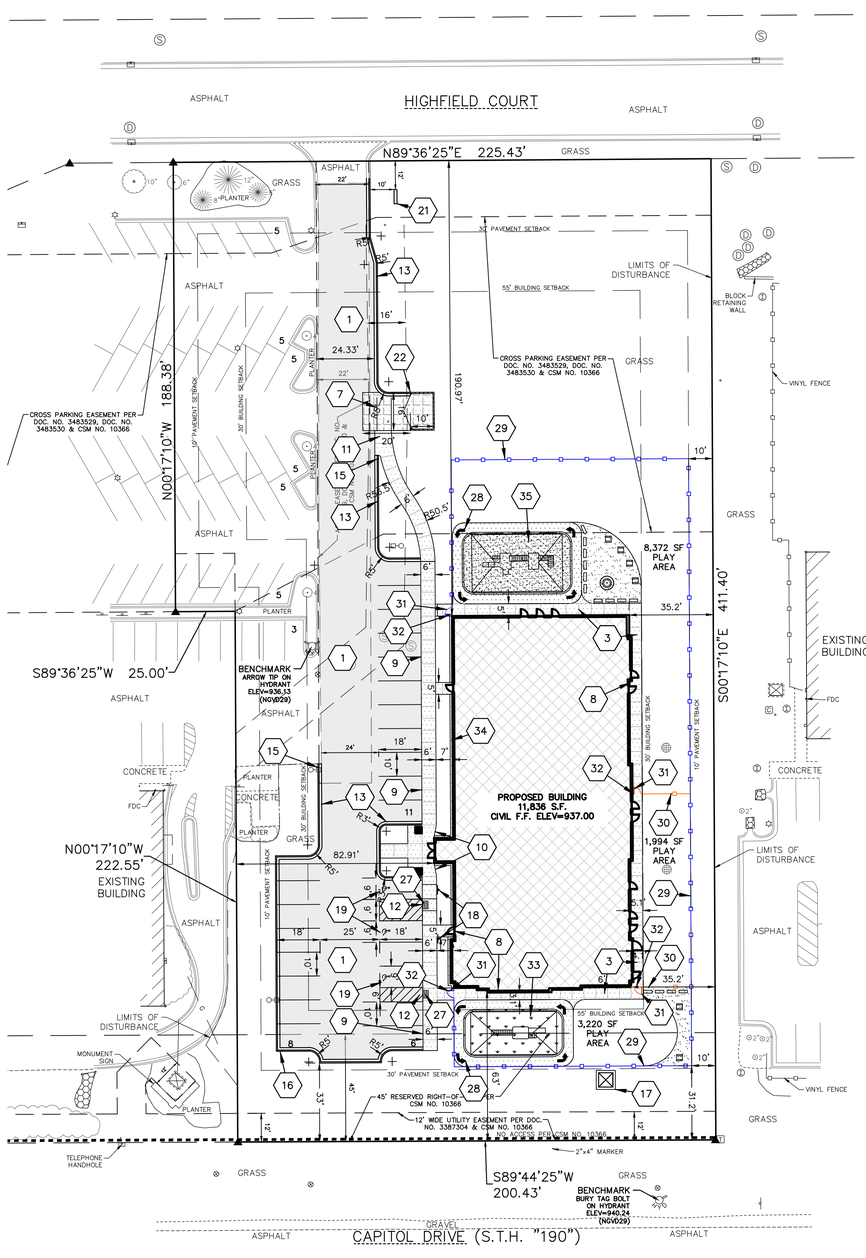

SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

EXISTING SITE DATA

	AREA (AC)	AREA (SF)	RATIO
PROJECT SITE	2.00	87,120	
BUILDING FLOOR AREA	0.00	0	0.0%
PAVEMENT (ASP. & CONC.)	0.00	0	0.0%
TOTAL IMPERVIOUS	0.00	0	0.0%
LANDSCAPE/ OPEN SPACE	2.00	87,120	100.0%

PROPOSED SITE DATA

	AREA (AC)	AREA (SF)	RATIO
PROJECT SITE	2.00	87,120	
BUILDING FLOOR AREA	0.27	11,836	13.6%
PAVEMENT (ASP. & CONC.)	0.73	31,783	36.5%
TOTAL IMPERVIOUS	1.00	43,619	50.1%
LANDSCAPE/ OPEN SPACE	1.00	43,501	49.9%

SITE INFORMATION:

LEGAL DESCRIPTION: Lot 2 of Certified Survey Map Number 10366 filed in Volume 98 of Certified Survey Maps on Page 203 as Document Number 3472291;

PROPERTY AREA: AREA = 87,120 S.F. (2.00 ACRES).

EXISTING ZONING: B-6 MIXED USE BUSINESS

PROPOSED ZONING: B-6 MIXED USE BUSINESS

PROPOSED USE: DAYCARE/CHILDCARE FACILITY

AREA OF SITE DISTURBANCE: 72,650 S.F. (1.67 ACRES)

SETBACKS: BUILDING: FRONT = 55'
SIDE = 30'
REAR = 55'
PAVEMENT: FRONT = 30'
SIDE = 10'
REAR = 10'

PROPOSED BUILDING HEIGHT: 25' (MAX. HEIGHT ALLOWED: 45')

PARKING REQUIRED: 1 SPACE PER 2 EMPLOYEES (8 SPACES REQ.)

PARKING PROVIDED: 25 SPACES (3 H.C. ACCESSIBLE) & 33 SHARED STALLS

HANDICAP STALLS REQUIRED: 3, HANDICAP STALLS PROVIDED: 3

HOURS OF OPERATION: 7:00 A.M. – 6:00 P.M.

BUILDING OCCUPANCY CLASSIFICATION = E

CLASS OF BUILDING CONSTRUCTION = 5B

LANDSCAPE REQUIREMENTS: MIN. LANDSCAPE SURFACE RATIO: 40%
MAXIMUM IMPERVIOUS SURFACE: 60%
MAXIMUM LOT COVERAGE – BUILDING ONLY: 35%

SITE PLAN KEYNOTES

1	STANDARD ASPHALT SECTION (TYP.)
3	CONCRETE SIDEWALK (TYP.)
7	DUMPSTER PAD/APRON CONCRETE (TYP)
8	CONCRETE STOOP (TYP.) SEE ARCH. PLANS FOR DETAILS.
9	RAISED WALK (TYP.)
10	TRANSITION WALK FROM 5' TO 6' WIDE
11	WALK RAMP
12	ADA RAMP
13	18" CURB & GUTTER (TYP.)
15	CURB TAPER (TYP.)
16	CURB CUT (TYP.)
17	CONCRETE TRANSFORMER PAD BY UTILITY SUPPLIER (CONTRACTOR TO VERIFY FINAL LOCATION & DESIGN PRIOR TO CONSTRUCTION)
18	HANDICAP SIGN (TYP.)
19	HANDICAP STALL & STRIPING PER STATE CODES.
21	MONUMENT SIGN (DETAILS, FINAL LOCATION, & APPROVAL BY SIGN VENDOR)
22	DUMPSTER ENCLOSURE (SEE ARCH PLANS FOR DETAILS)
24	STOP SIGN (TYP.)
27	DETECTABLE WARNING PLATE
28	TRAFFIC ARROWS (TYP.)
29	6' TALL WROUGHT IRON FENCE
30	4' TALL WHITE VINYL FENCE
31	FENCE GATE
32	PANIC HARDWARE
33	POURED RUBBER PLAYGROUND SURFACE OVER 4–6" CLEAR STONE AGGREGATE BASE (FOLLOW DESIGN SPECS. BY SUPPLIER)
34	12" WIDE CONCRETE STRIP ALONG WEST FOUNDATION
35	WOOD FIBER SURFACE BY PLAYGROUND VENDOR

NORTH

1" = 30' SCALE: 30' 0 30' 60' FEET

CIVIL SITE PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

PRELIMINARY DATES
NOV. 29, 2022
DEC. 12, 2022
JAN. 4, 2023
FEB. 3, 2023

NOT FOR CONSTRUCTION

JOB NUMBER
2245520

SHEET NUMBER
C1.1

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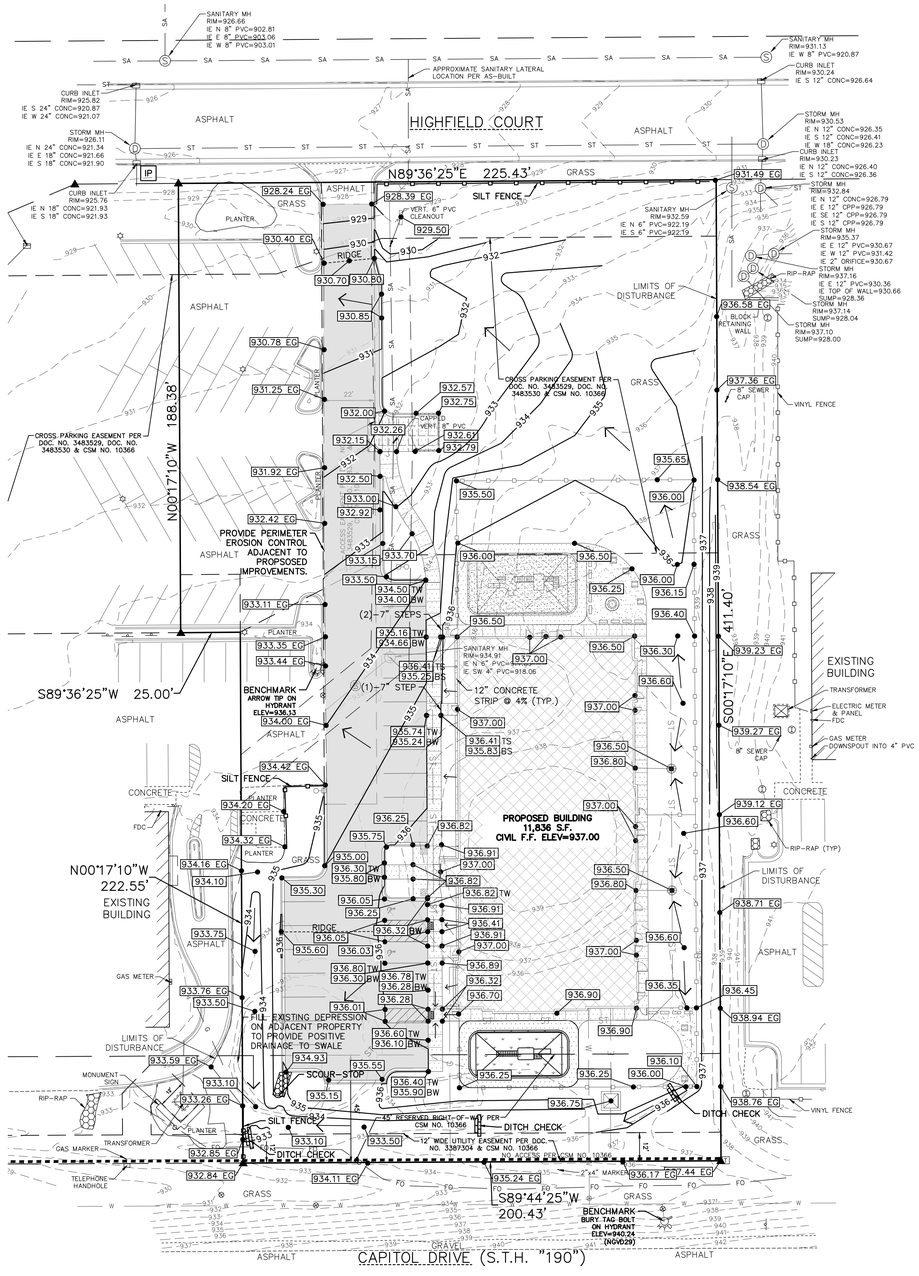

SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

NOTES:

1. HANDICAP STALL AND ACCESS AISLES SHALL NOT EXCEED A SLOPE OF 1.50% IN ANY DIRECTION. HANDICAP STALL & ACCESS AISLES SHALL CONFORM TO ADA REQUIREMENTS (CURRENT EDITION)
2. ALL SIDEWALKS SHALL NOT EXCEED A MAXIMUM CROSS SLOPE OF 1.50% AND RUNNING SLOPE OF 4.50% UNLESS OTHERWISE SPECIFIED.

STORMWATER NOTE:

SITE STORMWATER DRAINS TO EXISTING STORMWATER FACILITY ON NEIGHBORING PROPERTY.

IP

INLET PROTECTION NOTE:

CONTRACTOR SHALL PROVIDE TEMPORARY INLET PROTECTION FOR ALL CURB INLETS & CATCH BASINS ONSITE & OFFSITE IMMEDIATELY DOWNSTREAM OF THE PROJECT SITE PER LOCAL CODE.

STABILIZED CONSTRUCTION ENTRANCE NOTE:

CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION ENTRANCE AT CONSTRUCTION ENTRANCE FOR PROPOSED IMPROVEMENTS AS REQUIRED PER CODE.

CONCRETE WASHOUT NOTE:

CONTRACTOR SHALL PROVIDE CONCRETE WASHOUT AS REQUIRED PER CODE. FINAL LOCATION TBD BY CONTRACTOR.

NORTH

1"= 30' SCALE 30' 0 30' 60' FEET

CIVIL GRADING AND EROSION CONTROL PLAN

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COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

PRELIMINARY DATES
DEC. 12, 2022
JAN. 4, 2023
FEB. 3, 2023

NOT FOR CONSTRUCTION

JOB NUMBER
2245520

SHEET NUMBER
C1.2

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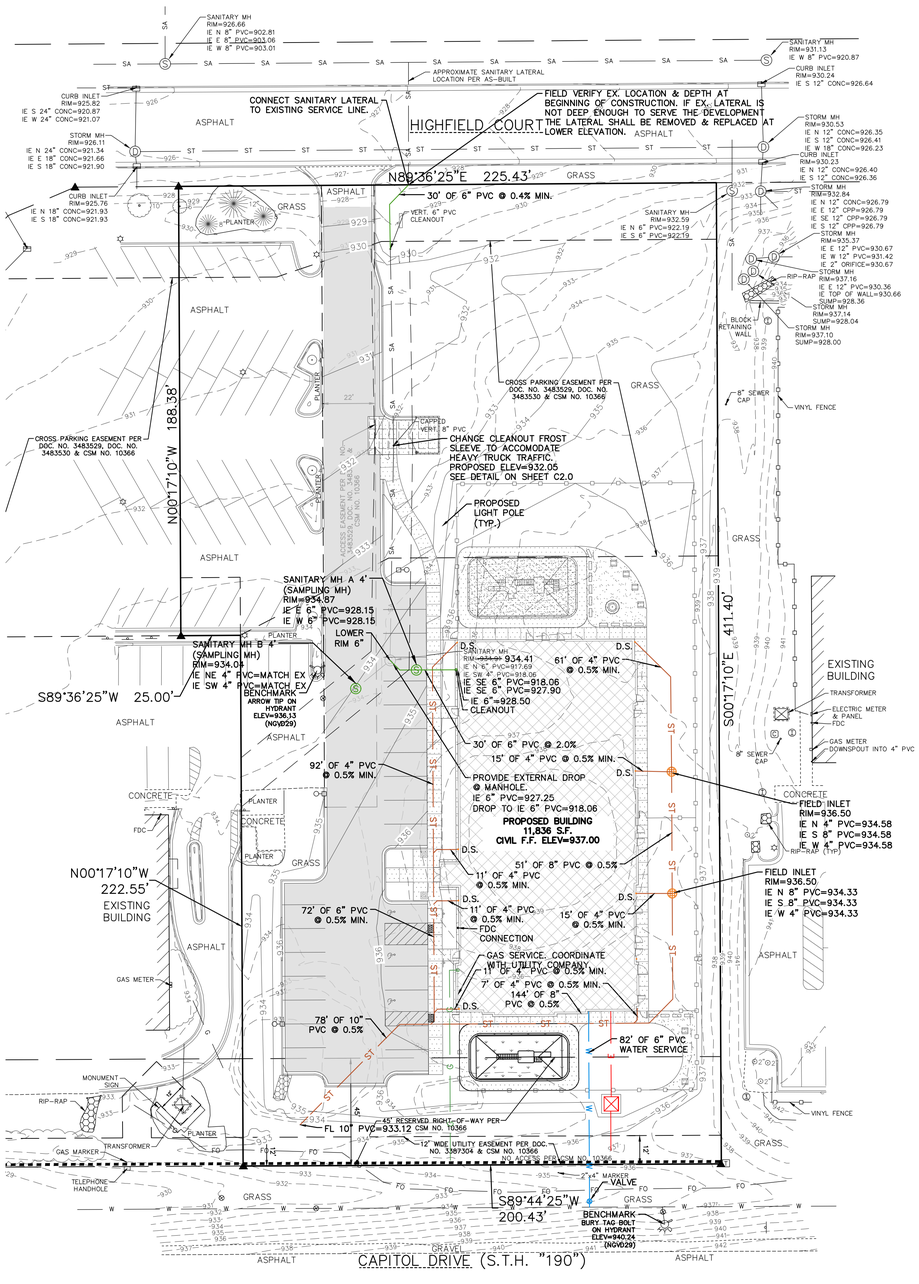

SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

DOWNSPOUT NOTE:

DS = DENOTES DOWNSPOUT TO GRADE LOCATIONS. PROVIDE SPLASH BLOCKS AT ALL DS TO GRADE LOCATIONS. SEE ARCH PLANS FOR FINAL LOCATIONS.

CLEANOUT NOTE:

CO = DENOTES LOCATIONS WHERE CONTRACTOR SHALL INSTALL CLEANOUTS, SEE C0.1 FOR SPECIFICATION.

NORTH

1" = 30' SCALE 30' 0 30' 60' FEET

CIVIL UTILITY PLAN

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100 Camelot Drive
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COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

PRELIMINARY DATES
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FEB. 3, 2023

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JOB NUMBER
2245520

SHEET NUMBER
C1.3

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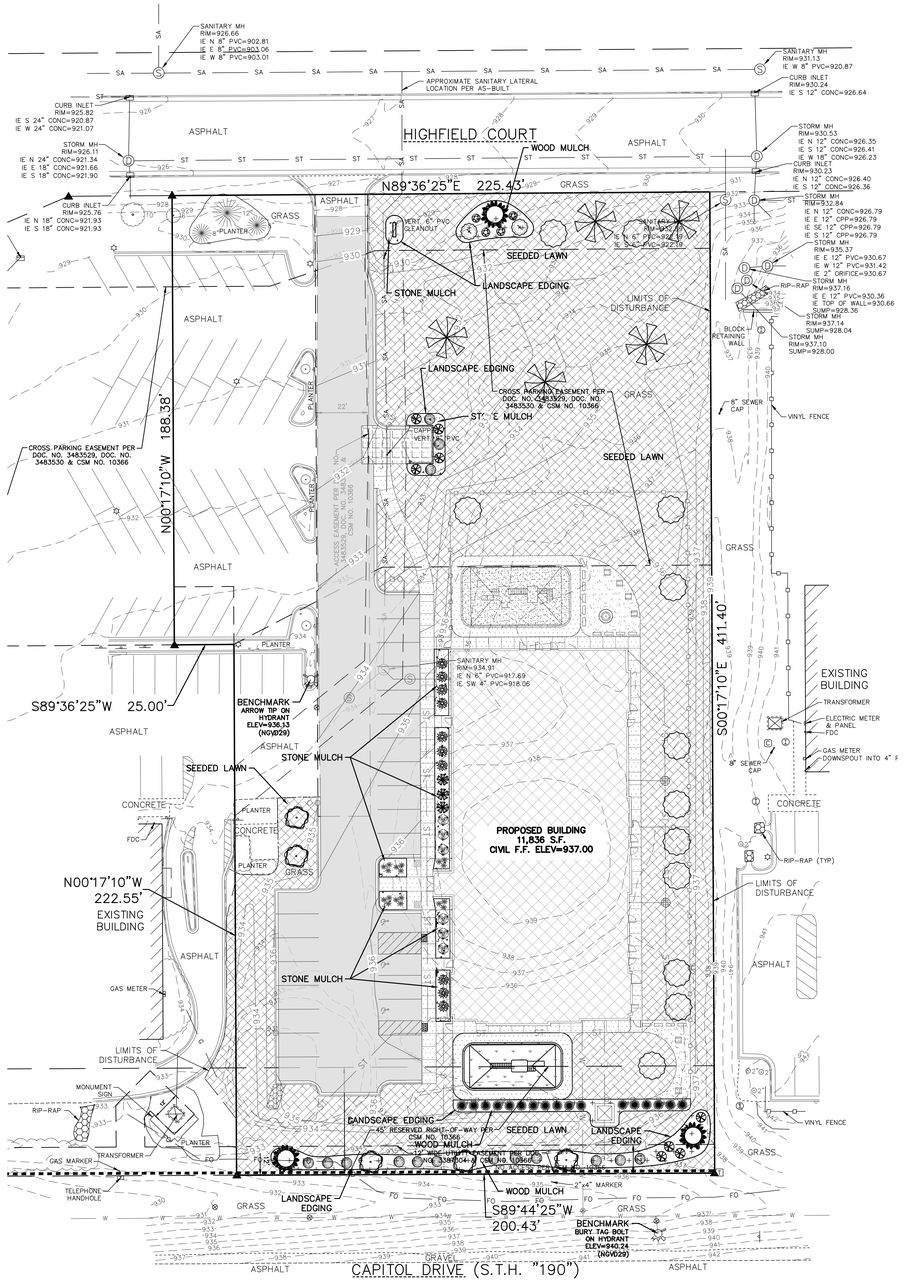
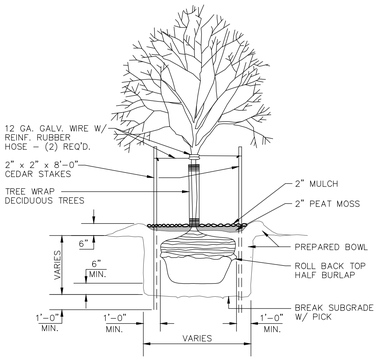
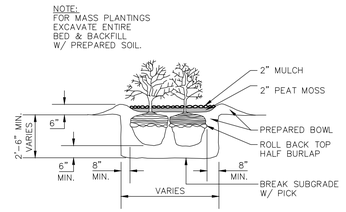


SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS



TREE PLANTING DETAIL
NO SCALE



SHRUB PLANTING DETAIL
NO SCALE

LANDSCAPING PLANTING SCHEDULE

SYMBOL	COMMON NAME	BOTANICAL NAME	PLANTED SIZE	QUANTITY	MATURE SIZE
	DECIDUOUS TREES				
	Jack Flowering Pear	Pyrus calleryana 'Jaczam'	2"	5	15–20'
	Redmond Linden	Tilia americana	2"	9	25'–30'
	Sugar Maple	Acer saccharum	3"	5	30–45'
	EVERGREEN TREES				
	Arborvitae – Nigra	Thuja occidentalis 'Nigra'	2'	2	4'–10'
	Colorado Blue Spruce	Picea pungens	4'	3	25'
	DECIDUOUS SHRUBS				
	Emerald Mound Honeysuckle	Lonicera x xylosteum 'Emerald Mound'	15"–18"	10	4'–6'
	Sunrise Forsythia	Forsythia 'Sunrise'	18"–24"	6	5'
	Arrowwood Viburnun	Viburnum dentatum	30"–36"	15	6'–8'
	EVERGREEN SHRUBS				
	Taunton Yew	Tauntonii	24"	4	5'–6'
	Techny Arborvitae	Thuja occidentalis	42"–48"	8	4'–6'
	Dwarf Alberta Spruce	Picea glauca 'Conica'	2'	17	6'
	PERENNIALS				18"–24"
	Purple Dome Aster	Aster novae–angliae 'Purple Dome'	1 gal pot	6	12"–24"
	Daylilies 'Stella de Oro'	Hemerocallis 'Stella de Oro'	1 gal pot	3	

NORTH

1" = 30'
30' 0 30' 60'
SCALE FEET

CIVIL LANDSCAPE AND RESTORATION PLAN

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COLLABORATION
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PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
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23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

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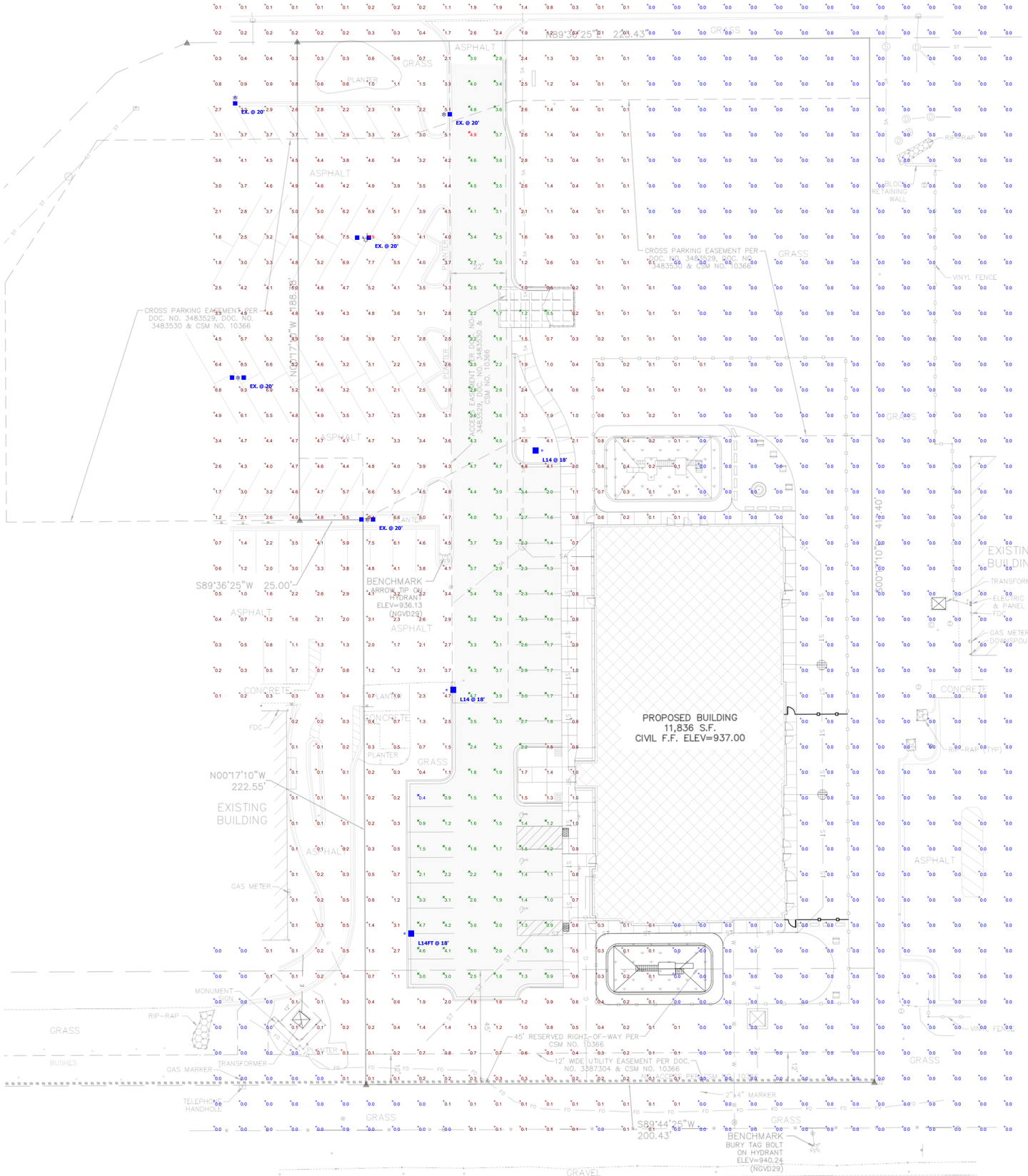

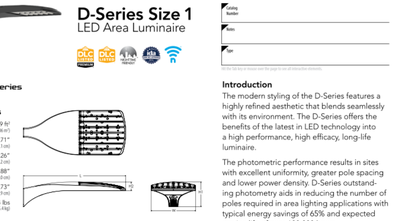

LIGHT POLE DETAIL

NO SCALE

D-Series Size 1
LED Area Luminaire

d*series

Specifications

EPA:	0.69 ft² (0.06 m²)
Length:	32.71" (83.1 cm)
Width:	14.26" (36.2 cm)
Height H1:	7.88" (20.0 cm)
Height H2:	2.73" (6.9 cm)
Weight:	34 lbs (15.4kg)

Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information **EXAMPLE:** DSX1 LED P7 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

Series	LEDs	Color temperature[1]	Color Rendering Index[1]	Distribution		Voltage	Mounting
DSX1 LED	**Forward optics**	(this section 70CRI only)		AFR Automotive front row	T5M Type V medium	MVOLT (120V-277V)[2]	**Shipped included**
	P1 P6	30K 3000K	70CRI	T1S Type I short	T5LG Type V low glare	HVOLT (347V-480V)[2,3]	SPA Square pole mounting (#8 drilling)
	P2 P7	40K 4000K	70CRI	T2M Type II medium	T5W Type V wide	XVOLT (277V - 480V)[3,4]	RPA Round pole mounting (#8 drilling)
	P3 P8	50K 5000K	70CRI	T3M Type III medium	BLC3 Type III backlight control[5]		SPA5 Square pole mounting (#5 drilling)
	P4 P9	(this section 80CRI only, extended lead times apply)		T3LG Type III low glare[5]	BLC4 Type IV backlight control[5]		RPA5 Round pole mounting (#5 drilling)
	P5	27K 2700K	80CRI	T4M Type IV medium	LCCO Left corner cutoff[5]		SPANR Square narrow pole mounting (#8 drilling)
	Rotated optics	30K 3000K	80CRI	T4LG Type IV low glare	RCCO Right corner cutoff[5]		WBA Wall bracket[6]
	P10[7] P12[7]	35K 3500K	80CRI	TFTM Forward throw medium			
	P11[7] P13[7]	40K 4000K	80CRI				
		50K 5000K	80CRI				

Control options		Other options		Finish (required)	
Shipped installed	PER7 Seven-pin receptacle only (controls ordered separately)[8,9]	**Shipped installed**		DDBXD	Dark Bronze
NLTAIR2 PIRHN nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc.[10,11,12,13]	FAO Field adjustable output[14,15]	SPD20KV 20kV surge protection		DBLXD	Black
	BL30 Bi-level switched dimming, 30%[14,15]	HS Houseside shield (black finish standard)[16]		DNAXD	Natural Aluminum
PIR High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc.[10,11,12,13]	BL50 Bi-level switched dimming, 50%[14,15]	L90 Left rotated optics[17]		DWHXD	White
	DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[15]	R90 Right rotated optics[17]		DBTXD	Textured dark bronze
PER NEMA twist-lock receptacle only (controls ordered separately)[8,9]	DS Dual switching[14,15,18]	CCE Coastal Construction[19]		DBLBRD	Textured black
PER5 Five-pin receptacle only (controls ordered separately)[8,9,20]		**Shipped separately**		DNATXD	Textured natural aluminum
		EGS External Glare Shield (reversible; field install required, matches housing finish)		DWHGXD	Textured white
		BS Bird Spikes (field install required)			

LITHONIA LIGHTING
COMMERCIAL OUTDOOR

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DSX1 LED
Rev. 11/10/22
Page 1 of 10

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage	Wattage
	L14	2	Lithonia Lighting	DSX1 LED P5 40K 80CRI T4M	D-Series Size 1 Area Luminaire P5 Performance Package 4000K CCT 80 CRI Type 4 Medium	1	16418	0.9	138.16	
	L14FT	1	Lithonia Lighting	DSX1 LED P5 40K 80CRI TFTM	D-Series Size 1 Area Luminaire P5 Performance Package 4000K CCT 80 CRI Forward Throw	1	16531	0.9	138.16	

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.1 fc	9.9 fc	0.0 fc	N/A	N/A
PARKING LOT	X	2.6 fc	4.9 fc	0.4 fc	12.3:1	6.5:1

NORTH

1"= 20' SCALE — 20' 0 20' 40' FEET

CIVIL SITE PHOTOMETRIC PLAN & DETAILS

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Fond du Lac, WI 54935
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COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
23877 HIGHFIELD COURT • PEWAUKEE, WI 53072

PROFESSIONAL SEAL

PRELIMINARY DATES
SHEET ISSUE
REVISIONS

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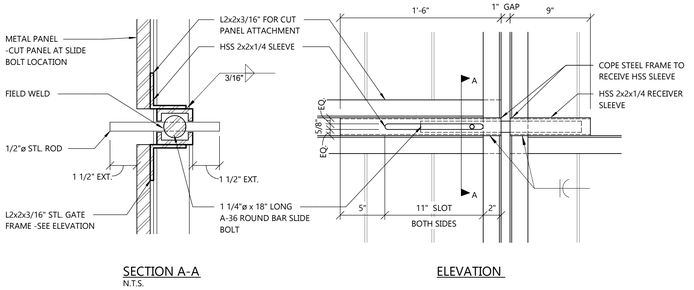
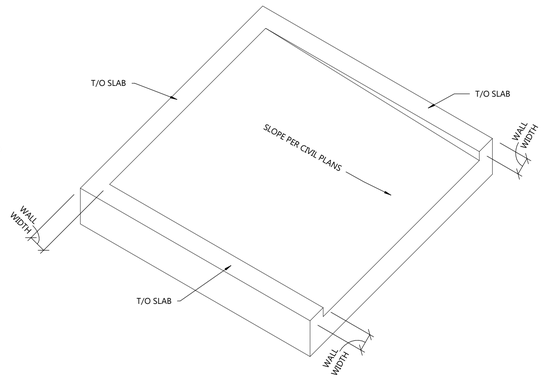


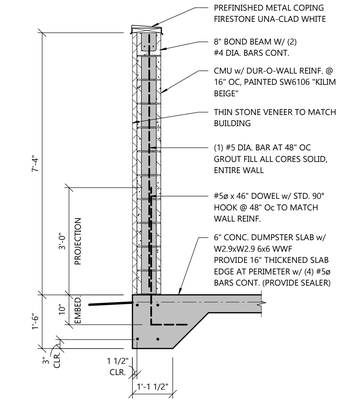
SECTION A-A
N.T.S.

ELEVATION

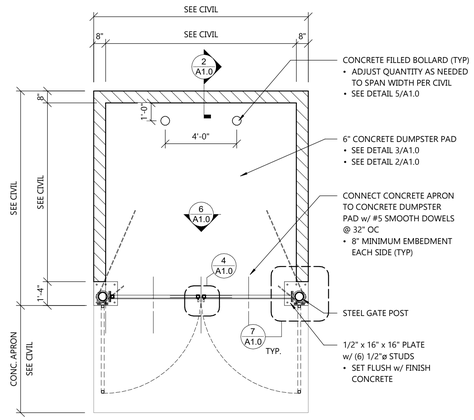
4 A1.0 GATE SLIDE BOLT
SCALE: 1 1/2" = 1'-0"



3 A1.0 DUMPSTER PAD DETAIL
NOT TO SCALE

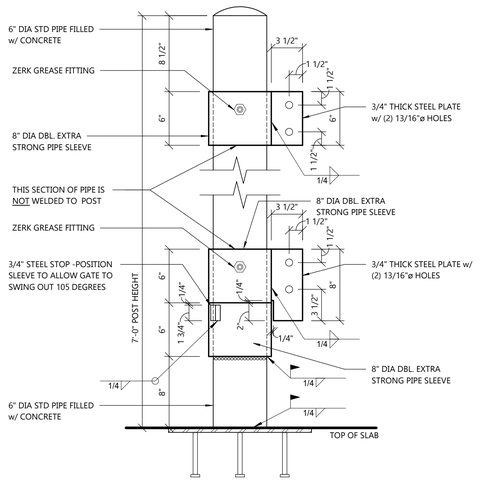


2 A1.0 DUMPSTER WALL SECTION
SCALE: 1/2" = 1'-0"

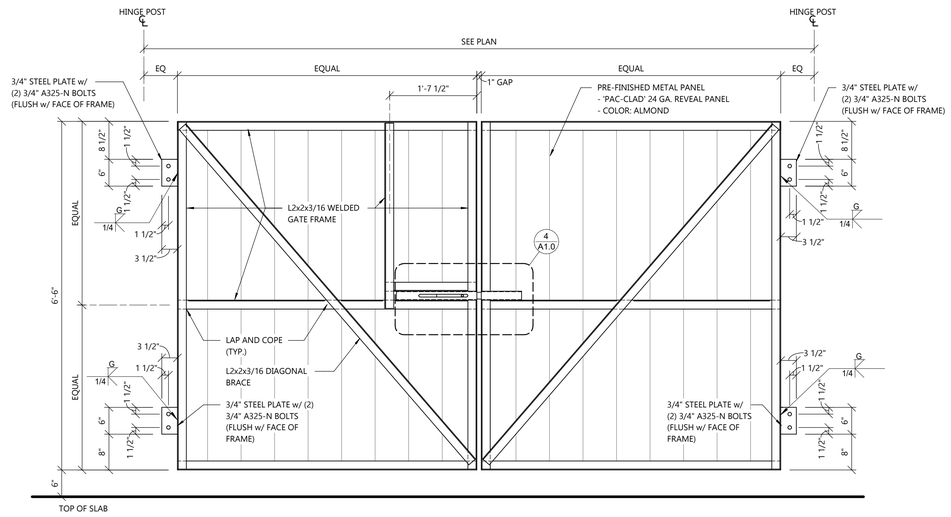


1 A1.0 DUMPSTER PLAN
SCALE: 1/4" = 1'-0"

ALL EXPOSED METAL SURFACES ON DUMPSTER ENCLOSURE TO RECEIVE ONE COAT RUST-INHIBITING PRIMER AND (2) COATS PAINT: SW6106 "KILIM BEIGE" (UNLESS NOTED OTHERWISE)

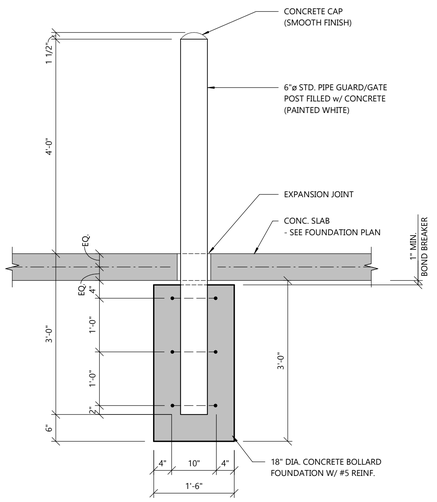


7 A1.0 GATE HINGE DETAIL
SCALE: 1 1/2" = 1'-0"



INSIDE ELEVATION

6 A1.0 DUMPSTER GATE ELEVATION
NOT TO SCALE



5 A1.0 BOLLARD DETAIL
SCALE: 3/4" = 1'-0"

ARCHITECTURAL DUMPSTER ENCLOSURE DETAILS

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920-926-9800
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COLLABORATION

Quattro Development

PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:
QUATTRO DEVELOPMENT
N35 W23824 CAPTIOL DRIVE • PEWAUKEE, WI

PROFESSIONAL SEAL

SHEET DATES
SHEET ISSUE DEC. 19, 2022
REVISIONS

JOB NUMBER
2245520

SHEET NUMBER
A1.0

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GENERAL NOTES

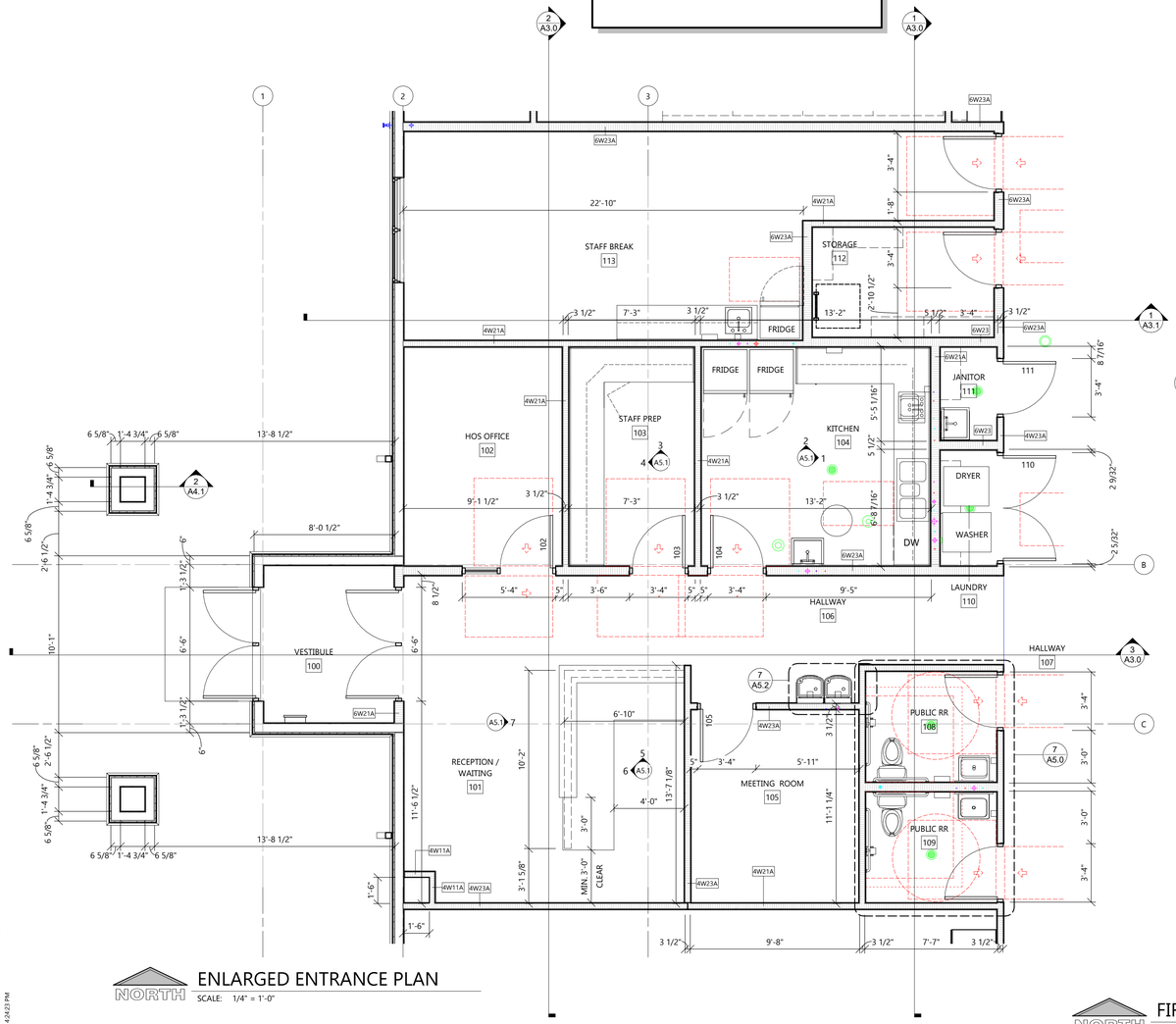
- ALL INTERIOR DIMS. ARE FROM FACE-OF-STUD TO FACE OF-STUD.
- ALL INTERIOR WALLS TO BE 2x4 OR 2x6 @ 16" O.C. (SEE FLOOR PLAN FOR SIZE) W/ 1/2" OR 5/8" GYPSUM BOARD BOTH SIDES - EXTEND TO BOTTOM CHORD OF TRUSSES / UNDERSIDE OF DECK.
- ALL INTERIOR WALLS TO BE 3 5/8" OR 6" METAL STUDS @ 16" O.C. (SEE FLOOR PLAN FOR SIZE) W/ 5/8" GYPSUM BOARD BOTH SIDES - EXTEND TO BOTTOM CHORD OF TRUSSES.
- MISCELLANEOUS HARDWARE INCLUDED: HANDICAP HARDWARE.
- PROVIDE WOOD BLOCKING FOR ANY FURNISHINGS BY OWNER. (VERIFY LOCATIONS)
- ALL EXTERIOR WINDOWS TO HAVE ALUMINUM FLASHING RETURNS AT HEAD, JAMBS, AND SILL OF ALL WINDOWS.
- ALL EXTERIOR WINDOWS TO HAVE GYPSUM BOARD RETURNS AT HEAD AND JAMBS AND PLASTIC LAMINATE COVERED WOOD SILL.
- ALL CABINETS AND COUNTERTOPS TO HAVE PLASTIC LAMINATE FRONTS AND TOPS.
- KITCHEN AND CABINET W/ COUNTERS BY GENERAL CONTRACTOR AS REQUIRED
- ALL CABINETRY AND EQUIPMENT BY OTHERS - SEE EQUIPMENT DRAWING BY INTERIOR DESIGNER FOR REQUIREMENTS.
- FOOD PREP AREA TO BE VERIFIED W/ OWNER. PROVIDE SHOP DRAWINGS ON EQUIPMENT.

SYMBOLS LEGEND

- SEE SHEET AX.X FOR WALL TYPES
- EXIT SIGNAGE
- FIRE EXTINGUISHER -SEE A5 SHEETS
- FIRE EXTINGUISHER w/ CABINET -SEE A5 SHEETS
- STUD WALL
- CONCRETE WALL
- MASONRY VENEER
- C.M.U. WALL
- SEE PLAN FOR ALL WALL WIDTHS
- NEW DOOR
- CHILD HEIGHT TOILET
- ADULT HEIGHT TOILET
- CHILD HEIGHT SINK
- ADULT HEIGHT SINK

KEYED NOTES

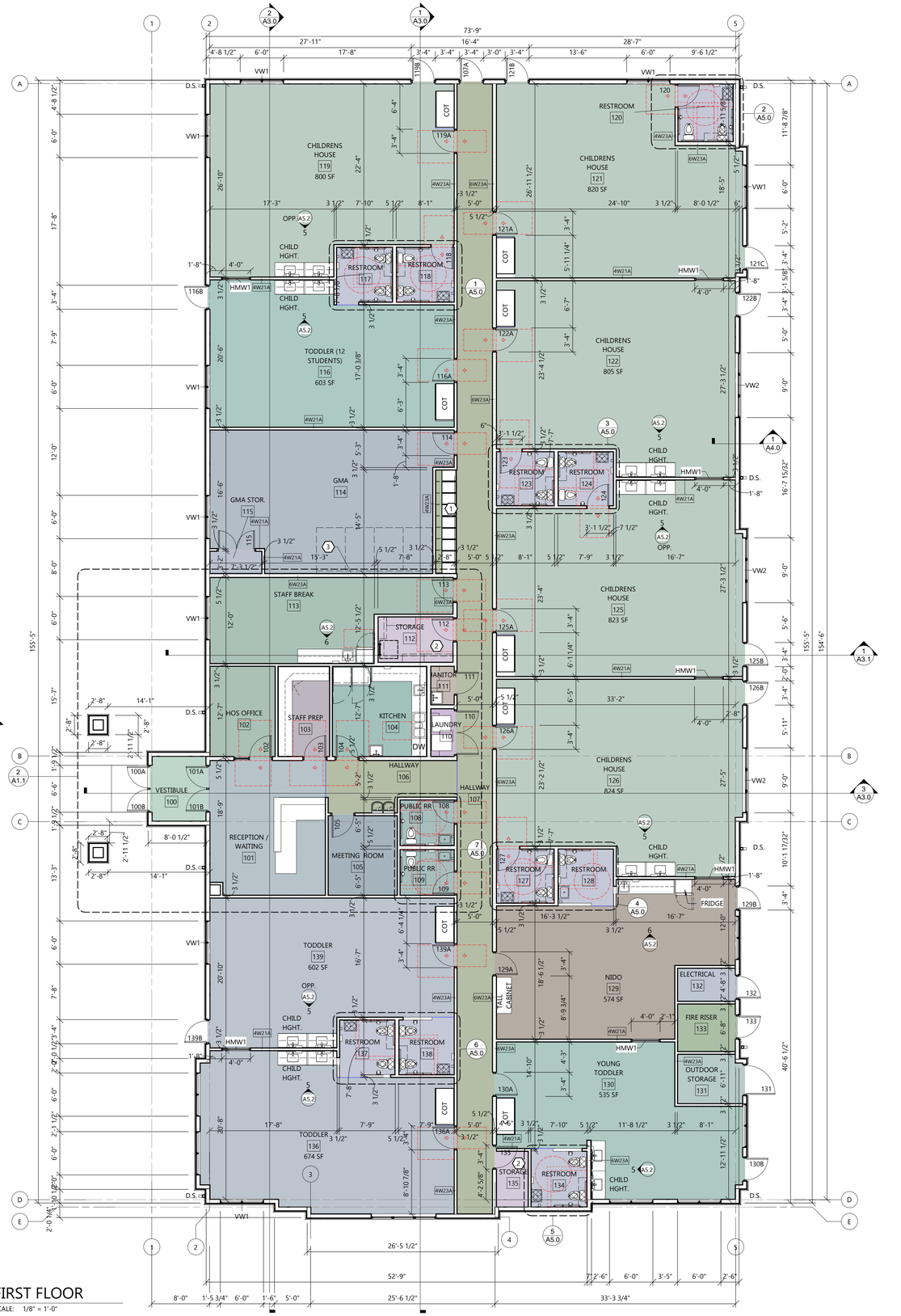
1. PROVIDE METAL LOCKERS PER HGE SPECIFICATIONS.
2. PROVIDE METAL SHELVING PER HGE SPECIFICATIONS.
3. CLIMBING WALL & MATS BY LL PER HGE OUTLINE SPECIFICATIONS



NORTH

ENLARGED ENTRANCE PLAN

SCALE: 1/4" = 1'-0"



NORTH

FIRST FLOOR

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

ARCHITECTURAL FIRST FLOOR PLAN

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COLLABORATION

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PROJECT INFORMATION

PROPOSED EARLY CHILDHOOD SCHOOL FOR:

QUATTRO DEVELOPMENT

N35 W23824 CAPTIOL DRIVE • PEWAUKEE, WI

PROFESSIONAL SEAL

PRELIMINARY DATES

- NOV. 3, 2022
- NOV. 11, 2022
- NOV. 16, 2022
- NOV. 17, 2022
- DEC. 12, 2022
- JAN. 24, 2023

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JOB NUMBER: 2245520

SHEET NUMBER: **A1.1**

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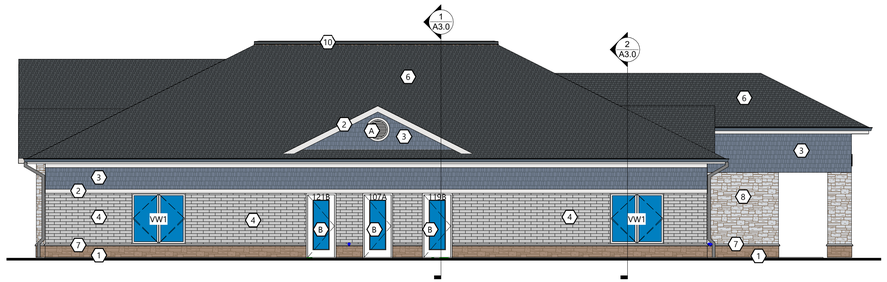
EXTERIOR FINISH KEY

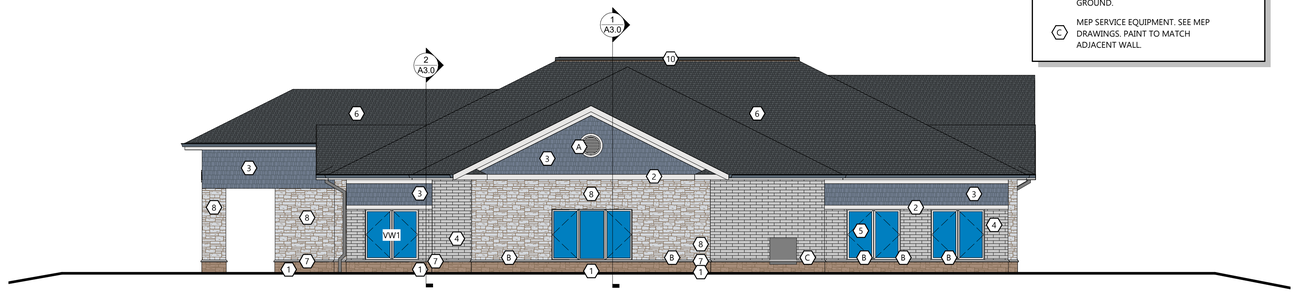
10	PREFINSIHED METAL COPING MFR: PAC-CLAD COLOR: MUSKET GRAY
9	VINYL CASEMENT WINDOW MFR: MINNKOTA PRODUCT: ASPEKT 1800 COLOR: WHITE
8	THIN STONE VENEER MFR: LAFARGE FOX RIVER DECORATIVE STONE PRODUCT: CHILTON COUNTRY SPLIRE
7	PRECAST CONCRETE SILL MFR: STONECAST PRODUCT: LIMESTONE
6	ASPHALT SHINGLES MFR: CERTAINTEED LANDMARK COLOR: GEORGETWON GRAY
5	ALUM STOREFRONT WINDOW GLASS: 1" INSUL. LOW-E GLASS FRAMES: DARK BRONZE
4	THIN CONCRETE BRICK VENEER MFR: COUNTY MATERIALS PRODUCT: HERITAGE COLLECTION COLOR: GRAYSTONE
3	SHAKE SIDING MFR: JAMES HARDIE PRODUCT: HARDIESHINGLE SIDING COLOR: CADET SW9143
2	1x6 TRIM MFR: JAMES HARDIE COLOR: EXTRA WHITE SW7006
1	THIN STONE VENEER MFR: LAFARGE FOX RIVER DECORATIVE STONE PRODUCT: CUSTOM COUNTRY BLEND

ELEVATION KEYNOTES

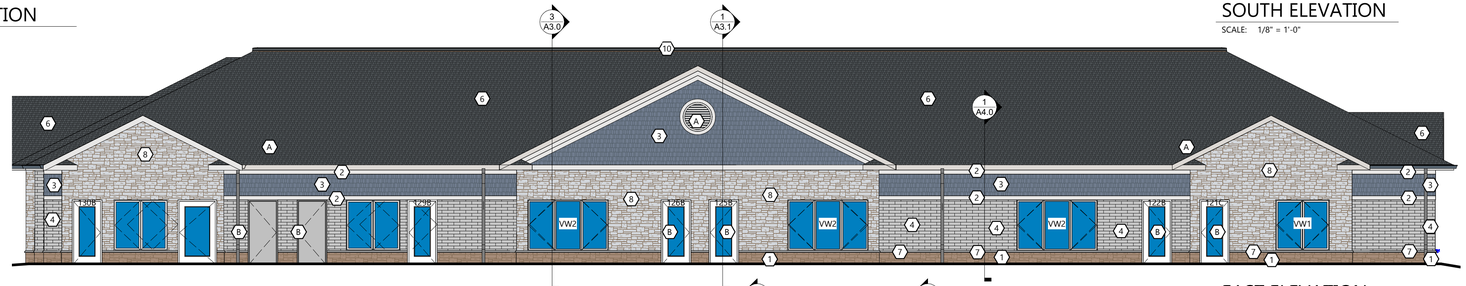
- A — VINYL ATTIC VENT. COLOR TO MATCH HARDIE TRIM, SW 7006 EXTRA WHITE
- B — HOLLOW METAL DOOR TO BE PAINTED PER HIGHER GROUND GUIDELINES. COORDINATE COLOR WITH HIGHER GROUND.
- C — MEP SERVICE EQUIPMENT. SEE MEP DRAWINGS. PAINT TO MATCH ADJACENT WALL.



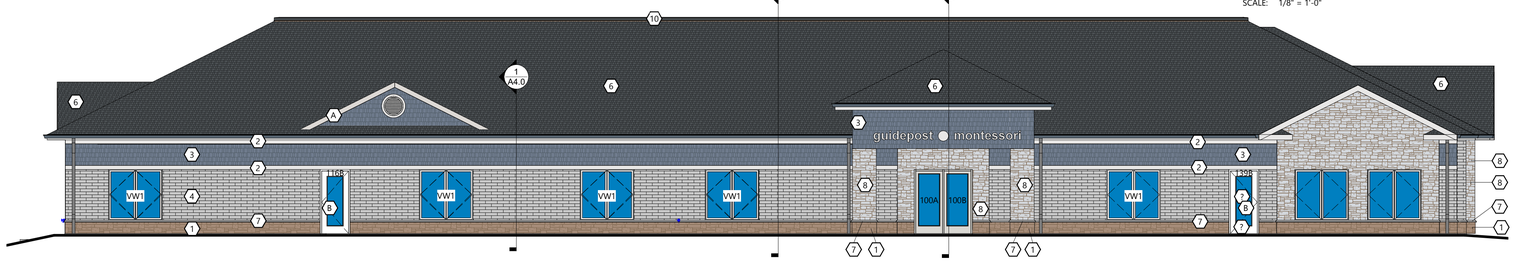
NORTH ELEVATION
SCALE: 1/8" = 1'-0"



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



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



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

ARCHITECTURAL EXTERIOR ELEVATIONS

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COLLABORATION

Quattro Development

PROJECT INFORMATION

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N35 W23824 CAPTIOL DRIVE • PEWAUKEE, WI

PROFESSIONAL SEAL

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SHEET NUMBER
A2.0

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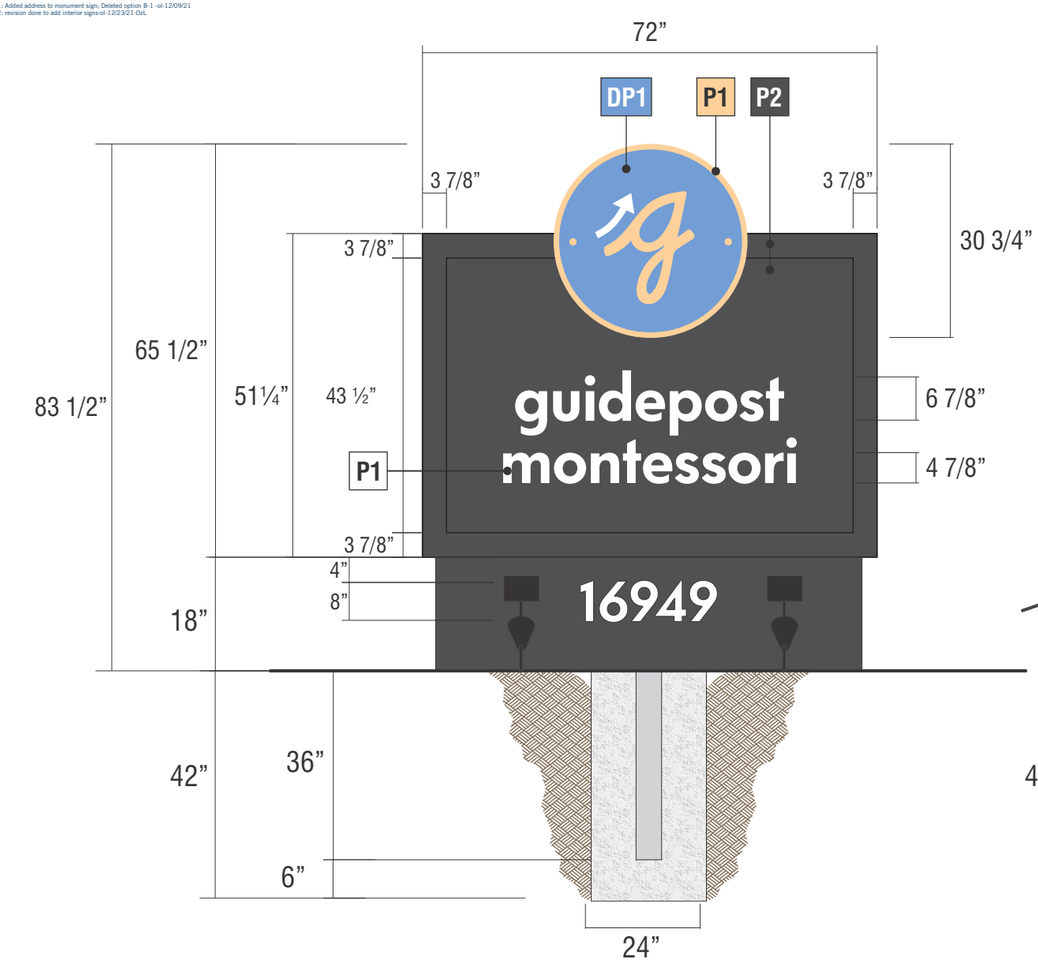
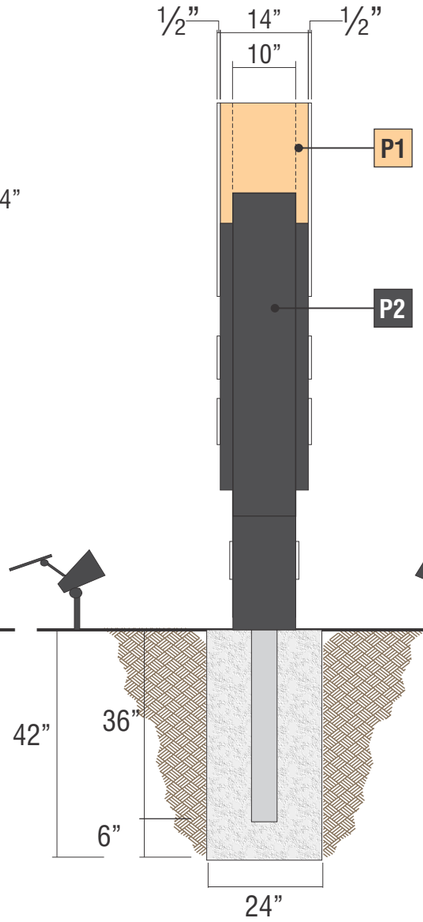
R1: Added address to monument sign; Deleted option B-1 -ol-12/09/21
R2: revision done to add interior signs-ol-12/23/21-OzL



FRONT ELEVATION SCALE: 1/2” = 1’-0”



SIDE ELEVATION SCALE: 1/2” = 1’-0”

BACK ELEVATION SCALE: 1/2” = 1’-0”

A | **SIGNTYPE** | **GPM-MON-65x72-83-DF**

MANUFACTURE AND INSTALL ONE (1) DOUBLE SIDED NON-ILLUMINATED MONUMENT SIGN W/ EXTERNAL LIGHTS

CABINET: TO BE CLAD WITH .125” ALUMINUM PAINTED MATTHEWS MP07102 “DEEP RIVER”, SATIN FINISH
PANEL: BREAK FORM ALUMINUM 2” DEEP PAINTED MATTHEWS MP07102 “DEEP RIVER”, SATIN FINISH
LOGO: 1/2” PLEX WITH FIRST SURFACE DIGITAL PRINTED LOGO.
COPY: 1/2” PLEX PAINTED MATTHEWS SATIN WHITE.
ADDRESS NUMERALS (NON-ILLUMINATED) : 1/2” ACRYLIC, PAINTED MATTHEWS SATIN WHITE
POLE: TO BE CLAD WITH .125” ALUMINUM PAINTED DARK GREY
FOOTINGS: BY SIGNTECH ENGINEERING.

PAINT COLORS

DP1	DIGITAL PRINT TO MATCH PMS 7453C BLUE, SATIN LAMINATE (REVERSED WEED DOTS TO SHOW THRU TAN BACKGROUND)
P1	PAINT TO MATCH (C-0 M-20 Y-43 K-0), SATIN FINISH
P2	PAINT MATTHEWS MP07102 “DEEP RIVER”, SATIN FINISH
P1	MATTHEWS SATIN WHITE

AMIR Solar Spotlights Outdoor = (4) Pack

GUIDEPOST MONTESSORI
N56 West 16949 Ridgewood Dr #56,
Menomonee Falls, WI 53051 USA

This design is the exclusive property of Signtech and cannot be reproduced in whole or in part, without their prior written approval

Sales: Christine Mello
Coordinator: Brian Benson
Design: Oz Lemus
Engineering:

Date: 08/25/21
Drawing: 21-01361 **Rev:** R2-12/23/21-OzL
Quote:
Project ID: GUIDEPOST_N56W_2

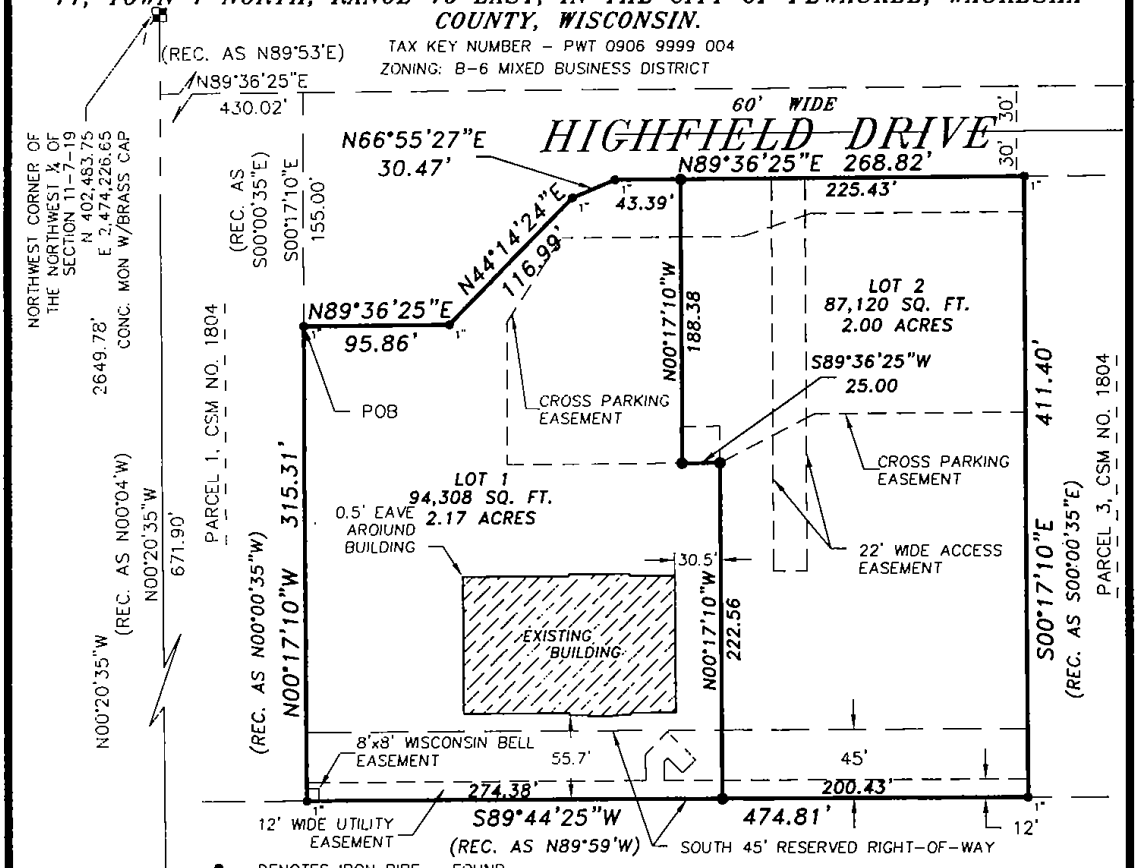
WC3472291-007

3472291

CERTIFIED SURVEY MAP NO. 10966

BEING A REDIVISION OF PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST CORNER OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

TAX KEY NUMBER – PWT 0906 9999 004
ZONING: B-6 MIXED BUSINESS DISTRICT



●1"– DENOTES IRON PIPE – FOUND.

● – DENOTES 1.315" O.D. IRON PIPE, WEIGHTING NOT LESS THAN 1.13 LBS PER LINEAL FOOT, 18" IN LENGTH – SET.

ALL DIMENSIONS ARE MEASURED AND COMPUTED TO THE NEAREST ONE HUNDREDTH OF A FOOT.

BEARINGS ARE REFERENCE TO THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, ASSUMED WEST LINE N00°20'35"W.

THERE SHALL BE NO DIRECT ACCESS FROM LOTS 1, 2 AND 3 TO S.T.H. "190" / CAPITOL DRIVE.

WIDTH VARIES

CAPITOL DRIVE (S.T.H. "190")

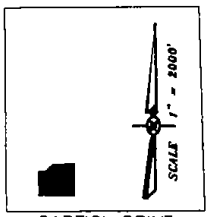
SOUTHWEST CORNER OF THE NORTHWEST ¼ OF SECTION 11-7-19
N 399,834.27
E 2,474,242.52
CONC. MON W/BRASS CAP

OWNER:
KB Pewaukee, LLC
2226 STATE ROAD 580
CLEARWATER, FL. 33763

SEE SHEET 2 OF 7 FOR EASEMENT DETAILS
SEE SHEET 3 OF 7 FOR LINE TABLE

GRAPHIC SCALE
100' 50' 0 100'

SCALE 1" = 100'



CAPTIOL DRIVE
VICINITY MAP
NW 1/4 SEC. 11-7-19

WISCONSIN
MARK D. NESGOOD
S-1967
KENOSHA, WI
LAND SURVEYOR

WISCONSIN REGISTERED LAND SURVEYOR
MARK D. NESGOOD S-1967

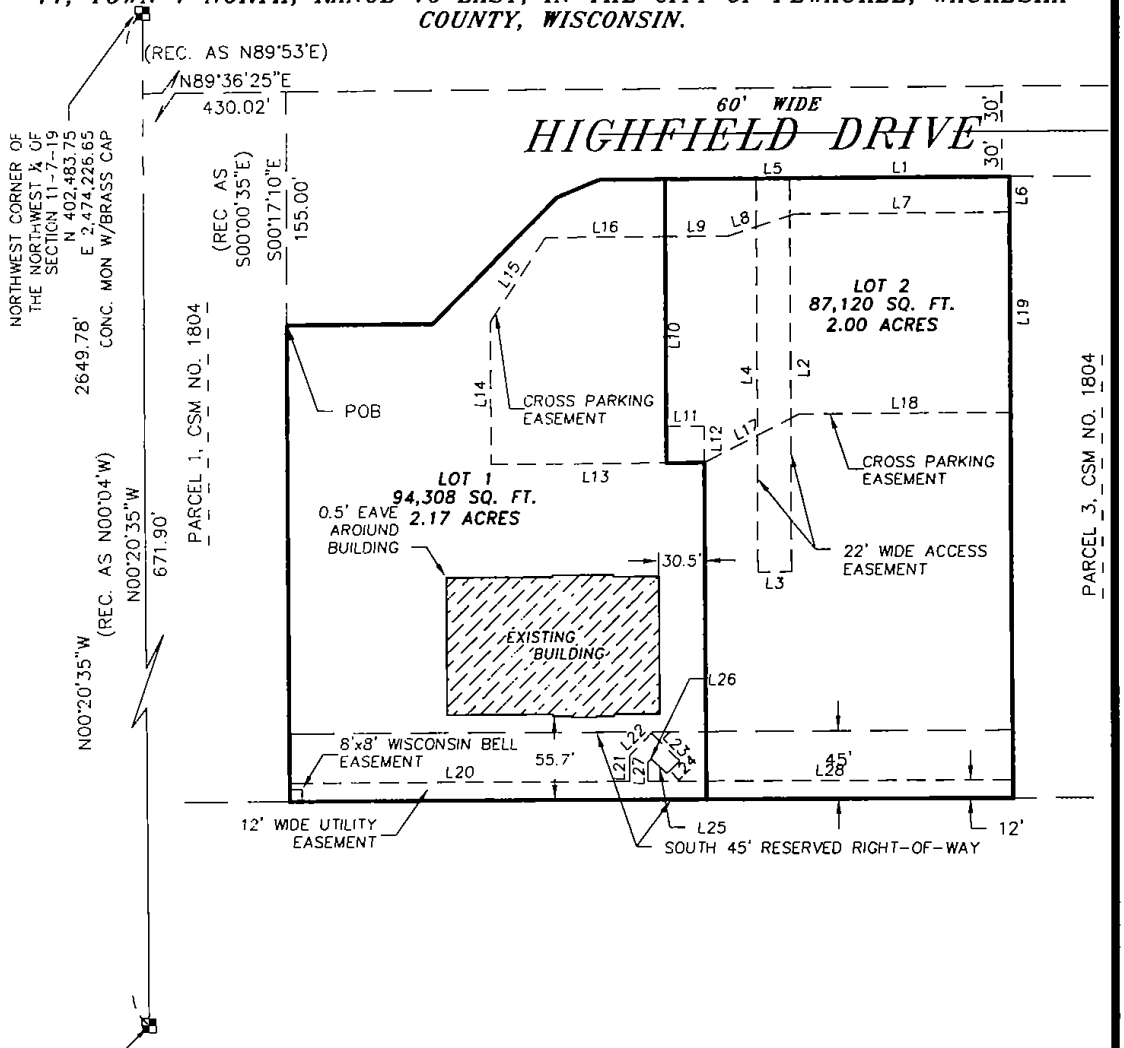
McCLURE ENGINEERING ASSOCIATES, INC.
5417 North 118th Court, Milwaukee, WI 53225
(414)616-4880 PROJECT NO. 08-15-05-114
(414) 616-4885 (FAX) DRAWING: 05114C2.DWG

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, RLS

SHEET 1 OF 7

CERTIFIED SURVEY MAP NO. 10364

BEING A REDIVISION OF PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST CORNER OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.



GRAPHIC SCALE

100' 50' 0 100'

1" = 100'

SCALE

WISCONSIN
MARK D. NESGOOD
S-1967
KENOSHA, WI
LAND SURVEYOR

McCLURE ENGINEERING ASSOCIATES, INC.
5417 North 118th Court, Milwaukee, WI 53225
(414)616-4880 PROJECT NO. 08-15-05-114
(414) 616-4885 (FAX) DRAWING: 05114C2.DWG

3/28/07

WISCONSIN REGISTERED LAND SURVEYOR
MARK D. NESGOOD S-1967

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, RLS

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S89°36'25"W	143.52'
L2	S00°16'37"E	260.80'
L3	S89°43'25"W	22.00'
L4	N00°16'37"W	260.75'
L5	S89°36'25"W	22.00'
L6	S00°17'10"E	23.68'
L7	S89°36'25"W	140.49'
L8	S71°16'14"W	46.32'
L9	S89°36'25"W	41.00'
L10	S00°17'10"E	125.82'
L11	N89°36'25"E	25.00'
L12	S00°17'10"E	24.30'
L13	S89°36'25"W	140.49'
L14	N00°17'10"W	94.45'
L15	N32°59'24"E	66.67'
L16	N89°36'25"E	78.91'
L17	N62°29'07"E	70.01'
L18	N89°36'25"E	138.18'
L19	N00°17'10"W	132.78'
L20	N89°44'25"E	223.97'
L21	N00°32'10"W	17.46'
L22	N44°27'51"E	20.49'
L23	S45°32'09"E	26.00'
L24	S44°27'51"W	12.00'
L25	N45°32'09"W	14.00'
L26	S44°27'51"W	3.51'
L27	S00°32'10"E	12.54'
L28	N89°44'25"E	238.84'

3/18/07

WISCONSIN REGISTERED LAND SURVEYOR
MARK D. NESGOOD S-1967

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, RLS

SHEET 3 OF 7

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF A PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

SURVEYOR'S CERTIFICATE

STATE OF WISCONSIN)
MILWAUKEE COUNTY) SS

I, Mark D. Nesgood, Registered Land Surveyor, do hereby certify that I have surveyed, divided and mapped a Redivision of a part of Parcel 2 of Certified Survey Map No. 1804, being a part of the Southwest ¼ of the Northwest ¼ of Section 11, Town 7 North, Range 19 East, City of Pewaukee, Waukesha County, Wisconsin, bounded and described as follows:

Commencing at the Southwest corner of the Northwest ¼ of said Section; thence N00°20'35"W along the West line of the Northwest ¼ of said Section 671.90 feet; thence N89°36'25"E 430.02 feet to the Northwest corner of Parcel 2 of said Certified Survey Map; thence S00°17'10"E along the West line of Parcel 2 of said Certified Survey Map 155.00 feet to the point of beginning; thence N89°36'25"E along the South right-of-way line of Highfield Drive; thence N44°14'24"E along the Southeasterly right-of-way line of said Drive 116.99 feet; thence N66°55'27"E along the Southeasterly right-of-way line of said Drive 30.47 feet; thence N89°36'25"E along the South right-of-way line of said Drive 268.82 feet to a point on the East line of Parcel 2 of said Certified Survey Map; thence S00°17'10"E along the East line of Parcel 2 of said Certified Survey Map 411.40 feet to the Southeast corner of Parcel 2 of said Certified Survey Map and a point on the North right-of-way line of Capitol Drive; thence S89°44'25"W along the South line of Parcel 2 of said Certified Survey Map and the North right-of-way line of said Drive 474.81 feet to the Southwest corner of Parcel 2 of said Certified Survey Map; thence N00°17'10"W along the West line of Parcel 2 of said Certified Survey Map 315.31 feet to the point of beginning. Containing 4.17 acres of land more or less.

THAT I have made such survey, land division and map by the direction of KB Pewaukee, LLC, a Florida limited liability company, owner of said land.

THAT such map is a correct representation of all exterior boundaries and of the land surveyed and the land division thereof made.

THAT I have fully complied with the provisions of Chapter 236 of the Wisconsin State Statutes and the regulations of the City of Pewaukee in surveying, dividing and mapping the same.

Dated this 28th day of March, 2007

Wisconsin Registered Land Surveyor
Mark D. Nesgood S-1967

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF A PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

OWNERS CERTIFICATE

As Owner, I do hereby certify that I have caused the land described on this plat to be surveyed, divided and mapped as represented on this plat. We also certify that this Certified Survey Map is Required to be submitted to the following for approval: City of Pewaukee.

WITNESS the hand and seal of said Owner this 29th day of March, 2007.

IN THE PRESENCE OF:

KB Pewaukee, LLC, a Florida Limited Liability Company.

_____, Member
Robert E. Schmidt, Jr.
Managing Member

STATE OF Florida)
Pinellas COUNTY) ss

PERSONALLY came before me this 29 day of March, 2007, the above named Robert E Schmidt Member of KB Pewaukee, LLC a Florida Limited Liability Company, to me known to be the person who executed the foregoing instruction and acknowledged the same.

Amanda D. Norwick
Commission # DD641050
Expires: FEB. 15, 2011
www.AaronNotary.com

_____
Notary Public, State of Florida
My commission expires Feb. 15, 2011

WISCONSIN
MARK D. NESGOOD
S-1966
KENOSHA, WI
LAND SURVEYOR

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, R.L.S. SHEET 5 OF 7

207

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF A PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

CONSENT OF CORPORATE MORTGAGEE

Park Bank, mortgagee of the above described land, does hereby consent to the surveying, dividing and mapping of the land described on this map, and does hereby consent to the foregoing owner's certificate.

Park Bank

STATE OF)
COUNTY) SS

Personally came before me this 2ND day of APRIL, 2007, HEATHER BAYLOR of the above named Corporation, to be known to be the person who executed the foregoing instrument, and to me known to be such VICE PRESIDENT of said Corporation, and acknowledged that he executed the foregoing instrument as such officer as the deed of said corporation, by its authority.

Notary Public, State of WI
My Commission expires 4-[illegible]-[illegible]

WISCONSIN
MARK D.
NESGOOD
S-1967
KENOSHA
LAND SURVEYOR

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, R.L.S. SHEET 6 OF 7

CERTIFIED SURVEY MAP NO. 10366

BEING A REDIVISION OF A PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 1804, BEING A PART OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 11, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

CITY PLAN COMMISSION APPROVAL:

Approved by the Plan Commission, City of Pewaukee, this 15th day of March, 2007.

Scott Klein – Chairman

David Mokros – Secretary

CITY COMMON COUNCIL APPROVAL:

Approved by the Common Council, City of Pewaukee, this 19th day of March, 2007.

Scott Klein – Mayor

Kelly Tarczewski – Clerk

CITY OF PEWAUKEE CORPORATE SEAL WISCONSIN

Vol 48 Pages 203-209

3472291

REGISTER'S OFFICE
WAUKESHA COUNTY, WI
RECORDED ON

04-13-2007 11:51 AM

MICHAEL J. HASSLINGER
REGISTER OF DEEDS

REC. FEE: 16.00
REC. FEE-CO: 5.00
REC. FEE-ST: 2.00
TRAN. FEE:
TRAN. FEE-STATE:
PAGES: 7

WISCONSIN MARK D. NESGOOD S-1967 KENOSHA WI LAND SURVEYOR

THIS INSTRUMENT WAS DRAFTED BY MARK D. NESGOOD, R.L.S. SHEET 7 OF 7

Quattro Development
1100 Jorie Blvd. • Suite 140
Oak Brook, IL 60523
(630) 870-1921

January 26, 2023

Mr. Nick Fuchs
Planner & Community Development Director
City of Pewaukee
W240N3065 Pewaukee Road
Pewaukee, WI 53072

Re: Release of 45' Reserved Right-of-Way from
Lot 2 of Certified Survey Map No. 10366
Pewaukee, WI

Dear Mr. Fuchs:

This letter is in regards to the existing 45' reserved right-of-way along the southern property line of Lot 2 of Certified Survey Map No. 13066.

Per our prior conversations, we have confirmed with the Wisconsin DOT that this was not a DOT requirement, but rather a City of Pewaukee requirement. In reviewing the aerial maps of this area, it appears that the lots adjacent to this property have encroached into the reserved right-of-way leading us to believe that the City has no plans to develop within this area. To develop Lot 2 to its full potential, we respectfully request that the City vacate / discontinue this future right-of-way from Lot 2.

Please review and let us know if the City would be open to this request.

If you have any further questions regarding this matter, please feel free to contact me at (630) 870-1921.

Sincerely,

Quattro Development, LLC

Brett J. Dahlman, P.E.
Director of Construction & Development
brett@quattrodevelopment.com

Attachment: CSM 10366

TIA TECHNICAL MEMORANDUM

Date: May 2, 2023

Prepared for: Brett Dahlman, P.E.
Quattro Development, LLC

Prepared by: Tammi Czewski, P.E., PTOE
Traffic Analysis & Design, Inc.

Subject: **Early Childhood School – Pewaukee, WI**
Traffic Impact Analysis

INTRODUCTION

This traffic impact analysis (TIA) technical memorandum was prepared to document the peak hour traffic impacts expected at the study intersections with buildout of the proposed early childhood school at 23877 Highfield Court in Pewaukee, Wisconsin. A map showing the development site and proposed access location is on Exhibit 1.

PROPOSED DEVELOPMENT

The conceptual site plan for the proposed development is on Exhibit 2. The site is zoned B-6 (Mixed-Use Business District). A conditional use is being sought for the proposed childcare development.

The early childhood school is proposed to be located between an existing office building and Capitol Drive East Kindercare on the south side of Highfield Court. Access to the early childhood school is proposed to be shared with the easternmost driveway for the existing office building. The early childhood school will provide Montessori childcare for up to 152 children (aged toddler through six years old) and 29 full-time staff in an 11,836-square foot building. The school will be open from 7:00 a.m. to 6:00 p.m. Monday through Friday. The site does not include a pick-up/drop-off lane – parents park first and then escort the children directly into the school. Due to variability in parent schedules, pick-ups and drop-off times are staggered over a two-to-three-hour period in the morning and afternoon.

STUDY AREA

Study Intersections

The study intersections are also identified on Exhibit 1 and include the following:

- Pewaukee Road & Swan Road
- Highfield Road & Capitol Drive
- Highfield Road & Highfield Court
- Highfield Road & Broken Hill Circle South

The Pewaukee Road/Swan Road intersection operates with traffic signal control. All other study intersections operate with stop sign control. The existing geometrics, traffic control, posted speed limits, and distances between study intersections are shown on Exhibit 3.

Study Area Roadways

Capitol Drive (STH 190) is classified as a Principal Arterial and is an east/west roadway with a four-lane cross-section (two through lanes in each direction) that is divided by a wide grass median. The 2022 annual average daily traffic (AADT) on Capitol Drive ranged from 22,800 to 26,200 vehicles per day (vpd) in the study area. The posted speed limit on Capitol Drive is 55 mph through the study area.

Pewaukee Road (STH 164) is classified as a Principal Arterial and is a north/south roadway with a four-lane cross-section (two through lanes in each direction) that is divided by a mix of concrete and grass median within the study area. There is a multi-use path along the west side of the roadway between Swan Road/Meadow Creek Market and Capitol Drive. The 2022 AADT on Pewaukee Road ranges from 17,300 vpd (north of Swan Road) to 22,600 vpd (south of Capitol Drive). The posted speed limit on Pewaukee Road is 45 mph through the study area.

Swan Road is classified as a Collector Roadway and is a north/south roadway with a two-lane cross-section (one through lane in each direction) and a 2018 AADT of 1,100 vpd north of Pewaukee Road. The posted speed limit on Swan Road is 35 mph through the study area. An advisory speed limit of 30 mph is posted at the curve just east of Pewaukee Road.

Broken Hill Circle South, Highfield Road, and Highfield Court are two-lane local roadways providing access for the Broken Hills neighborhood, the Auburn Ridge condominiums, and the commercial development along Highfield Court. The posted speed limit on these roadways is 25 mph.

EXISTING & FUTURE TRAFFIC VOLUMES

Existing Traffic Volumes

TADI collected peak hour turning movement counts at the study intersections on April 11 and 12, 2023. The collective peak hours for these intersections occur from 7:30-8:30 a.m. (AM peak hour) and from 4:30-5:30 p.m. (PM peak hour). The traffic counts were compiled for these peak hours as shown on Exhibit 4. The complete traffic counts collected for this study are in Appendix A.

Development Traffic Volumes

The trip generation and trip distribution for the proposed early childhood school development is on Exhibit 5. Based on trip rates and fitted curve equations published in the Institute of

Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, a daycare with up to 152 students generates 620 weekday daily trips, with 110 trips (60 in/50 out) in the AM peak hour and 105 trips (50 in/55 out) in the PM peak hour.

The distribution of these trips to the study area roadways was estimated based on the existing AADT volumes on the surrounding street system. The trip distribution was evaluated as:

- 30% to/from the west on Capitol Drive
- 25% to/from the east on Capitol Drive
- 20% to/from the north on Pewaukee Road
- 25% to/from the south on Pewaukee Road

The new trips for the proposed development were assigned to the study intersections based on this trip distribution. Trips were assigned for two scenarios:

- Scenario A: Without Cut-Through Traffic. Assumes that 100% of the site trips will access Pewaukee Road and Capitol Drive via at the Highfield Road/Capitol Drive intersection.

  For Scenario A, the early childhood school traffic on Highfield Road, south of Highfield Circle is about 43% of the total traffic on that street segment. No additional site traffic is present on Highfield Road, north of Highfield Circle for Scenario A.

- Scenario B: With Cut-Through Traffic. Assumes that 17% of the site trips will access the Pewaukee Road and Capitol Drive via Swan Road ("cutting through" the neighborhood to the north). This percentage was estimated from the existing Highfield Court peak hour volumes turning to and from the north on Highfield Road.

  For Scenario B, the early childhood school traffic on Highfield Road, south of Highfield Circle is about 38% of the total traffic on that street segment. The early childhood school traffic on Highfield Road, north of Highfield Circle is about 20% of the total traffic on that street segment.

The site traffic assignments are shown on Exhibit 6 (Scenario A) and on Exhibit 7 (Scenario B).

Future Build Traffic Volumes

The early childcare school new trips were added to the Existing traffic volumes to generate the Build traffic volumes. The Build traffic volumes are shown on Exhibit 8 (Scenario A) and on Exhibit 9 (Scenario B).

PEAK HOUR TRAFFIC OPERATIONS & QUEUES

The study intersections were analyzed using the Synchro 11 traffic analysis model (outputs based on the *Highway Capacity Manual, 6th Edition*) and the peak hour turning movement volumes estimated for each intersection. Intersection operation is defined by "level of service." Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS 'A', to very poor, represented by LOS 'F'. For the purposes of this study, LOS D or better was used to define acceptable peak hour

operating conditions. The LOS definitions for signalized and unsignalized intersections are in Appendix B.

Existing Traffic Operations

The Existing traffic volumes were evaluated with the existing geometrics and traffic control at each study intersection. The Existing traffic weekday AM and PM peak hour LOS, delays, and queues for each study intersection are shown on Exhibit 10. The Synchro capacity analysis worksheets for the Existing traffic analyses are in Appendix B. The Synchro analysis shows that the southbound left-turn movement from Highfield Road onto Capitol Drive operates at LOS F with 53 seconds of delay (less than one minute per vehicle) during the weekday PM peak hour. Traffic queues for this movement are relatively low, however, at 1-2 vehicles per lane. All other study intersections operate acceptably at LOS D or better during the peak hours. All traffic movements at the Highfield Road intersections with Highfield Court and Broken Hills Circle South operate at LOS A.

Build Traffic Operations

The Build traffic operations were evaluated with the additional trips generated from the proposed early childhood school on Highfield Court. Build traffic volumes for Scenario A (no cut-through traffic) results in increased AM and PM delays (LOS E and/or F) at both northbound and southbound movements from Highfield Road and Five Fields Road. Delays for these movements are approximately 0.5-1.5 minutes or less per vehicle, and queues are 1-3 vehicles per lane. With the additional site traffic, the Highfield Road intersection with Highfield Ct. operates at LOS B or better during the peak hours.

To avoid these peak hour delays, some development traffic may choose to travel northward and use Swan Road to access Pewaukee Road and Capitol Drive. Build traffic volumes for Scenario B (with cut-through traffic), the traffic impact to the Highfield Road/Capitol Drive intersection is less, with northbound delays from Five Fields Road remaining at LOS D or better for both the AM and PM peak hours, and southbound delays from Highfield Road remaining at LOS D for the AM peak hour. Southbound delays from Highfield Road are expected to remain at LOS F during the weekday PM peak hours, but with only 17 seconds of additional delay and approximately one additional vehicle in queue. Even with the additional traffic traveling northward for Scenario B, all movements at the Highfield Road/Broken Circle South intersection remain at LOS A during the peak hours, and no significant increase in delays or queues are expected at the Swan Road/Pewaukee Road intersection.

The Build traffic weekday AM and PM peak hour LOS, delays, and queues for each study intersection are shown on Exhibit 11 (Scenario A) and Exhibit 12 (Scenario B). The Synchro capacity analysis worksheets for the Build traffic analyses are in Appendix C (Scenario A) and Appendix D (Scenario B).

TRAFFIC GAP STUDY

A traffic gap study was completed for the Highfield Road/Capitol Drive intersection to field-verify the traffic operations evaluated in Synchro. The intersection is located just east of the

Capitol Drive/Pewaukee Road traffic signal which creates one-way/eastbound traffic gaps on Capitol Drive through the Highfield Road intersection.

The length of gaps, in time, between vehicles traveling along eastbound and westbound Capitol Drive at the median opening for Highfield Road were collected during the weekday AM and PM peak hours. Critical gap and follow-up times for vehicle turning movements were then calculated based on equations in the Highway Capacity Manual (HCM). These equations include adjustment factors for heavy vehicles, grade, divided roadways, and intersection geometry. The gap analysis worksheet calculations and compiled gap counts are in Appendix E.

Equivalent gaps (or capacity of gaps) are calculated by adding the number of gaps available for only one vehicle to turn, gaps long enough for two vehicles to turn, and gaps long enough for three vehicles to turn (without counting the same gaps twice). The equivalent gaps represent the number of additional turning movements that could be made above and beyond the existing turning movements already occurring. Table 1 summarizes the findings of the gap study. The table shows the equivalent gaps calculated from the field counts, the new site trips assigned to the turning movements at Highfield Road, and the excess gaps available for additional turning movements above those numbers.

Table 1. Capitol Drive at Highfield Road Traffic Gaps

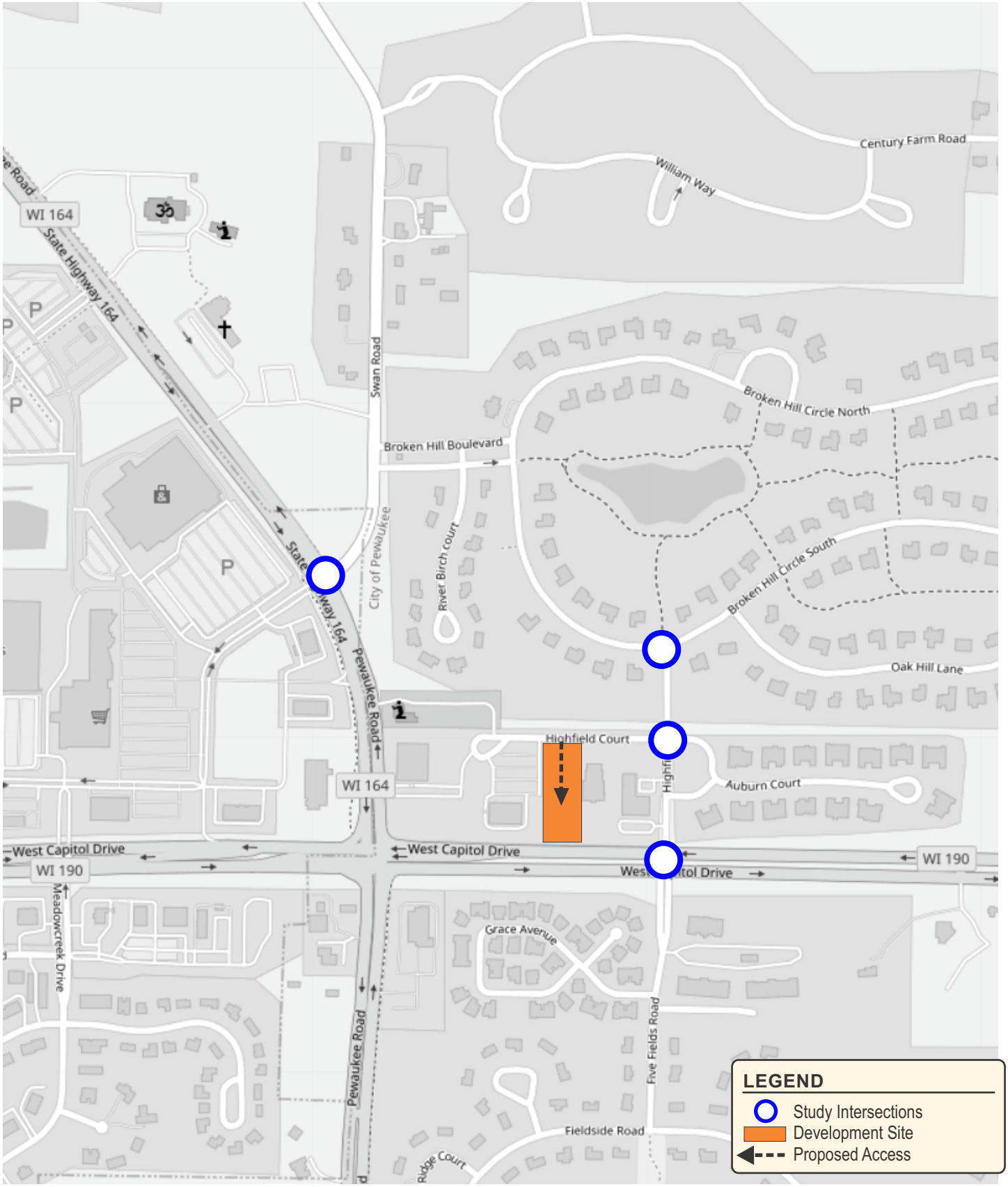
Intersection Direction	Peak Hour	Equivalent Gaps	Net New Site Trips	Excess Gaps
Scenario A: Without Cut-Through Traffic to Swan Road				
SB Left Turn from Highfield Road[1]	AM	160	10	150
	PM	171	15	156
SB Right Turn from Highfield Road	AM	214	40	174
	PM	160	40	120
EB Left Turn from Capitol Drive	AM	404	45	359
	PM	278	40	238
Scenario B: With Cut-Through Traffic to Swan Road				
SB Left Turn from Highfield Road[1]	AM	160	5	155
	PM	171	10	161
SB Right Turn from Highfield Road	AM	214	35	179
	PM	160	35	125
EB Left Turn from Capitol Drive	AM	404	35	369
	PM	278	30	248

[1] *SB left turn is completed in a two-stage gap maneuver (1 stage: SB Through to Median, 2nd stage, SB left turn from Median). The lower number of gaps between the stage 1 and stage 2 movements is reported in the table.*

As shown, there are anywhere from 120-369 excess gaps for additional turning movements beyond the existing and site trip traffic assigned to the Capitol Drive/Highfield Road intersection (Scenarios A & B). These excess gaps affirm that the adjacent signal provides one-way gaps in traffic along Capitol Drive that are not reflected in the Synchro traffic model. With a significant amount of excess gaps, traffic movements from Highfield Road may operate with less delays than shown in the LOS tables.

RECOMMENDTIONS & CONCLUSIONS

No modifications to the study intersections are recommended to accommodate the additional traffic from the proposed early childhood school on Highfield Court in Pewaukee, Wisconsin. Although the traffic signal at the Capitol Drive/Pewaukee Road intersection creates gaps for traffic to make southbound left-turn movements from Highfield Court with reasonable delays (per the gap study), some traffic may "cut-through" the neighborhood roads to the north of the site and use Swan Road to access Pewaukee Road and then Capitol Drive. The additional "cut-through" traffic is not expected to significantly increase delays at the Swan Road/Pewaukee Road intersection, and traffic operations at the Highfield Road/Broken Hills Circle South intersection is expected to remain at LOS A during the peak hours for all turning movements.



TADI
TRAFFIC ANALYSIS & DESIGN, INC.

3072: 05-02-2023

N
NOT TO SCALE

EXHIBIT 1
PROJECT LOCATION MAP

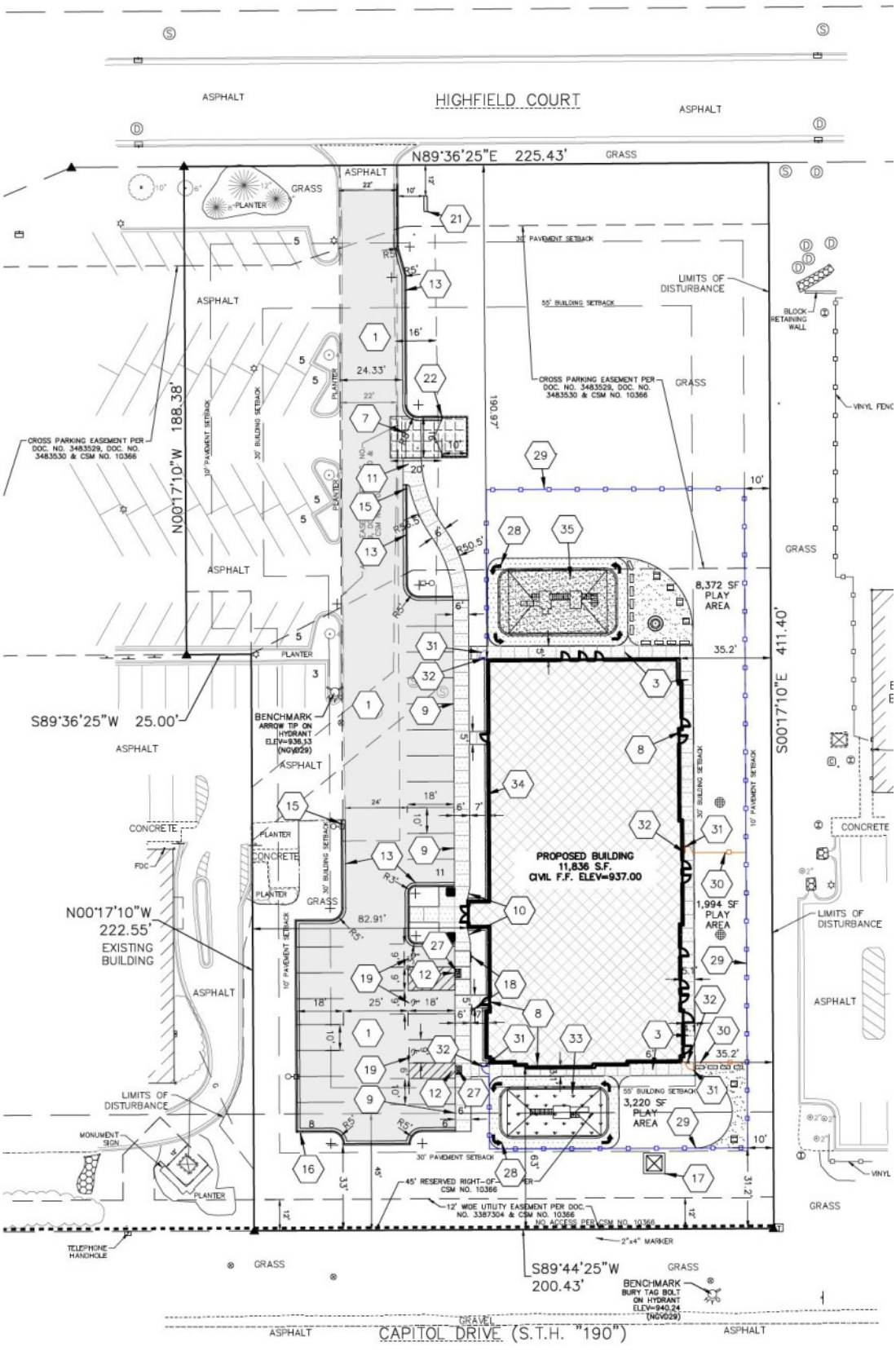


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EXHIBIT 2
CONCEPTUAL SITE PLAN

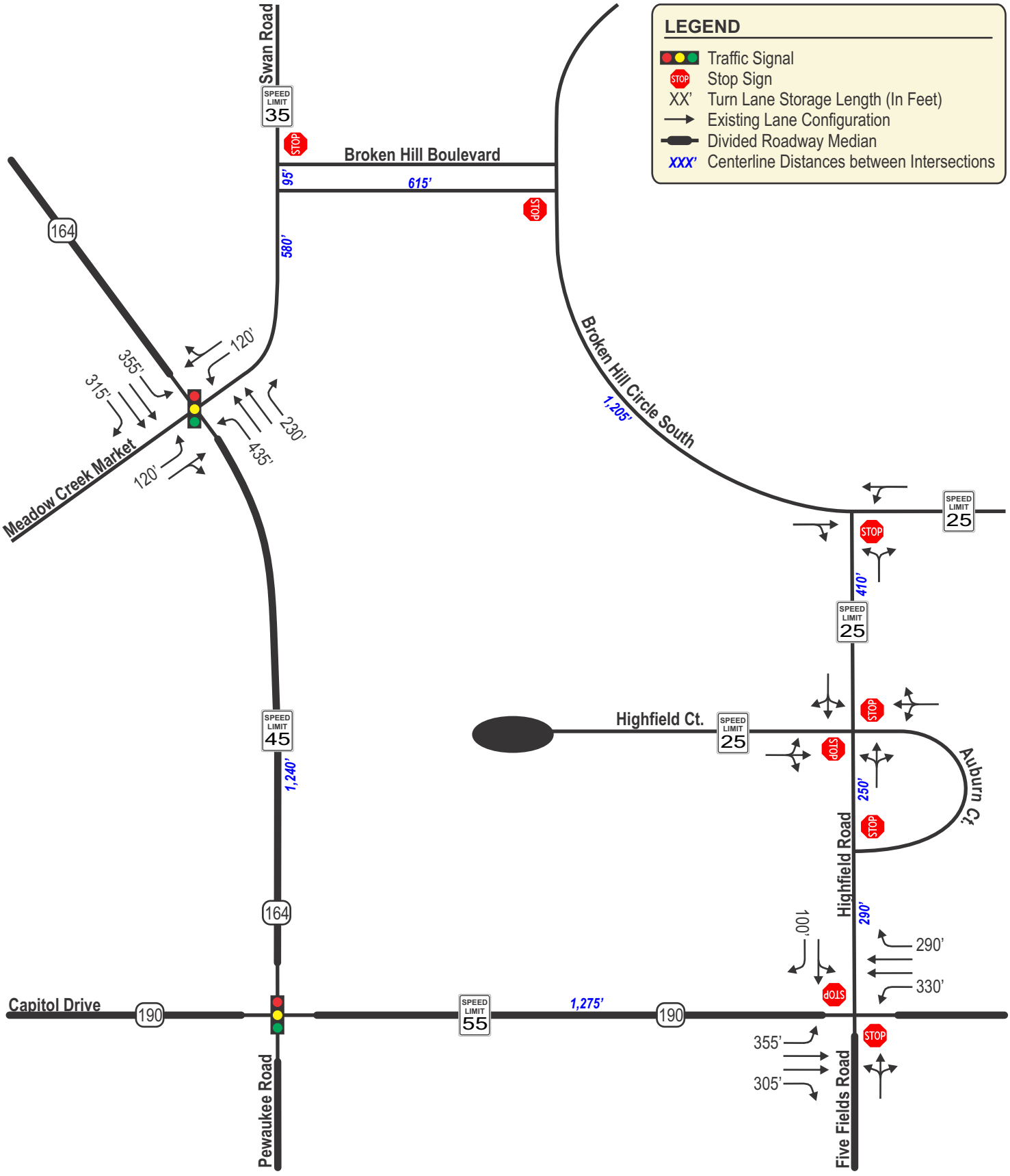

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EXHIBIT 3
EXISTING TRANSPORTATION SYSTEM

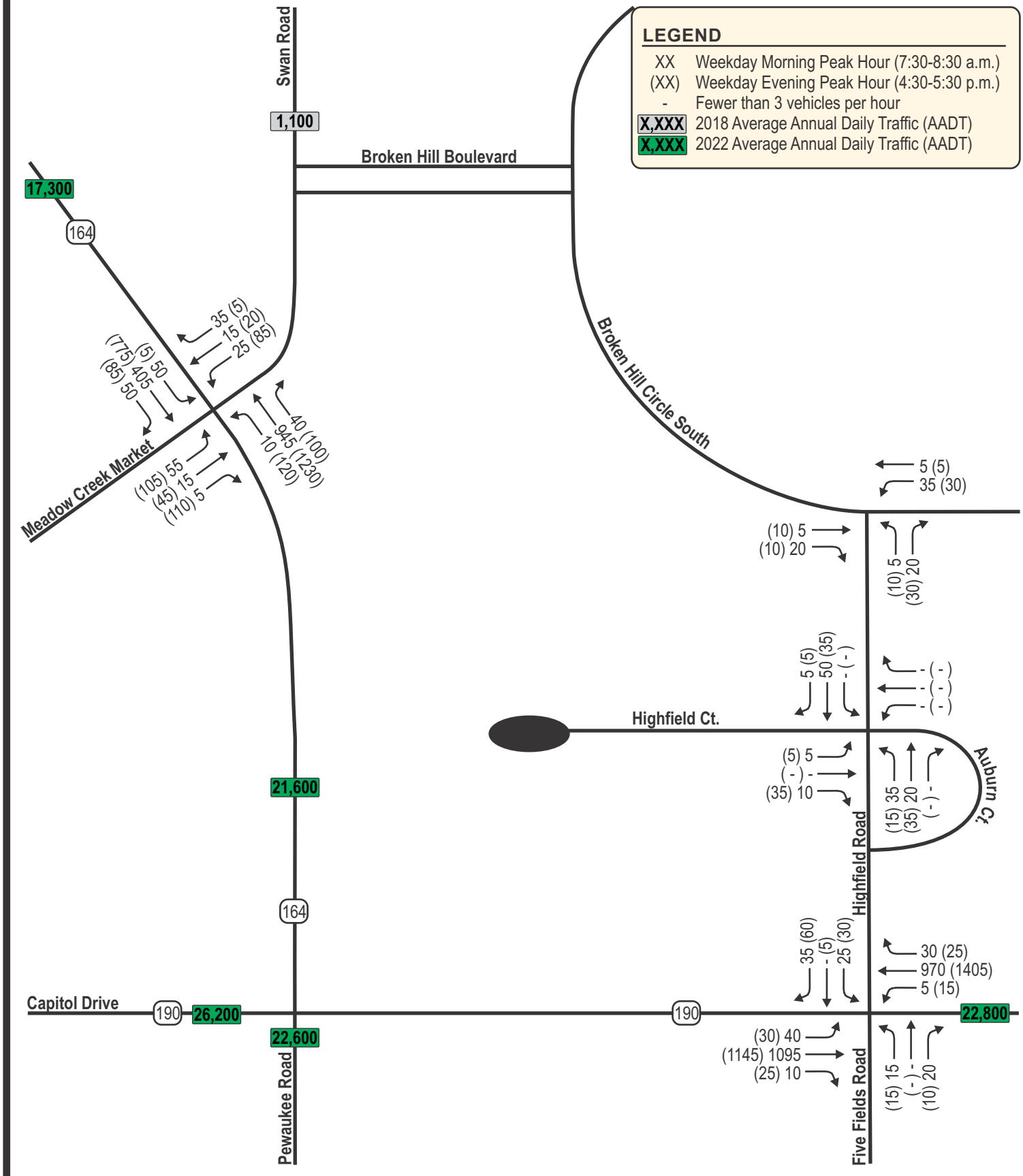

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EXHIBIT 4
EXISTING PEAK HOUR TRAFFIC VOLUMES

Day Care Trip Generation Table[1]

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Day Care Center	565	152 Students	620 (4.09)	60 (53%)	50 (47%)	110 FCE	50 (47%)	55 (53%)	105 FCE
Total New Trips			**620**	**60**	**50**	**110**	**50**	**55**	**105**

[1] *ITE Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 11th Edition.*

TRIP DISTRIBUTION (New Trips)						
W. on Capitol Drive	30%	20	15	15	15	
E. on Capitol Drive	25%	15	10	10	15	
N. on STH 164	20%	10	10	10	10	
S. on STH 164	25%	15	15	15	15	
	100%	***60***	***50***	***50***	***55***	

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3072: 05-02-2023

N

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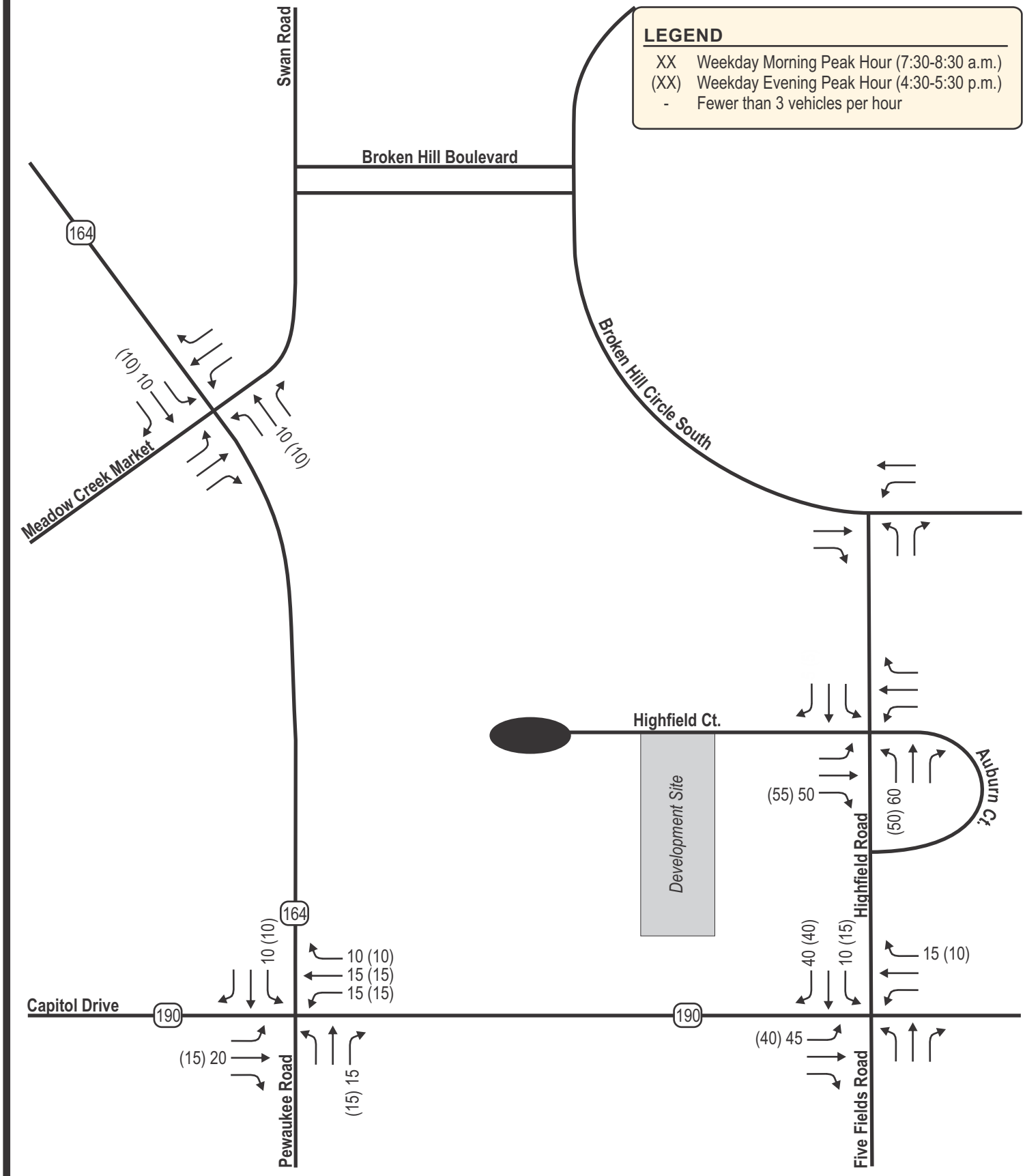
EXHIBIT 5
TRIP GENERATION & TRIP DISTRIBUTION



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3072: 05-02-2023

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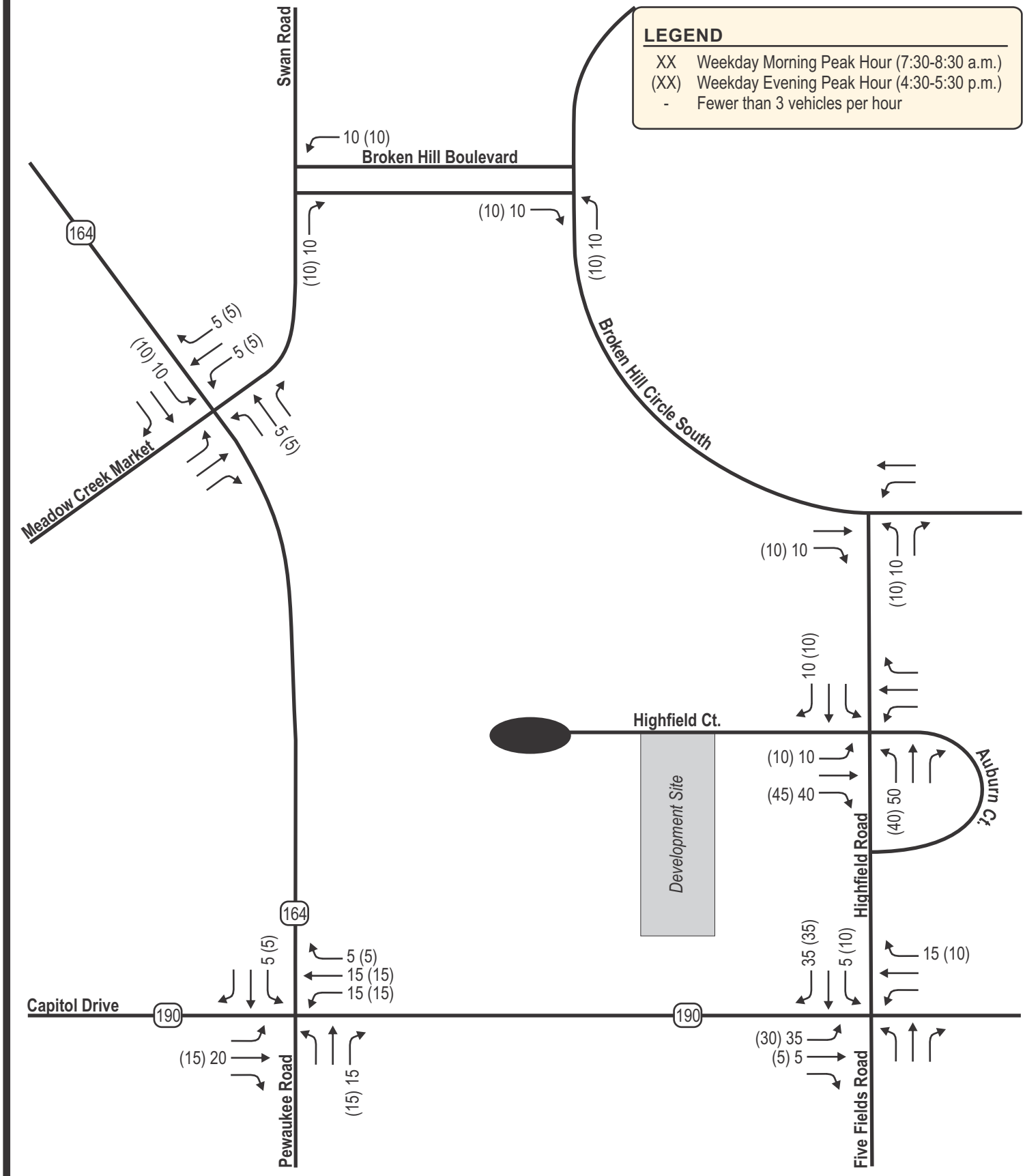
NOT TO SCALE

EXHIBIT 6
SCENARIO A NEW TRIPS
WITHOUT CUT-THROUGH TRAFFIC



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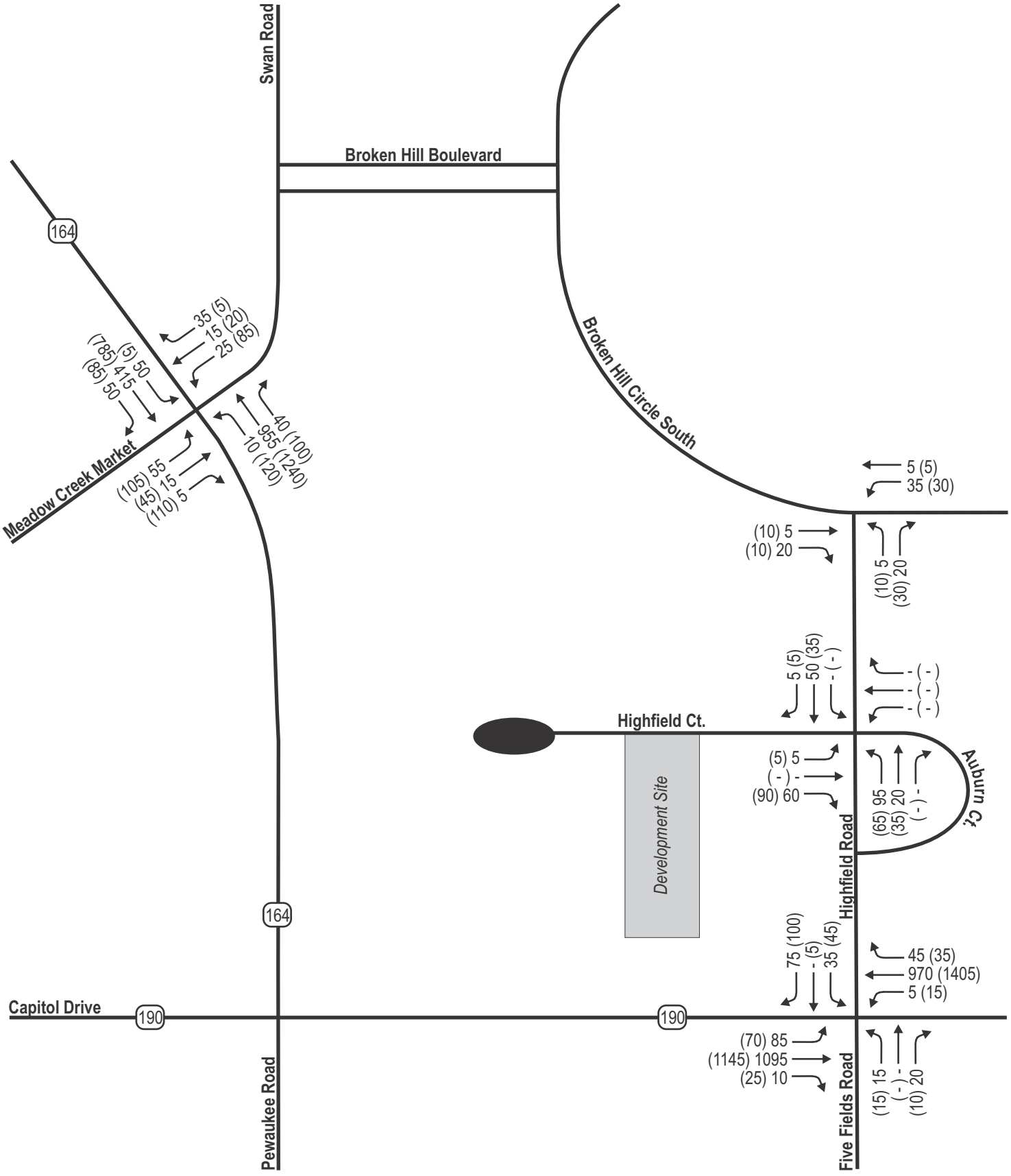
3072: 05-02-2023

N
NOT TO SCALE

EXHIBIT 7
SCENARIO B NEW TRIPS
WITH CUT-THROUGH TRAFFIC



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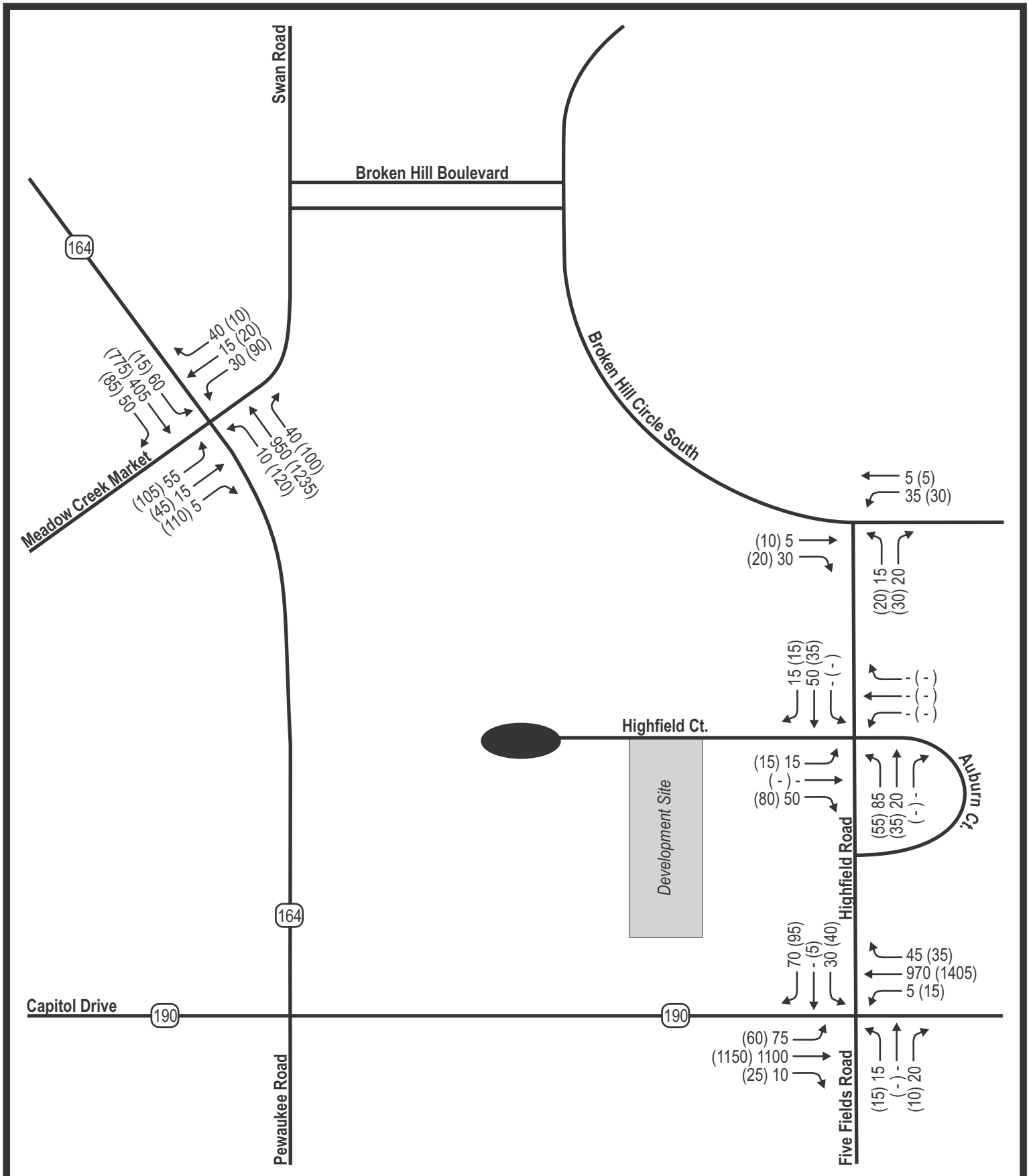
3072: 05-02-2023

N

NOT TO SCALE

EXHIBIT 8
SCENARIO A BUILD PEAK HOUR TRAFFIC VOLUMES
WITHOUT CUT-THROUGH TRAFFIC

EARLY CHILDHOOD SCHOOL TIA - PEWAUKEE, WISCONSIN



TADI
TRAFFIC ANALYSIS & DESIGN, INC.

3072: 05-02-2023

N
NOT TO SCALE

EXHIBIT 9
SCENARIO B BUILD PEAK HOUR TRAFFIC VOLUMES
WITH CUT-THROUGH TRAFFIC

Year 2023 Existing Traffic Peak Hour Operating Conditions

With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Pewaukee Road & Swan Road *Traffic Signal Control*		*Lanes->*	*1*	*1>*		*1*	*1>*		*1*	*2*	*1*	*1*	*2*	*1*	
	AM	LOS	D	D		D	D		A	A	A	A	A	A	A
		Delay	39	35		36	36		4	4	3	7	6	5	8
		Queue	65'	30'		35'	60'		5'	140'	10'	40'	90'	20'	
	PM	LOS	C	C		D	C		A	A	A	B	B	B	B
		Delay	30	31		37	27		8	8	5	11	14	11	13
		Queue	100'	135'		85'	30'		35'	205'	25'	5'	180'	35'	
Highfield Road/Five Fields Road & Capitol Drive *Stop Sign Control (NB/SB)*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*<1>*			*1*		*1>*	
	AM	LOS	B	*	*	B	*	*	C			D		B	A
		Delay	11	*	*	11	*	*	23			28		12	1
		Queue	5'	*	*	0'	*	*	15'			15'		5'	
	PM	LOS	B	*	*	B	*	*	D			F		C	A
		Delay	13	*	*	11	*	*	28			53		17	1
		Queue	5'	*	*	5'	*	*	15'			35'		15'	
Highfield Road & Highfield Ct./Auburn Ct. *Stop Sign Control (EB/WB)*		*Lanes->*	*<1>*			*<1>*			*<1>*			*<1>*			
	AM	LOS	A			A			A			A			A
		Delay	9			9			7			7			3
		Queue	5'			0'			5'			0'			
	PM	LOS	A			A			A			A			A
		Delay	8			9			7			7			3
		Queue	5'			0'			0'			0'			
Highfield Road & Broken Hills Circle South *Stop Sign Control (NB)*		*Lanes->*	-	*1>*		*<1*		-	*<1>*			-			
	AM	LOS	-	*		A		-	A			-			A
		Delay	-	*		7		-	8			-			5
		Queue	-	*		5'		-	5'			-			
	PM	LOS	-	*		A		-	A			-			A
		Delay	-	*		7		-	8			-			6
		Queue	-	*		5'		-	5'			-			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared turn lane movement.

Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

U-Turns, if any, are included in the left-turn volume.

TRAFFIC ANALYSIS & DESIGN, INC.

3072: 05-02-2023

N

NOT TO SCALE

EXHIBIT 10
EXISTING TRAFFIC LOS & QUEUES

Year 2023 Build Scenario A Traffic Peak Hour Operating Conditions

With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Pewaukee Road & Swan Road *Traffic Signal Control*		*Lanes->*	*1*	*1>*		*1*	*1>*		*1*	*2*	*1*	*1*	*2*	*1*	
	AM	LOS	D	D		D	D		A	A	A	A	A	A	A
		Delay	39	35		36	36		4	4	3	7	6	5	8
		Queue	65'	30'		35'	60'		5'	145'	10'	40'	95'	20'	
	PM	LOS	C	C		D	C		A	A	A	B	B	B	B
		Delay	30	31		37	27		8	8	5	12	14	11	13
		Queue	100'	135'		85'	30'		35'	210'	25'	5'	185'	35'	
Highfield Road/Five Fields Road & Capitol Drive *Stop Sign Control (NB/SB)*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*<1>*			*1*		*1>*	
	AM	LOS	B	*	*	B	*	*	D			E		B	A
		Delay	11	*	*	11	*	*	28			35		13	1
		Queue	15'	*	*	0'	*	*	20'			25'		15'	
	PM	LOS	B	*	*	B	*	*	E			F		C	A
		Delay	14	*	*	11	*	*	36			81		19	2
		Queue	15'	*	*	5'	*	*	20'			65'		30'	
Highfield Road & Highfield Ct./Auburn Ct. *Stop Sign Control (EB/WB)*		*Lanes->*	*<1>*			*<1>*			*<1>*			*<1>*			
	AM	LOS	A			B			A			A			A
		Delay	9			10			7			7			5
		Queue	10'			0'			5'			0'			
	PM	LOS	A			B			A			A			A
		Delay	9			10			7			7			5
		Queue	10'			0'			5'			0'			
Highfield Road & Broken Hills Circle South *Stop Sign Control (NB)*		*Lanes->*	-	*1>*		*<1*		-	*<1>*			-			
	AM	LOS	-	*		A		-	A			-			A
		Delay	-	*		7		-	8			-			5
		Queue	-	*		5'		-	5'			-			
	PM	LOS	-	*		A		-	A			-			A
		Delay	-	*		7		-	8			-			6
		Queue	-	*		5'		-	5'			-			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared turn lane movement.

Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

U-Turns, if any, are included in the left-turn volume.

TADI TRAFFIC ANALYSIS & DESIGN, INC.

3072: 05-02-2023

N

NOT TO SCALE

EXHIBIT 11

SCENARIO A BUILD TRAFFIC LOS & QUEUES

WITHOUT CUT-THROUGH TRAFFIC

Year 2023 Build Scenario B Traffic Peak Hour Operating Conditions

With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Pewaukee Road & Swan Road *Traffic Signal Control*		*Lanes->*	*1*	*1>*		*1*	*1>*		*1*	*2*	*1*	*1*	*2*	*1*	
	AM	LOS	D	D		D	D		A	A	A	A	A	A	A
		Delay	39	35		36	36		4	5	3	8	6	5	8
		Queue	65'	30'		45'	65'		5'	145'	10'	40'	90'	20'	
	PM	LOS	C	C		D	C		A	A	A	B	B	B	B
		Delay	31	31		37	28		8	8	5	12	14	11	13
		Queue	100'	135'		90'	35'		35'	210'	25'	15'	180'	35'	
Highfield Road/Five Fields Road & Capitol Drive *Stop Sign Control (NB/SB)*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*<1>*			*1*		*1>*	
	AM	LOS	B	*	*	B	*	*	D			D		B	A
		Delay	11	*	*	11	*	*	27			33		13	1
		Queue	15'	*	*	0'	*	*	20'			20'		15'	
	PM	LOS	B	*	*	B	*	*	D			F		C	A
		Delay	14	*	*	11	*	*	34			70		18	2
		Queue	15'	*	*	5'	*	*	15'			55'		30'	
Highfield Road & Highfield Ct./Auburn Ct. *Stop Sign Control (EB/WB)*		*Lanes->*	*<1>*			*<1>*			*<1>*			*<1>*			
	AM	LOS	A			B			A			A			A
		Delay	9			10			7			7			5
		Queue	10'			0'			5'			0'			
	PM	LOS	A			B			A			A			A
		Delay	9			10			7			7			5
		Queue	10'			0'			5'			0'			
Highfield Road & Broken Hills Circle South *Stop Sign Control (NB)*		*Lanes->*	-	*1>*		*<1*		-	*<1>*			-			
	AM	LOS	-	*		A		-	A			-			A
		Delay	-	*		7		-	9			-			5
		Queue	-	*		5'		-	5'			-			
	PM	LOS	-	*		A		-	A			-			A
		Delay	-	*		7		-	8			-			5
		Queue	-	*		5'		-	5'			-			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared turn lane movement.

Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

U-Turns, if any, are included in the left-turn volume.

TADI TRAFFIC ANALYSIS & DESIGN, INC.

3072: 05-02-2023

N

NOT TO SCALE

EXHIBIT 12

SCENARIO B BUILD TRAFFIC LOS & QUEUES

WITH CUT-THROUGH TRAFFIC

APPENDIX A

TRAFFIC COUNTS

Intersection Traffic Volume Report

Count Basics	Version 2022.11.2		Page 1 of 13
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Base Information, Observed (5.5) Hour and Estimated (24) Hour Volume Summaries

Major St: **STH 164**
Minor St: **SWAN RD**
Intersection of: ***STH 164 & SWAN RD***

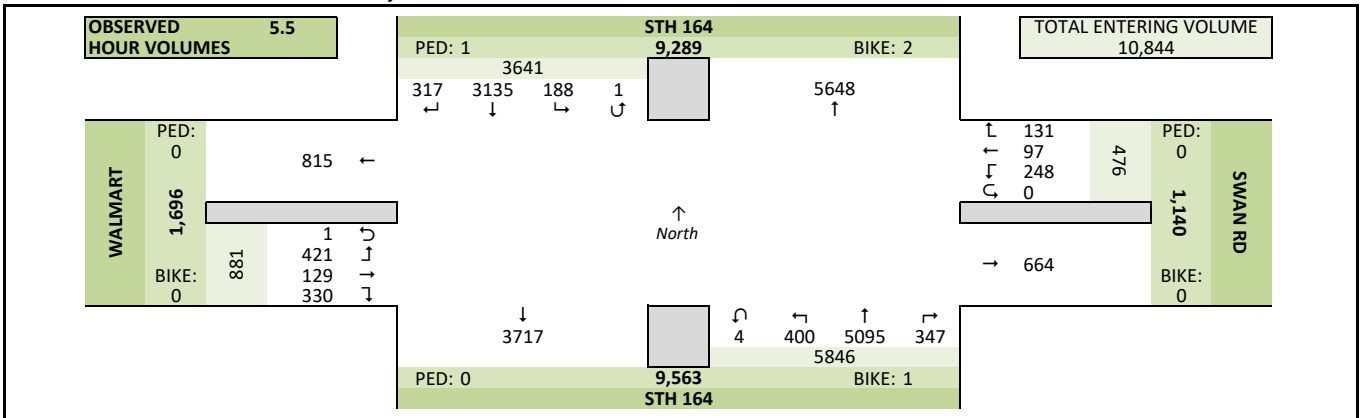
Site Information

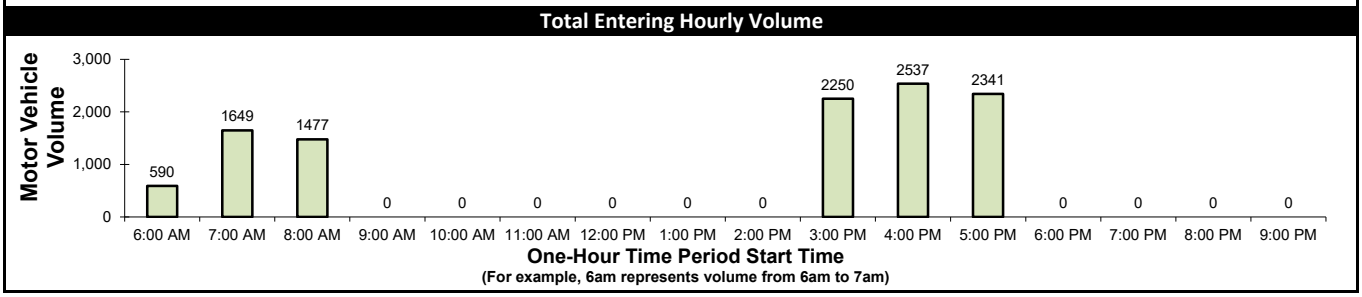
Municipality	City of Pewaukee		
County	67 - Waukesha	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names		North Direction	↑
North Leg	STH 164		
East Leg	SWAN RD		
South Leg	STH 164		
West Leg	WALMART		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None	None	

Count Information

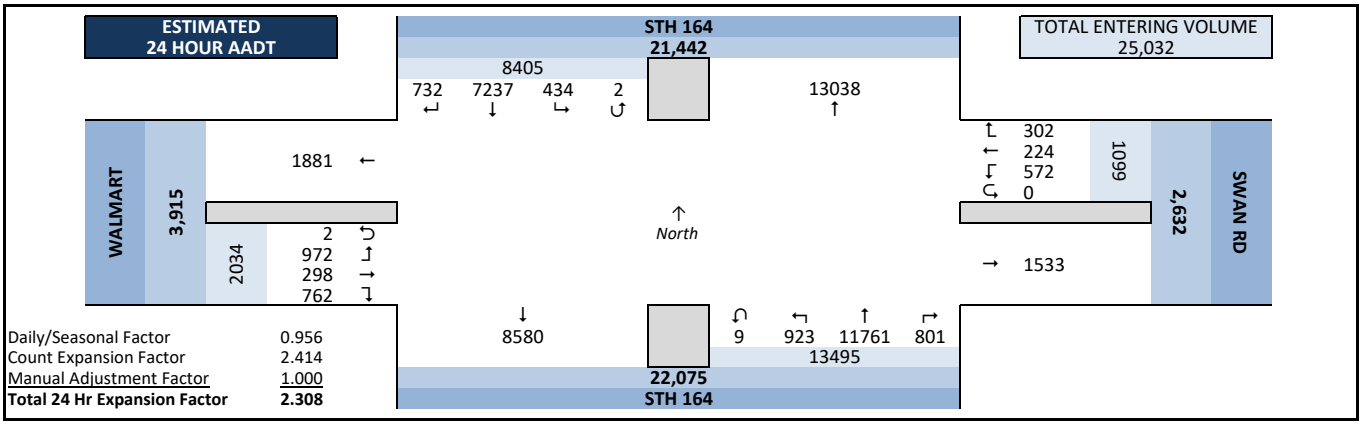
Hrs Counted:	06:30 AM-09:00 AM and 03:00 PM-06:00 PM				
1st Day of Count	Tuesday, April 11, 2023			Weather	
AM Peak Period	Tuesday, April 11, 2023			Clear & Dry	
Midday Peak Period	Tuesday, April 11, 2023			Clear & Dry	
PM Peak Period	Tuesday, April 11, 2023			Clear & Dry	
Calculated Peak Hours					
AM	7:15-8:15am	MD		PM	4:15-5:15pm
Peak Hours Selected for Analysis					
AM	7:30-8:30am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors				
Count Expansion Group	(2) Urban Arterials & Collectors				
Daily/Seasonal Adjustment Factor	0.956	Count Expansion Factor	2.414		
Company Name	TADI, Inc.			Manual Adj.	1.000
Observers: AM Peak Period	LuAnn Gaertner				
Observers: Midday Peak Period	None				
Observers: PM Peak Period	Lori Atwell				
Comments	2021 DOT Daily & Seasonal Factors				

Observed 5.5 Hour Volume Summary





Estimated 24 Hour AADT



Intersection Traffic Volume Report

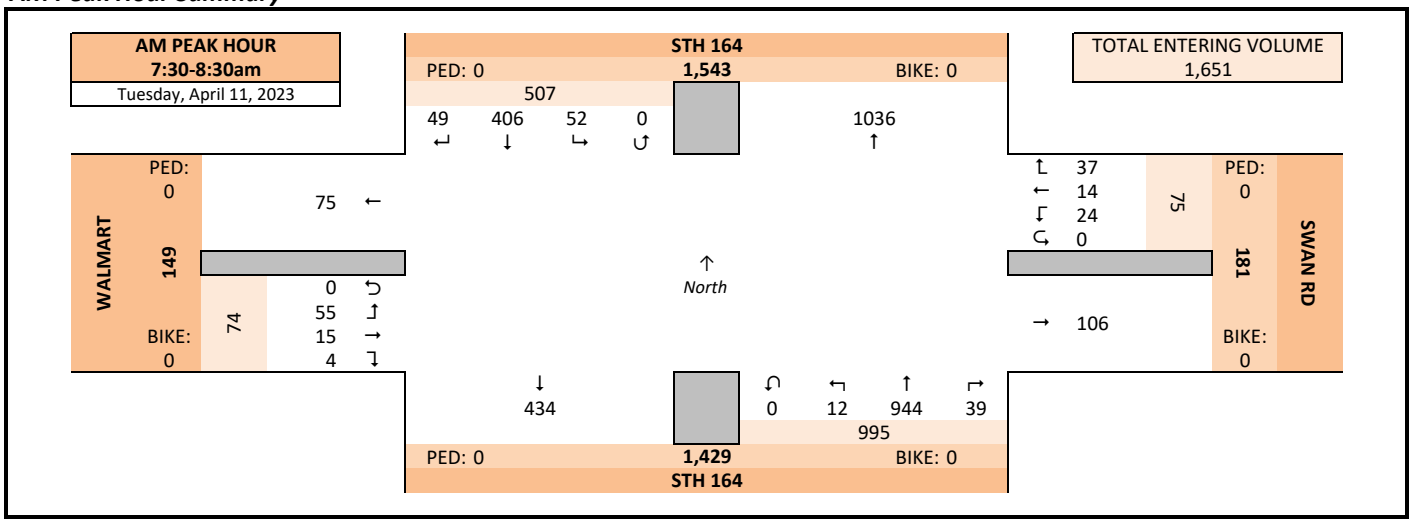
Count Basics			Page 2 of 13
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

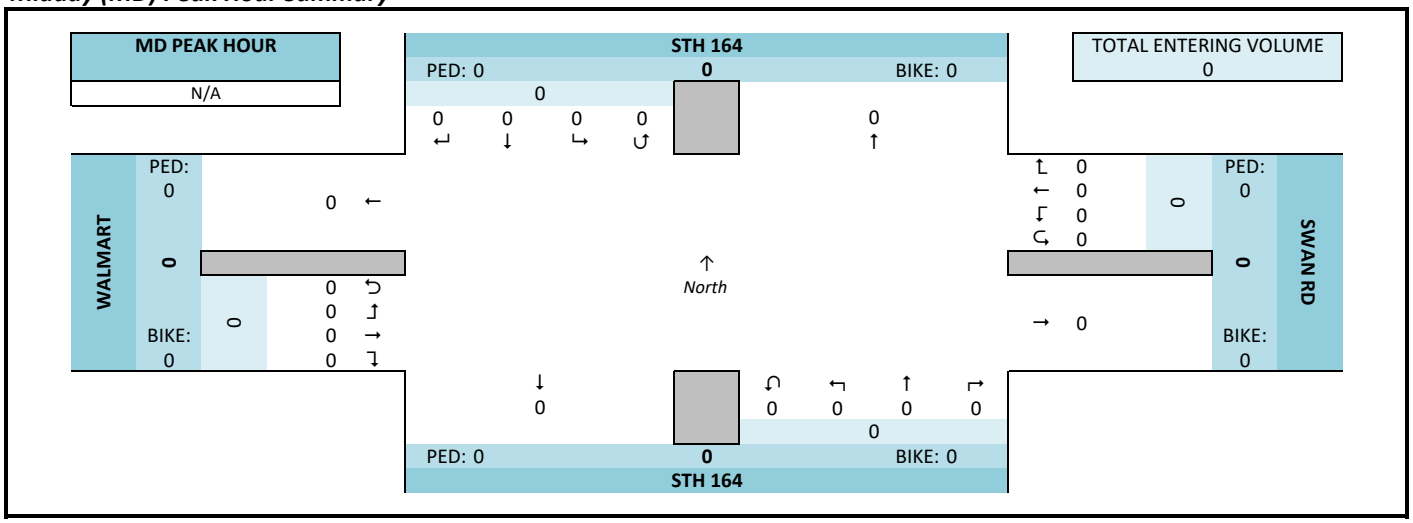
STH 164 & SWAN RD

All Motor Vehicles

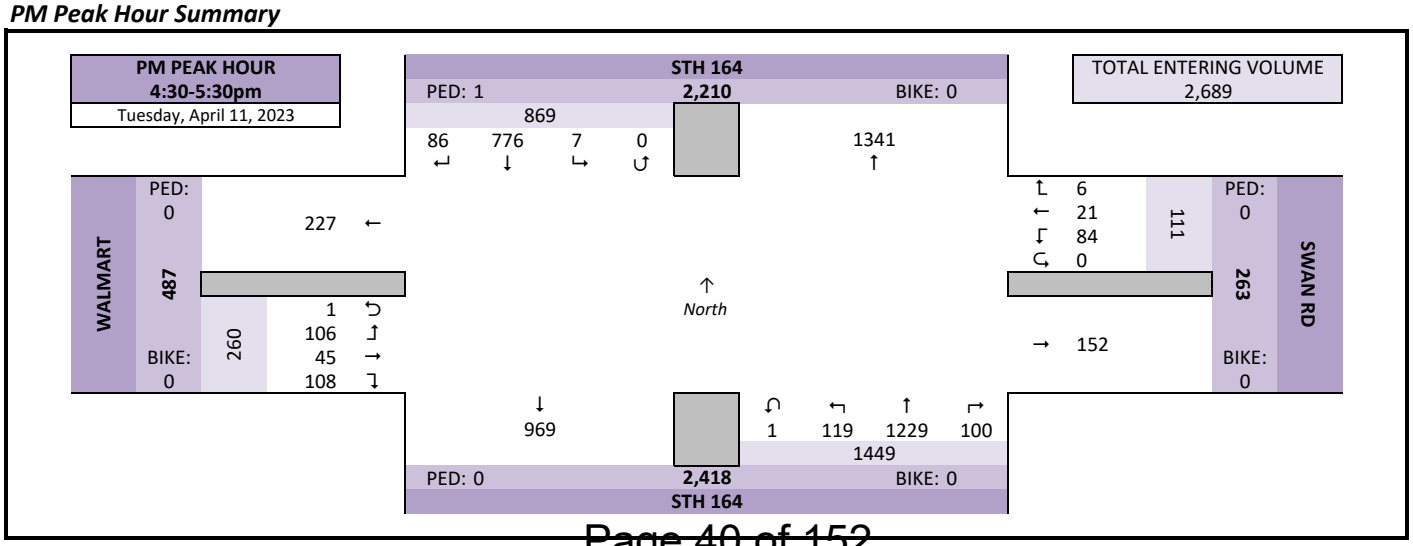
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics			*Page 3 of 13*
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Peak Hour Volume Summary

STH 164 & SWAN RD

All Motor Vehicles

Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, April 11, 2023		From North					From East					From South					From West					
	AM Peak Hour	STH 164					SWAN RD					STH 164					WALMART					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
AM Peak Hour	7:30 AM	7	90	10	0	107	13	3	5	0	21	7	284	1	0	292	2	2	15	0	19	439
	7:45 AM	20	115	15	0	150	9	6	3	0	18	8	258	2	0	268	1	5	14	0	20	456
	8:00 AM	13	102	11	0	126	6	3	5	0	14	13	202	4	0	219	0	2	14	0	16	375
	8:15 AM	9	99	16	0	124	9	2	11	0	22	11	200	5	0	216	1	6	12	0	19	381
	Peak Hour Volume	49	406	52	0	507	37	14	24	0	75	39	944	12	0	995	4	15	55	0	74	1651
	Rounded Hourly Volume	50	405	50	0	505	35	15	25	0	75	40	945	10	0	995	5	15	55	0	75	1650
	% Single Unit Trucks	16.3	8.1	3.8	0.0	8.5	5.4	14.3	0.0	0.0	5.3	5.1	4.2	25.0	0.0	4.5	0.0	13.3	5.5	0.0	6.8	5.9
	% Heavy Trucks	2.0	2.2	3.8	0.0	2.4	8.1	0.0	0.0	0.0	4.0	0.0	1.3	0.0	0.0	1.2	25.0	0.0	1.8	0.0	2.7	1.8
	% Trucks (Total)	18.4	10.3	7.7	0.0	10.8	13.5	14.3	0.0	0.0	9.3	5.1	5.5	25.0	0.0	5.7	25.0	13.3	7.3	0.0	9.5	7.6
	Peak Hour Factor (PHF)	0.61	0.88	0.81	0.00	0.84	0.71	0.58	0.55	0.00	0.85	0.75	0.83	0.60	0.00	0.85	0.50	0.62	0.92	0.00	0.92	0.91

N/A		From North					From East					From South					From West					
	MD Peak Hour	STH 164					SWAN RD					STH 164					WALMART					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tuesday, April 11, 2023		From North					From East					From South					From West					
	PM Peak Hour	STH 164					SWAN RD					STH 164					WALMART					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
PM Peak Hour	4:30 PM	20	218	1	0	239	3	2	26	0	31	28	321	36	0	385	19	6	22	0	47	702
	4:45 PM	19	182	2	0	203	0	9	17	0	26	22	322	23	0	367	33	12	19	1	65	661
	5:00 PM	25	201	2	0	228	2	6	19	0	27	29	286	35	0	350	28	19	43	0	90	695
	5:15 PM	22	175	2	0	199	1	4	22	0	27	21	300	25	1	347	28	8	22	0	58	631
	Peak Hour Volume	86	776	7	0	869	6	21	84	0	111	100	1229	119	1	1449	108	45	106	1	260	2689
	Rounded Hourly Volume	85	775	5	0	865	5	20	85	0	110	100	1230	120	0	1450	110	45	105	0	260	2685
	% Single Unit Trucks	1.2	2.7	0.0	0.0	2.5	0.0	0.0	4.8	0.0	3.6	0.0	1.5	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.6
	% Heavy Trucks	0.0	0.8	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3
	% Trucks (Total)	1.2	3.5	0.0	0.0	3.2	0.0	0.0	4.8	0.0	3.6	0.0	1.6	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.9
	Peak Hour Factor (PHF)	0.86	0.89	0.87	0.00	0.91	0.50	0.58	0.81	0.00	0.90	0.86	0.95	0.83	0.25	0.94	0.82	0.59	0.62	0.25	0.72	0.96

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
		STH 164			SWAN RD			STH 164			WALMART			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	1	0	1	0	0	0	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	1	0	1	0	0	0	0	0	0	0	0	0	1

Intersection Traffic Volume Report

Count Basics		*Page 5 of 13*
Start Date: Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

STH 164 & SWAN RD

All Motor Vehicles

15-Minute Motor Vehicle Data

	15-Minute Time Period	From North (↓) STH 164					From East (←) SWAN RD					From South (↑) STH 164					From West (→) WALMART					15-Min	Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum	PHF
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	6	63	15	0	84	7	1	2	0	10	9	158	1	0	168	1	2	6	0	9	271	1344	0.84
	6:45 AM	9	82	14	0	105	8	3	2	0	13	11	172	0	0	183	2	3	13	0	18	319	1512	0.86
	7:00 AM	7	71	13	0	91	21	1	5	0	27	10	198	4	0	212	1	1	20	0	22	352	1649	0.90
	7:15 AM	14	103	13	0	130	11	2	7	0	20	8	229	4	0	241	1	2	8	0	11	402	1672	0.92
	7:30 AM	7	90	10	0	107	13	3	5	0	21	7	284	1	0	292	2	2	15	0	19	439	1651	0.91
	7:45 AM	20	115	15	0	150	9	6	3	0	18	8	258	2	0	268	1	5	14	0	20	456	1562	0.86
	8:00 AM	13	102	11	0	126	6	3	5	0	14	13	202	4	0	219	0	2	14	0	16	375	1477	0.97
	8:15 AM	9	99	16	0	124	9	2	11	0	22	11	200	5	0	216	1	6	12	0	19	381		
	8:30 AM	14	98	34	1	147	5	7	6	0	18	7	160	2	0	169	1	1	14	0	16	350		
	8:45 AM	9	104	20	0	133	16	3	14	0	33	25	165	2	0	192	0	3	10	0	13	371		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	14	172	2	0	188	4	4	14	0	22	21	210	29	1	261	22	8	33	0	63	534	2250	0.95
	3:15 PM	19	167	2	0	188	3	6	17	0	26	9	233	28	0	270	30	8	22	0	60	544	2246	0.95
	3:30 PM	17	188	3	0	208	1	3	7	0	11	22	259	41	1	323	16	6	16	0	38	580	2346	0.91
	3:45 PM	18	197	5	0	220	3	4	9	0	16	24	241	32	0	297	30	3	26	0	59	592	2468	0.88
	4:00 PM	12	153	1	0	166	4	9	14	0	27	11	229	38	1	279	31	5	22	0	58	530	2537	0.90
	4:15 PM	12	208	2	0	222	3	4	19	0	26	14	268	35	0	317	34	13	32	0	79	644	2702	0.96
	4:30 PM	20	218	1	0	239	3	2	26	0	31	28	321	36	0	385	19	6	22	0	47	702	2689	0.96
	4:45 PM	19	182	2	0	203	0	9	17	0	26	22	322	23	0	367	33	12	19	1	65	661	2526	0.91
	5:00 PM	25	201	2	0	228	2	6	19	0	27	29	286	35	0	350	28	19	43	0	90	695	2341	0.84
	5:15 PM	22	175	2	0	199	1	4	22	0	27	21	300	25	1	347	28	8	22	0	58	631		
	5:30 PM	15	173	4	0	192	1	6	8	0	15	23	223	35	0	281	25	9	17	0	51	539		
	5:45 PM	16	174	1	0	191	1	9	16	0	26	14	177	18	0	209	24	5	21	0	50	476		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		317	3135	188	1	3641	131	97	248	0	476	347	5095	400	4	5846	330	129	421	1	881	10844		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period	From North (↓) STH 164					From East (←) SWAN RD					From South (↑) STH 164					From West (→) WALMART					Total Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume	PHF
AM	7:30 AM	49	406	52	0	507	37	14	24	0	75	39	944	12	0	995	4	15	55	0	74	1651	0.91
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	86	776	7	0	869	6	21	84	0	111	108	1329	129	1	1445	108	45	106	1	260	2689	0.96

Intersection Traffic Volume Report

Count Basics			*Page 9 of 13*
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

STH 164 & SWAN RD

15-Minute Heavy Vehicle Data

	15-Minute	From North					From East					From South					From West						
	Time Period	STH 164					SWAN RD					STH 164					WALMART					15-Min	Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 AM	1	1	2	0	4	0	0	0	0	0	1	14	0	0	15	0	0	0	0	0	19	67
	6:45 AM	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	0	0	1	0	1	11	78
	7:00 AM	0	7	2	0	9	1	0	0	0	1	1	12	0	0	13	0	0	1	0	1	24	95
	7:15 AM	2	3	2	0	7	1	0	0	0	1	0	4	1	0	5	0	0	0	0	0	13	102
	7:30 AM	1	7	3	0	11	1	0	0	0	1	0	17	1	0	18	0	0	0	0	0	30	126
	7:45 AM	4	9	1	0	14	1	0	0	0	1	0	12	0	0	12	0	1	0	0	1	28	121
	8:00 AM	2	11	0	0	13	2	1	0	0	3	1	10	2	0	13	0	0	2	0	2	31	126
	8:15 AM	2	15	0	0	17	1	1	0	0	2	1	13	0	0	14	1	1	2	0	4	37	
	8:30 AM	2	8	3	0	13	0	0	2	0	2	1	9	0	0	10	0	0	0	0	0	25	
	8:45 AM	0	15	2	0	17	1	0	0	0	1	0	14	0	0	14	0	1	0	0	1	33	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	2	8	0	0	10	0	1	0	0	1	2	10	0	0	12	1	0	0	0	1	24	81
	3:15 PM	0	12	0	0	12	0	0	2	0	2	0	4	0	0	4	0	0	0	0	0	18	68
	3:30 PM	1	6	0	0	7	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	14	71
	3:45 PM	0	10	1	0	11	0	0	1	0	1	1	10	1	0	12	0	1	0	0	1	25	73
	4:00 PM	0	5	0	0	5	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	11	58
	4:15 PM	0	9	0	0	9	1	0	3	0	4	0	7	1	0	8	0	0	0	0	0	21	60
	4:30 PM	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	16	52
	4:45 PM	0	4	0	0	4	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	10	50
	5:00 PM	0	9	0	0	9	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	13	48
	5:15 PM	1	5	0	0	6	0	0	3	0	3	0	4	0	0	4	0	0	0	0	0	13	
	5:30 PM	1	4	0	0	5	0	0	0	0	0	0	7	2	0	9	0	0	0	0	0	14	
	5:45 PM	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	8	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		19	167	16	0	202	9	3	13	0	25	9	182	8	0	199	2	4	6	0	12	438	

Peak Hour Heavy Vehicle Volume Summary

	Hourly	From North					From East					From South					From West					Total
	Time Period	STH 164					SWAN RD					STH 164					WALMART					Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:30 AM	9	42	4	0	55	5	2	0	0	7	2	52	3	0	57	1	2	4	0	7	126
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	1	27	0	0	28	0	0	4	0	4	0	20	0	0	20	0	0	0	0	0	52

Intersection Traffic Volume Report

Count Basics	Version 2022.11.2		Page 1 of 13
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Base Information, Observed (5.5) Hour and Estimated (24) Hour Volume Summaries

Major St: **BROKEN HILL CIR S**
Minor St: **HIGHFIELD RD**
Intersection of: ***BROKEN HILL CIR S & HIGHFIELD RD***

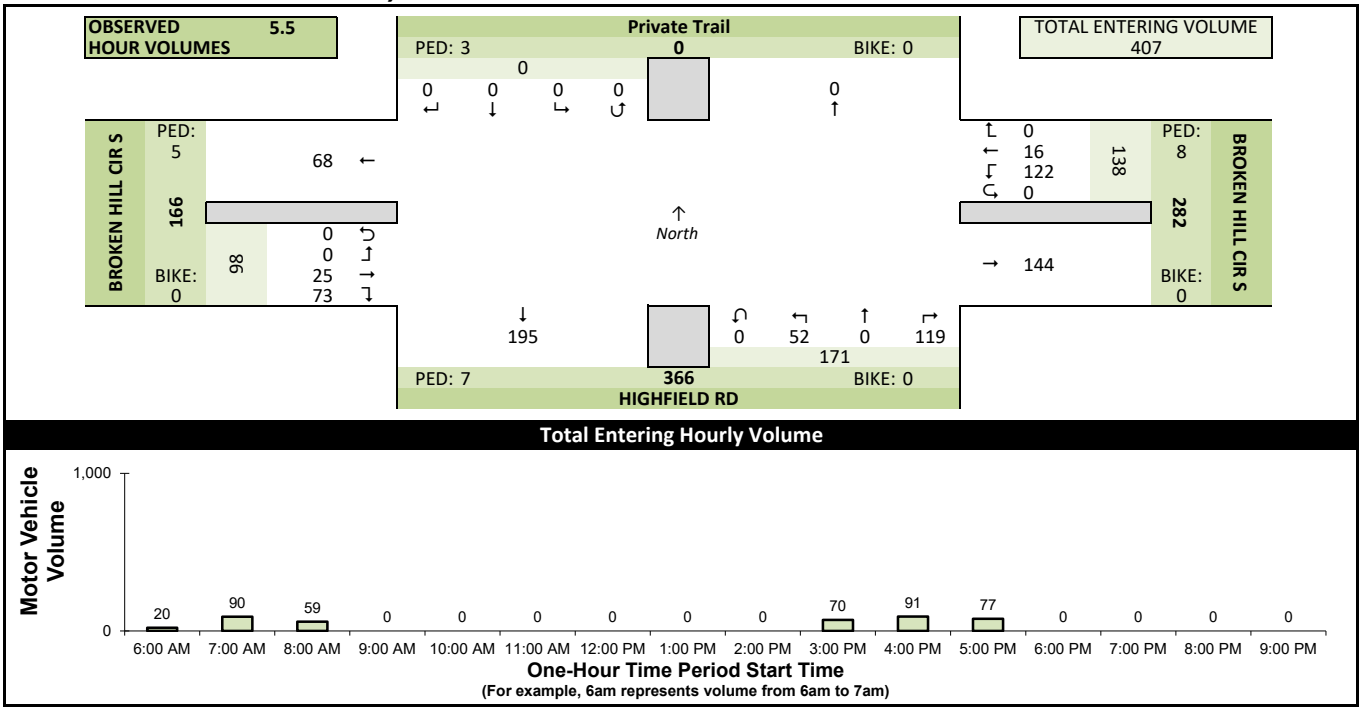
Site Information

Municipality	City of Pewaukee		
County	67 - Waukesha	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	Private Trail		
East Leg	BROKEN HILL CIR S		
South Leg	HIGHFIELD RD		
West Leg	BROKEN HILL CIR S		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None	None	

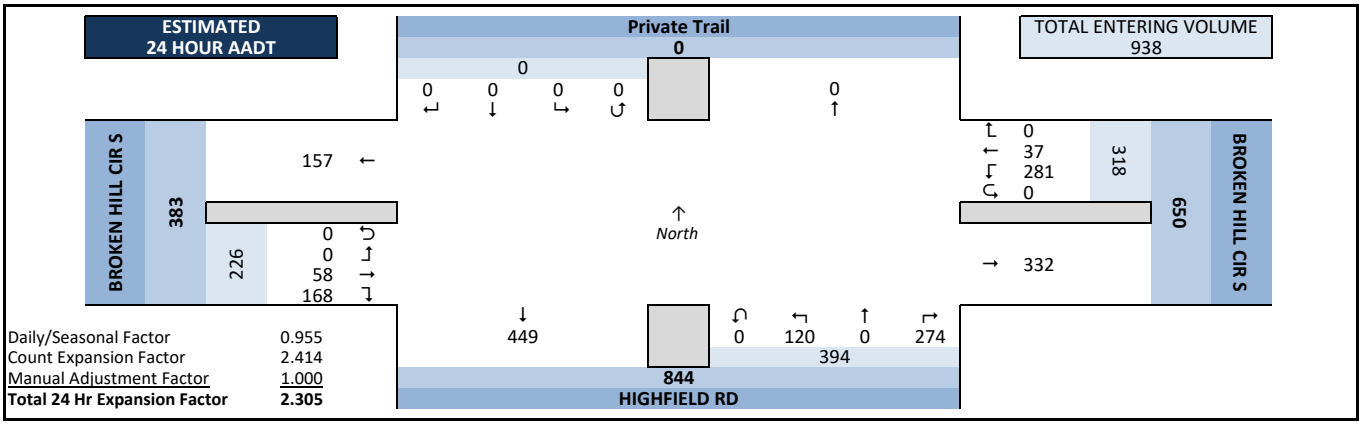
Count Information

Hrs Counted:	06:30 AM-09:00 AM and 03:00 PM-06:00 PM				
1st Day of Count	Tuesday, April 11, 2023			Weather	
AM Peak Period	Wednesday, April 12, 2023			Clear & Dry	
Midday Peak Period	Tuesday, April 11, 2023			Clear & Dry	
PM Peak Period	Tuesday, April 11, 2023			Clear & Dry	
Calculated Peak Hours					
AM	7:30-8:30am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:30-8:30am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors				
Count Expansion Group	(2) Urban Arterials & Collectors				
Daily/Seasonal Adjustment Factor	0.955	Count Expansion Factor	2.414		
Company Name	TADI, Inc.			Manual Adj.	1.000
Observers: AM Peak Period	Wendy Picard				
Observers: Midday Peak Period	None				
Observers: PM Peak Period	Dani Ruffalo				
Comments	2021 DOT Daily & Seasonal Factors				

Observed 5.5 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

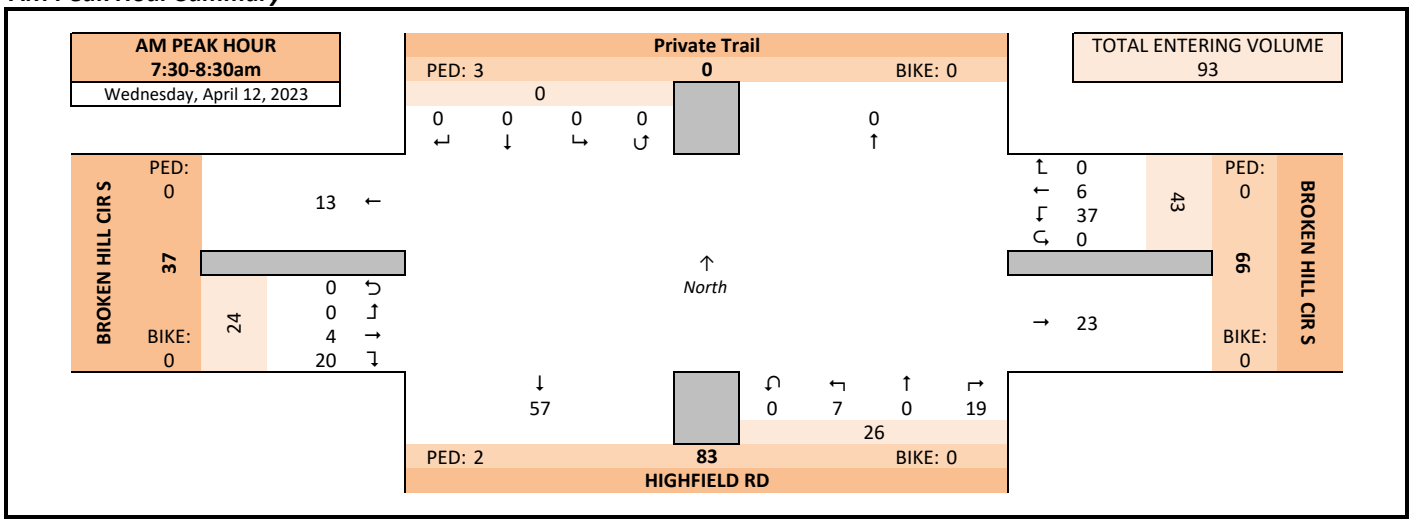
Count Basics			Page 2 of 13
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

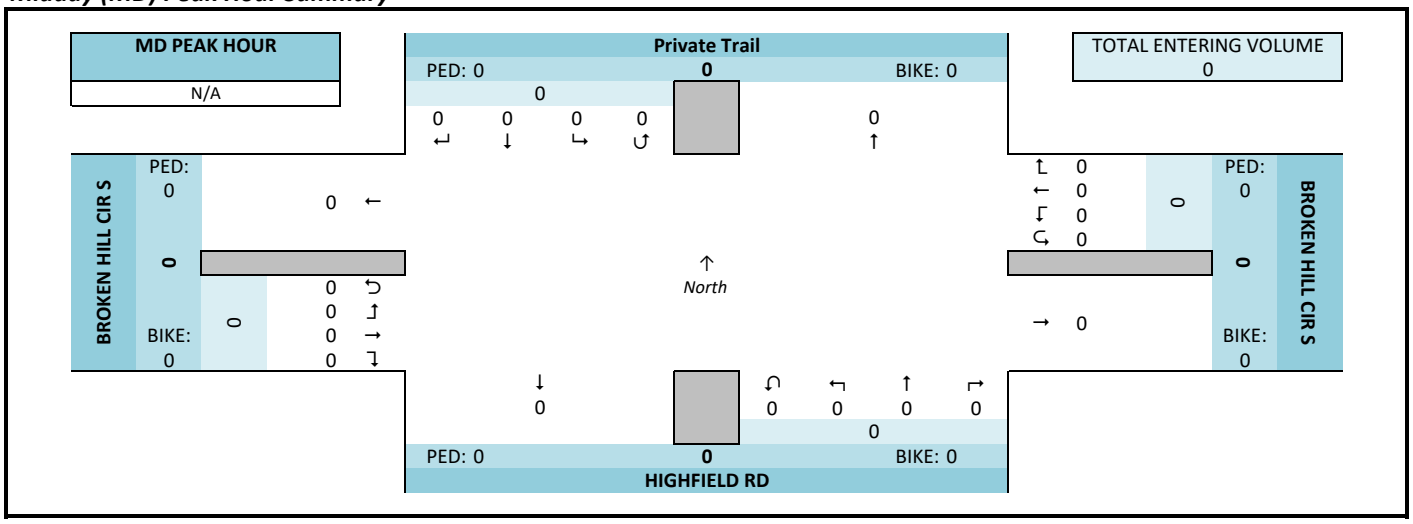
BROKEN HILL CIR S & HIGHFIELD RD

All Motor Vehicles

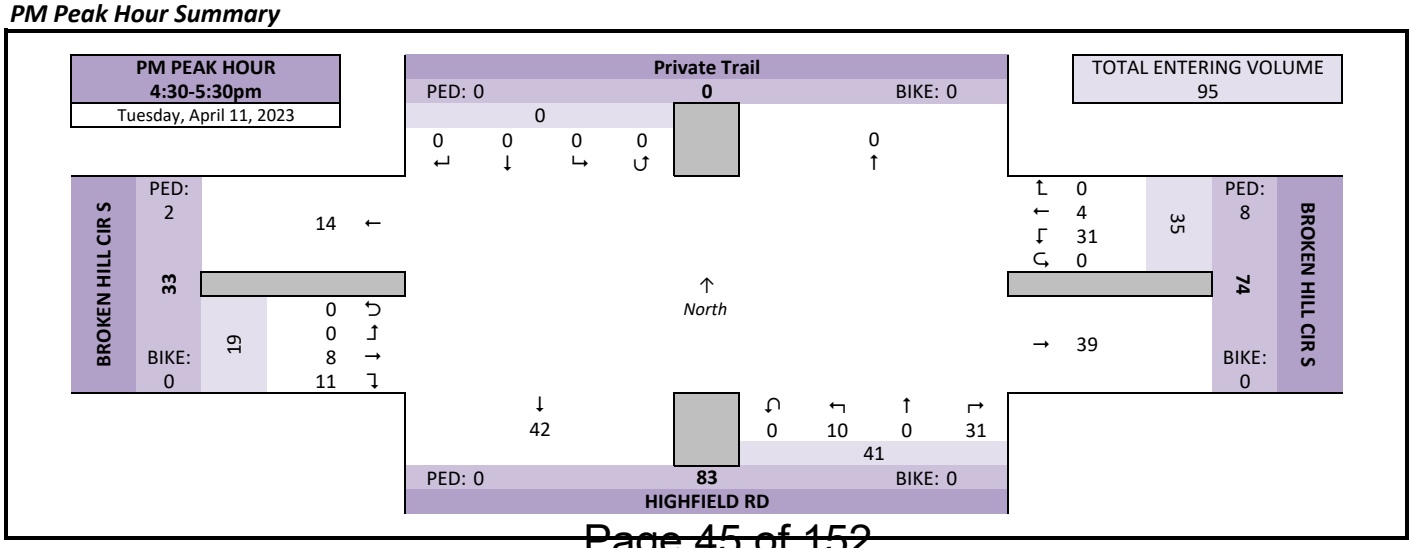
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics			*Page 3 of 13*
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Peak Hour Volume Summary

BROKEN HILL CIR S & HIGHFIELD RD

All Motor Vehicles

Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, April 12, 2023		From North					From East					From South					From West					
	AM Peak Hour	Private Trail					BROKEN HILL CIR S					HIGHFIELD RD					BROKEN HILL CIR S					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
AM Peak Hour	7:30 AM	0	0	0	0	0	0	2	6	0	8	5	0	3	0	8	4	1	0	0	5	21
	7:45 AM	0	0	0	0	0	0	1	13	0	14	7	0	1	0	8	7	1	0	0	8	30
	8:00 AM	0	0	0	0	0	0	1	6	0	7	4	0	0	0	4	6	1	0	0	7	18
	8:15 AM	0	0	0	0	0	0	2	12	0	14	3	0	3	0	6	3	1	0	0	4	24
	Peak Hour Volume	0	0	0	0	0	0	6	37	0	43	19	0	7	0	26	20	4	0	0	24	93
	Rounded Hourly Volume	0	0	0	0	0	0	5	35	0	40	20	0	5	0	25	20	5	0	0	25	90
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	14.3	0.0	11.5	10.0	50.0	0.0	0.0	16.7	7.5
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	14.3	0.0	11.5	10.0	50.0	0.0	0.0	16.7	7.5
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.71	0.00	0.77	0.68	0.00	0.58	0.00	0.81	0.71	1.00	0.00	0.00	0.75	0.77

N/A		From North					From East					From South					From West					
	MD Peak Hour	Private Trail					BROKEN HILL CIR S					HIGHFIELD RD					BROKEN HILL CIR S					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tuesday, April 11, 2023		From North					From East					From South					From West					
	PM Peak Hour	Private Trail					BROKEN HILL CIR S					HIGHFIELD RD					BROKEN HILL CIR S					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
PM Peak Hour	4:30 PM	0	0	0	0	0	0	0	8	0	8	9	0	2	0	11	5	3	0	0	8	27
	4:45 PM	0	0	0	0	0	0	3	11	0	14	6	0	3	0	9	2	2	0	0	4	27
	5:00 PM	0	0	0	0	0	0	0	9	0	9	8	0	3	0	11	3	2	0	0	5	25
	5:15 PM	0	0	0	0	0	0	1	3	0	4	8	0	2	0	10	1	1	0	0	2	16
	Peak Hour Volume	0	0	0	0	0	0	4	31	0	35	31	0	10	0	41	11	8	0	0	19	95
	Rounded Hourly Volume	0	0	0	0	0	0	5	30	0	35	30	0	10	0	40	10	10	0	0	20	95
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	0.0	8.6	3.2	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	4.2
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	0.0	8.6	3.2	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	4.2
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.70	0.00	0.62	0.86	0.00	0.83	0.00	0.93	0.55	0.67	0.00	0.00	0.59	0.88

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
		Private Trail			BROKEN HILL CIR S			HIGHFIELD RD			BROKEN HILL CIR S			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	1	0	1	0	0	0	1
	8:00 AM	2	0	2	0	0	0	1	0	1	0	0	0	3
	8:15 AM	1	0	1	0	0	0	0	0	0	0	0	0	1
	Total	3	0	3	0	0	0	2	0	2	0	0	0	5
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	4	0	4	0	0	0	0	0	0	4
	4:45 PM	0	0	0	4	0	4	0	0	0	0	0	0	4
	5:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	8	0	8	0	0	0	2	0	2	10

Intersection Traffic Volume Report

Count Basics		*Page 5 of 13*
Start Date: Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

BROKEN HILL CIR S & HIGHFIELD RD

All Motor Vehicles

15-Minute Motor Vehicle Data

	15-Minute	From North (↓)					From East (←)					From South (↑)					From West (→)							
	Time Period	Private Trail					BROKEN HILL CIR S					HIGHFIELD RD					BROKEN HILL CIR S					15-Min	Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum	PHF
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	0	0	0	0	0	0	0	1	0	1	2	0	1	0	3	2	0	0	0	2	6	59	0.64
	6:45 AM	0	0	0	0	0	0	0	5	0	5	3	0	0	0	3	6	0	0	0	6	14	74	0.80
	7:00 AM	0	0	0	0	0	0	0	14	0	14	2	0	0	0	2	7	0	0	0	7	23	90	0.75
	7:15 AM	0	0	0	0	0	0	0	4	0	4	4	0	3	0	7	3	2	0	0	5	16	85	0.71
	7:30 AM	0	0	0	0	0	0	2	6	0	8	5	0	3	0	8	4	1	0	0	5	21	93	0.78
	7:45 AM	0	0	0	0	0	0	1	13	0	14	7	0	1	0	8	7	1	0	0	8	30	88	0.73
	8:00 AM	0	0	0	0	0	0	1	6	0	7	4	0	0	0	4	6	1	0	0	7	18	59	0.61
	8:15 AM	0	0	0	0	0	0	2	12	0	14	3	0	3	0	6	3	1	0	0	4	24		
	8:30 AM	0	0	0	0	0	0	1	7	0	8	4	0	1	0	5	2	1	0	0	3	16		
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	0	0	0	0	0	0	0	1	0	1	4	0	4	0	8	3	1	0	0	4	13	70	0.83
	3:15 PM	0	0	0	0	0	0	2	1	0	3	9	0	4	0	13	2	2	0	0	4	20	80	0.87
	3:30 PM	0	0	0	0	0	0	1	3	0	4	4	0	5	0	9	3	0	0	0	3	16	74	0.80
	3:45 PM	0	0	0	0	0	0	0	4	0	4	5	0	3	0	8	5	4	0	0	9	21	85	0.79
	4:00 PM	0	0	0	0	0	0	1	6	0	7	7	0	6	0	13	3	0	0	0	3	23	91	0.84
	4:15 PM	0	0	0	0	0	0	0	3	0	3	5	0	2	0	7	2	2	0	0	4	14	93	0.86
	4:30 PM	0	0	0	0	0	0	0	8	0	8	9	0	2	0	11	5	3	0	0	8	27	95	0.88
	4:45 PM	0	0	0	0	0	0	3	11	0	14	6	0	3	0	9	2	2	0	0	4	27	90	0.83
	5:00 PM	0	0	0	0	0	0	0	9	0	9	8	0	3	0	11	3	2	0	0	5	25	77	0.77
	5:15 PM	0	0	0	0	0	0	1	3	0	4	8	0	2	0	10	1	1	0	0	2	16		
	5:30 PM	0	0	0	0	0	0	1	2	0	3	14	0	2	0	16	2	1	0	0	3	22		
	5:45 PM	0	0	0	0	0	0	0	3	0	3	5	0	4	0	9	2	0	0	0	2	14		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		0	0	0	0	0	0	16	122	0	138	119	0	52	0	171	73	25	0	0	98	407		

Peak Hour All Vehicle Volume Summary

	Hourly	From North (↓)					From East (←)					From South (↑)					From West (→)					Total		
	Time Period	Private Trail					BROKEN HILL CIR S					HIGHFIELD RD					BROKEN HILL CIR S					Hourly		
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume	PHF	
AM	7:30 AM	0	0	0	0	0	0	6	37	0	43	19	0	7	0	26	20	4	0	0	24	93	0.78	
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM	4:30 PM	0	0	0	0	0	0	4	31	0	35	30	0	20	0	50	11	8	0	0	19	95	0.88	

Intersection Traffic Volume Report

Count Basics			*Page 9 of 13*
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

BROKEN HILL CIR S & HIGHFIELD RD

15-Minute Heavy Vehicle Data

	15-Minute	From North (↓)					From East (←)					From South (↑)					From West (→)					15-Min	Hourly
	Time Period	Private Trail					BROKEN HILL CIR S					HIGHFIELD RD					BROKEN HILL CIR S					Totals	Sum
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	3	5
	6:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	2	3
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	7
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	2	7
	8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	2	3	5
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	3:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	2	3
	4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	3
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	4:45 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	4
	5:00 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2	3
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		0	0	0	0	0	0	0	3	0	3	9	0	2	0	11	5	2	0	0	7	21	

Peak Hour Heavy Vehicle Volume Summary

	Hourly	From North (↓)					From East (←)					From South (↑)					From West (→)					Total
	Time Period	Private Trail					BROKEN HILL CIR S					HIGHFIELD RD					BROKEN HILL CIR S					Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	2	2	0	0	4	7
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	3	0	3	1	0	0	0	1	0	0	0	0	0	4

Intersection Traffic Volume Report

Count Basics	Version 2022.11.2		Page 1 of 13
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Base Information, Observed (5.5) Hour and Estimated (24) Hour Volume Summaries

Major St: **HIGHFIELD RD**
Minor St: **HIGHFIELD COURT**
Intersection of: ***HIGHFIELD RD & HIGHFIELD COURT***

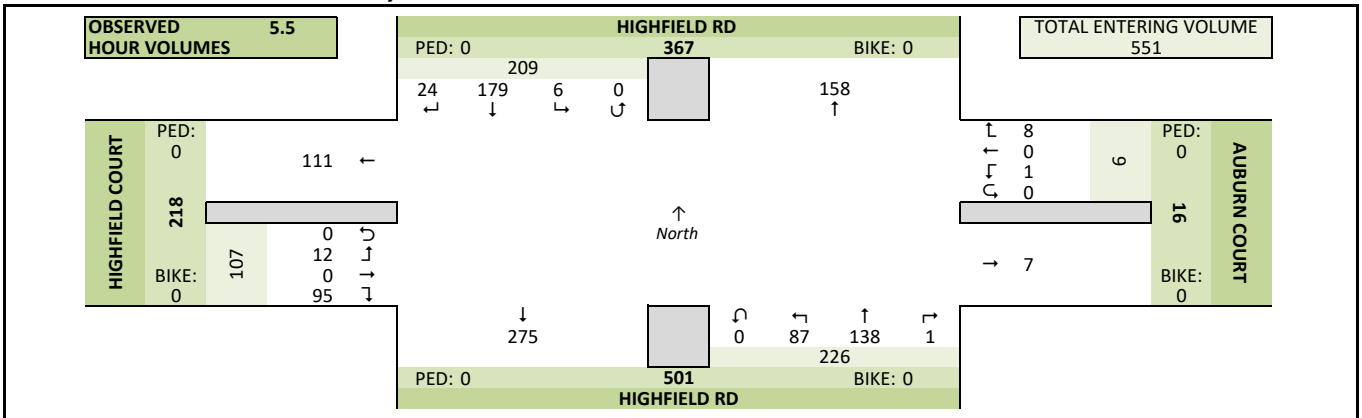
Site Information

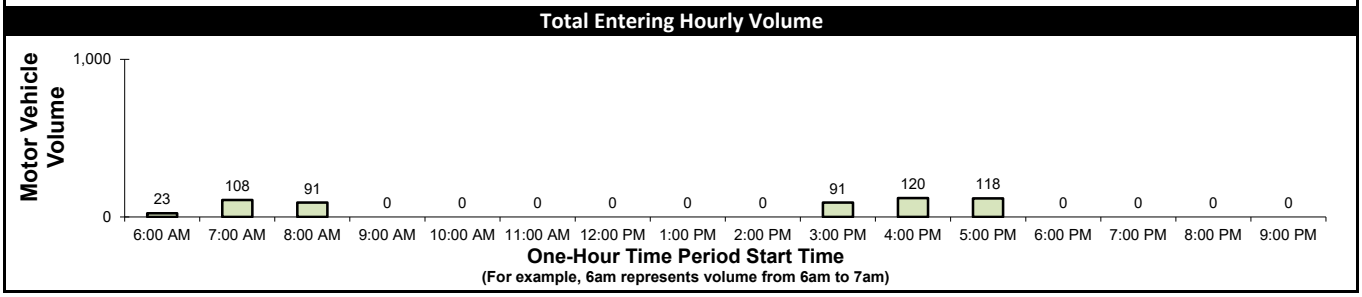
Municipality	City of Pewaukee		
County	67 - Waukesha	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	HIGHFIELD RD		
East Leg	AUBURN COURT		
South Leg	HIGHFIELD RD		
West Leg	HIGHFIELD COURT		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None	None	

Count Information

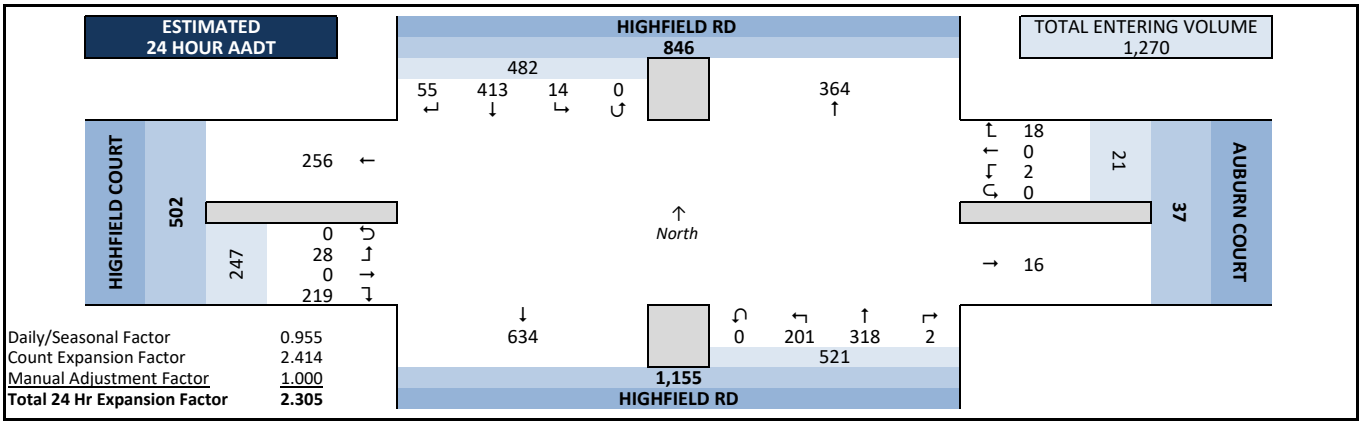
Hrs Counted:	06:30 AM-09:00 AM and 03:00 PM-06:00 PM				
1st Day of Count	Tuesday, April 11, 2023			Weather	
AM Peak Period	Wednesday, April 12, 2023			Clear & Dry	
Midday Peak Period	Wednesday, April 12, 2023			Clear & Dry	
PM Peak Period	Tuesday, April 11, 2023			Clear & Dry	
Calculated Peak Hours					
AM	7:45-8:45am	MD		PM	4:45-5:45pm
Peak Hours Selected for Analysis					
AM	7:30-8:30am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors				
Count Expansion Group	(2) Urban Arterials & Collectors				
Daily/Seasonal Adjustment Factor	0.955	Count Expansion Factor	2.414		
Company Name	TADI, Inc.			Manual Adj.	1.000
Observers: AM Peak Period	LuAnn Gaertner				
Observers: Midday Peak Period	None				
Observers: PM Peak Period	Jane Fait				
Comments	2021 DOT Daily & Seasonal Factors				

Observed 5.5 Hour Volume Summary





Estimated 24 Hour AADT



Intersection Traffic Volume Report

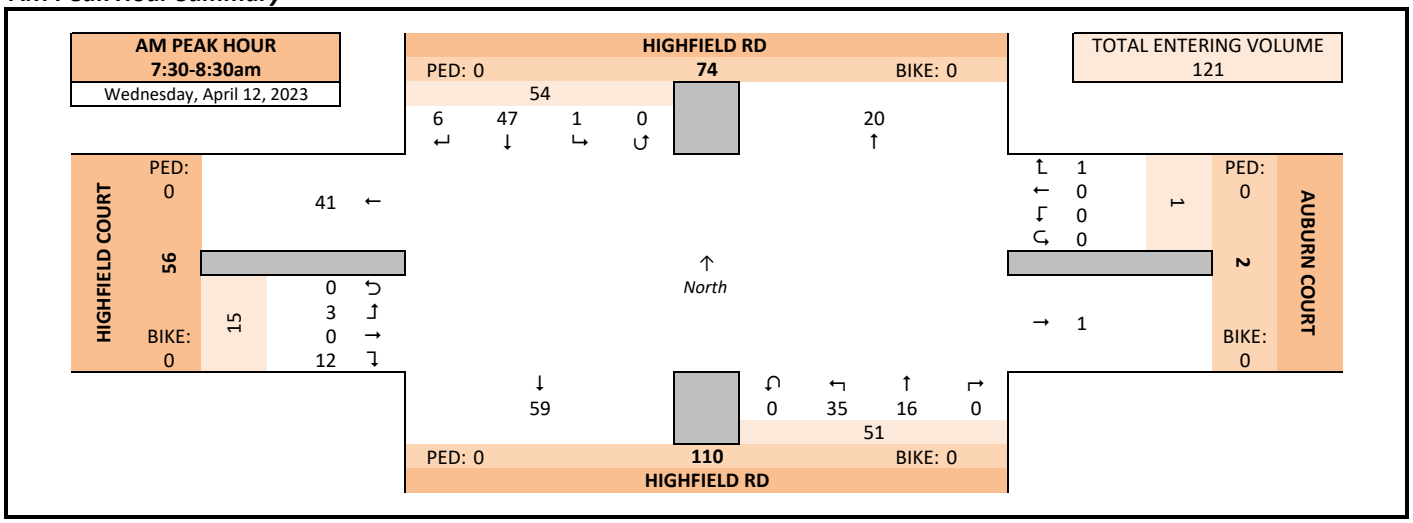
Count Basics			*Page 2 of 13*
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

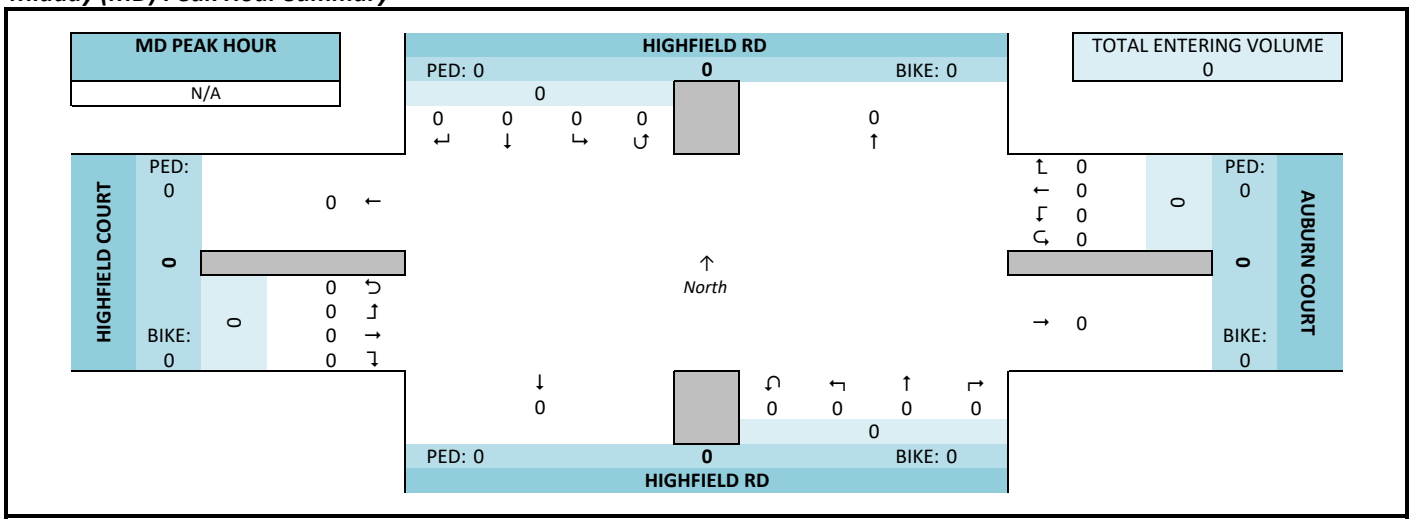
HIGHFIELD RD & HIGHFIELD COURT

All Motor Vehicles

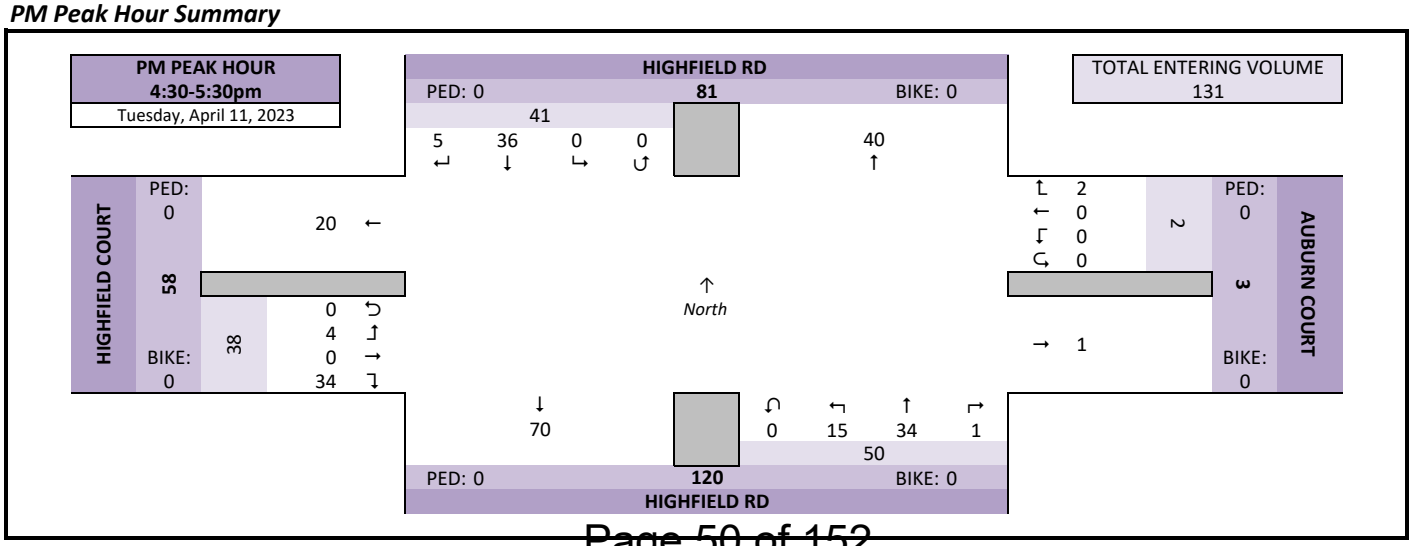
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

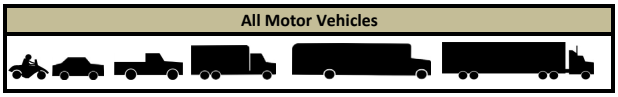


Intersection Traffic Volume Report

Count Basics			*Page 3 of 13*
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Peak Hour Volume Summary

HIGHFIELD RD & HIGHFIELD COURT



Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, April 12, 2023		From North					From East					From South					From West					
	AM Peak Hour	HIGHFIELD RD					AUBURN COURT					HIGHFIELD RD					HIGHFIELD COURT					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
AM Peak Hour	7:30 AM	1	5	1	0	7	0	0	0	0	0	0	5	9	0	14	4	0	0	0	4	25
	7:45 AM	2	18	0	0	20	0	0	0	0	0	0	3	8	0	11	3	0	1	0	4	35
	8:00 AM	1	11	0	0	12	1	0	0	0	1	0	3	9	0	12	2	0	1	0	3	28
	8:15 AM	2	13	0	0	15	0	0	0	0	0	0	5	9	0	14	3	0	1	0	4	33
	Peak Hour Volume	6	47	1	0	54	1	0	0	0	1	0	16	35	0	51	12	0	3	0	15	121
	Rounded Hourly Volume	5	45	0	0	50	0	0	0	0	0	0	15	35	0	50	10	0	5	0	15	115
	% Single Unit Trucks	16.7	2.1	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	12.5	2.9	0.0	5.9	8.3	0.0	33.3	0.0	13.3	5.8
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	16.7	2.1	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	12.5	2.9	0.0	5.9	8.3	0.0	33.3	0.0	13.3	5.8
	Peak Hour Factor (PHF)	0.75	0.65	0.25	0.00	0.67	0.25	0.00	0.00	0.00	0.25	0.00	0.80	0.97	0.00	0.91	0.75	0.00	0.75	0.00	0.94	0.86

N/A		From North					From East					From South					From West					
	MD Peak Hour	HIGHFIELD RD					AUBURN COURT					HIGHFIELD RD					HIGHFIELD COURT					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tuesday, April 11, 2023		From North					From East					From South					From West					
	PM Peak Hour	HIGHFIELD RD					AUBURN COURT					HIGHFIELD RD					HIGHFIELD COURT					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
PM Peak Hour	4:30 PM	1	12	0	0	13	2	0	0	0	2	1	8	2	0	11	5	0	1	0	6	32
	4:45 PM	1	11	0	0	12	0	0	0	0	0	0	7	7	0	14	10	0	1	0	11	37
	5:00 PM	2	10	0	0	12	0	0	0	0	0	0	9	3	0	12	12	0	2	0	14	38
	5:15 PM	1	3	0	0	4	0	0	0	0	0	0	10	3	0	13	7	0	0	0	7	24
	Peak Hour Volume	5	36	0	0	41	2	0	0	0	2	1	34	15	0	50	34	0	4	0	38	131
	Rounded Hourly Volume	5	35	0	0	40	0	0	0	0	0	0	35	15	0	50	35	0	5	0	40	130
	% Single Unit Trucks	0.0	8.3	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	3.1
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	8.3	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	3.1
	Peak Hour Factor (PHF)	0.62	0.75	0.00	0.00	0.79	0.25	0.00	0.00	0.00	0.25	0.25	0.85	0.54	0.00	0.89	0.71	0.00	0.50	0.00	0.68	0.86

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
		HIGHFIELD RD			AUBURN COURT			HIGHFIELD RD			HIGHFIELD COURT			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Count Basics		*Page 5 of 13*
Start Date: Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

HIGHFIELD RD & HIGHFIELD COURT

All Motor Vehicles

15-Minute Motor Vehicle Data

15-Minute Time Period		From North (↓) HIGHFIELD RD					From East (←) AUBURN COURT					From South (↑) HIGHFIELD RD					From West (→) HIGHFIELD COURT					15-Min	Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum	PHF
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	1	4	0	0	5	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	9	71	0.66
	6:45 AM	2	6	0	0	8	0	0	0	0	0	0	1	2	0	3	3	0	0	0	3	14	87	0.81
	7:00 AM	1	16	0	0	17	1	0	0	0	1	0	4	4	0	8	1	0	0	0	1	27	108	0.77
	7:15 AM	0	15	0	0	15	0	0	0	0	0	0	3	2	0	5	1	0	0	0	1	21	109	0.78
	7:30 AM	1	5	1	0	7	0	0	0	0	0	0	5	9	0	14	4	0	0	0	4	25	121	0.86
	7:45 AM	2	18	0	0	20	0	0	0	0	0	0	3	8	0	11	3	0	1	0	4	35	125	0.89
	8:00 AM	1	11	0	0	12	1	0	0	0	1	0	3	9	0	12	2	0	1	0	3	28	91	0.69
	8:15 AM	2	13	0	0	15	0	0	0	0	0	0	5	9	0	14	3	0	1	0	4	33		
	8:30 AM	1	13	0	0	14	0	0	0	0	0	0	5	6	0	11	4	0	0	0	4	29		
	8:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	2	12	0	0	14	2	0	1	0	3	0	5	3	0	8	2	0	1	0	3	28	91	0.81
	3:15 PM	1	2	0	0	3	0	0	0	0	0	0	11	1	0	12	3	0	0	0	3	18	92	0.79
	3:30 PM	0	4	2	0	6	0	0	0	0	0	0	10	3	0	13	1	0	0	0	1	20	96	0.83
	3:45 PM	1	6	1	0	8	0	0	0	0	0	0	7	5	0	12	5	0	0	0	5	25	108	0.84
	4:00 PM	2	7	0	0	9	0	0	0	0	0	0	11	4	0	15	4	0	1	0	5	29	120	0.81
	4:15 PM	1	4	0	0	5	0	0	0	0	0	0	8	4	0	12	5	0	0	0	5	22	129	0.85
	4:30 PM	1	12	0	0	13	2	0	0	0	2	1	8	2	0	11	5	0	1	0	6	32	131	0.86
	4:45 PM	1	11	0	0	12	0	0	0	0	0	0	7	7	0	14	10	0	1	0	11	37	133	0.88
	5:00 PM	2	10	0	0	12	0	0	0	0	0	0	9	3	0	12	12	0	2	0	14	38	118	0.78
	5:15 PM	1	3	0	0	4	0	0	0	0	0	0	10	3	0	13	7	0	0	0	7	24		
	5:30 PM	0	3	1	0	4	0	0	0	0	0	0	15	0	0	15	14	0	1	0	15	34		
	5:45 PM	0	4	1	0	5	2	0	0	0	2	0	6	2	0	8	6	0	1	0	7	22		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		24	179	6	0	209	8	0	1	0	9	1	138	87	0	226	95	0	12	0	107	551		

Peak Hour All Vehicle Volume Summary

Hourly Time Period		From North (↓) HIGHFIELD RD					From East (←) AUBURN COURT					From South (↑) HIGHFIELD RD					From West (→) HIGHFIELD COURT					Total Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume	PHF
AM	7:30 AM	6	47	1	0	54	1	0	0	0	1	0	16	35	0	51	12	0	3	0	15	121	0.86
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	5	36	0	0	41	2	0	0	0	2	1	34	25	0	60	34	0	4	0	38	131	0.86

Intersection Traffic Volume Report

Count Basics			*Page 9 of 13*
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

HIGHFIELD RD & HIGHFIELD COURT

15-Minute Heavy Vehicle Data

	15-Minute	From North					From East					From South					From West						
	Time Period	HIGHFIELD RD					AUBURN COURT					HIGHFIELD RD					HIGHFIELD COURT					15-Min	Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 AM	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4	5
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	7
	7:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	7
	7:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	3	6
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	3
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
	8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	4
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	3:45 PM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	3
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
	5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	3
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		4	5	0	0	9	1	0	0	0	1	0	7	1	0	8	1	0	4	0	5	23	

Peak Hour Heavy Vehicle Volume Summary

	Hourly	From North					From East					From South					From West					Total
	Time Period	HIGHFIELD RD					AUBURN COURT					HIGHFIELD RD					HIGHFIELD COURT					Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:30 AM	1	1	0	0	2	0	0	0	0	0	0	2	1	0	3	1	0	1	0	2	7
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4

Intersection Traffic Volume Report

Count Basics	Version 2022.11.2		Page 1 of 13
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Base Information, Observed (5.5) Hour and Estimated (24) Hour Volume Summaries

Major St: **STH 190 - Capitol Drive**
Minor St: **Highfield Road**
Intersection of: ***STH 190 - Capitol Drive & Highfield Road***

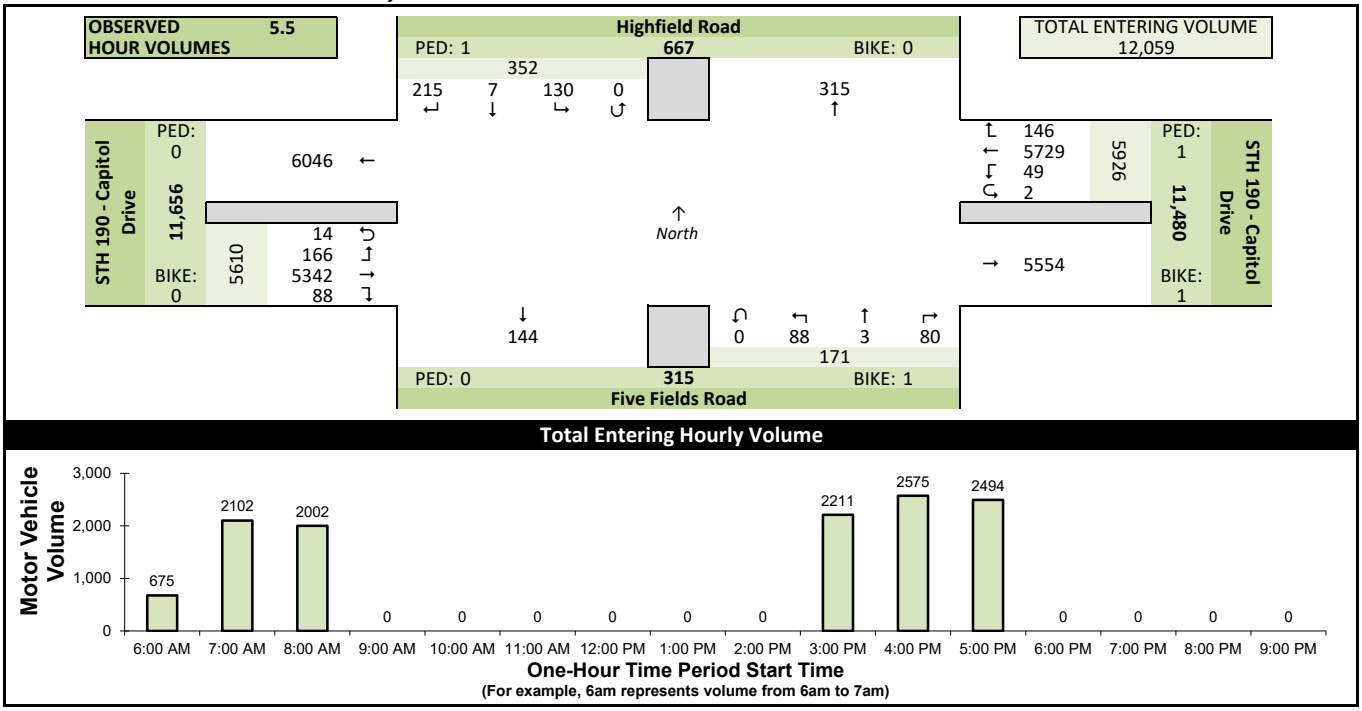
Site Information

Municipality	City of Pewaukee		
County	67 - Waukesha	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	Highfield Road		
East Leg	STH 190 - Capitol Drive		
South Leg	Five Fields Road		
West Leg	STH 190 - Capitol Drive		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None	None	

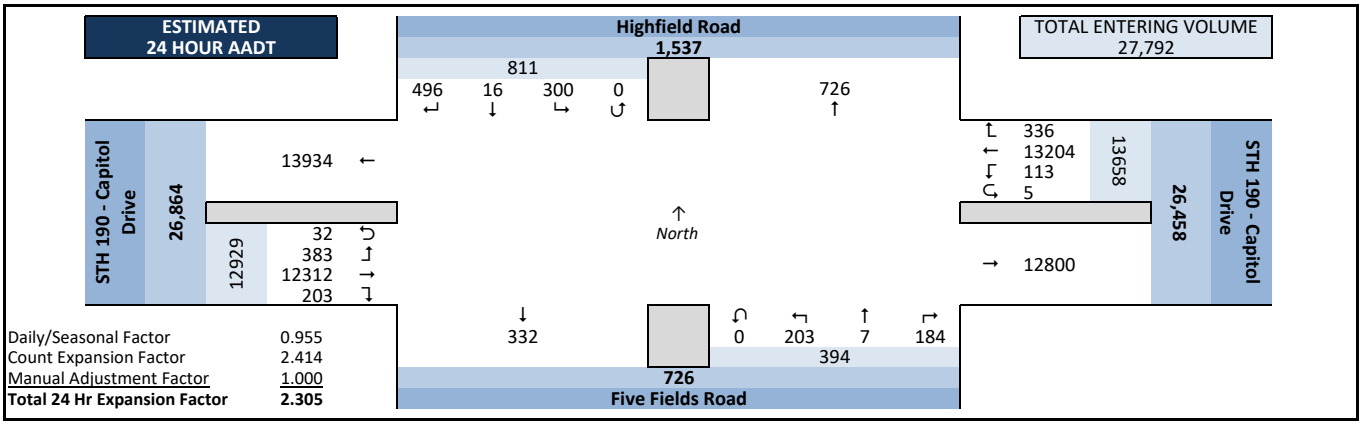
Count Information

Hrs Counted:	06:30 AM-09:00 AM and 03:00 PM-06:00 PM				
1st Day of Count	Tuesday, April 11, 2023			Weather	
AM Peak Period	Wednesday, April 12, 2023			Clear & Dry	
Midday Peak Period	Tuesday, April 11, 2023			Clear & Dry	
PM Peak Period	Tuesday, April 11, 2023			Clear & Dry	
Calculated Peak Hours					
AM	7:30-8:30am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:30-8:30am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors				
Count Expansion Group	(2) Urban Arterials & Collectors				
Daily/Seasonal Adjustment Factor	0.955	Count Expansion Factor	2.414		
Company Name	TADI, Inc.			Manual Adj.	1.000
Observers: AM Peak Period	Amy Scheuerlein				
Observers: Midday Peak Period	None				
Observers: PM Peak Period	Amy Scheuerlein				
Comments	2021 DOT Daily & Seasonal Factors				

Observed 5.5 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

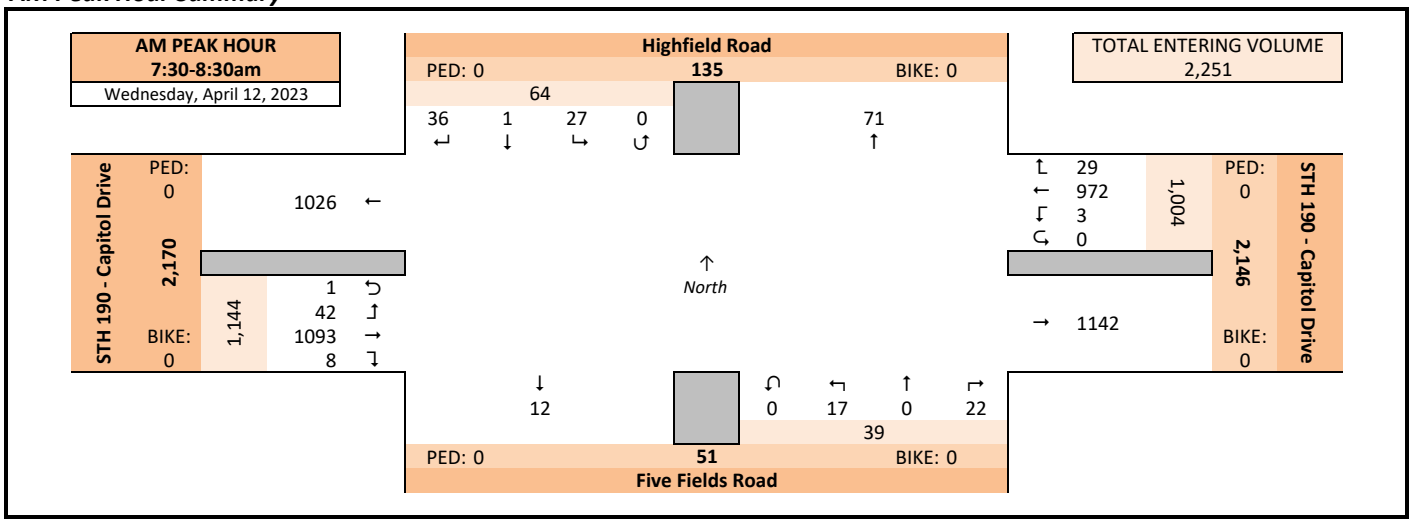
Count Basics			Page 2 of 13
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

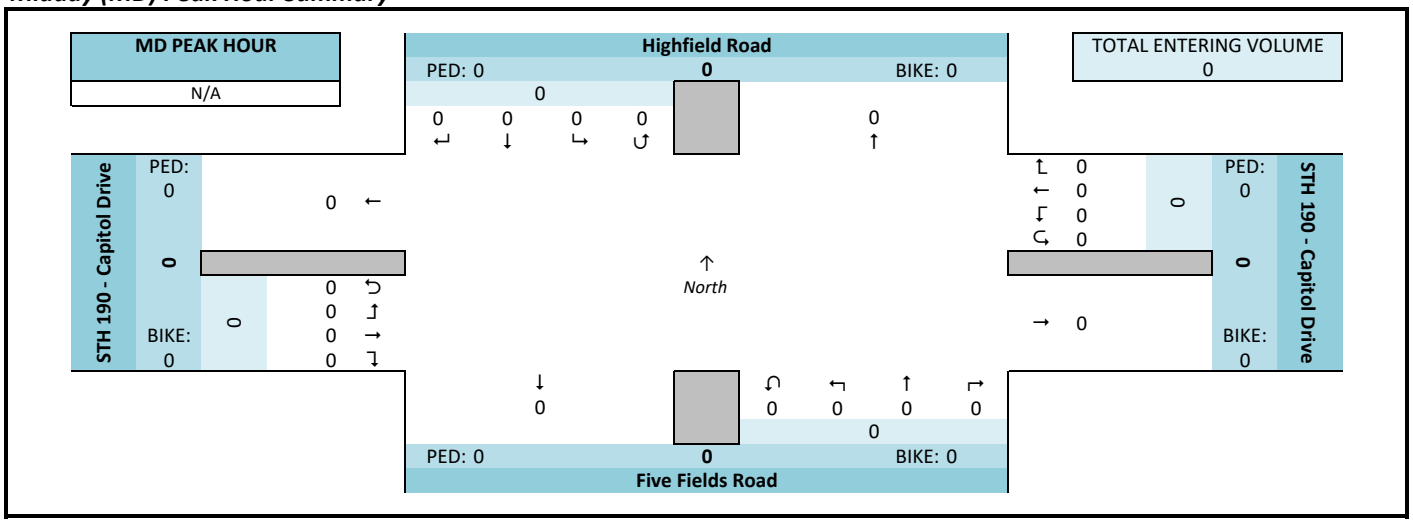
STH 190 - Capitol Drive & Highfield Road

All Motor Vehicles

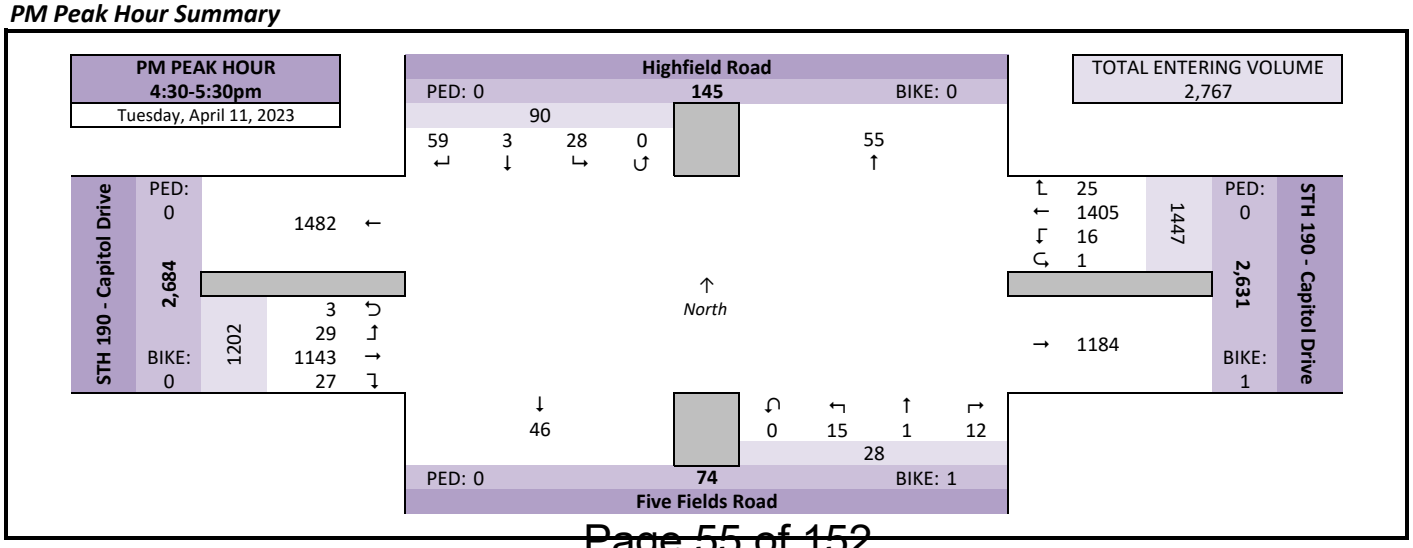
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Count Basics			*Page 3 of 13*
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

Peak Hour Volume Summary

STH 190 - Capitol Drive & Highfield Road

All Motor Vehicles

Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, April 12, 2023		From North					From East					From South					From West					
	AM Peak Hour	Highfield Road					STH 190 - Capitol Drive					Five Fields Road					STH 190 - Capitol Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
AM Peak Hour	7:30 AM	3	0	4	0	7	9	248	0	0	257	7	0	5	0	12	1	321	10	1	333	609
	7:45 AM	10	1	13	0	24	10	259	0	0	269	8	0	5	0	13	2	273	17	0	292	598
	8:00 AM	11	0	1	0	12	4	242	2	0	248	5	0	3	0	8	2	255	10	0	267	535
	8:15 AM	12	0	9	0	21	6	223	1	0	230	2	0	4	0	6	3	244	5	0	252	509
	Peak Hour Volume	36	1	27	0	64	29	972	3	0	1004	22	0	17	0	39	8	1093	42	1	1144	2251
	Rounded Hourly Volume	35	0	25	0	60	30	970	5	0	1005	20	0	15	0	35	10	1095	40	0	1145	2245
	% Single Unit Trucks	2.8	0.0	0.0	0.0	1.6	6.9	3.7	0.0	0.0	3.8	4.5	0.0	5.9	0.0	5.1	0.0	3.8	2.4	0.0	3.7	3.7
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.0	0.9
	% Trucks (Total)	2.8	0.0	0.0	0.0	1.6	6.9	4.5	0.0	0.0	4.6	4.5	0.0	5.9	0.0	5.1	0.0	4.8	2.4	0.0	4.7	4.6
	Peak Hour Factor (PHF)	0.75	0.25	0.52	0.00	0.67	0.72	0.94	0.37	0.00	0.93	0.69	0.00	0.85	0.00	0.75	0.67	0.85	0.62	0.25	0.86	0.92

N/A		From North					From East					From South					From West					
	MD Peak Hour	Highfield Road					STH 190 - Capitol Drive					Five Fields Road					STH 190 - Capitol Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
Midday (MD) Peak Hour	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	% Single Unit 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	0.0	0.0	0.0	0.0
	% Heavy 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	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tuesday, April 11, 2023		From North					From East					From South					From West					
	PM Peak Hour	Highfield Road					STH 190 - Capitol Drive					Five Fields Road					STH 190 - Capitol Drive					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
PM Peak Hour	4:30 PM	10	1	6	0	17	6	326	5	0	337	5	0	7	0	12	7	286	8	2	303	669
	4:45 PM	19	2	12	0	33	6	344	4	0	354	3	1	1	0	5	4	269	8	1	282	674
	5:00 PM	16	0	4	0	20	6	365	3	0	374	4	0	4	0	8	10	302	8	0	320	722
	5:15 PM	14	0	6	0	20	7	370	4	1	382	0	0	3	0	3	6	286	5	0	297	702
	Peak Hour Volume	59	3	28	0	90	25	1405	16	1	1447	12	1	15	0	28	27	1143	29	3	1202	2767
	Rounded Hourly Volume	60	5	30	0	95	25	1405	15	0	1445	10	0	15	0	25	25	1145	30	5	1205	2770
	% Single Unit Trucks	3.4	0.0	3.6	0.0	3.3	0.0	1.3	6.2	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.7	3.4	0.0	1.7	1.5
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.3
	% Trucks (Total)	3.4	0.0	3.6	0.0	3.3	0.0	1.8	6.2	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.8	3.4	0.0	1.8	1.8
	Peak Hour Factor (PHF)	0.78	0.37	0.58	0.00	0.68	0.89	0.95	0.80	0.25	0.95	0.60	0.25	0.54	0.00	0.58	0.67	0.95	0.91	0.37	0.94	0.96

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
		Highfield Road			STH 190 - Capitol Drive			Five Fields Road			STH 190 - Capitol Drive			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	1
	Total	0	0	0	0	1	1	0	1	1	0	0	0	2

Intersection Traffic Volume Report

Count Basics		*Page 5 of 13*
Start Date: Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

STH 190 - Capitol Drive & Highfield Road

All Motor Vehicles

15-Minute Motor Vehicle Data

	15-Minute Time Period	From North (↓) Highfield Road					From East (←) STH 190 - Capitol Drive					From South (↑) Five Fields Road					From West (→) STH 190 - Capitol Drive					15-Min	Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals	Sum	PHF
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 AM	0	1	3	0	4	3	108	0	0	111	3	0	3	0	6	1	174	0	0	175	296	1570	0.82
	6:45 AM	3	1	6	0	10	4	170	1	0	175	3	0	1	0	4	2	186	2	0	190	379	1883	0.77
	7:00 AM	11	1	9	0	21	1	170	0	0	171	5	0	3	0	8	1	211	5	0	217	417	2102	0.86
	7:15 AM	4	0	3	0	7	5	192	0	0	197	4	0	4	0	8	1	255	10	0	266	478	2220	0.91
	7:30 AM	3	0	4	0	7	9	248	0	0	257	7	0	5	0	12	1	321	10	1	333	609	2251	0.92
	7:45 AM	10	1	13	0	24	10	259	0	0	269	8	0	5	0	13	2	273	17	0	292	598	2137	0.89
	8:00 AM	11	0	1	0	12	4	242	2	0	248	5	0	3	0	8	2	255	10	0	267	535	2002	0.94
	8:15 AM	12	0	9	0	21	6	223	1	0	230	2	0	4	0	6	3	244	5	0	252	509		
	8:30 AM	4	0	9	0	13	6	206	0	0	212	4	0	2	0	6	3	253	8	0	264	495		
	8:45 AM	11	0	6	0	17	5	195	1	0	201	3	0	9	0	12	2	219	11	1	233	463		
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 PM	13	0	10	0	23	2	243	4	0	249	1	0	5	0	6	6	217	9	0	232	510	2211	0.94
	3:15 PM	10	0	0	0	10	9	279	3	0	291	1	0	1	0	2	6	215	9	0	230	533	2302	0.96
	3:30 PM	7	0	3	0	10	9	314	0	0	323	3	0	1	0	4	7	231	10	5	253	590	2400	0.95
	3:45 PM	13	0	5	0	18	7	271	6	0	284	6	0	5	0	11	2	253	10	0	265	578	2479	0.93
	4:00 PM	11	0	6	0	17	10	295	4	0	309	2	1	8	0	11	8	251	5	0	264	601	2575	0.96
	4:15 PM	13	0	3	0	16	13	322	4	1	340	2	0	9	0	11	3	251	8	2	264	631	2696	0.93
	4:30 PM	10	1	6	0	17	6	326	5	0	337	5	0	7	0	12	7	286	8	2	303	669	2767	0.96
	4:45 PM	19	2	12	0	33	6	344	4	0	354	3	1	1	0	5	4	269	8	1	282	674	2684	0.93
	5:00 PM	16	0	4	0	20	6	365	3	0	374	4	0	4	0	8	10	302	8	0	320	722	2494	0.86
	5:15 PM	14	0	6	0	20	7	370	4	1	382	0	0	3	0	3	6	286	5	0	297	702		
	5:30 PM	11	0	10	0	21	9	308	1	0	318	7	0	3	0	10	8	221	7	1	237	586		
	5:45 PM	9	0	2	0	11	9	279	6	0	294	2	1	2	0	5	3	169	1	1	174	484		
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		215	7	130	0	352	146	5729	49	2	5926	80	3	88	0	171	88	5342	166	14	5610	12059		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period	From North (↓) Highfield Road					From East (←) STH 190 - Capitol Drive					From South (↑) Five Fields Road					From West (→) STH 190 - Capitol Drive					Total Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume	PHF
AM	7:30 AM	36	1	27	0	64	29	972	3	0	1004	22	0	17	0	39	8	1093	42	1	1144	2251	0.92
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM	4:30 PM	59	3	28	0	90	25	1405	16	1	1447	12	1	15	0	28	27	1143	29	3	1202	2767	0.96

Intersection Traffic Volume Report

Count Basics			*Page 9 of 13*
Start Date:	Tuesday, April 11, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 5.5		Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

STH 190 - Capitol Drive & Highfield Road

15-Minute Heavy Vehicle Data

	15-Minute	From North					From East					From South					From West					15-Min	Hourly
	Time Period	Highfield Road					STH 190 - Capitol Drive					Five Fields Road					STH 190 - Capitol Drive					Totals	Sum
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM Peak Period	6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 AM	0	0	0	0	0	1	9	0	0	10	0	0	0	0	0	0	10	0	0	10	20	66
	6:45 AM	0	0	1	0	1	1	4	0	0	5	0	0	0	0	0	0	9	0	0	9	15	66
	7:00 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	7	0	0	7	15	79
	7:15 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	5	0	0	5	16	94
	7:30 AM	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	13	0	0	13	20	103
	7:45 AM	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	0	16	0	0	16	28	112
	8:00 AM	1	0	0	0	1	1	14	0	0	15	0	0	1	0	1	0	12	1	0	13	30	110
	8:15 AM	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	12	0	0	12	25	
	8:30 AM	0	0	0	0	0	1	10	0	0	11	1	0	0	0	1	0	17	0	0	17	29	
	8:45 AM	0	0	1	0	1	0	8	0	0	8	0	0	1	0	1	0	16	0	0	16	26	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	7	0	0	7	0	0	1	0	1	0	12	0	0	12	20	72
	3:15 PM	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	0	4	0	0	4	14	66
	3:30 PM	0	0	0	0	0	0	12	0	0	12	0	0	1	0	1	1	6	0	0	7	20	68
	3:45 PM	0	0	0	0	0	0	9	0	0	9	1	0	0	0	1	0	7	1	0	8	18	60
	4:00 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	5	0	0	5	14	59
	4:15 PM	0	0	0	0	0	0	9	0	0	9	0	0	1	0	1	0	6	0	0	6	16	61
	4:30 PM	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	3	0	0	3	12	51
	4:45 PM	1	0	1	0	2	0	5	0	0	5	0	0	0	0	0	0	10	0	0	10	17	44
	5:00 PM	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	8	1	0	9	16	36
	5:15 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	6	
	5:30 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	3	0	0	3	5	
	5:45 PM	0	0	0	0	0	0	7	0	0	7	0	1	0	0	1	0	1	0	0	1	9	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		3	0	3	0	6	5	182	2	0	189	4	1	5	0	10	1	182	3	0	186	391	

Peak Hour Heavy Vehicle Volume Summary

	Hourly	From North					From East					From South					From West					Total
	Time Period	Highfield Road					STH 190 - Capitol Drive					Five Fields Road					STH 190 - Capitol Drive					Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:30 AM	1	0	0	0	1	2	44	0	0	46	1	0	1	0	2	0	53	1	0	54	103
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	2	0	1	0	3	0	25	1	0	26	0	0	0	0	0	0	21	1	0	22	51

APPENDIX B

LOS DEFINITIONS & SYNCHRO TRAFFIC ANALYSIS

Existing Traffic

Level of Service Definitions

LOS	Signalized Intersections Control Delay/Vehicle (sec/veh)	Unsignalized Intersections Avg. Control Delay (sec/veh)	Relative Delay
A	≤10	≤10	Short Delays
	Free-flow traffic operations at avearge travel speeds. Vehicles completely unimpeded in ability to maneuver. Minimal delay at signalized intersections.		
B	> 10 - 20	> 10 - 15	
	Reasonably unimpeded traffic operations at average travel speeds. Vehicle maneuverability slightly restricted. Low traffic delays.		
C	> 20 - 35	> 15 - 25	
	Stable traffic operations. Lane changes becoming more restricted. Travel speeds reduced to half of average free flow travel speeds. Longer intersection delays.		
D	> 35 - 55	> 25 - 35	Moderate Delays
	Small increases in traffic flow can cause increased delays. Delays likely attributable to increased traffic, reduced signal progression, and adverse timing.		
E	> 55 - 80	> 35 - 50	
	Significant delays. Travel speeds reduced to one-third of average free flow travel speed.		
F	> 80	> 50	Long Delays
	Extremely low speeds. Intersection congestion. Long delays. Extensive traffic queues at intersections.		

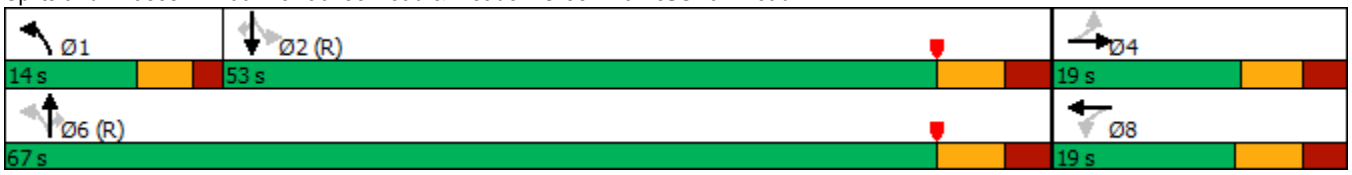
Source: Highway Capacity Manual, Transportation Research Board, Washington, D.C., 2010

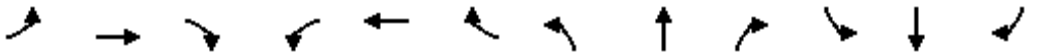
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	15	5	25	15	35	10	945	40	50	405	50
Future Volume (vph)	55	15	5	25	15	35	10	945	40	50	405	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1972	1972	1900	1972	1972	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	120		0	210		0	435		230	355		315
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		420			477			663			577	
Travel Time (s)		8.2			9.3			10.0			8.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	6%	6%	6%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	21	0	27	54	0	11	1038	27	55	445	34
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6		6	2		2
Detector Phase	4	4		8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	14.9	14.9		15.3	15.3		13.5	19.3	19.3	19.3	19.3	19.3
Total Split (s)	19.0	19.0		19.0	19.0		14.0	67.0	67.0	53.0	53.0	53.0
Total Split (%)	22.1%	22.1%		22.1%	22.1%		16.3%	77.9%	77.9%	61.6%	61.6%	61.6%
Maximum Green (s)	12.1	12.1		11.7	11.7		8.5	59.7	59.7	45.7	45.7	45.7
Yellow Time (s)	3.9	3.9		4.3	4.3		3.5	4.3	4.3	4.3	4.3	4.3
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9		7.3	7.3		5.5	7.3	7.3	7.3	7.3	7.3
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0	3.0	4.8	4.8	4.8
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0	2.0	3.8	3.8	3.8
Time Before Reduce (s)	30.0	30.0		30.0	30.0		25.0	19.0	19.0	29.0	29.0	29.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	13.0	13.0	8.0	8.0	8.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.44	0.12		0.20	0.33		0.01	0.38	0.02	0.15	0.18	0.03
Control Delay	46.1	35.3		38.1	40.9		3.2	4.6	3.7	8.0	5.5	6.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	35.3		38.1	40.9		3.2	4.6	3.7	8.0	5.5	6.2
90th %ile Green (s)	12.1	12.1		11.7	11.7		8.0	59.7	59.7	46.2	46.2	46.2
90th %ile Term Code	Max	Max		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	9.8	9.8		9.4	9.4		0.0	62.0	62.0	62.0	62.0	62.0
70th %ile Term Code	Gap	Gap		Hold	Hold		Skip	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	8.4	8.4		8.0	8.0		0.0	63.4	63.4	63.4	63.4	63.4
50th %ile Term Code	Hold	Hold		Min	Min		Skip	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	8.4	8.4		8.0	8.0		0.0	63.4	63.4	63.4	63.4	63.4
30th %ile Term Code	Hold	Hold		Min	Min		Skip	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0		0.0	0.0		0.0	78.7	78.7	78.7	78.7	78.7
10th %ile Term Code	Skip	Skip		Skip	Skip		Skip	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	31	11		14	28		1	89	3	7	31	4
Queue Length 95th (ft)	67	31		37	61		5	142	11	38	90	21
Internal Link Dist (ft)		340			397			583			497	
Turn Bay Length (ft)	120			210			435		230	355		315
Base Capacity (vph)	175	234		176	211		747	2750	1185	366	2519	1086
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.09		0.15	0.26		0.01	0.38	0.02	0.15	0.18	0.03

Intersection Summary	
Area Type:	Other
Cycle Length: 86	
Actuated Cycle Length: 86	
Offset: 4 (5%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Pewaukee Road & Meadow Creek Market/Swan Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	15	5	25	15	35	10	945	40	50	405	50
Future Volume (veh/h)	55	15	5	25	15	35	10	945	40	50	405	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1767	1767	1767	1880	1880	1811	1803	1803	1737
Adj Flow Rate, veh/h	60	16	5	27	16	38	11	1038	27	55	445	34
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	10	10	10	9	9	9	6	6	6	11	11	11
Cap, veh/h	169	128	40	200	46	110	667	2608	1121	400	2209	949
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.73	0.73	0.64	0.64	0.64
Sat Flow, veh/h	1264	1280	400	1314	465	1103	1790	3571	1535	511	3425	1472
Grp Volume(v), veh/h	60	0	21	27	0	54	11	1038	27	55	445	34
Grp Sat Flow(s),veh/h/ln	1264	0	1680	1314	0	1568	1790	1786	1535	511	1713	1472
Q Serve(g_s), s	4.0	0.0	1.0	1.6	0.0	2.8	0.2	9.5	0.4	3.9	4.6	0.7
Cycle Q Clear(g_c), s	6.8	0.0	1.0	2.6	0.0	2.8	0.2	9.5	0.4	6.1	4.6	0.7
Prop In Lane	1.00		0.24	1.00		0.70	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	0	168	200	0	157	667	2608	1121	400	2209	949
V/C Ratio(X)	0.35	0.00	0.13	0.13	0.00	0.34	0.02	0.40	0.02	0.14	0.20	0.04
Avail Cap(c_a), veh/h	221	0	236	247	0	213	805	2608	1121	400	2209	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	35.3	36.5	0.0	36.1	4.4	4.4	3.2	7.0	6.2	5.6
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.1	0.0	0.5	0.0	0.5	0.0	0.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.4	0.5	0.0	1.1	0.0	2.3	0.1	0.4	1.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	0.0	35.4	36.6	0.0	36.6	4.4	4.9	3.2	7.7	6.4	5.6
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		81			81			1076			534	
Approach Delay, s/veh		38.6			36.6			4.8			6.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.3	62.8		15.9		70.1		15.9				
Change Period (Y+Rc), s	5.5	7.3		* 7.3		7.3		7.3				
Max Green Setting (Gmax), s	8.5	45.7		* 12		59.7		11.7				
Max Q Clear Time (g_c+I1), s	2.2	8.1		8.8		11.5		4.8				
Green Ext Time (p_c), s	0.0	7.0		0.0		8.7		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		8.3
HCM 6th LOS		A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	5	20	35	5	5	20
Future Volume (vph)	5	20	35	5	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			325	406	
Travel Time (s)	8.6			8.9	11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	17%	1%	1%	12%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	0	51	32	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

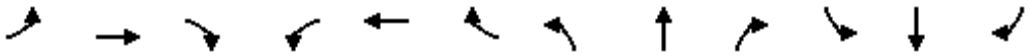
Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	20	35	5	5	20
Future Vol, veh/h	5	20	35	5	5	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	17	17	1	1	12	12
Mvmt Flow	6	26	45	6	6	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	32	0	115	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	-	-	4.11	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.209	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1587	-	858	1031
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1587	-	834	1031
Mov Cap-2 Maneuver	-	-	-	-	834	-
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	878	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.4	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	984	-	-	1587	-
HCM Lane V/C Ratio	0.033	-	-	0.029	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	10	1	1	1	35	20	1	1	50	5
Future Volume (vph)	5	1	10	1	1	1	35	20	1	1	50	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		327			194			539			406	
Travel Time (s)		8.9			5.3			14.7			11.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	1%	1%	1%	6%	6%	6%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	3	0	0	65	0	0	65	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

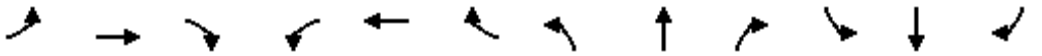
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	1	10	1	1	1	35	20	1	1	50	5
Future Vol, veh/h	5	1	10	1	1	1	35	20	1	1	50	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	13	13	13	1	1	1	6	6	6	4	4	4
Mvmt Flow	6	1	12	1	1	1	41	23	1	1	58	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	170	169	61	176	172	24	64	0	0	24	0	0
Stage 1	63	63	-	106	106	-	-	-	-	-	-	-
Stage 2	107	106	-	70	66	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.63	6.33	7.11	6.51	6.21	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	6.23	5.63	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.63	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.117	3.417	3.509	4.009	3.309	2.254	-	-	2.236	-	-
Pot Cap-1 Maneuver	770	704	974	789	723	1055	1513	-	-	1578	-	-
Stage 1	921	821	-	902	809	-	-	-	-	-	-	-
Stage 2	872	787	-	942	842	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	752	684	974	762	703	1055	1513	-	-	1578	-	-
Mov Cap-2 Maneuver	752	684	-	762	703	-	-	-	-	-	-	-
Stage 1	896	820	-	878	787	-	-	-	-	-	-	-
Stage 2	846	766	-	929	841	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	9.4	4.7	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	871	815	1578	-	-
HCM Lane V/C Ratio	0.027	-	-	0.021	0.004	0.001	-	-
HCM Control Delay (s)	7.4	0	-	9.2	9.4	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1095	10	5	970	30	15	1	20	25	1	35
Future Volume (vph)	40	1095	10	5	970	30	15	1	20	25	1	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	355		305	330		290	0		0	0		100
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		55			55			25			25	
Link Distance (ft)		989			984			394			539	
Travel Time (s)		12.3			12.2			10.7			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	1190	11	5	1054	33	0	39	0	0	28	38
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	1095	10	5	970	30	15	1	20	25	1	35
Future Vol, veh/h	40	1095	10	5	970	30	15	1	20	25	1	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	355	-	305	330	-	290	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	2	2	2
Mvmt Flow	43	1190	11	5	1054	33	16	1	22	27	1	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1087	0	0	1201	0	0	1814	2373	595	1746	2351	527
Stage 1	-	-	-	-	-	-	1276	1276	-	1064	1064	-
Stage 2	-	-	-	-	-	-	538	1097	-	682	1287	-
Critical Hdwy	4.2	-	-	4.2	-	-	7.6	6.6	7	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.6	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.6	-	6.54	5.54	-
Follow-up Hdwy	2.25	-	-	2.25	-	-	3.55	4.05	3.35	3.52	4.02	3.32
Pot Cap-1 Maneuver	620	-	-	560	-	-	47	33	440	55	35	496
Stage 1	-	-	-	-	-	-	172	230	-	238	298	-
Stage 2	-	-	-	-	-	-	487	281	-	406	233	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	620	-	-	560	-	-	41	30	440	49	32	496
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	151	-	182	164	-
Stage 1	-	-	-	-	-	-	160	214	-	222	295	-
Stage 2	-	-	-	-	-	-	444	278	-	357	217	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	23.9	19.5
HCM LOS			C	C

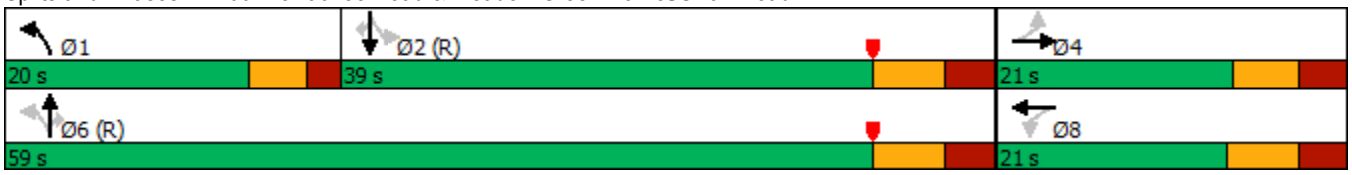
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	229	620	-	-	560	-	-	181	496
HCM Lane V/C Ratio	0.171	0.07	-	-	0.01	-	-	0.156	0.077
HCM Control Delay (s)	23.9	11.2	-	-	11.5	-	-	28.5	12.9
HCM Lane LOS	C	B	-	-	B	-	-	D	B
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	0.5	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	45	110	85	20	5	120	1230	100	5	775	85
Future Volume (vph)	105	45	110	85	20	5	120	1230	100	5	775	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1972	1972	1900	1972	1972	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	120		0	210		0	435		230	355		315
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		420			477			663			577	
Travel Time (s)		8.2			9.3			10.0			8.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	162	0	89	26	0	125	1281	65	5	807	55
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6		6	2		2
Detector Phase	4	4		8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	14.9	14.9		15.3	15.3		13.5	19.3	19.3	19.3	19.3	19.3
Total Split (s)	21.0	21.0		21.0	21.0		20.0	59.0	59.0	39.0	39.0	39.0
Total Split (%)	26.3%	26.3%		26.3%	26.3%		25.0%	73.8%	73.8%	48.8%	48.8%	48.8%
Maximum Green (s)	14.1	14.1		13.7	13.7		14.5	51.7	51.7	31.7	31.7	31.7
Yellow Time (s)	3.9	3.9		4.3	4.3		3.5	4.3	4.3	4.3	4.3	4.3
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9		7.3	7.3		5.5	7.3	7.3	7.3	7.3	7.3
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0	3.0	4.8	4.8	4.8
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0	2.0	3.8	3.8	3.8
Time Before Reduce (s)	30.0	30.0		30.0	30.0		25.0	19.0	19.0	29.0	29.0	29.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	13.0	13.0	8.0	8.0	8.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.55	0.68		0.54	0.11		0.25	0.51	0.06	0.02	0.41	0.06
Control Delay	42.2	46.7		44.2	29.9		5.4	7.4	5.0	11.4	12.7	11.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	46.7		44.2	29.9		5.4	7.4	5.0	11.4	12.7	11.1
90th %ile Green (s)	14.1	14.1		13.7	13.7		8.0	51.7	51.7	38.2	38.2	38.2
90th %ile Term Code	Max	Max		Max	Max		Min	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	13.6	13.6		13.2	13.2		8.0	52.2	52.2	38.7	38.7	38.7
70th %ile Term Code	Gap	Gap		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	11.5	11.5		11.1	11.1		8.0	54.3	54.3	40.8	40.8	40.8
50th %ile Term Code	Gap	Gap		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	9.4	9.4		9.0	9.0		8.0	56.4	56.4	42.9	42.9	42.9
30th %ile Term Code	Gap	Gap		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	8.4	8.4		8.0	8.0		0.0	57.4	57.4	57.4	57.4	57.4
10th %ile Term Code	Hold	Hold		Hold	Hold		Skip	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	51	78		42	12		17	141	9	1	125	13
Queue Length 95th (ft)	98	135		85	32		36	207	24	7	182	33
Internal Link Dist (ft)		340			397			583			497	
Turn Bay Length (ft)	120			210			435		230	355		315
Base Capacity (vph)	245	296		204	303		617	2522	1087	225	1982	854
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.55		0.44	0.09		0.20	0.51	0.06	0.02	0.41	0.06

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 70 (88%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Pewaukee Road & Meadow Creek Market/Swan Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	45	110	85	20	5	120	1230	100	5	775	85
Future Volume (veh/h)	105	45	110	85	20	5	120	1230	100	5	775	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1841	1841	1841	1957	1957	1885	1926	1926	1856
Adj Flow Rate, veh/h	109	47	115	89	21	5	125	1281	65	5	807	55
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	3	3	3
Cap, veh/h	312	83	203	189	246	59	491	2402	1032	282	1770	761
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.09	0.65	0.65	0.48	0.48	0.48
Sat Flow, veh/h	1396	485	1187	1205	1437	342	1863	3718	1598	418	3659	1572
Grp Volume(v), veh/h	109	0	162	89	0	26	125	1281	65	5	807	55
Grp Sat Flow(s),veh/h/ln	1396	0	1672	1205	0	1779	1863	1859	1598	418	1830	1572
Q Serve(g_s), s	5.7	0.0	7.1	5.9	0.0	1.0	2.3	14.9	1.2	0.5	11.7	1.5
Cycle Q Clear(g_c), s	6.7	0.0	7.1	13.0	0.0	1.0	2.3	14.9	1.2	2.4	11.7	1.5
Prop In Lane	1.00		0.71	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	0	286	189	0	305	491	2402	1032	282	1770	761
V/C Ratio(X)	0.35	0.00	0.57	0.47	0.00	0.09	0.25	0.53	0.06	0.02	0.46	0.07
Avail Cap(c_a), veh/h	319	0	295	189	0	305	654	2402	1032	282	1770	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	0.0	30.4	36.4	0.0	27.9	8.2	7.6	5.2	11.8	13.7	11.0
Incr Delay (d2), s/veh	0.2	0.0	1.4	0.7	0.0	0.0	0.1	0.9	0.1	0.1	0.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	2.9	1.7	0.0	0.4	0.7	4.5	0.3	0.1	4.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.0	31.8	37.0	0.0	27.9	8.3	8.5	5.3	11.9	14.5	11.2
LnGrp LOS	C	A	C	D	A	C	A	A	A	B	B	B
Approach Vol, veh/h		271			115			1471			867	
Approach Delay, s/veh		31.5			35.0			8.3			14.3	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	46.0		21.0		59.0		21.0				
Change Period (Y+Rc), s	5.5	7.3		* 7.3		7.3		7.3				
Max Green Setting (Gmax), s	14.5	31.7		* 14		51.7		13.7				
Max Q Clear Time (g_c+I1), s	4.3	13.7		9.1		16.9		15.0				
Green Ext Time (p_c), s	0.1	8.4		0.3		11.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	10	10	30	5	10	30
Future Volume (vph)	10	10	30	5	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			325	406	
Travel Time (s)	8.6			8.9	11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	0	0	40	45	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

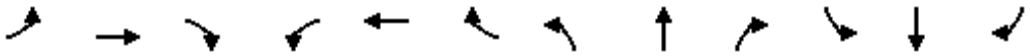
Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	10	30	5	10	30
Future Vol, veh/h	10	10	30	5	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	1	9	9	2	2
Mvmt Flow	11	11	34	6	11	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	22	0	91	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	-	-	4.19	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.281	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1549	-	909	1062
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1549	-	889	1062
Mov Cap-2 Maneuver	-	-	-	-	889	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	928	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.3	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1013	-	-	1549	-
HCM Lane V/C Ratio	0.045	-	-	0.022	-
HCM Control Delay (s)	8.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	35	1	1	1	15	35	1	1	35	5
Future Volume (vph)	5	1	35	1	1	1	15	35	1	1	35	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		327			194			539			406	
Travel Time (s)		8.9			5.3			14.7			11.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	0	0	3	0	0	59	0	0	48	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

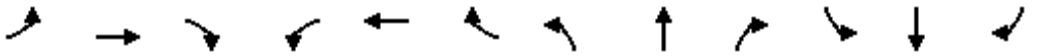
Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	1	35	1	1	1	15	35	1	1	35	5
Future Vol, veh/h	5	1	35	1	1	1	15	35	1	1	35	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	7	7	7
Mvmt Flow	6	1	41	1	1	1	17	41	1	1	41	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	123	122	44	143	125	42	47	0	0	42	0	0
Stage 1	46	46	-	76	76	-	-	-	-	-	-	-
Stage 2	77	76	-	67	49	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.12	-	-	4.17	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.218	-	-	2.263	-	-
Pot Cap-1 Maneuver	854	770	1029	829	767	1032	1560	-	-	1535	-	-
Stage 1	970	859	-	936	834	-	-	-	-	-	-	-
Stage 2	934	834	-	946	856	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	845	761	1029	788	758	1032	1560	-	-	1535	-	-
Mov Cap-2 Maneuver	845	761	-	788	758	-	-	-	-	-	-	-
Stage 1	959	858	-	926	825	-	-	-	-	-	-	-
Stage 2	921	825	-	906	855	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9.3	2.2	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1560	-	-	994	843	1535	-	-
HCM Lane V/C Ratio	0.011	-	-	0.048	0.004	0.001	-	-
HCM Control Delay (s)	7.3	0	-	8.8	9.3	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1145	25	15	1405	25	15	1	10	30	5	60
Future Volume (vph)	30	1145	25	15	1405	25	15	1	10	30	5	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	355		305	330		290	0		0	0		100
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		55			55			25			25	
Link Distance (ft)		989			984			394			539	
Travel Time (s)		12.3			12.2			10.7			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	1193	26	16	1464	26	0	27	0	0	36	63
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	1145	25	15	1405	25	15	1	10	30	5	60
Future Vol, veh/h	30	1145	25	15	1405	25	15	1	10	30	5	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	355	-	305	330	-	290	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	3	3	3
Mvmt Flow	31	1193	26	16	1464	26	16	1	10	31	5	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1490	0	0	1219	0	0	2022	2777	597	2155	2777	732
Stage 1	-	-	-	-	-	-	1255	1255	-	1496	1496	-
Stage 2	-	-	-	-	-	-	767	1522	-	659	1281	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.52	6.52	6.92	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.56	5.56	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.51	4.01	3.31	3.53	4.03	3.33
Pot Cap-1 Maneuver	447	-	-	568	-	-	34	19	449	~ 27	18	361
Stage 1	-	-	-	-	-	-	183	243	-	127	183	-
Stage 2	-	-	-	-	-	-	363	181	-	417	233	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	447	-	-	568	-	-	25	17	449	~ 24	16	361
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	115	-	107	124	-
Stage 1	-	-	-	-	-	-	170	226	-	118	178	-
Stage 2	-	-	-	-	-	-	283	176	-	377	217	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	28.2	30.6
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	182	447	-	-	568	-	-	109	361
HCM Lane V/C Ratio	0.149	0.07	-	-	0.028	-	-	0.334	0.173
HCM Control Delay (s)	28.2	13.7	-	-	11.5	-	-	53.8	17
HCM Lane LOS	D	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.1	-	-	1.3	0.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX C

SYNCHRO TRAFFIC ANALYSIS

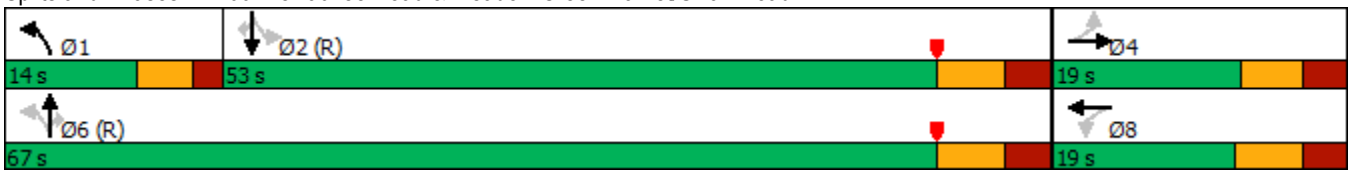
Build Traffic
Scenario A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	15	5	25	15	35	10	955	40	50	415	50
Future Volume (vph)	55	15	5	25	15	35	10	955	40	50	415	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1972	1972	1900	1972	1972	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	120		0	210		0	435		230	355		315
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		420			477			663			577	
Travel Time (s)		8.2			9.3			10.0			8.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	6%	6%	6%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	21	0	27	54	0	11	1049	27	55	456	34
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6		6	2		2
Detector Phase	4	4		8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	14.9	14.9		15.3	15.3		13.5	19.3	19.3	19.3	19.3	19.3
Total Split (s)	19.0	19.0		19.0	19.0		14.0	67.0	67.0	53.0	53.0	53.0
Total Split (%)	22.1%	22.1%		22.1%	22.1%		16.3%	77.9%	77.9%	61.6%	61.6%	61.6%
Maximum Green (s)	12.1	12.1		11.7	11.7		8.5	59.7	59.7	45.7	45.7	45.7
Yellow Time (s)	3.9	3.9		4.3	4.3		3.5	4.3	4.3	4.3	4.3	4.3
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9		7.3	7.3		5.5	7.3	7.3	7.3	7.3	7.3
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0	3.0	4.8	4.8	4.8
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0	2.0	3.8	3.8	3.8
Time Before Reduce (s)	30.0	30.0		30.0	30.0		25.0	19.0	19.0	29.0	29.0	29.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	13.0	13.0	8.0	8.0	8.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.44	0.12		0.20	0.33		0.01	0.38	0.02	0.15	0.18	0.03
Control Delay	46.1	35.3		38.1	40.9		3.2	4.7	3.7	8.0	5.5	6.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	35.3		38.1	40.9		3.2	4.7	3.7	8.0	5.5	6.2
90th %ile Green (s)	12.1	12.1		11.7	11.7		8.0	59.7	59.7	46.2	46.2	46.2
90th %ile Term Code	Max	Max		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	9.8	9.8		9.4	9.4		0.0	62.0	62.0	62.0	62.0	62.0
70th %ile Term Code	Gap	Gap		Hold	Hold		Skip	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	8.4	8.4		8.0	8.0		0.0	63.4	63.4	63.4	63.4	63.4
50th %ile Term Code	Hold	Hold		Min	Min		Skip	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	8.4	8.4		8.0	8.0		0.0	63.4	63.4	63.4	63.4	63.4
30th %ile Term Code	Hold	Hold		Min	Min		Skip	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0		0.0	0.0		0.0	78.7	78.7	78.7	78.7	78.7
10th %ile Term Code	Skip	Skip		Skip	Skip		Skip	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	31	11		14	28		1	90	3	7	32	4
Queue Length 95th (ft)	67	31		37	61		5	144	11	38	93	21
Internal Link Dist (ft)		340			397			583			497	
Turn Bay Length (ft)	120			210			435		230	355		315
Base Capacity (vph)	175	234		176	211		741	2750	1185	362	2519	1086
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.09		0.15	0.26		0.01	0.38	0.02	0.15	0.18	0.03

Intersection Summary	
Area Type:	Other
Cycle Length: 86	
Actuated Cycle Length: 86	
Offset: 4 (5%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Pewaukee Road & Meadow Creek Market/Swan Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	15	5	25	15	35	10	955	40	50	415	50
Future Volume (veh/h)	55	15	5	25	15	35	10	955	40	50	415	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1767	1767	1767	1880	1880	1811	1803	1803	1737
Adj Flow Rate, veh/h	60	16	5	27	16	38	11	1049	27	55	456	34
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	10	10	10	9	9	9	6	6	6	11	11	11
Cap, veh/h	169	128	40	200	46	110	660	2608	1121	396	2209	949
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.73	0.73	0.64	0.64	0.64
Sat Flow, veh/h	1264	1280	400	1314	465	1103	1790	3571	1535	505	3425	1472
Grp Volume(v), veh/h	60	0	21	27	0	54	11	1049	27	55	456	34
Grp Sat Flow(s),veh/h/ln	1264	0	1680	1314	0	1568	1790	1786	1535	505	1713	1472
Q Serve(g_s), s	4.0	0.0	1.0	1.6	0.0	2.8	0.2	9.6	0.4	4.0	4.7	0.7
Cycle Q Clear(g_c), s	6.8	0.0	1.0	2.6	0.0	2.8	0.2	9.6	0.4	6.3	4.7	0.7
Prop In Lane	1.00		0.24	1.00		0.70	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	0	168	200	0	157	660	2608	1121	396	2209	949
V/C Ratio(X)	0.35	0.00	0.13	0.13	0.00	0.34	0.02	0.40	0.02	0.14	0.21	0.04
Avail Cap(c_a), veh/h	221	0	236	247	0	213	798	2608	1121	396	2209	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	35.3	36.5	0.0	36.1	4.4	4.4	3.2	7.0	6.3	5.6
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.1	0.0	0.5	0.0	0.5	0.0	0.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.4	0.5	0.0	1.1	0.0	2.3	0.1	0.4	1.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	0.0	35.4	36.6	0.0	36.6	4.4	4.9	3.2	7.8	6.5	5.6
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		81			81			1087			545	
Approach Delay, s/veh		38.6			36.6			4.8			6.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.3	62.8		15.9		70.1		15.9				
Change Period (Y+Rc), s	5.5	7.3		* 7.3		7.3		7.3				
Max Green Setting (Gmax), s	8.5	45.7		* 12		59.7		11.7				
Max Q Clear Time (g_c+I1), s	2.2	8.3		8.8		11.6		4.8				
Green Ext Time (p_c), s	0.0	7.2		0.0		8.8		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		8.3	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	5	20	35	5	5	20
Future Volume (vph)	5	20	35	5	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			325	406	
Travel Time (s)	8.6			8.9	11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	17%	1%	1%	12%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	0	51	32	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

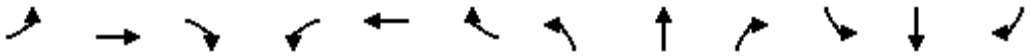
Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	20	35	5	5	20
Future Vol, veh/h	5	20	35	5	5	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	17	17	1	1	12	12
Mvmt Flow	6	26	45	6	6	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	32	0	115	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	-	-	4.11	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.209	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1587	-	858	1031
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1587	-	834	1031
Mov Cap-2 Maneuver	-	-	-	-	834	-
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	878	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.4	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	984	-	-	1587	-
HCM Lane V/C Ratio	0.033	-	-	0.029	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	60	1	1	1	95	20	1	1	50	5
Future Volume (vph)	5	1	60	1	1	1	95	20	1	1	50	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		327			194			539			406	
Travel Time (s)		8.9			5.3			14.7			11.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	1%	1%	1%	6%	6%	6%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	3	0	0	134	0	0	65	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

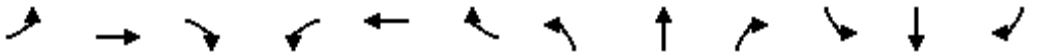
Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	1	60	1	1	1	95	20	1	1	50	5
Future Vol, veh/h	5	1	60	1	1	1	95	20	1	1	50	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	13	13	13	1	1	1	6	6	6	4	4	4
Mvmt Flow	6	1	70	1	1	1	110	23	1	1	58	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	308	307	61	343	310	24	64	0	0	24	0	0
Stage 1	63	63	-	244	244	-	-	-	-	-	-	-
Stage 2	245	244	-	99	66	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.63	6.33	7.11	6.51	6.21	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	6.23	5.63	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.63	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.117	3.417	3.509	4.009	3.309	2.254	-	-	2.236	-	-
Pot Cap-1 Maneuver	623	589	974	613	606	1055	1513	-	-	1578	-	-
Stage 1	921	821	-	762	706	-	-	-	-	-	-	-
Stage 2	735	684	-	910	842	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	586	545	974	536	561	1055	1513	-	-	1578	-	-
Mov Cap-2 Maneuver	586	545	-	536	561	-	-	-	-	-	-	-
Stage 1	853	820	-	706	654	-	-	-	-	-	-	-
Stage 2	679	633	-	843	841	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	10.5	6.2	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	917	653	1578	-	-
HCM Lane V/C Ratio	0.073	-	-	0.084	0.005	0.001	-	-
HCM Control Delay (s)	7.6	0	-	9.3	10.5	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	1095	10	5	970	45	15	1	20	35	1	75
Future Volume (vph)	85	1095	10	5	970	45	15	1	20	35	1	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	355		305	330		290	0		0	0		100
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		55			55			25			25	
Link Distance (ft)		989			984			394			539	
Travel Time (s)		12.3			12.2			10.7			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	1190	11	5	1054	49	0	39	0	0	39	82
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	1095	10	5	970	45	15	1	20	35	1	75
Future Vol, veh/h	85	1095	10	5	970	45	15	1	20	35	1	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	355	-	305	330	-	290	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	2	2	2
Mvmt Flow	92	1190	11	5	1054	49	16	1	22	38	1	82

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1103	0	0	1201	0	0	1912	2487	595	1844	2449	527
Stage 1	-	-	-	-	-	-	1374	1374	-	1064	1064	-
Stage 2	-	-	-	-	-	-	538	1113	-	780	1385	-
Critical Hdwy	4.2	-	-	4.2	-	-	7.6	6.6	7	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.6	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.6	-	6.54	5.54	-
Follow-up Hdwy	2.25	-	-	2.25	-	-	3.55	4.05	3.35	3.52	4.02	3.32
Pot Cap-1 Maneuver	611	-	-	560	-	-	40	28	440	46	31	496
Stage 1	-	-	-	-	-	-	149	206	-	238	298	-
Stage 2	-	-	-	-	-	-	487	276	-	354	209	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	611	-	-	560	-	-	29	24	440	~ 38	26	496
Mov Cap-2 Maneuver	-	-	-	-	-	-	113	120	-	158	141	-
Stage 1	-	-	-	-	-	-	127	175	-	202	295	-
Stage 2	-	-	-	-	-	-	402	274	-	284	177	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	28.3	20.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	193	611	-	-	560	-	-	157	496
HCM Lane V/C Ratio	0.203	0.151	-	-	0.01	-	-	0.249	0.164
HCM Control Delay (s)	28.3	11.9	-	-	11.5	-	-	35.4	13.7
HCM Lane LOS	D	B	-	-	B	-	-	E	B
HCM 95th %tile Q(veh)	0.7	0.5	-	-	0	-	-	0.9	0.6

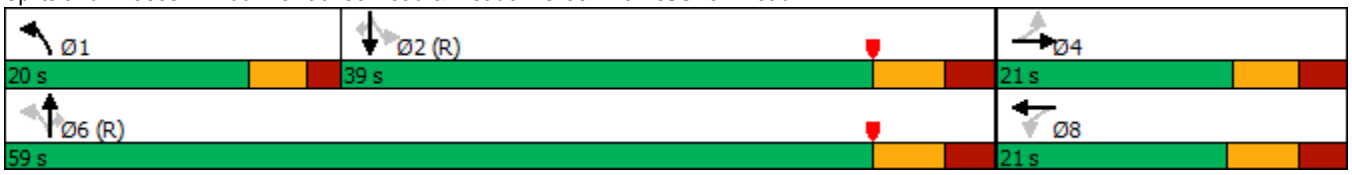
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	45	110	85	20	5	120	1240	100	5	785	85
Future Volume (vph)	105	45	110	85	20	5	120	1240	100	5	785	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1972	1972	1900	1972	1972	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	120		0	210		0	435		230	355		315
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		420			477			663			577	
Travel Time (s)		8.2			9.3			10.0			8.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	162	0	89	26	0	125	1292	65	5	818	55
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6		6	2		2
Detector Phase	4	4		8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	14.9	14.9		15.3	15.3		13.5	19.3	19.3	19.3	19.3	19.3
Total Split (s)	21.0	21.0		21.0	21.0		20.0	59.0	59.0	39.0	39.0	39.0
Total Split (%)	26.3%	26.3%		26.3%	26.3%		25.0%	73.8%	73.8%	48.8%	48.8%	48.8%
Maximum Green (s)	14.1	14.1		13.7	13.7		14.5	51.7	51.7	31.7	31.7	31.7
Yellow Time (s)	3.9	3.9		4.3	4.3		3.5	4.3	4.3	4.3	4.3	4.3
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9		7.3	7.3		5.5	7.3	7.3	7.3	7.3	7.3
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0	3.0	4.8	4.8	4.8
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0	2.0	3.8	3.8	3.8
Time Before Reduce (s)	30.0	30.0		30.0	30.0		25.0	19.0	19.0	29.0	29.0	29.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	13.0	13.0	8.0	8.0	8.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.55	0.68		0.54	0.11		0.25	0.51	0.06	0.02	0.41	0.06
Control Delay	42.2	46.7		44.2	29.9		5.5	7.5	5.0	11.4	12.7	11.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	46.7		44.2	29.9		5.5	7.5	5.0	11.4	12.7	11.1
90th %ile Green (s)	14.1	14.1		13.7	13.7		8.0	51.7	51.7	38.2	38.2	38.2
90th %ile Term Code	Max	Max		Max	Max		Min	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	13.6	13.6		13.2	13.2		8.0	52.2	52.2	38.7	38.7	38.7
70th %ile Term Code	Gap	Gap		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	11.5	11.5		11.1	11.1		8.0	54.3	54.3	40.8	40.8	40.8
50th %ile Term Code	Gap	Gap		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	9.4	9.4		9.0	9.0		8.0	56.4	56.4	42.9	42.9	42.9
30th %ile Term Code	Gap	Gap		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	8.4	8.4		8.0	8.0		0.0	57.4	57.4	57.4	57.4	57.4
10th %ile Term Code	Hold	Hold		Hold	Hold		Skip	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	51	78		42	12		17	142	9	1	127	13
Queue Length 95th (ft)	98	135		85	32		36	210	24	7	185	33
Internal Link Dist (ft)		340			397			583			497	
Turn Bay Length (ft)	120			210			435		230	355		315
Base Capacity (vph)	245	296		204	303		613	2522	1087	223	1982	854
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.55		0.44	0.09		0.20	0.51	0.06	0.02	0.41	0.06

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 70 (88%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Pewaukee Road & Meadow Creek Market/Swan Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	45	110	85	20	5	120	1240	100	5	785	85
Future Volume (veh/h)	105	45	110	85	20	5	120	1240	100	5	785	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1841	1841	1841	1957	1957	1885	1926	1926	1856
Adj Flow Rate, veh/h	109	47	115	89	21	5	125	1292	65	5	818	55
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	3	3	3
Cap, veh/h	312	83	203	189	246	59	487	2402	1032	279	1770	761
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.09	0.65	0.65	0.48	0.48	0.48
Sat Flow, veh/h	1396	485	1187	1205	1437	342	1863	3718	1598	413	3659	1572
Grp Volume(v), veh/h	109	0	162	89	0	26	125	1292	65	5	818	55
Grp Sat Flow(s),veh/h/ln	1396	0	1672	1205	0	1779	1863	1859	1598	413	1830	1572
Q Serve(g_s), s	5.7	0.0	7.1	5.9	0.0	1.0	2.3	15.1	1.2	0.5	11.9	1.5
Cycle Q Clear(g_c), s	6.7	0.0	7.1	13.0	0.0	1.0	2.3	15.1	1.2	2.6	11.9	1.5
Prop In Lane	1.00		0.71	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	0	286	189	0	305	487	2402	1032	279	1770	761
V/C Ratio(X)	0.35	0.00	0.57	0.47	0.00	0.09	0.26	0.54	0.06	0.02	0.46	0.07
Avail Cap(c_a), veh/h	319	0	295	189	0	305	650	2402	1032	279	1770	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	0.0	30.4	36.4	0.0	27.9	8.3	7.7	5.2	11.9	13.7	11.0
Incr Delay (d2), s/veh	0.2	0.0	1.4	0.7	0.0	0.0	0.1	0.9	0.1	0.1	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	2.9	1.7	0.0	0.4	0.7	4.5	0.3	0.1	4.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.0	31.8	37.0	0.0	27.9	8.4	8.5	5.3	12.0	14.6	11.2
LnGrp LOS	C	A	C	D	A	C	A	A	A	B	B	B
Approach Vol, veh/h		271			115			1482			878	
Approach Delay, s/veh		31.5			35.0			8.4			14.4	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	46.0		21.0		59.0		21.0				
Change Period (Y+Rc), s	5.5	7.3		* 7.3		7.3		7.3				
Max Green Setting (Gmax), s	14.5	31.7		* 14		51.7		13.7				
Max Q Clear Time (g_c+I1), s	4.3	13.9		9.1		17.1		15.0				
Green Ext Time (p_c), s	0.1	8.4		0.3		11.4		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	10	10	30	5	10	30
Future Volume (vph)	10	10	30	5	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			325	406	
Travel Time (s)	8.6			8.9	11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	0	0	40	45	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

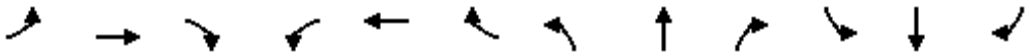
Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	10	30	5	10	30
Future Vol, veh/h	10	10	30	5	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	1	9	9	2	2
Mvmt Flow	11	11	34	6	11	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	22	0	91	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	-	-	4.19	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.281	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1549	-	909	1062
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1549	-	889	1062
Mov Cap-2 Maneuver	-	-	-	-	889	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	928	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.3	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1013	-	-	1549	-
HCM Lane V/C Ratio	0.045	-	-	0.022	-
HCM Control Delay (s)	8.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	90	1	1	1	65	35	1	1	35	5
Future Volume (vph)	5	1	90	1	1	1	65	35	1	1	35	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		327			194			539			406	
Travel Time (s)		8.9			5.3			14.7			11.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	0	0	3	0	0	118	0	0	48	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

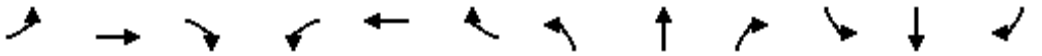
Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	1	90	1	1	1	65	35	1	1	35	5
Future Vol, veh/h	5	1	90	1	1	1	65	35	1	1	35	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	7	7	7
Mvmt Flow	6	1	105	1	1	1	76	41	1	1	41	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	241	240	44	293	243	42	47	0	0	42	0	0
Stage 1	46	46	-	194	194	-	-	-	-	-	-	-
Stage 2	195	194	-	99	49	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.12	-	-	4.17	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.218	-	-	2.263	-	-
Pot Cap-1 Maneuver	715	663	1029	661	660	1032	1560	-	-	1535	-	-
Stage 1	970	859	-	810	742	-	-	-	-	-	-	-
Stage 2	809	742	-	910	856	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	686	629	1029	570	626	1032	1560	-	-	1535	-	-
Mov Cap-2 Maneuver	686	629	-	570	626	-	-	-	-	-	-	-
Stage 1	922	858	-	770	705	-	-	-	-	-	-	-
Stage 2	766	705	-	816	855	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	10.2	4.8	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1560	-	-	996	694	1535	-	-
HCM Lane V/C Ratio	0.048	-	-	0.112	0.005	0.001	-	-
HCM Control Delay (s)	7.4	0	-	9.1	10.2	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1145	25	15	1405	35	15	1	10	45	5	100
Future Volume (vph)	70	1145	25	15	1405	35	15	1	10	45	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	355		305	330		290	0		0	0		100
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		55			55			25			25	
Link Distance (ft)		989			984			394			539	
Travel Time (s)		12.3			12.2			10.7			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	1193	26	16	1464	36	0	27	0	0	52	104
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	1145	25	15	1405	35	15	1	10	45	5	100
Future Vol, veh/h	70	1145	25	15	1405	35	15	1	10	45	5	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	355	-	305	330	-	290	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	3	3	3
Mvmt Flow	73	1193	26	16	1464	36	16	1	10	47	5	104

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1500	0	0	1219	0	0	2106	2871	597	2239	2861	732
Stage 1	-	-	-	-	-	-	1339	1339	-	1496	1496	-
Stage 2	-	-	-	-	-	-	767	1532	-	743	1365	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.52	6.52	6.92	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.56	5.56	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.51	4.01	3.31	3.53	4.03	3.33
Pot Cap-1 Maneuver	443	-	-	568	-	-	30	17	449	~ 23	16	361
Stage 1	-	-	-	-	-	-	163	222	-	127	183	-
Stage 2	-	-	-	-	-	-	363	179	-	371	212	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	443	-	-	568	-	-	18	14	449	~ 19	13	361
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	84	-	94	111	-
Stage 1	-	-	-	-	-	-	136	185	-	106	178	-
Stage 2	-	-	-	-	-	-	244	174	-	301	177	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	36.2	39.8
HCM LOS			E	E

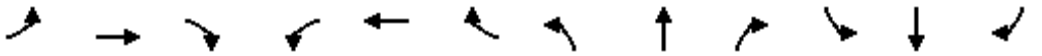
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	142	443	-	-	568	-	-	95	361
HCM Lane V/C Ratio	0.191	0.165	-	-	0.028	-	-	0.548	0.289
HCM Control Delay (s)	36.2	14.7	-	-	11.5	-	-	81.5	19
HCM Lane LOS	E	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.7	0.6	-	-	0.1	-	-	2.5	1.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX D

SYNCHRO TRAFFIC ANALYSIS

Build Traffic
Scenario B

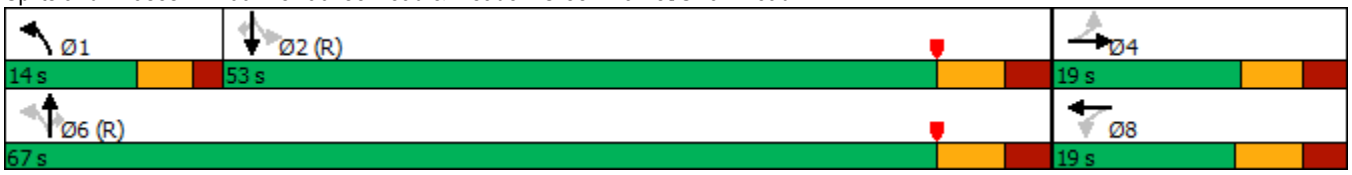


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	15	5	30	15	40	10	950	40	60	405	50
Future Volume (vph)	55	15	5	30	15	40	10	950	40	60	405	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1972	1972	1900	1972	1972	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	120		0	210		0	435		230	355		315
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		420			477			663			577	
Travel Time (s)		8.2			9.3			10.0			8.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	6%	6%	6%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	21	0	33	60	0	11	1044	27	66	445	34
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6		6	2		2
Detector Phase	4	4		8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	14.9	14.9		15.3	15.3		13.5	19.3	19.3	19.3	19.3	19.3
Total Split (s)	19.0	19.0		19.0	19.0		14.0	67.0	67.0	53.0	53.0	53.0
Total Split (%)	22.1%	22.1%		22.1%	22.1%		16.3%	77.9%	77.9%	61.6%	61.6%	61.6%
Maximum Green (s)	12.1	12.1		11.7	11.7		8.5	59.7	59.7	45.7	45.7	45.7
Yellow Time (s)	3.9	3.9		4.3	4.3		3.5	4.3	4.3	4.3	4.3	4.3
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9		7.3	7.3		5.5	7.3	7.3	7.3	7.3	7.3
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0	3.0	4.8	4.8	4.8
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0	2.0	3.8	3.8	3.8
Time Before Reduce (s)	30.0	30.0		30.0	30.0		25.0	19.0	19.0	29.0	29.0	29.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	13.0	13.0	8.0	8.0	8.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.45	0.12		0.24	0.37		0.01	0.38	0.02	0.18	0.18	0.03
Control Delay	46.3	35.3		39.3	42.1		3.2	4.7	3.7	8.4	5.5	6.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	35.3		39.3	42.1		3.2	4.7	3.7	8.4	5.5	6.2
90th %ile Green (s)	12.1	12.1		11.7	11.7		8.0	59.7	59.7	46.2	46.2	46.2
90th %ile Term Code	Max	Max		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	9.8	9.8		9.4	9.4		0.0	62.0	62.0	62.0	62.0	62.0
70th %ile Term Code	Gap	Gap		Hold	Hold		Skip	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	8.4	8.4		8.0	8.0		0.0	63.4	63.4	63.4	63.4	63.4
50th %ile Term Code	Hold	Hold		Min	Min		Skip	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	8.4	8.4		8.0	8.0		0.0	63.4	63.4	63.4	63.4	63.4
30th %ile Term Code	Hold	Hold		Min	Min		Skip	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0		0.0	0.0		0.0	78.7	78.7	78.7	78.7	78.7
10th %ile Term Code	Skip	Skip		Skip	Skip		Skip	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	31	11		17	31		1	90	3	9	31	4
Queue Length 95th (ft)	67	31		43	66		5	143	11	45	90	21
Internal Link Dist (ft)		340			397			583			497	
Turn Bay Length (ft)	120			210			435		230	355		315
Base Capacity (vph)	174	234		176	211		747	2750	1185	363	2519	1086
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.09		0.19	0.28		0.01	0.38	0.02	0.18	0.18	0.03

Intersection Summary	
Area Type:	Other
Cycle Length: 86	
Actuated Cycle Length: 86	
Offset: 4 (5%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Pewaukee Road & Meadow Creek Market/Swan Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	15	5	30	15	40	10	950	40	60	405	50
Future Volume (veh/h)	55	15	5	30	15	40	10	950	40	60	405	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1767	1767	1767	1880	1880	1811	1803	1803	1737
Adj Flow Rate, veh/h	60	16	5	33	16	44	11	1044	27	66	445	34
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	10	10	10	9	9	9	6	6	6	11	11	11
Cap, veh/h	170	134	42	206	43	119	662	2593	1114	395	2194	943
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.73	0.73	0.64	0.64	0.64
Sat Flow, veh/h	1258	1280	400	1314	416	1144	1790	3571	1535	508	3425	1472
Grp Volume(v), veh/h	60	0	21	33	0	60	11	1044	27	66	445	34
Grp Sat Flow(s),veh/h/ln	1258	0	1680	1314	0	1561	1790	1786	1535	508	1713	1472
Q Serve(g_s), s	4.0	0.0	1.0	2.0	0.0	3.1	0.2	9.7	0.4	5.0	4.6	0.7
Cycle Q Clear(g_c), s	7.1	0.0	1.0	3.0	0.0	3.1	0.2	9.7	0.4	7.4	4.6	0.7
Prop In Lane	1.00		0.24	1.00		0.73	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	0	175	206	0	163	662	2593	1114	395	2194	943
V/C Ratio(X)	0.35	0.00	0.12	0.16	0.00	0.37	0.02	0.40	0.02	0.17	0.20	0.04
Avail Cap(c_a), veh/h	216	0	236	248	0	212	801	2593	1114	395	2194	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	34.9	36.3	0.0	35.9	4.5	4.6	3.3	7.4	6.4	5.7
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.1	0.0	0.5	0.0	0.5	0.0	0.9	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.4	0.6	0.0	1.2	0.0	2.4	0.1	0.5	1.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	0.0	35.0	36.4	0.0	36.4	4.5	5.0	3.3	8.3	6.6	5.8
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		81			93			1082			545	
Approach Delay, s/veh		38.4			36.4			5.0			6.8	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.3	62.4		16.3		69.7		16.3				
Change Period (Y+Rc), s	5.5	7.3		* 7.3		7.3		7.3				
Max Green Setting (Gmax), s	8.5	45.7		* 12		59.7		11.7				
Max Q Clear Time (g_c+I1), s	2.2	9.4		9.1		11.7		5.1				
Green Ext Time (p_c), s	0.0	7.2		0.0		8.7		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		8.6	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	5	30	35	5	15	20
Future Volume (vph)	5	30	35	5	15	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			325	406	
Travel Time (s)	8.6			8.9	11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	17%	1%	1%	12%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	51	45	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

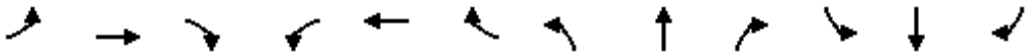
Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	30	35	5	15	20
Future Vol, veh/h	5	30	35	5	15	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	17	17	1	1	12	12
Mvmt Flow	6	39	45	6	19	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	45	0	122	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	-	-	4.11	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.209	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	1570	-	850	1022
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1570	-	825	1022
Mov Cap-2 Maneuver	-	-	-	-	825	-
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	877	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.4	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	927	-	-	1570	-
HCM Lane V/C Ratio	0.049	-	-	0.029	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	50	1	1	1	85	20	1	1	50	15
Future Volume (vph)	15	1	50	1	1	1	85	20	1	1	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		327			194			539			406	
Travel Time (s)		8.9			5.3			14.7			11.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	13%	13%	1%	1%	1%	6%	6%	6%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	76	0	0	3	0	0	123	0	0	76	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

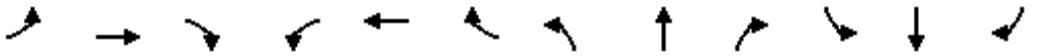
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	1	50	1	1	1	85	20	1	1	50	15
Future Vol, veh/h	15	1	50	1	1	1	85	20	1	1	50	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	13	13	13	1	1	1	6	6	6	4	4	4
Mvmt Flow	17	1	58	1	1	1	99	23	1	1	58	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	292	291	67	320	299	24	75	0	0	24	0	0
Stage 1	69	69	-	222	222	-	-	-	-	-	-	-
Stage 2	223	222	-	98	77	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.63	6.33	7.11	6.51	6.21	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	6.23	5.63	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.63	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.117	3.417	3.509	4.009	3.309	2.254	-	-	2.236	-	-
Pot Cap-1 Maneuver	639	601	967	635	615	1055	1499	-	-	1578	-	-
Stage 1	914	816	-	783	722	-	-	-	-	-	-	-
Stage 2	755	700	-	911	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	604	560	967	565	573	1055	1499	-	-	1578	-	-
Mov Cap-2 Maneuver	604	560	-	565	573	-	-	-	-	-	-	-
Stage 1	853	815	-	731	674	-	-	-	-	-	-	-
Stage 2	702	653	-	854	832	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	10.4	6.1	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1499	-	-	843	672	1578	-	-
HCM Lane V/C Ratio	0.066	-	-	0.091	0.005	0.001	-	-
HCM Control Delay (s)	7.6	0	-	9.7	10.4	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	1100	10	5	970	45	15	1	20	30	1	70
Future Volume (vph)	75	1100	10	5	970	45	15	1	20	30	1	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	355		305	330		290	0		0	0		100
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		55			55			25			25	
Link Distance (ft)		989			984			394			539	
Travel Time (s)		12.3			12.2			10.7			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	1196	11	5	1054	49	0	39	0	0	34	76
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	1100	10	5	970	45	15	1	20	30	1	70
Future Vol, veh/h	75	1100	10	5	970	45	15	1	20	30	1	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	355	-	305	330	-	290	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	2	2	2
Mvmt Flow	82	1196	11	5	1054	49	16	1	22	33	1	76

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1103	0	0	1207	0	0	1898	2473	598	1827	2435	527
Stage 1	-	-	-	-	-	-	1360	1360	-	1064	1064	-
Stage 2	-	-	-	-	-	-	538	1113	-	763	1371	-
Critical Hdwy	4.2	-	-	4.2	-	-	7.6	6.6	7	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.6	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.6	-	6.54	5.54	-
Follow-up Hdwy	2.25	-	-	2.25	-	-	3.55	4.05	3.35	3.52	4.02	3.32
Pot Cap-1 Maneuver	611	-	-	557	-	-	41	28	438	48	31	496
Stage 1	-	-	-	-	-	-	152	209	-	238	298	-
Stage 2	-	-	-	-	-	-	487	276	-	363	212	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	611	-	-	557	-	-	31	24	438	40	27	496
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	125	-	163	145	-
Stage 1	-	-	-	-	-	-	132	181	-	206	295	-
Stage 2	-	-	-	-	-	-	407	274	-	297	184	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	27.5	19.6
HCM LOS			D	C

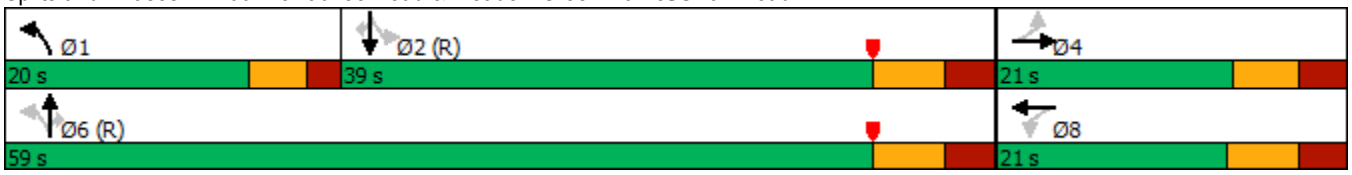
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	199	611	-	-	557	-	-	162	496
HCM Lane V/C Ratio	0.197	0.133	-	-	0.01	-	-	0.208	0.153
HCM Control Delay (s)	27.5	11.8	-	-	11.5	-	-	33	13.6
HCM Lane LOS	D	B	-	-	B	-	-	D	B
HCM 95th %tile Q(veh)	0.7	0.5	-	-	0	-	-	0.8	0.5

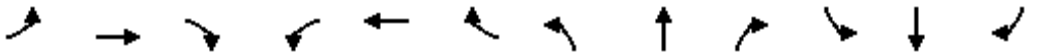
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	45	110	90	20	10	120	1235	100	15	775	85
Future Volume (vph)	105	45	110	90	20	10	120	1235	100	15	775	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1972	1972	1900	1972	1972	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	120		0	210		0	435		230	355		315
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		420			477			663			577	
Travel Time (s)		8.2			9.3			10.0			8.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	162	0	94	31	0	125	1286	65	16	807	55
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6		6	2		2
Detector Phase	4	4		8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	14.9	14.9		15.3	15.3		13.5	19.3	19.3	19.3	19.3	19.3
Total Split (s)	21.0	21.0		21.0	21.0		20.0	59.0	59.0	39.0	39.0	39.0
Total Split (%)	26.3%	26.3%		26.3%	26.3%		25.0%	73.8%	73.8%	48.8%	48.8%	48.8%
Maximum Green (s)	14.1	14.1		13.7	13.7		14.5	51.7	51.7	31.7	31.7	31.7
Yellow Time (s)	3.9	3.9		4.3	4.3		3.5	4.3	4.3	4.3	4.3	4.3
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9		7.3	7.3		5.5	7.3	7.3	7.3	7.3	7.3
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5		1.5	1.5		1.5	3.0	3.0	4.8	4.8	4.8
Minimum Gap (s)	1.5	1.5		1.5	1.5		1.5	2.0	2.0	3.8	3.8	3.8
Time Before Reduce (s)	30.0	30.0		30.0	30.0		25.0	19.0	19.0	29.0	29.0	29.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	13.0	13.0	8.0	8.0	8.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.55	0.68		0.57	0.13		0.25	0.51	0.06	0.07	0.41	0.06
Control Delay	42.4	46.7		45.9	30.3		5.4	7.5	5.0	12.3	12.7	11.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	46.7		45.9	30.3		5.4	7.5	5.0	12.3	12.7	11.1
90th %ile Green (s)	14.1	14.1		13.7	13.7		8.0	51.7	51.7	38.2	38.2	38.2
90th %ile Term Code	Max	Max		Max	Max		Min	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	13.6	13.6		13.2	13.2		8.0	52.2	52.2	38.7	38.7	38.7
70th %ile Term Code	Gap	Gap		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	11.5	11.5		11.1	11.1		8.0	54.3	54.3	40.8	40.8	40.8
50th %ile Term Code	Gap	Gap		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	9.4	9.4		9.0	9.0		8.0	56.4	56.4	42.9	42.9	42.9
30th %ile Term Code	Gap	Gap		Hold	Hold		Min	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	8.4	8.4		8.0	8.0		0.0	57.4	57.4	57.4	57.4	57.4
10th %ile Term Code	Hold	Hold		Hold	Hold		Skip	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)	51	78		45	14		17	142	9	4	125	13
Queue Length 95th (ft)	98	135		89	37		36	208	24	16	182	33
Internal Link Dist (ft)		340			397			583			497	
Turn Bay Length (ft)	120			210			435		230	355		315
Base Capacity (vph)	244	296		204	297		617	2522	1087	224	1982	854
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.55		0.46	0.10		0.20	0.51	0.06	0.07	0.41	0.06

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 70 (88%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Pewaukee Road & Meadow Creek Market/Swan Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	45	110	90	20	10	120	1235	100	15	775	85
Future Volume (veh/h)	105	45	110	90	20	10	120	1235	100	15	775	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1841	1841	1841	1957	1957	1885	1926	1926	1856
Adj Flow Rate, veh/h	109	47	115	94	21	10	125	1286	65	16	807	55
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	3	3	3
Cap, veh/h	307	83	203	189	202	96	491	2402	1032	281	1770	761
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.09	0.65	0.65	0.48	0.48	0.48
Sat Flow, veh/h	1389	485	1187	1205	1179	561	1863	3718	1598	416	3659	1572
Grp Volume(v), veh/h	109	0	162	94	0	31	125	1286	65	16	807	55
Grp Sat Flow(s),veh/h/ln	1389	0	1672	1205	0	1740	1863	1859	1598	416	1830	1572
Q Serve(g_s), s	5.7	0.0	7.1	6.2	0.0	1.2	2.3	15.0	1.2	1.7	11.7	1.5
Cycle Q Clear(g_c), s	6.9	0.0	7.1	13.3	0.0	1.2	2.3	15.0	1.2	3.7	11.7	1.5
Prop In Lane	1.00		0.71	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	0	286	189	0	298	491	2402	1032	281	1770	761
V/C Ratio(X)	0.36	0.00	0.57	0.50	0.00	0.10	0.25	0.54	0.06	0.06	0.46	0.07
Avail Cap(c_a), veh/h	314	0	295	189	0	298	654	2402	1032	281	1770	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	0.0	30.4	36.5	0.0	28.0	8.2	7.7	5.2	12.2	13.7	11.0
Incr Delay (d2), s/veh	0.3	0.0	1.4	0.7	0.0	0.1	0.1	0.9	0.1	0.4	0.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	2.9	1.8	0.0	0.5	0.7	4.5	0.3	0.2	4.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.2	0.0	31.8	37.3	0.0	28.0	8.3	8.5	5.3	12.6	14.5	11.2
LnGrp LOS	C	A	C	D	A	C	A	A	A	B	B	B
Approach Vol, veh/h		271			125			1476			878	
Approach Delay, s/veh		31.6			35.0			8.4			14.3	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.0	46.0		21.0		59.0		21.0				
Change Period (Y+Rc), s	5.5	7.3		* 7.3		7.3		7.3				
Max Green Setting (Gmax), s	14.5	31.7		* 14		51.7		13.7				
Max Q Clear Time (g_c+I1), s	4.3	13.7		9.1		17.0		15.3				
Green Ext Time (p_c), s	0.1	8.6		0.3		11.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	10	20	30	5	20	30
Future Volume (vph)	10	20	30	5	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			325	406	
Travel Time (s)	8.6			8.9	11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	9%	9%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	0	40	57	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

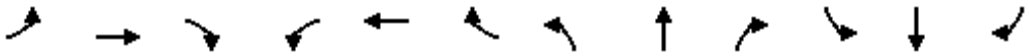
Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	20	30	5	20	30
Future Vol, veh/h	10	20	30	5	20	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	1	9	9	2	2
Mvmt Flow	11	23	34	6	23	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	34	0	97	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	-	-	4.19	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.281	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1533	-	902	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1533	-	882	1054
Mov Cap-2 Maneuver	-	-	-	-	882	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	928	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.3	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	978	-	-	1533	-
HCM Lane V/C Ratio	0.058	-	-	0.022	-
HCM Control Delay (s)	8.9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	80	1	1	1	55	35	1	1	35	15
Future Volume (vph)	15	1	80	1	1	1	55	35	1	1	35	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		327			194			539			406	
Travel Time (s)		8.9			5.3			14.7			11.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	3	0	0	106	0	0	59	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

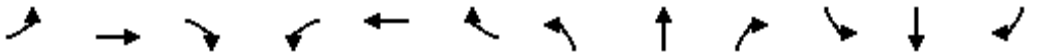
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	1	80	1	1	1	55	35	1	1	35	15
Future Vol, veh/h	15	1	80	1	1	1	55	35	1	1	35	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	7	7	7
Mvmt Flow	17	1	93	1	1	1	64	41	1	1	41	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	223	222	50	269	230	42	58	0	0	42	0	0
Stage 1	52	52	-	170	170	-	-	-	-	-	-	-
Stage 2	171	170	-	99	60	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.12	-	-	4.17	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.218	-	-	2.263	-	-
Pot Cap-1 Maneuver	735	678	1021	686	672	1032	1546	-	-	1535	-	-
Stage 1	963	854	-	834	760	-	-	-	-	-	-	-
Stage 2	833	760	-	910	847	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	709	649	1021	602	643	1032	1546	-	-	1535	-	-
Mov Cap-2 Maneuver	709	649	-	602	643	-	-	-	-	-	-	-
Stage 1	923	853	-	799	728	-	-	-	-	-	-	-
Stage 2	796	728	-	825	846	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	10	4.5	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	950	717	1535	-	-
HCM Lane V/C Ratio	0.041	-	-	0.118	0.005	0.001	-	-
HCM Control Delay (s)	7.4	0	-	9.3	10	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1150	25	15	1405	35	15	1	10	40	5	95
Future Volume (vph)	60	1150	25	15	1405	35	15	1	10	40	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	355		305	330		290	0		0	0		100
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		55			55			25			25	
Link Distance (ft)		989			984			394			539	
Travel Time (s)		12.3			12.2			10.7			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	1198	26	16	1464	36	0	27	0	0	47	99
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	1150	25	15	1405	35	15	1	10	40	5	95
Future Vol, veh/h	60	1150	25	15	1405	35	15	1	10	40	5	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	355	-	305	330	-	290	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	2	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	3	3	3
Mvmt Flow	63	1198	26	16	1464	36	16	1	10	42	5	99

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1500	0	0	1224	0	0	2091	2856	599	2222	2846	732
Stage 1	-	-	-	-	-	-	1324	1324	-	1496	1496	-
Stage 2	-	-	-	-	-	-	767	1532	-	726	1350	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.52	6.52	6.92	7.56	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.56	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.56	5.56	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.51	4.01	3.31	3.53	4.03	3.33
Pot Cap-1 Maneuver	443	-	-	565	-	-	30	17	447	~ 24	17	361
Stage 1	-	-	-	-	-	-	166	225	-	127	183	-
Stage 2	-	-	-	-	-	-	363	179	-	380	215	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	443	-	-	565	-	-	18	14	447	~ 20	14	361
Mov Cap-2 Maneuver	-	-	-	-	-	-	107	91	-	97	114	-
Stage 1	-	-	-	-	-	-	142	193	-	109	178	-
Stage 2	-	-	-	-	-	-	249	174	-	317	184	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	34.2	35.4
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	150	443	-	-	565	-	-	99	361
HCM Lane V/C Ratio	0.181	0.141	-	-	0.028	-	-	0.473	0.274
HCM Control Delay (s)	34.2	14.5	-	-	11.6	-	-	70.5	18.7
HCM Lane LOS	D	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.6	0.5	-	-	0.1	-	-	2.1	1.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX E

TRAFFIC GAP CALCULATIONS

Gap Analysis Calculations

Capitol Drive & Highfield Road

Inputs

Lanes on Major St. (both dir.)	4 lanes	*EB=2 lanes, WB=2 lanes*
%HV on Minor Street (AM)	1.6%	*New traffic from minor = low truck %*
%HV on Minor Street (PM, SAT)	3.3%	*New traffic from minor = low truck %*
Grade	0.0%	
Gap Acceptance	2 stage	
Legs at Intersection	4 leg	

Calculations

	AM					PM, SAT				
	$T_{c,x}$	$T_{f,x}$	1 Veh	2 Veh	3 Veh	$T_{c,x}$	$T_{f,x}$	1 Veh	2 Veh	3 Veh
Left turn from major	3.1	2.2	3.1	8.5	13.8	3.2	2.2	3.2	8.6	14.0
Right Turn from Minor	5.9	3.3	5.9	15.2	24.4	6.0	3.3	6.0	15.3	24.6
Through Traffic on Minor	5.5	4.0	5.5	15.1	24.6	5.6	4.0	5.6	15.2	24.8
Left Turn from Minor	6.5	3.5	6.5	16.6	26.6	6.6	3.5	6.6	16.7	26.8

Equations

$T_{c,x} = T_{c,base} + T_{c,HV}P_{HV} + T_{c,G}G - T_{c,T} - T_{3,LT}$

$T_{f,x} = T_{f,base} + T_{f,HV}P_{HV}$

Definitions

$T_{c,x}$	Critical gap for movement
$T_{c,base}$	base critical gap (Exhibit 17-5)
$T_{c,HV}$	HV adjustment factor (1.0 2-ln, 2.0 4-ln) for major street
P_{HV}	proportion of heavy vehicles for minor movement
$T_{c,G}$	grade adjustment factor (0.1 mvmts 9 & 12, 0.2 mvmts 7, 8, 10, & 11)
G	percent grade divided by 100
$T_{c,T}$	2-stage gap acceptance adjustment factor (1.0 for 1st or 2nd stage, 0.0 for only 1 stage)
$T_{3,LT}$	intersection geometry adjsutment factor (0.7 minor street left turn at 3-leg intersection, 0.0 otherwise)
$T_{f,x}$	minor movement follow-up time
$T_{f,base}$	base follow-up time from exhibit 17-5
$T_{f,HV}$	heavy vehicle adjustment factor (0.9 for 2-ln major, 1.0 for 4-ln major)
P_{HV}	proportion of heavy vehicles for minor movement

Look Up Tables

Major Street	$T_{c,HV}$	$T_{f,HV}$
2 lanes	1.0	0.9
4 lanes	2.0	1.0

Grade Adjust.	$T_{c,G}$
Minor RT	0.1
Minor LT/TH	0.2

Gap Acceptance	$T_{c,t}$
1 stage	0.0
2 stage	1.0

Geometry	$T_{3,lt}$
3-leg	0.7
4-leg	0.0

HCM Exhibit 17-5	Base Critical Gap $T_{c,base}$ (s)		Base follow-up
Vehicle Movement	**2-Ln Major**	**4-Ln Major**	$T_{f,base}$ (s)
LT from Major	4.1	4.1	2.2
RT from Minor	6.2	6.9	3.3
TH on Minor	6.5	6.5	4.0
LT from Minor	7.1	7.5	3.5

Calculated Values

$T_{c,HV}$	$T_{f,HV}$
2.0	1.0

G
0.0

$T_{c,t}$
1.0

$T_{3,lt}$
0.0

$T_{c,base}$	$T_{f,base}$	$T_{c,G}$
4.1	2.2	0.0
6.9	3.3	0.1
6.5	4.0	0.2
7.5	3.5	0.2

	P_{HV}
AM	0.02
PM	0.03

Weekday AM 4/13/20203															
Westbound Gaps															
Start Time	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29
7:15 AM	6	22	10	13	7	5	1	0	2	1	0	0	0	0	2
7:30 AM	8	14	11	9	9	4	2	2	0	0	0	2	1	2	0
7:45 AM	9	15	14	7	2	6	6	1	1	2	0	0	0	0	2
8:00 AM	11	16	17	7	8	3	3	2	2	2	1	1	0	0	0
Total	34	67	52	36	26	18	12	5	5	5	1	3	1	2	4
Eastbound Gaps															
Start Time	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29
7:15 AM	9	9	7	7	5	2	1	3	3	0	0	0	0	0	4
7:30 AM	8	11	6	2	5	3	2	1	0	0	3	1	0	0	3
7:45 AM	6	16	7	5	3	3	3	2	3	1	2	0	0	0	2
8:00 AM	11	15	5	4	0	4	3	3	1	1	1	0	3	0	2
Total	34	51	25	18	13	12	9	9	7	2	6	1	3	0	11
Combined Gaps															
Start Time	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29
7:15 AM	23	15	8	4	4	1	1	0	0	0	0	0	0	0	1
7:30 AM	14	25	11	7	1	1	0	0	0	0	0	1	0	0	0
7:45 AM	21	17	12	4	0	3	3	0	1	0	0	0	0	0	0
8:00 AM	23	14	11	5	4	2	2	0	0	0	0	0	0	0	0
Total	81	71	42	20	9	7	6	0	1	0	0	1	0	0	1

Gap Calcs	SB RT from Minor		
	Gap Times		Gaps
1 Veh (x1)	5.9	15.08	142
2 Veh (x2)	15.18	24.3	44
3 Veh (x3)	24.4	& up	29
Equivalent Gaps			214

Westbound Gap

NB RT from Minor		
Gap Times		Gaps
5.9	15.08	75
15.18	24.3	57
24.4	& up	45
		177

Eastbound Gap

Gap Calcs	SB TH from Minor			SB LT from Minor		
	Gap Times		Gaps	Gap Times		Gaps
1 Veh (x1)	5.5	14.98	155	6.5	16.48	73
2 Veh (x2)	15.08	24.5	46	16.58	26.5	47
3 Veh (x3)	24.6	& up	28	26.6	& up	40
Equivalent Gaps			228			160

Stage 1-WB Gap *Stage 2-EB Gap*

NB TH from Minor			NB LT from Minor		
Gap Times		Gaps	Gap Times		Gaps
5.5	14.98	85	6.5	16.48	132
15.08	24.5	58	16.58	26.5	36
24.6	& up	44	26.6	& up	20
		187			189

Stage 1-EB Gap *Stage 2-WB Gap*

Gap Calcs	EB LT from Major		
	Gap Times		Gaps
1 Veh (x1)	3.1	8.38	141
2 Veh (x2)	8.5	13.7	141
3 Veh (x3)	13.8	& up	122
Equivalent Gaps			404

Westbound Gap

WB LT from Major		
Gap Times		Gaps
3.1	8.38	95
8.5	13.7	76
13.8	& up	149
		320

Eastbound Gap

Weekday PM 4/13/23															
Westbound Gaps															
Start Time	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29
4:15 PM	2	15	14	9	4	1	1	1	0	0	0	1	0	3	0
4:30 PM	6	20	15	12	5	0	1	2	0	0	0	0	1	0	0
4:45 PM	5	13	13	7	1	4	2	1	1	1	1	0	0	0	0
5:00 PM	9	21	21	6	0	1	4	1	0	0	1	0	0	0	1
Total	22	69	63	34	10	6	8	5	1	1	2	1	1	3	1
Eastbound Gaps															
Start Time	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29
4:15 PM	7	8	7	6	3	0	0	1	3	1	1	1	0	1	4
4:30 PM	11	7	4	2	0	4	2	3	0	1	0	2	1	0	7
4:45 PM	6	13	8	3	3	3	1	3	0	0	1	1	1	1	3
5:00 PM	8	8	4	4	1	4	3	0	1	2	0	1	0	1	6
Total	32	36	23	15	7	11	6	7	4	4	2	5	2	3	20
Combined Gaps															
Start Time	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29
4:15 PM	11	16	10	3	2	1	1	0	0	1	0	0	0	0	0
4:30 PM	13	18	8	5	3	1	1	0	0	0	0	0	0	0	0
4:45 PM	9	13	5	2	3	3	1	0	0	0	0	0	0	0	0
5:00 PM	12	20	10	4	0	1	2	0	0	0	0	0	0	0	0
Total	45	67	33	14	8	6	5	0	0	1	0	0	0	0	0

Gap Calcs	SB RT from Minor		
	Gap Times		Gaps
1 Veh (x1)	6.0	15.17	118
2 Veh (x2)	15.27	24.5	25
3 Veh (x3)	24.6	& up	17
Equivalent Gaps			160

Westbound Gap

NB RT from Minor		
Gap Times		Gaps
6.0	15.17	60
15.27	24.5	41
24.6	& up	86
		187

Eastbound Gap

Gap Calcs	SB TH from Minor			SB LT from Minor		
	Gap Times		Gaps	Gap Times		Gaps
1 Veh (x1)	5.6	15.07	131	6.6	16.57	57
2 Veh (x2)	15.17	24.7	26	16.67	26.7	41
3 Veh (x3)	24.8	& up	17	26.8	& up	73
Equivalent Gaps			174			171

Stage 1-WB Gap *Stage 2-EB Gap*

NB TH from Minor			NB LT from Minor		
Gap Times		Gaps	Gap Times		Gaps
5.6	15.07	66	6.6	16.57	104
15.17	24.7	43	16.67	26.7	18
24.8	& up	85	26.8	& up	14
		194			135

Stage 1-EB Gap *Stage 2-WB Gap*

Gap Calcs	EB LT from Major		
	Gap Times		Gaps
1 Veh (x1)	3.2	8.47	149
2 Veh (x2)	8.6	13.9	83
3 Veh (x3)	14.0	& up	46
Equivalent Gaps			278

Westbound Gap

WB LT from Major		
Gap Times		Gaps
3.2	8.47	75
8.6	13.9	58
14.0	& up	142
		275

Eastbound Gap

TECHNICAL MEMORANDUM

Date: December 19, 2023

Prepared for: Brett Dahlman, P.E.
Quattro Development, LLC

Prepared by: Tammi Czewski, P.E., PTOE
Traffic Analysis & Design, Inc.

Subject: **Early Childhood Center – Pewaukee, WI**
Alternative Route & Recommendations for City of Pewaukee December 21, 2023 Planning Commission Meeting

INTRODUCTION

This technical memorandum was prepared to document the data sources and analysis methods for the exhibits to be presented at the December 21, 2023 City of Pewaukee, Wisconsin Planning Commission meeting. The traffic data and analysis in this memo is based on the Early Childhood School Traffic Impact Analysis (TIA) dated May 2, 2023, with additional queueing and delay studies collected in December 2023.

EXHIBIT 1 – PEAK HOUR TRAFFIC VOLUMES

This exhibit was prepared to demonstrate the existing, development, and total (existing plus development) traffic exiting from Highfield Court onto Highfield Road and exiting from Highfield Road onto eastbound Capitol Drive (STH 190). Currently, a low amount of traffic (five vehicles each in the AM and PM peak hours) turn left from Highfield Court onto Highfield Road, indicating that a low volume of existing traffic from commercial developments travel through the Broken Hill neighborhood.

EXHIBIT 2 – ALTERNATIVE ROUTES TRAVEL TIME

Early Childhood Center to Eastbound Capitol Drive (STH 190)

This exhibit was prepared to show the difference in travel distance and travel time to eastbound Capitol Drive (STH 190) via three different routes from the proposed early childhood center on Highfield Court. The three routes on this exhibit are:

- Path A (Green) – direct left-turn from Highfield Road to eastbound Capitol Drive (STH 190) (950 feet).
- Path B (Red) – neighborhood cut-through route for traffic to avoid the delays and queues at the Highfield Road/Capitol Drive (STH 190) intersection (5,885 feet).
- Path C (Blue) – Right-turn out from Highfield Drive to westbound Capitol Drive (STH 190), with a U-turn onto eastbound Capitol Drive (STH 190). U-turns are not allowed at the Capitol Drive (STH 190)/Pewaukee Road (STH 164) intersection, so westbound-eastbound U-turns would occur at Meadowcreek Drive (5,950 feet).

The total travel time for each route was estimated by adding the base travel time (distance times speed limit) plus turning movement delays calculated from the Synchro traffic analysis model, which considers queues at the stop controlled and signalized intersections. Peak hour traffic volumes from counts collected in 2022 and 2023 from both WisDOT and TADI and existing traffic control parameters were input into the model to represent existing field conditions. Additional peak hour traffic from the proposed early childhood center was then added to the various routes to represent future "build" conditions in the study area.

The comparison of route lengths and peak hour travel time is shown below in Table 1. Path A (green, direct route) is the shortest route that takes the least amount of time to reach eastbound Capitol Drive (STH 190). Path C (blue, U-turn route) is the longest route but takes less time to reach eastbound Capitol Drive (STH 190) than Path B (red, cut-through route).

Table 1. Travel Time: Development Site to Eastbound Capitol Drive (STH 190)

Route	Distance	Total Travel Time			
		AM		PM	
Path A (Green)	949 ft	1.2 min	--	1.9 min	--
Path B (Red)	5,883 ft	4.2 min	+ 3.0 min	4.2 min	+ 2.3 min
Path C (Blue)	5,949 ft	3.2 min	+ 2.0 min	3.6 min	+ 1.7 min

In summary, Path A (green) is the most direct route taking the least amount of time to reach eastbound Capitol Drive (STH 190). Cutting through the Broken Hill neighborhood, (Path B (red)), takes the longest amount of time.

EXHIBIT 3 – ALTERNATIVE ROUTES TRAVEL TIME

Site Traffic Exiting to North on Pewaukee Road (STH 164)

This exhibit was prepared to show the difference in travel distance and travel time to northbound Pewaukee Road (STH 164) via two different routes from the proposed early childhood center on Highfield Court. The two routes on this exhibit are:

- Path A – direct right turns from Highfield Road to Capitol Drive (STH 190) to Pewaukee Road (STH 164) (3,195 feet)
- Path B – neighborhood cut-through route for traffic avoiding the delays and queues at the Highfield Road/Capitol Drive (STH 190) intersection and Capitol Drive (STH 190)/Pewaukee Road (STH 164) intersection (3,330 feet).

The total travel time for each route was estimated using the same methods as described for site traffic exiting to eastbound Capitol Drive (STH 190). The comparison of route lengths and peak hour travel time for traffic exiting to northbound Pewaukee Road (STH 164) is shown below in Table 2. Path A (direct right turns) is a slightly shorter route than Path B (cut-through route) and has the shortest travel time.

Table 2. Travel Time: Development Site to Northbound STH 165

Route	Distance	Total Travel Time			
		AM		PM	
Path A (Green)	3,195 ft	1.7 min	--	2.0 min	--
Path B (Red)	3,329 ft	2.6 min	+ 0.9 min	2.5 min	+ 0.5 min

In summary, cutting through the Broken Hill neighborhood (Path B (Red)), is a longer route that takes more time to reach northbound Pewaukee Road (STH 164) than the direct route onto Capitol Drive (STH 190) (Path A (green)).

EXHIBIT 4 – HIGHFIELD COURT TURN RESTRICTION OPTION

This exhibit was prepared to show optional modifications to the Highfield Court intersection with Highfield Road to physically prevent site traffic and existing traffic exiting Highfield Court from turning left (north) to cut-through the neighborhood to reach northbound Pewaukee Road (STH 164) or eastbound Capitol Drive (STH 190). The modifications include constructing a raised concrete channelization island and installing right-turn only signs and no left-turn signs to channelize all eastbound Highfield Court traffic to southbound Highfield Road.

EXHIBIT 5 – HIGHFIELD ROAD TURN RESTRICTION OPTION

This exhibit was prepared to show the existing and future build queues and change in delays on southbound Highfield Road with the existing Highfield Road/Capitol Drive (STH 190) intersection configuration (full access) and an alternative intersection configuration that restricts southbound movements from Highfield Road to right-out only (no left-turns to Capitol Drive (STH 190)). From field videos collected in December 2023 (collected on a typical weekday from 6:00-9:00 a.m. and 3:00-6:00 p.m.), it was determined that the maximum AM or PM peak hour queues on southbound Highfield Road was four vehicles in the right-turn lane and three vehicles in the left-turn/through lane (shown in yellow).

Using the Synchro traffic model, the change in queues and delays between the existing and build conditions was noted. With the additional site traffic and the existing geometric condition, the maximum queues are expected to reach five vehicles in the right-turn lane (one additional vehicle, shown in cyan) and five vehicles in the left-turn/through lane (two additional vehicles, shown in cyan). Peak hour delays are expected to increase from 0.8 to 2.0 seconds in the right-turn lane (6-24%) and from 6.9 to 27.7 seconds in the left-turn/through lane (24-51%).

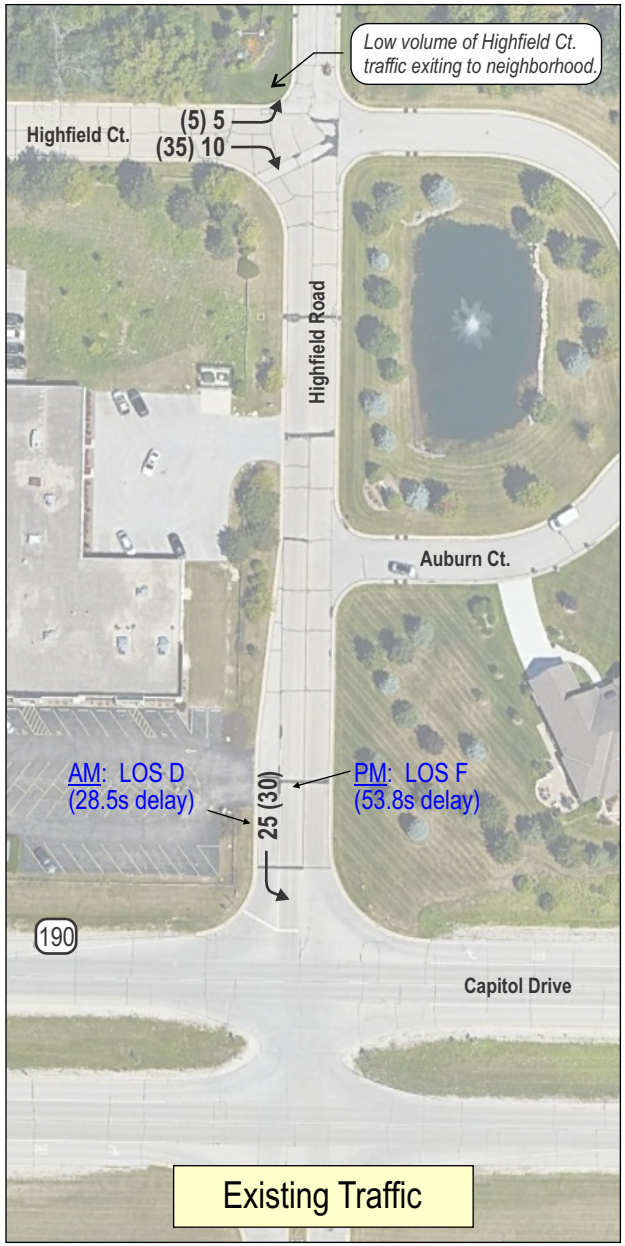
To mitigate southbound left-turn delays, the southbound approach could be configured with a raised median on Highfield Road to restrict traffic to turn right only onto westbound Capitol Drive (STH 190). Traffic heading eastbound on Capitol Drive (STH 190) would be able to U-turn at Meadowcreek Drive as shown on Exhibit 2. With this change, the southbound right-turn

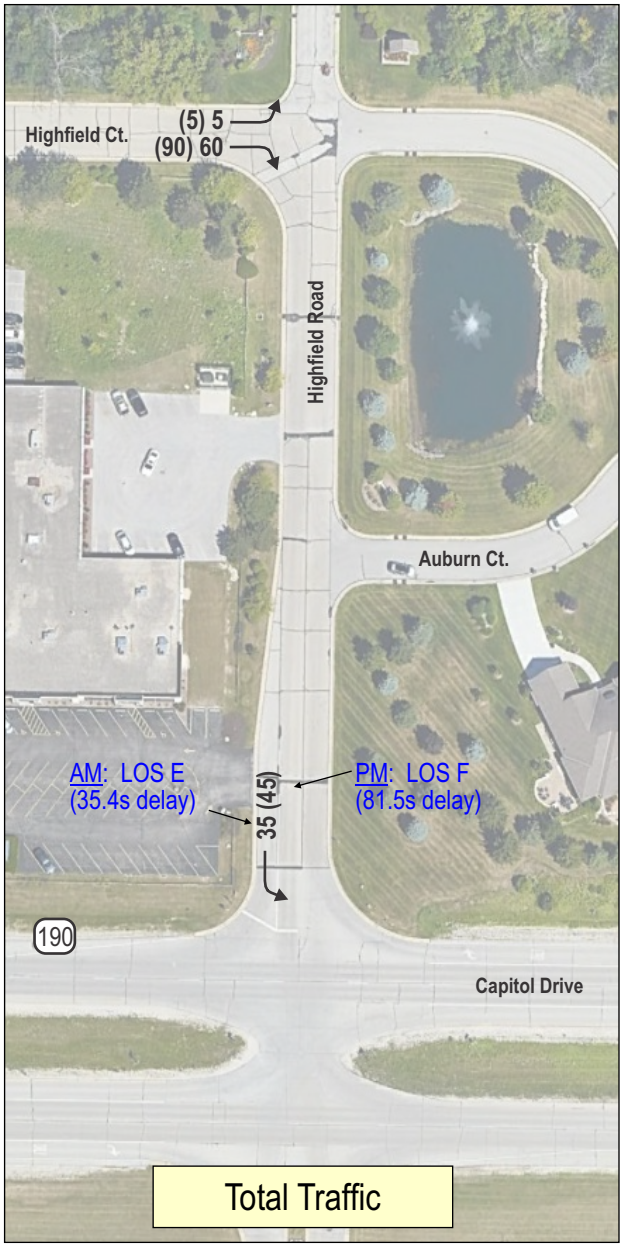
delays increase by 1.7 to 22.4 seconds (13-32%) at LOS C acceptable conditions, but southbound left-turn/through delays are eliminated altogether.

EXHIBIT 6 – ALTERNATIVE LAND USES TRIP GENERATION COMPARISON

This exhibit was prepared to show trip generation estimates for a variety of commercial land use types allowed per the current zoning for the site. As shown, a typically-sized pharmacy or fast-food restaurant would generate considerably more trips (more than double) during a typical weekday than the proposed development. A strip retail plaza or high-turnover sit-down restaurant would generate a similar amount of weekday daily trips as the proposed development.

Any new use on the development site will increase trips in the study area. The mitigation measures noted in this report for Highfield Court would eliminate exiting traffic from cutting through the Broken Hill neighborhood to reach Pewaukee Road (STH 164) or Capitol Drive (STH 190).





TADI
TRAFFIC ANALYSIS & DESIGN, INC.

3072: 12-19-2023

N
NOT TO SCALE

LEGEND

XX	AM Peak Hour (7:30-8:30 a.m.)
(XX)	PM Peak Hour (4:30-5:30 p.m.)

EXHIBIT 1
PEAK HOUR TRAFFIC VOLUMES

PEWAUKEE, WISCONSIN

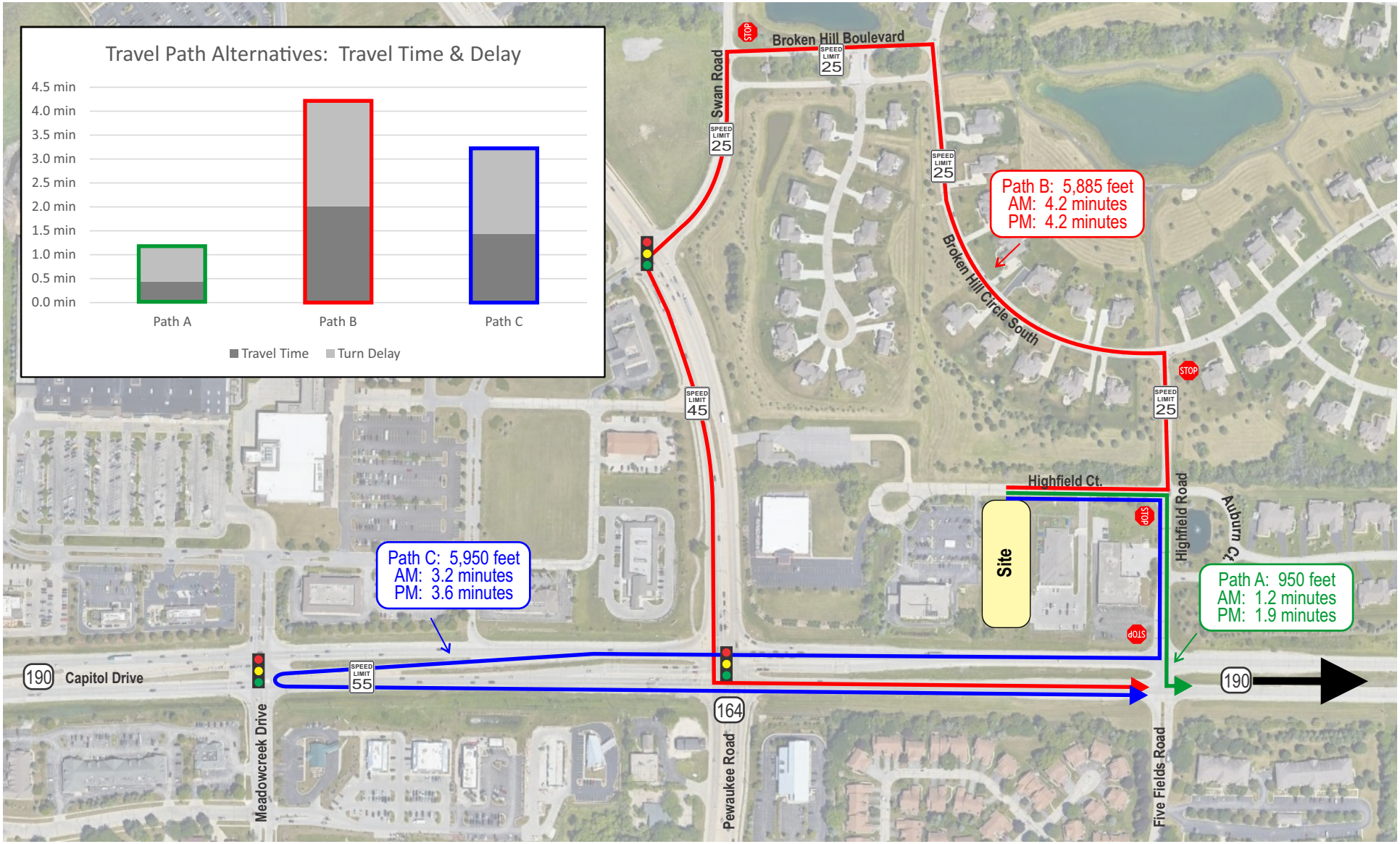


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EXHIBIT 2
ALTERNATIVE ROUTES TRAVEL TIME
SITE TRAFFIC EXITING TO EAST ON STH 190

PEWAUKEE, WISCONSIN

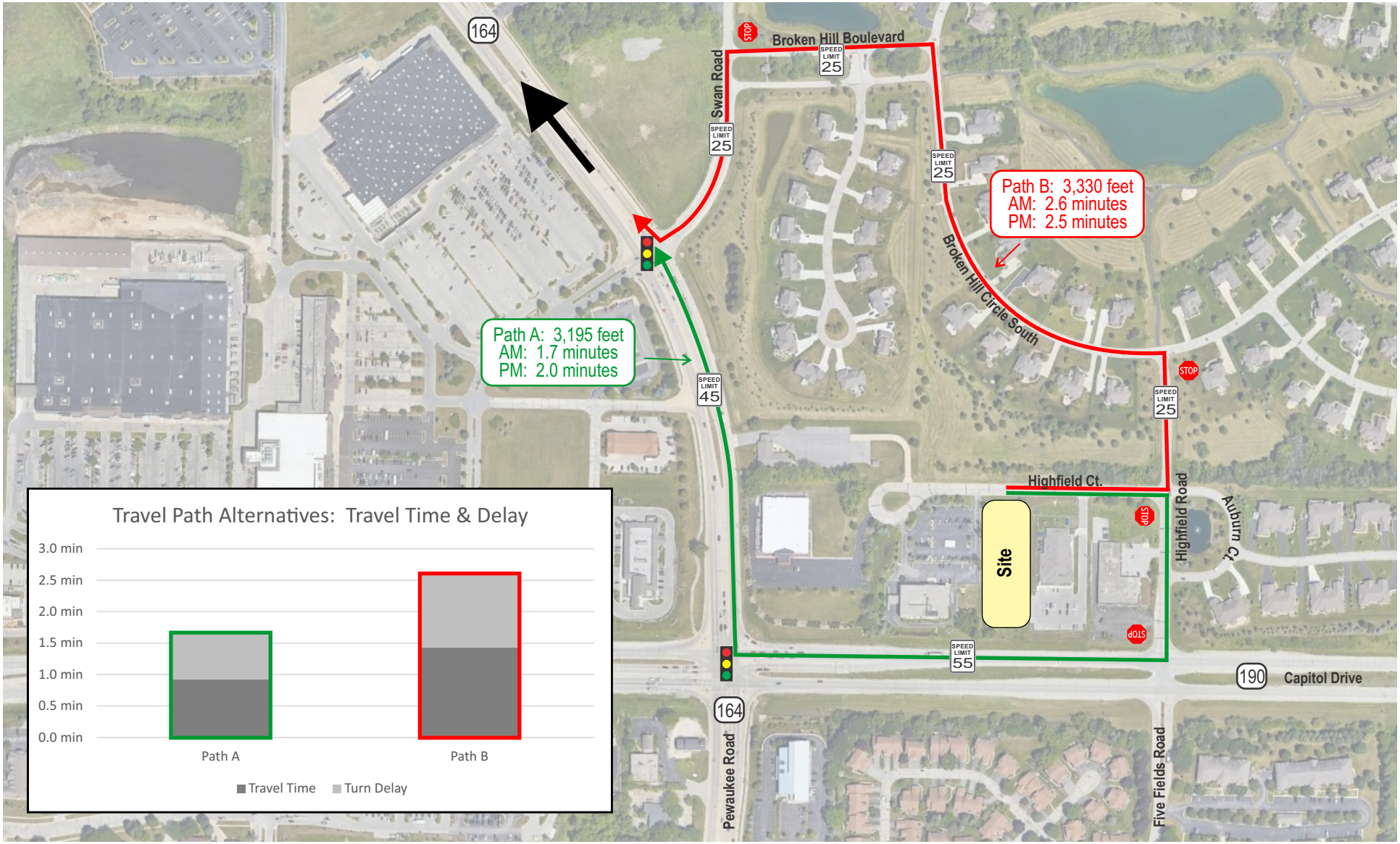

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EXHIBIT 3
ALTERNATIVE ROUTES TRAVEL TIME
SITE TRAFFIC EXITING TO NORTH ON STH 164

PEWAUKEE, WISCONSIN

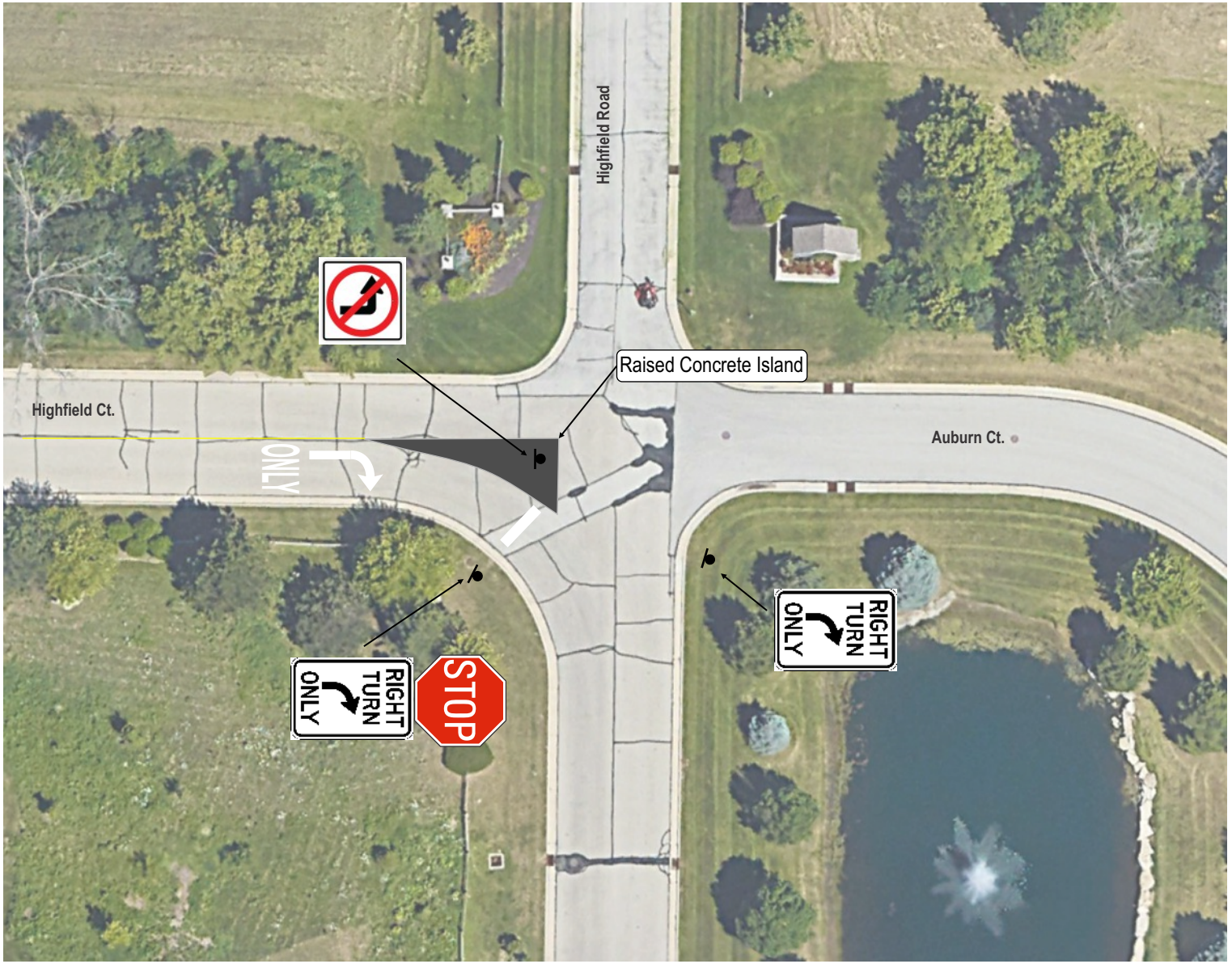

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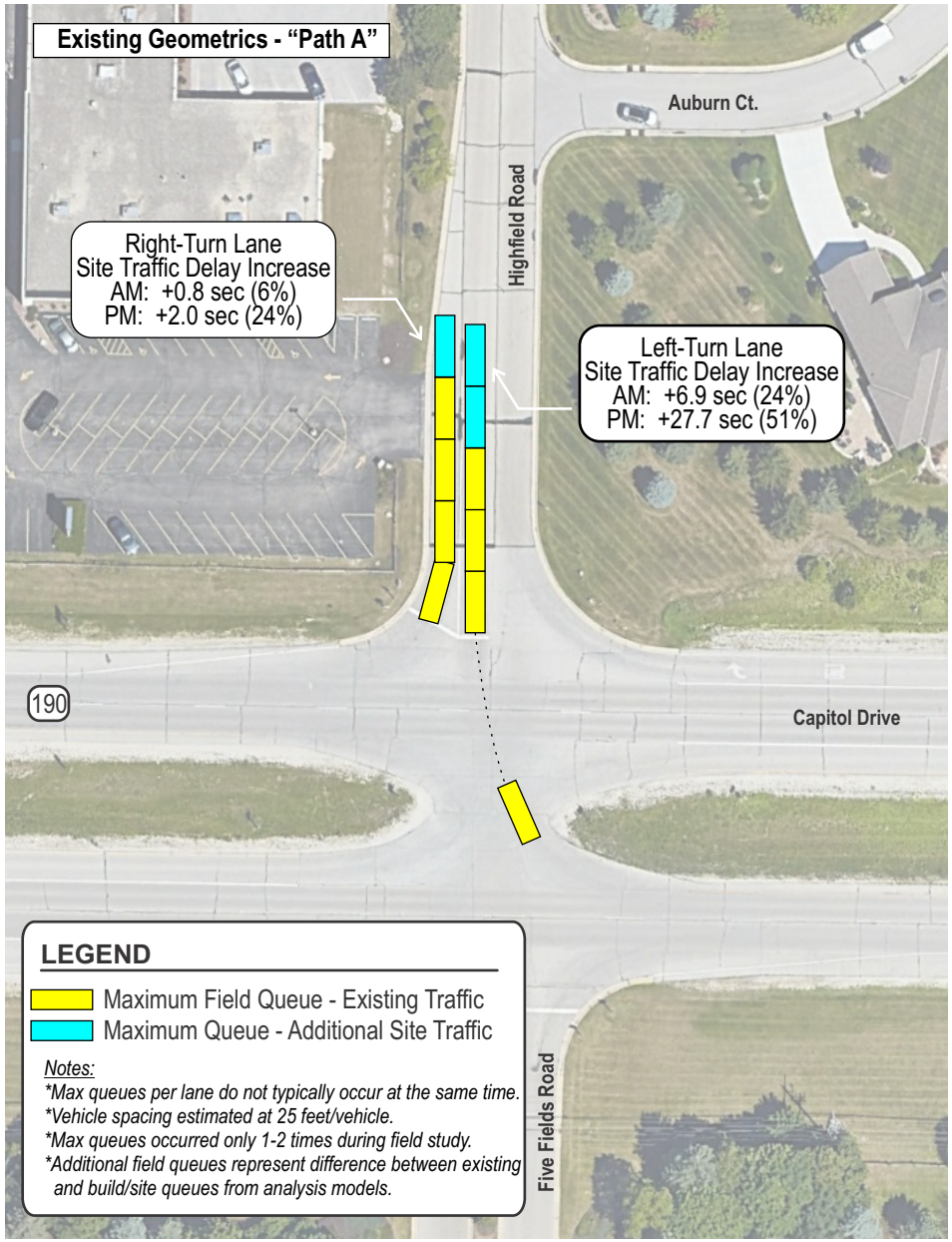
EXHIBIT 4
HIGHFIELD CT TURN RESTRICTION OPTION

PEWAUKEE, WISCONSIN



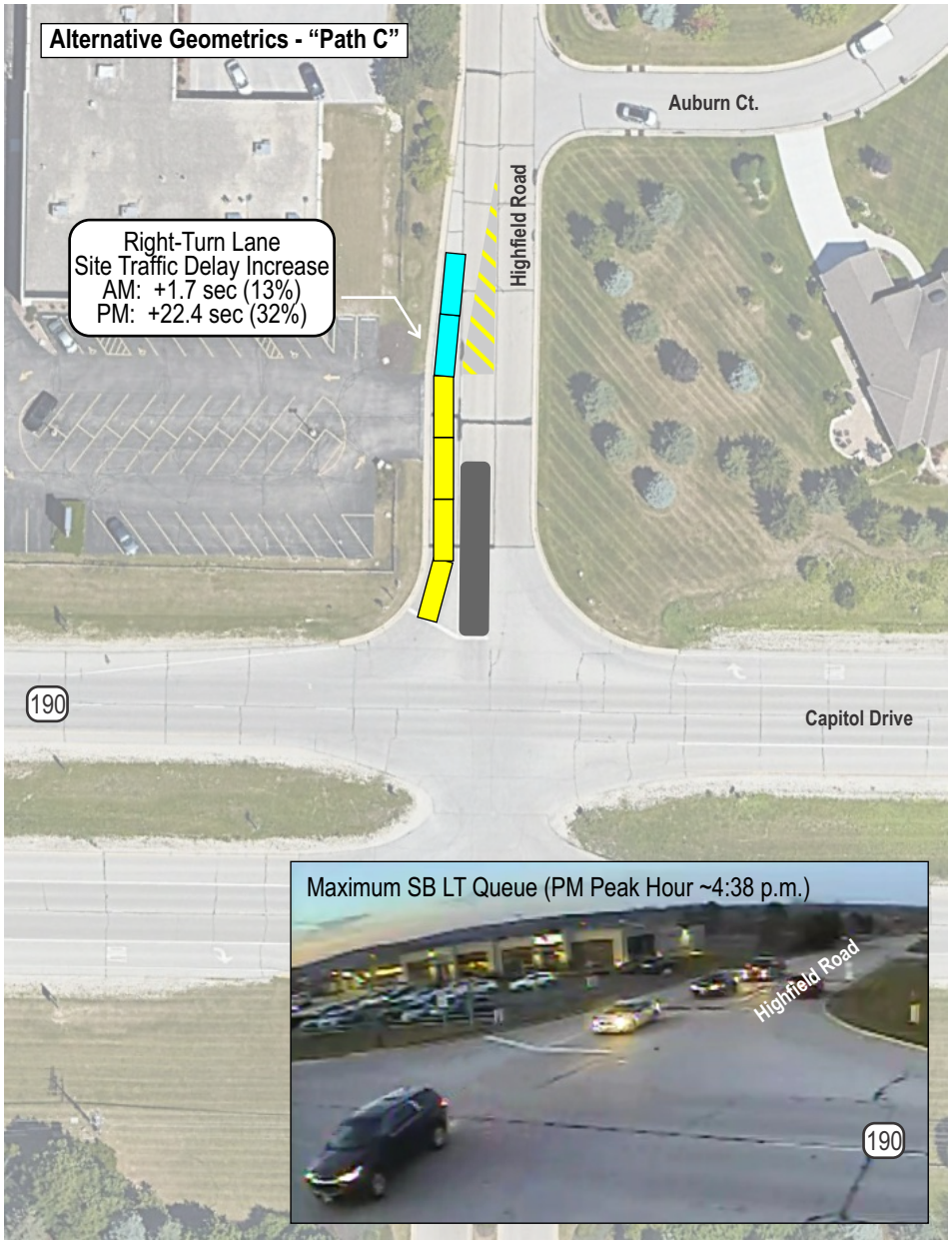


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EXHIBIT 5
EXISTING AND FUTURE QUEUES
SOUTHBOUND APPROACH OF HIGHFIELD ROAD/STH 190 INTERSECTION

PEWAUKEE, WISCONSIN

Comparison Trip Generation Table

Land Use	ITE Code	Size[2, 3]	Weekday Daily	AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
Early Childhood Center (Day Care Center)	565	152 Students	620 (4.09)	60 (53%)	50 (47%)	110 FCE	50 (47%)	55 (53%)	105 FCE
Medical-Dental Office Building (Stand-alone)	720	11,836 SF	430 (36.00)	30 (79%)	5 (21%)	35 FCE	15 (30%)	30 (70%)	45 FCE
Strip Retail Plaza (<40k)	822	11,836 SF	640 (54.45)	20 (60%)	10 (40%)	30 (2.36)	45 (50%)	45 (50%)	90 FCE
Pharmacy/Drugstore with Drive-Through Window	881	13,000 SF	1,410 (108.40)	25 (52%)	25 (48%)	50 (3.74)	70 (50%)	65 (50%)	135 (10.25)
General Office Building	710	11,836 SF	180 FCE	20 (88%)	5 (12%)	25 FCE	5 (17%)	25 (83%)	30 FCE
Drive-in Bank	912	3 Lanes	390 FCE	15 (61%)	10 (39%)	25 FCE	40 (49%)	40 (51%)	80 (27.07)
High-Turnover (Sit-Down) Restaurant	932	5,000 SF	540 (107.20)	30 (55%)	20 (45%)	50 (9.57)	25 (61%)	20 (39%)	45 (9.05)
Fast-Food Restaurant with Drive-Through Window	934	3,000 SF	1,400 (467.48)	70 (51%)	65 (49%)	135 (44.61)	50 (52%)	50 (48%)	100 (33.03)

[1] *ITE Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 11th Edition.*

[2] *Office and retail uses were estimated to be the same size as the proposed day care use (11,836 sf).*

[3] *The bank, pharmacy, and restaurant uses were estimated to be average typical sizes for similar existing uses in the area.*

Guidepost Montessori at Pewaukee

Parcel 2 of CSM 10366 – Pewaukee, WI 53072

Plan Commission Meeting
PWC #0906994
December 2023

HIGHER GROUND EDUCATION

Quattro Development

Higher Ground Education

Family of Schools and Educational Offerings for ALL ages

Pre-School - Elementary

Middle and High School

School of Thought

Global Training Program

Our Mission

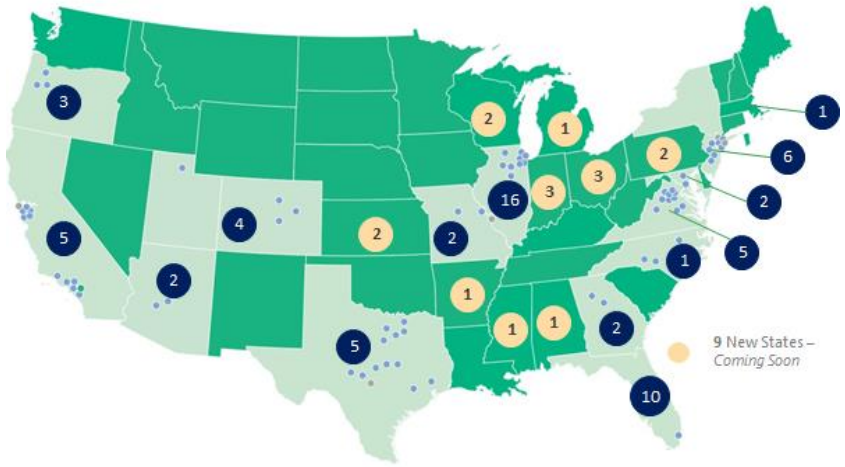
We exist to guide, empower, and nurture independence in children.

www.guidepostmontessori.com

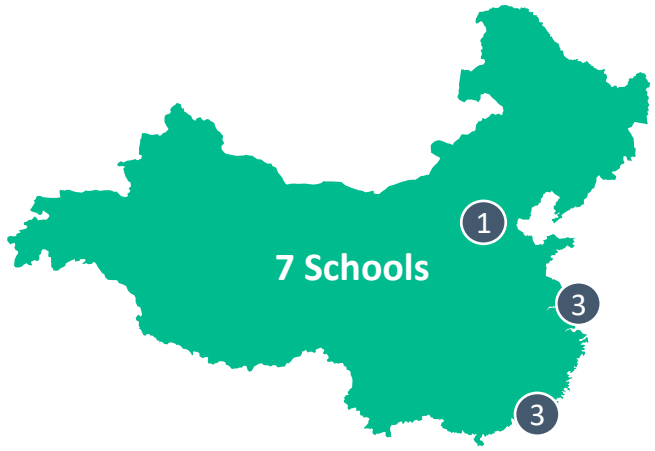
Growing Global Community

We are building on a vision for significant exchange of students and staff between markets

Guidepost US



Guidepost China



- 125+ open schools in the United States

Guidepost International

Paris, France

Barcelona, Spain

Vienna, Austria

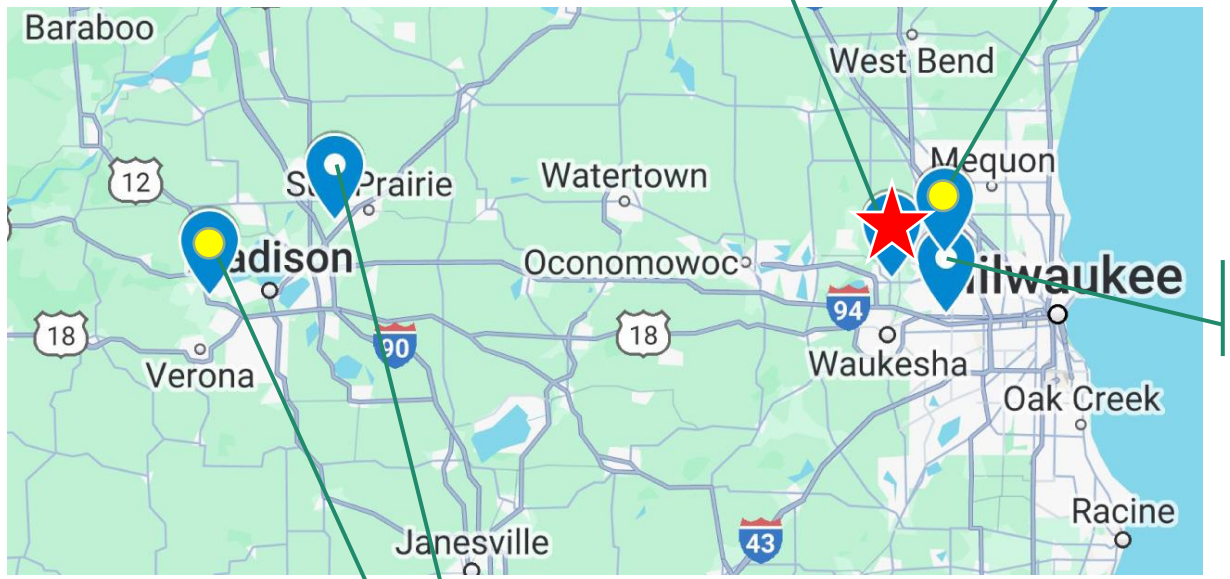
Toronto, Canada

Guidepost is a part of the local Wisconsin Community

Guidepost has (2) open Wisconsin locations and is excited to add Pewaukee and more!

Proposed Guidepost Montessori
Pewaukee - Wisconsin

Guidepost Montessori at Silver Springs
Menomonee Falls - Wisconsin



Brookfield - Wisconsin

Sun Prairie - Wisconsin

Guidepost Montessori at Mineral Point
Madison - Wisconsin

Current Open Locations – (2)

Silver Springs – Menomonee Falls, WI

Mineral Point – Madison, Wi

Proposed New Locations – (2)

Pewaukee - Wisconsin

Sun Prairie - Wisconsin

Pipeline

Brookfield - Wisconsin

Searching for other Locations

CONFIDENTIAL

Guidepost Provides High-Quality Montessori Education

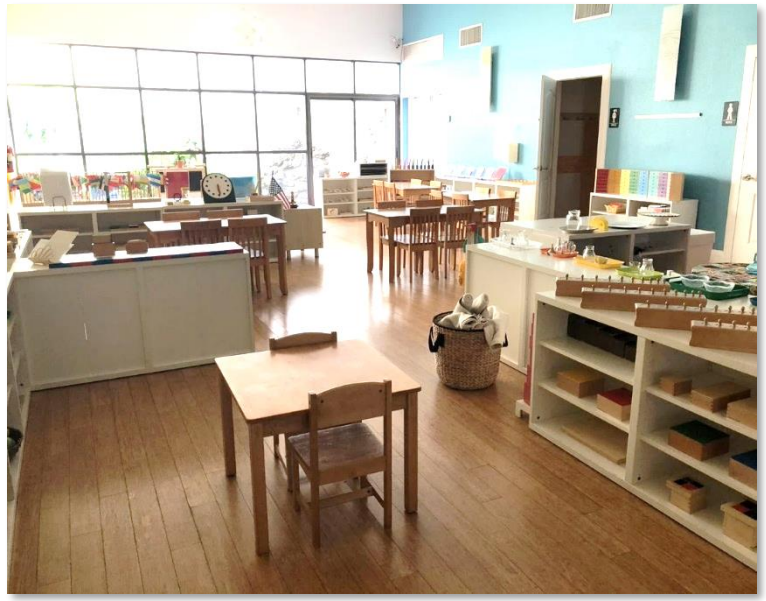
What is Montessori Education?

Montessori education is the oldest, most widely recognized and tested form of early childhood education on the planet.

Montessori education prepares children for the twenty first century by equipping them with the skills they need to flourish in a constantly changing world.

How we deliver: High Quality Education

Classrooms with natural light



Beautiful Learning Environments

High-end classroom finishes & furniture

Prepared Environment

From academic readiness — including language, math, sensorial, cultural, and practical life advancement — to developing strong social skills, the prepared environment of a Montessori classroom provides children with a foundation on which to thrive.

Guidepost Montessori
Pewaukee, Wisconsin

❖

Key Factors

Morning Drop-off Period
(~2.5) hours

Half-Day Dismissals
(~0.5) hours

Afternoon Pick-up Period
(~3.5) hours

Convenient and Good Neighbor Pick up and Drop Off Operations

Drop-off & Pick-up Procedure

- Morning Drop-off Period = (~2.5) hours
- Half-Day Dismissals = (~0.5) hours
- Afternoon Pick-up Period = (~3.5) hours

Sample School Schedule	
7:00 - 7:30	Staff Arrival
7:30 - 10:00	**Drop Off Arrival Window** • **7:30am – 9am is pre-care**
9:00 - 11:00	Morning Work Period Starts
11:00 – 12:00	Lunch and Outside Play
12:00 - 12:30	**Half-Day Dismissal**
12:30- 2:30	Nap Time
2:30 - 4:30	Snack and Outside Play
2:30 - 6:00	**Pick-up Departure Window** • **3pm – 6pm is extended-care**

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We look forward to opening our doors to your community!!!

CITY OF
PEWAUKEE
WISCONSIN

THANK YOU

Questions about Higher Ground Education?

Guidepost Montessori
Pewaukee, Wisconsin

Key Factors

Zoning District
B6 – Mixed Use Business

Parking Spaces
(1) space per (2) Employees
(8) Required Spaces

(25) Provided On-Site Spaces
(33) Shared Parking Spaces

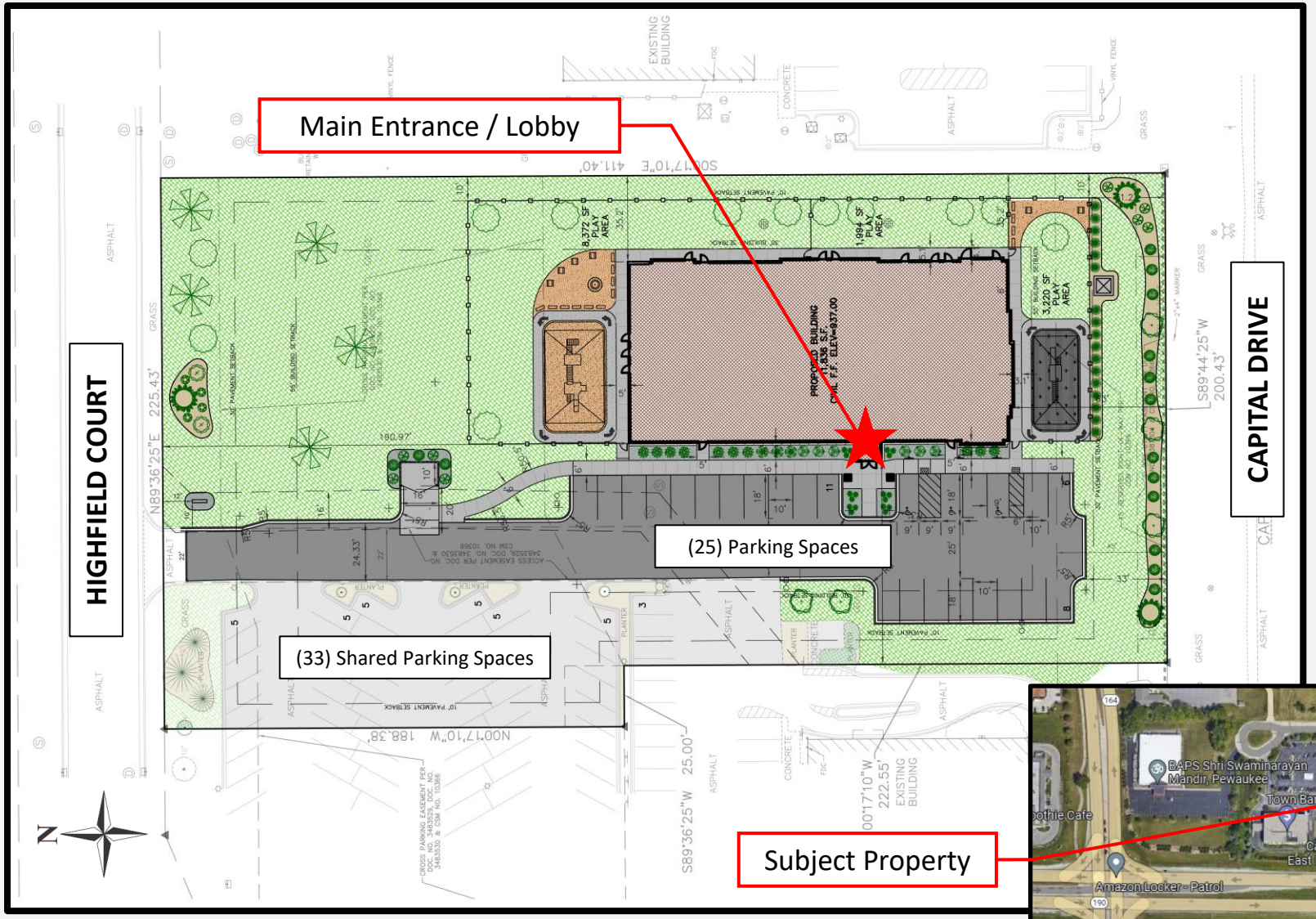
Building Square Footage
TOTAL: +/- 11,836 SF

Classroom Programming
(1) - Nido
(1) - Young Toddler
(3) - Toddler
(5) - Children's House

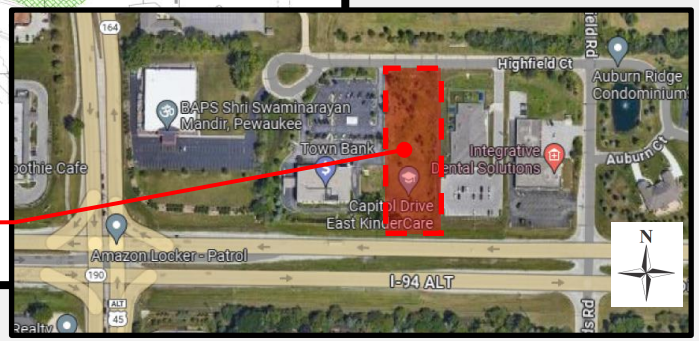
TOTAL CHILDREN: 152

Administrative & Support
Outdoor Playground Areas
Gross Motor Activity (GMA)
Lobby
Kitchen / Staff Break Rm
HOS Office
Meeting Room
Storage
Restrooms

PROPOSED SITE PLAN



Aerial Key Map



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Guidepost Montessori
Pewaukee, Wisconsin

Key Factors

Classroom Programming
(1) - Nido
(1) - Young Toddler
(3) - Toddler
(5) - Children's House

TOTAL CHILDREN: 152

Administrative & Support
Gross Motor Activity (GMA)
Lobby
Kitchen / Staff Break Rm
HOS Office
Meeting Room
Storage
Restrooms

PROPOSED FLOOR PLAN

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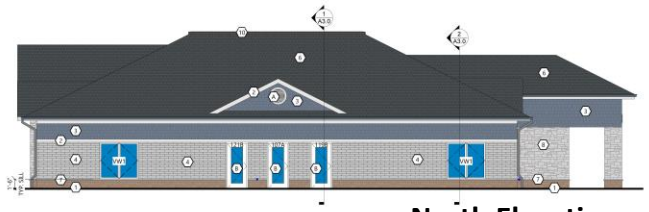
Guidepost Montessori
Pewaukee, Wisconsin

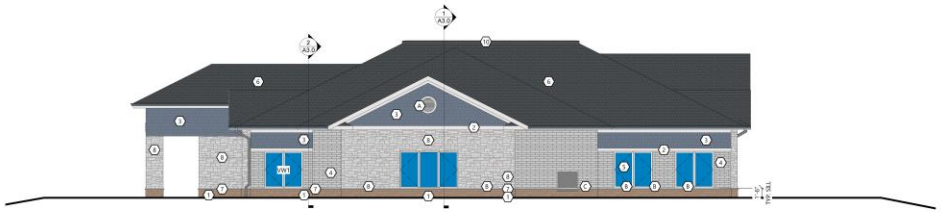
Exterior Finish Key

- 10 Metal Coping
- 9 Casement Window
- 8 Stone Veneer
- 7 Precast Conc Sill
- 6 Asphalt Shingles
- 5 Alum Storefront
- 4 Brick Veneer
- 3 Shake Siding
- 2 Hardie Board Trim
- 1 Thin Stone Veneer

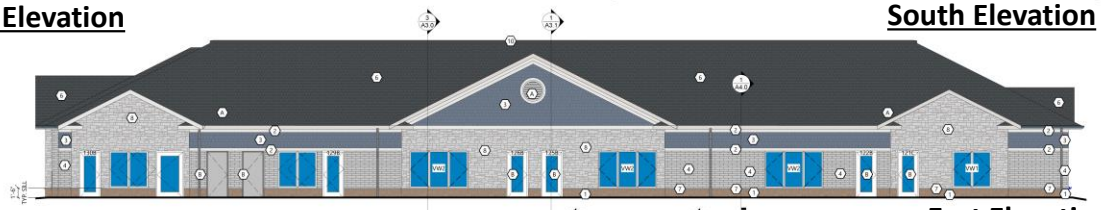
PROPOSED ELEVATIONS



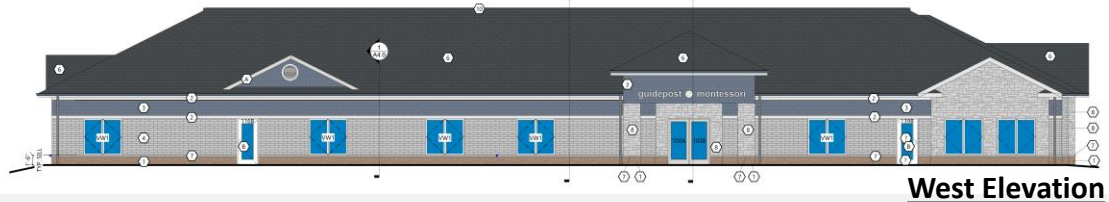
North Elevation



South Elevation



East Elevation



West Elevation

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T H A N K Y O U

Questions about the Site, Floor Plans, or Elevations?

Guidepost Montessori
Pewaukee, Wisconsin

Key Factors

Traffic Impact Study
(4) Intersections
(4) Roadway Segments

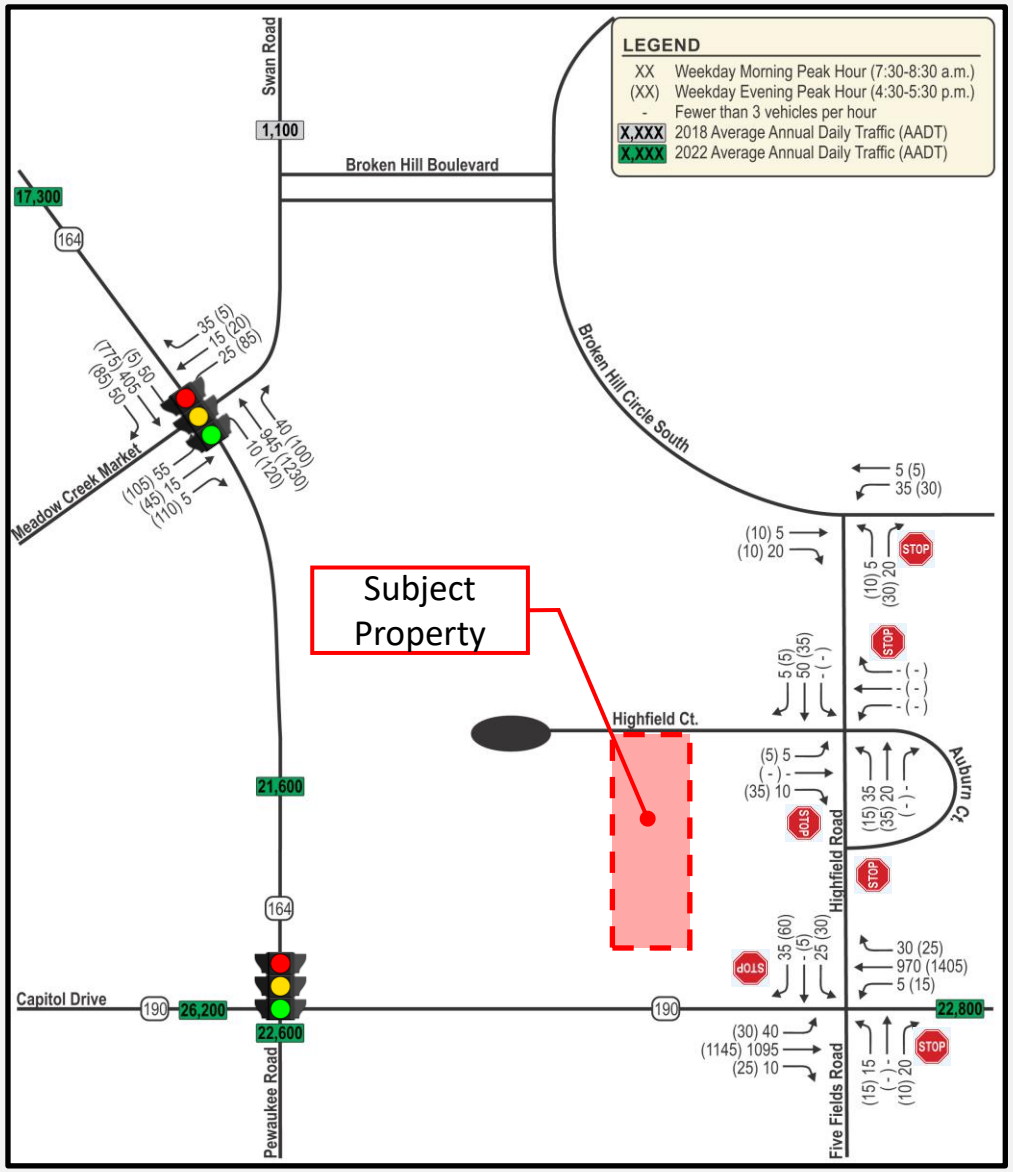
Trip Generation Analyses

Level of Service (LOS) Analyses

Modifications to the study intersections are not recommended.

Based on the gap study, there are enough excess gaps in Capitol Drive traffic to accommodate both existing traffic and future traffic with acceptable delays (LOS D or better).

TRAFFIC IMPACT STUDY – EXISTING PEAK HOUR TRAFFIC VOLUMES (Exhibit 4)



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Guidepost Montessori
Pewaukee, Wisconsin

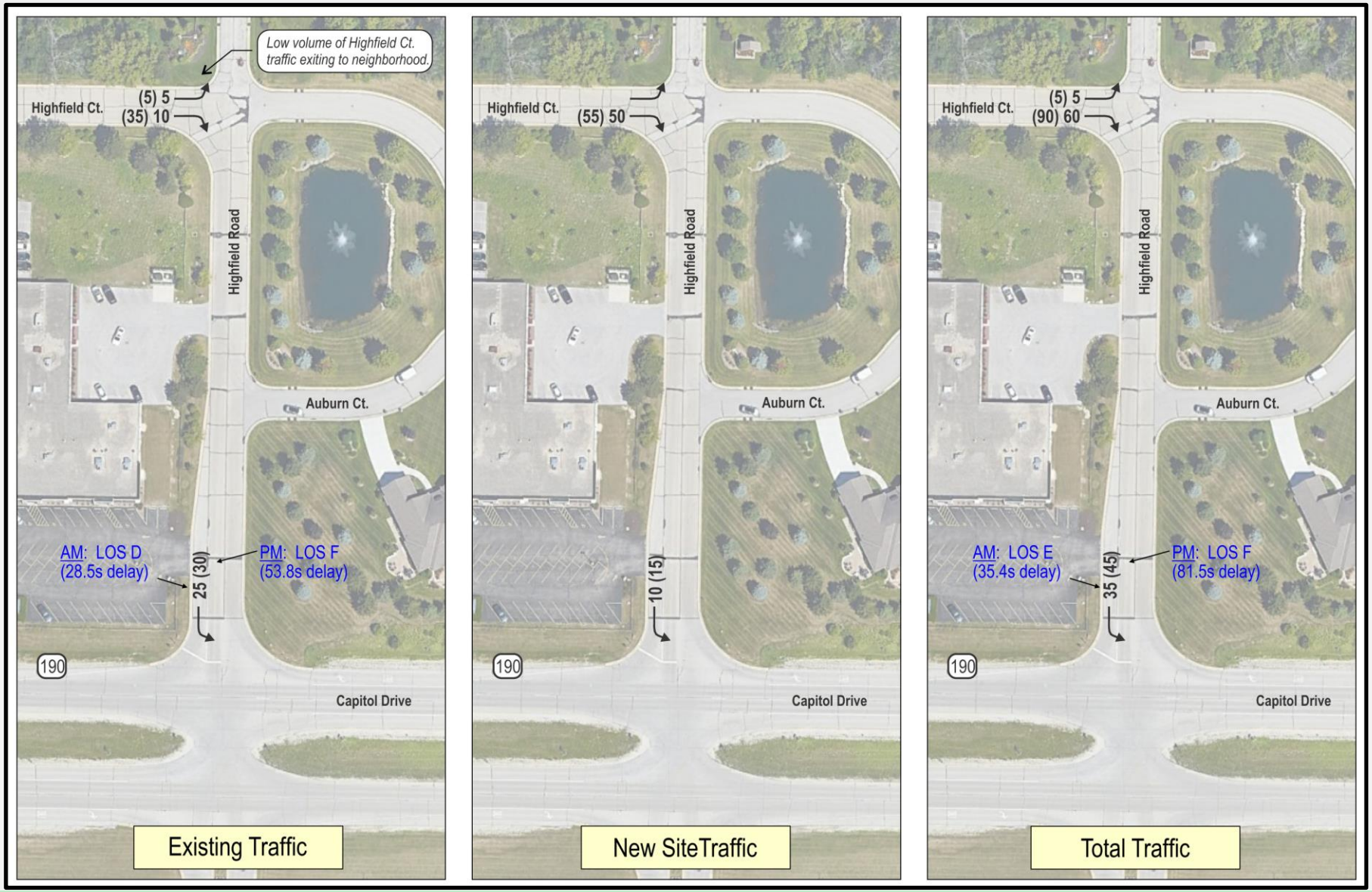
Key Factors

Low Volume of Highfield Court traffic exiting to residential neighborhood.

Legend

XX AM Peak Hour (7:30 – 8:30 am)
(XX) PM Peak Hour (4:30 – 5:30 am)

TRAFFIC MEMO – EXHIBIT 1: PEAK HOUR TRAFFIC VOLUMES



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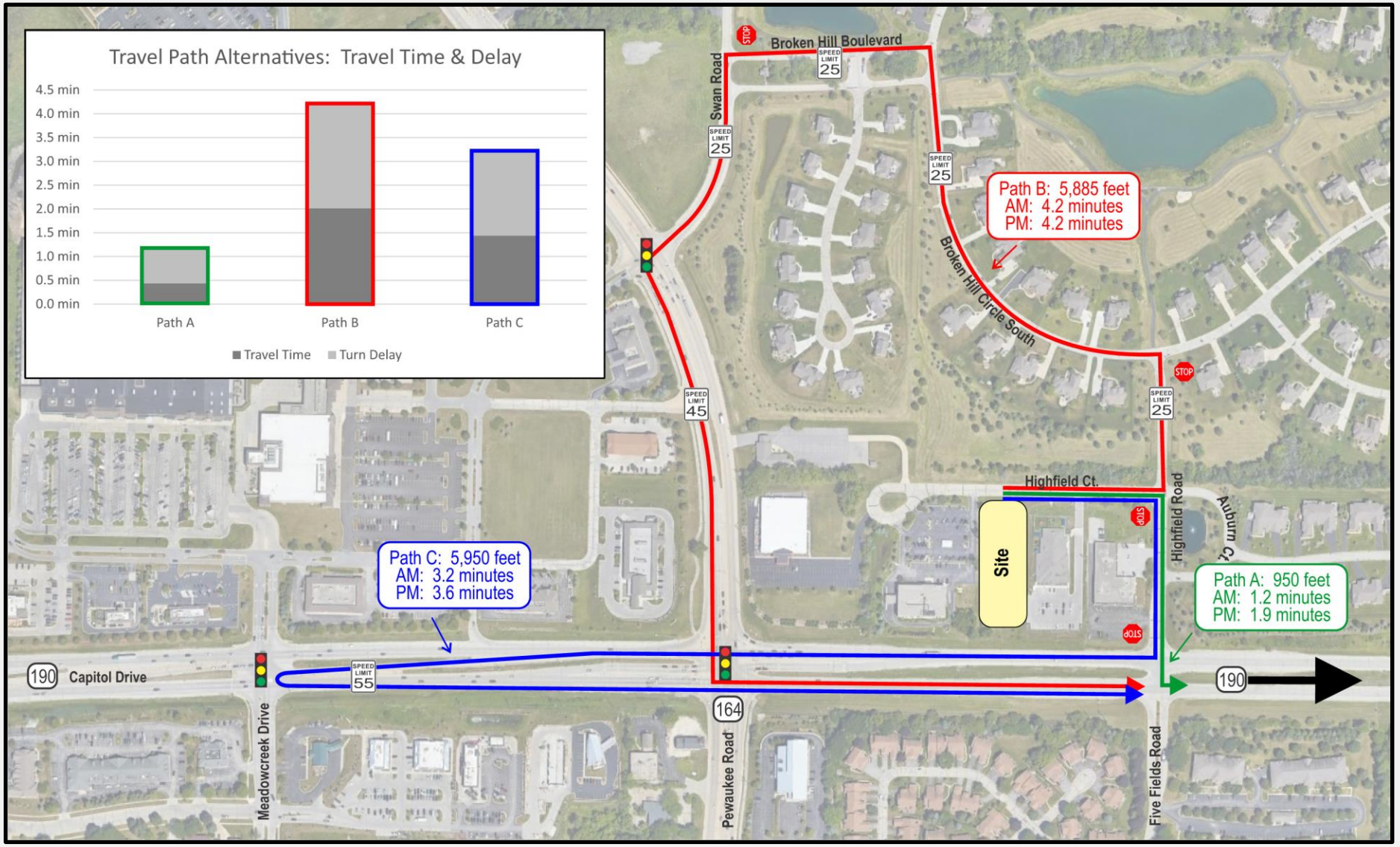
Guidepost Montessori
Pewaukee, Wisconsin

TRAFFIC MEMO – EXHIBIT 2: ALTERNATE ROUTES TRAVEL TIME (East onto Capital Drive)

Key Factors

Path A (green) is the most direct route taking the least amount of time to reach eastbound Capitol Drive.

Path B (red) cutting through the Broken Hill neighborhood takes the longest amount of time.



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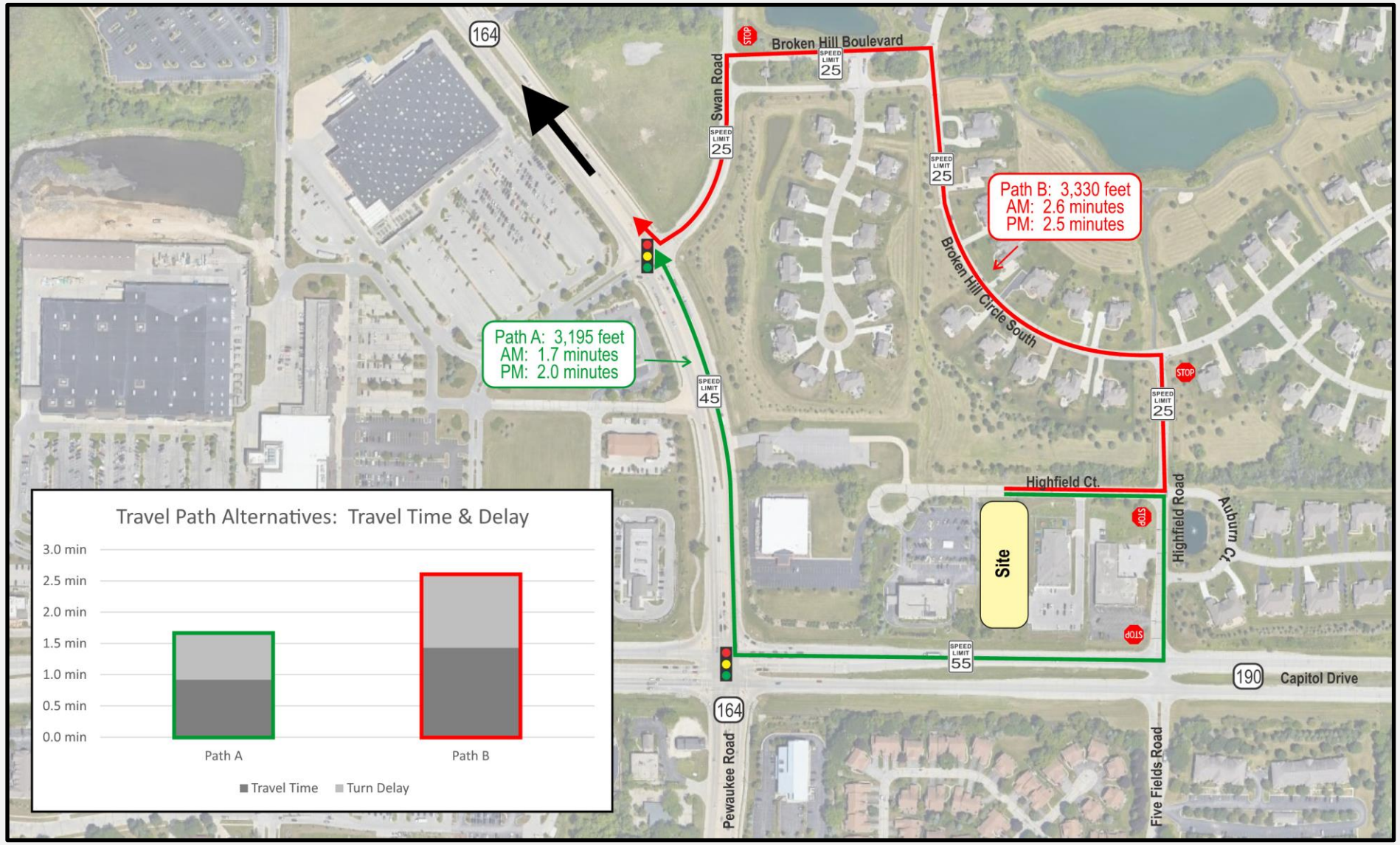
Guidepost Montessori
Pewaukee, Wisconsin

TRAFFIC MEMO – EXHIBIT 3: ALTERNATE ROUTES TRAVEL TIME (North onto Pewaukee Rd)

Key Factors

Path A (green) is the direct route onto Capitol Drive to reach northbound Pewaukee Road.

Path B (red) cutting through the Broken Hill neighborhood is the longer route that takes more time to reach northbound Pewaukee Road.



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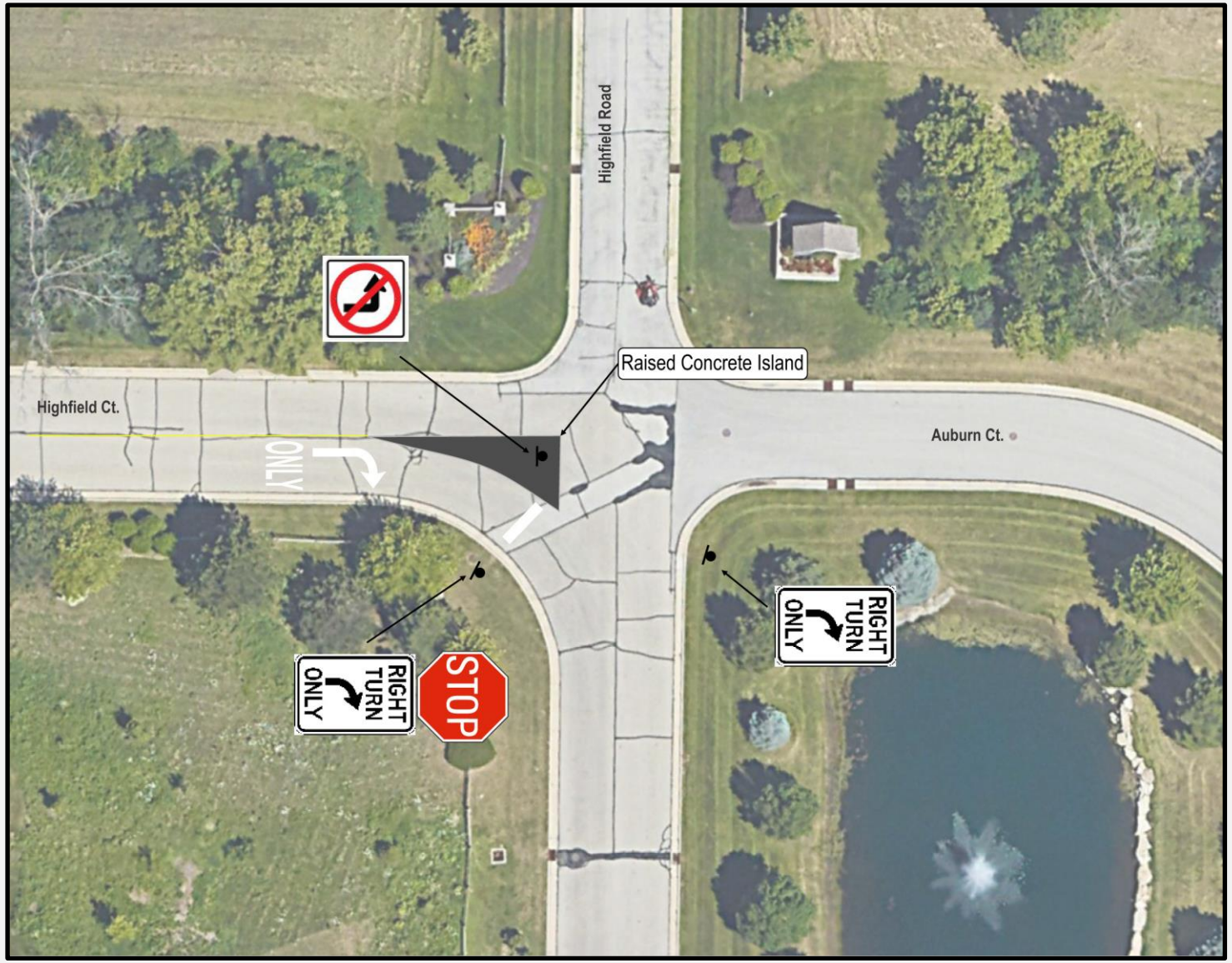
Guidepost Montessori
Pewaukee, Wisconsin

Key Factors

Proposed modifications include constructing a raised concrete channelization island and installing right-turn only signs and no left-turn signs to channelize all eastbound Highfield Court traffic to southbound Highfield Road.

TRAFFIC MEMO – EXHIBIT 4: HIGHFIELD CT TURN RESTRICTION OPTION



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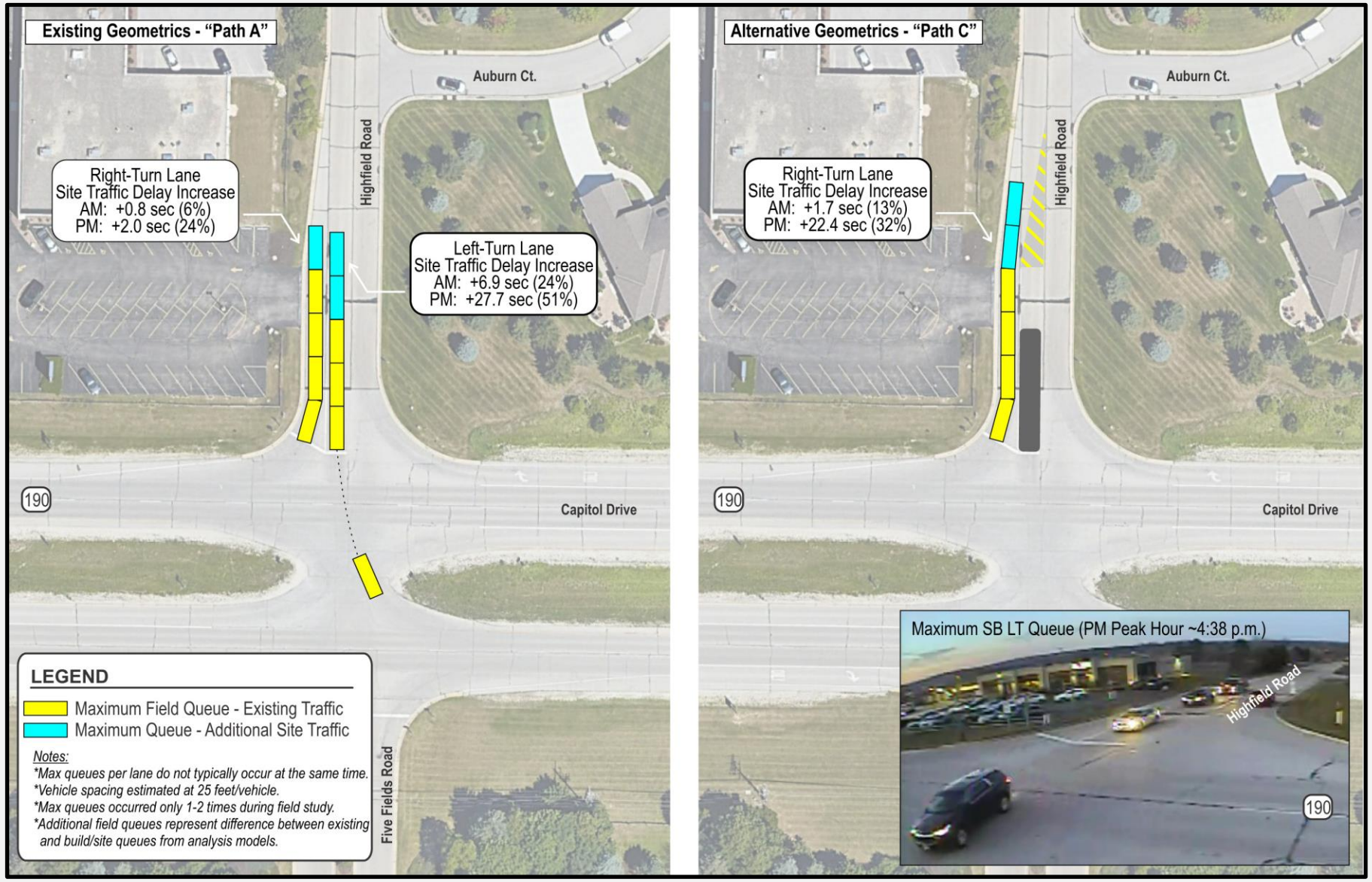
Guidepost Montessori
Pewaukee, Wisconsin

Key Factors

To mitigate southbound left-turn delays, the southbound approach could be configured with a raised median on Highfield Road to restrict traffic to turn right only onto westbound Capitol Drive. Traffic heading eastbound on Capitol Drive would be able to U-turn at Meadowcreek Drive as shown on previous Exhibit 2.

TRAFFIC MEMO – EXHIBIT 5: EXISTING & FUTURE QUEUES (Southbound to Capital Dr)



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Key Factors

Any new use on the development site will increase trips in the study area. The mitigation traffic mitigation measures noted in this report for Highfield Court would eliminate exiting traffic from cutting through the Broken Hill neighborhood to reach Pewaukee Road or Capitol Drive.

TRAFFIC MEMO – EXHIBIT 6: ALTERNATIVE LAND USES TRIP GENERATION

Comparison Trip Generation Table

Land Use	ITE Code	Size[2, 3]	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Early Childhood Center (Day Care Center)	565	152 Students	620 (4.09)	60 (53%)	50 (47%)	110 FCE	50 (47%)	55 (53%)	105 FCE
Medical-Dental Office Building (Stand-alone)	720	11,836 SF	430 (36.00)	30 (79%)	5 (21%)	35 FCE	15 (30%)	30 (70%)	45 FCE
Strip Retail Plaza (<40k)	822	11,836 SF	640 (54.45)	20 (60%)	10 (40%)	30 (2.36)	45 (50%)	45 (50%)	90 FCE
Pharmacy/Drugstore with Drive-Through Window	881	13,000 SF	1,410 (108.40)	25 (52%)	25 (48%)	50 (3.74)	70 (50%)	65 (50%)	135 (10.25)
General Office Building	710	11,836 SF	180 FCE	20 (88%)	5 (12%)	25 FCE	5 (17%)	25 (83%)	30 FCE
Drive-in Bank	912	3 Lanes	390 FCE	15 (61%)	10 (39%)	25 FCE	40 (49%)	40 (51%)	80 (27.07)
High-Turnover (Sit-Down) Restaurant	932	5,000 SF	540 (107.20)	30 (55%)	20 (45%)	50 (9.57)	25 (61%)	20 (39%)	45 (9.05)
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T H A N K Y O U

Questions and Discussion

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 5.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action and Public Hearing for Junior Cup Golf, Inc. for a Conditional Use Permit for Property Located at W229 N2494 Redford Boulevard for the Purpose of Running a Non-Profit Junior Golf and Athletics Center (PWC 0915990001)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Junior Cup Golf staff report 12.21.23

Junior Cup Golf plans

Junior Cup Golf draft Conditional Use Permit

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of December 21, 2023

Date: December 6, 2023

Project Name: Junior Cup Golf Conditional Use

Project Address/Tax Key No.: W229N2494 Redford Boulevard/PWC 0915990001

Applicant: Nathan Dosch

Property Owner: OHM REDFORD LLC

Current Zoning: M-2 Limited Industrial District

2050 Land Use Map Designation: Manufacturing/Fabrication/Warehousing

Use of Surrounding Properties: Industrial zoned properties to the north, south, east, and west and the Waukesha Gun Club to the west

---

Project Description

The applicant, Junior Cup Golf, filed a Conditional Use Permit requesting approval to locate within an existing 7,350 square foot tenant space at W229N2494 Redford Boulevard.

The property is zoned M-2 Limited Industrial District and designated as Manufacturing/Fabrication/Warehousing on the City's 2035 Future Land Use Map.

Junior Cup Golf offers team golf to educate, train, and develop young golfers as well as other instructional programming. Usage and hours of operations may vary throughout the year. The facility will generally be open during the day and host evening practices as well. Hours of operation are anticipated from 9:00 a.m. to 9:00 p.m. The facility is not open to the general public.

The M-2 District allows, as a Conditional Use, "Day care operations, wellness centers, physical fitness and training centers." As such the proposed use may be allowed within the M-2 District as a Conditional Use.

The applicant is not proposing any exterior site or building modifications.

Recommendation

Although the proposed use is not industrial in nature, it is allowed as a Conditional Use per the M-2 District, and the use does not have any anticipated adverse impacts on the surrounding properties. Therefore, approval of the Conditional Use Applications is recommended.

Project Narrative and Use Plan for Junior Cup Golf, Inc. Space
at
W229 N2494 Redford Blvd, Unit 300

Junior Cup Golf, Inc. ("JCG") has entered into a lease agreement with OHM Redford, LLC ("Property Owner") commencing on October 4, 2023 for approximately 7,350 square feet of commercial space, known as Unit 300, ("Leased Space") in the property described as:

PARCEL "A" CERTIFIED SURVEY MAP NO. 1242 RECORDED ON AUGUST 26, 1970 IN VOLUME 8 OF CERTIFIED SURVEY MAPS, ON PAGES 182, 183 AND 184, AS DOCUMENT NO. 767649, BEING PART OF THE SOUTHWEST ¼ OF SECTION 13, TOWNSHIP 7 NORTH, RANGE 19 EAST, TOWN OF PEWAUKEE, COUNTY OF WAUKESHA, STATE OF WISCONSIN.

Proposed Use:

According the property tax records the property is currently zoned as COMMERCIAL / MERCANTILE. JCG intends to use the Leased Space to run a junior golf and athletics training center in furtherance of its non-profit mission, which is to provide opportunities for young athletes to play team golf in a fun environment that promotes education and development. Junior Cup Golf is a 501(c)(3) nonprofit organization that provides opportunities to young athletes aspiring to play competitive golf in high school and fosters fun environments that promote education and development in the game of golf. While the sport of golf is traditionally an individual sport, our organization forms community-based teams of junior golfers to learn, train, and compete against other community-based teams. We currently have teams in the following districts: Sussex Hamilton, Menomonee Falls, Brookfield East, Germantown and Kettle Moraine. Demand has been outstanding and we are exploring opportunities to add additional school districts, as early as next year, including, but hopefully not limited to, Pewaukee.

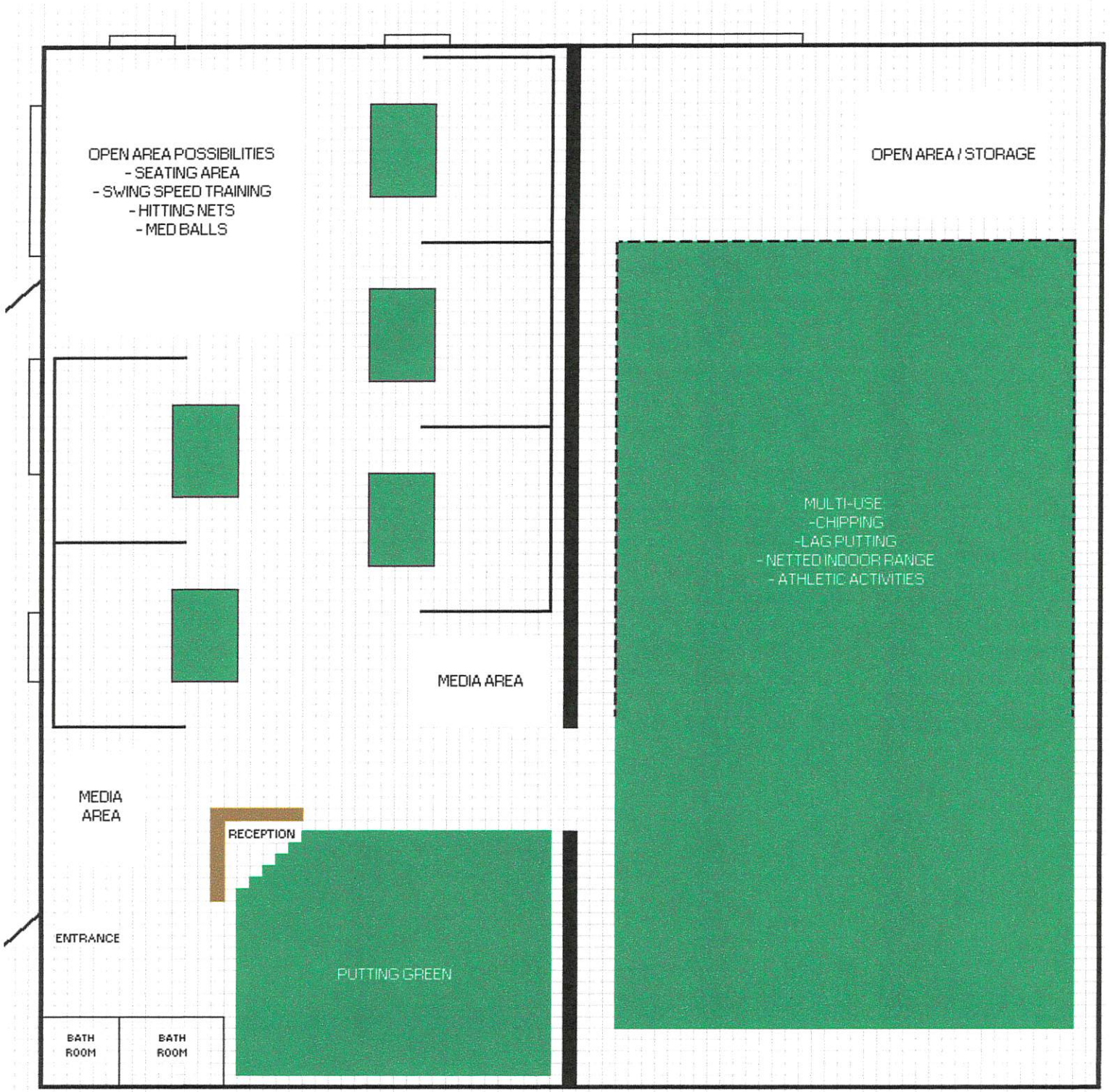
JCG not only educates junior golfers on the fundamentals of golf, but also promotes core values such as patience, respect, integrity, teamwork and sportsmanship. The organization is entirely volunteer organized, funded and run. While for profit, indoor golf facilities have gained in popularity over the last few years, no other non-profit organization or junior focused facility exists like it in the greater metro area or throughout the entire state or region.

JCG will primarily use the facility during the winter months, January to April, for junior golf instruction and practice facilities in the evening hours (5pm to 9pm). The facility is not open to the public and will not be available for walk-in usage. We will not be selling or allowing alcoholic beverages and we will not be providing any food service. The only items contemplated for sale to the participant might be water, soda and small snacks. The facility will be accessible during the day (9am-5pm) and year-round for usage by invitees and other permitted users including PGA professionals conducting instructional programming. The location provides for 10-12 parking spots after 4pm on weeknights and an abundance of parking over the weekend.

With our enrollment of 3rd – 8th graders, the participants are all dropped off and picked up by parents so there will be no demand for excess parking. The landlord and other tenants will continue to operate the remainder of the building in the fashion they do now in accordance with existing zoning. Our request relates simply to the approximately 7,350 square feet located on the north side of the building and known as Unit 300.

Project Plan:

The plan for the space does not involve any structural or mechanical changes to the building. JCG will be using the interior space as depicted on the attached layout and renderings to install 5 golf simulators, a turf putting green and a multipurpose turf area. None of these items will be permanent improvements to the building or Leased Space. JCG estimates the equipment and furnishings to be $200,000. Many of those projects have already been completed, with the multipurpose turf area completed on December 9, 2023. The entire facility is scheduled to be operational by December 15, 2023, however, we will not launch for our instructional season until January 4, 2024.


OPEN AREA POSSIBILITIES
- SEATING AREA
- SWING SPEED TRAINING
- HITTING NETS
- MED BALLS
OPEN AREA / STORAGE
MULTI-USE
-CHIPPING
-LAG PUTTING
- NETTED INDOOR RANGE
- ATHLETIC ACTIVITIES
MEDIA AREA
MEDIA AREA
RECEPTION
ENTRANCE
PUTTING GREEN
BATH ROOM
BATH ROOM

A COVENANT
REGARDING THE ISSUANCE OF A
CONDITIONAL USE PERMIT
BY THE
CITY OF PEWAUKEE

TAX KEY NUMBER(S) OR PARCEL(S) INVOLVED:

CONDITIONAL USE PERMIT: NO. CUP-23-12-2

PWC 0915990001

Recording area

_____

Name & Return Address

City of Pewaukee
W240N3065 Pewaukee Rd
Pewaukee, WI 53072

LEGAL DESCRIPTION:

PARCEL A CERT SURV 1242 VOL 8/182 1.934 AC PT SW1/4 SEC 13 T7N R19E DOC# 3478036

PERSON(S), AGENT(S) OR CORPORATION(S) PETITIONING FOR PERMIT:

Junior Cup Golf

WHEREAS, It is understood by all parties to this covenant that Section 62.23 of WIS. Statutes prescribes the legal basis for the granting of a conditional use permit by a City and Chapter 17 of the City Codes and Ordinances provides for the issuance of such permits as well as the standards by which all such uses will be measured; and,

WHEREAS, The City Plan Commission has held a meeting on December 21, 2023; has reviewed the various elements of the petitioner's proposal; and has recommended that a Conditional Use Permit be granted to the above-named petitioner for the property/parcel identified above; and,

WHEREAS, The City Common Council, at their meeting held on January 15, 2024 concurred with the Plan Commission.

NOW, THEREFORE, let it be known that the City Common Council by its action on January 15, 2024 has, hereby, granted a Conditional Use Permit for the following use(s):

Running a non-profit junior golf and athletics center.

FURTHER, such approved use of the above designated parcel(s) are hereby allowed based on the following conditions being continually met:

DRAFT

No conditions.

The parties hereto, namely the City of Pewaukee and the Equitable Owner of the property for which this conditional use has been sought, set their signatures or the signatures of their representatives below, thereby agreeing to the provisions and conditions set forth in this covenant.

_____
Attest:

_____
Signature of equitable owner

_____
Date

_____
Kelly Tarczewski
City Clerk

_____
Steve Bierce
Mayor, City of Pewaukee

_____
Date

State of Wisconsin
County of Waukesha

Signed or attested before me on _____, 2024 by Steve Bierce, Mayor and Kelly Tarczewski, Clerk.

_____
(Seal)
Ami Hurd
My Commission expires _____

This instrument was drafted by Ami Hurd, Deputy Clerk

DRAFT

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 6.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Recommendation to the Common Council for a Comprehensive Master Plan Amendment to Change the Year 2050 Land Use/Transportation Plan Use Designation for the City of Pewaukee for Fox Run Development Partners, LLC for Property Located at N15 W22261 Watertown Road from Office/Commercial and Floodplains, Lowland and Upland Conservancy, and Other Natural Areas to Manufacturing/Fabrication/Warehousing and Floodplains, Lowland and Upland Conservancy, and Other Natural Areas (PWC 0960987)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Fox Run staff report 12.21.23

Fox Run Development CMP Amendment Ordinance

Fox Run Development CMP Amendment Resolution

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of December 21, 2023

Date: December 11, 2023

Project Name: Fox Run Rezoning, Comprehensive Master Plan Amendment, and Site & Building Plan Review

Project Address/Tax Key No.: N15W22261 Watertown Rd./PWC 0960987

Applicant: Irgens Development, LLC

Property Owner: FOX RUN DEVELOPMENT PARTNERS LLC

Current Zoning: Rs-1 Single Family Residential & LC Lowland Conservancy

2050 Land Use Map Designation: Office/Commercial

Use of Surrounding Properties: Watertown Plank Rd to the north

Introduction

The applicant has filed a Rezoning Petition, Comprehensive Master Plan Amendment, and Site & Building Plan Review Application for the development of an industrial flex building located at N15W22261 Watertown Road. The parcel has an area of about 5.3 acres with the northern portion bordering Watertown Road and the southern portion bordering a large parcel zoned A-2 Agricultural District. Currently, the parcel is vacant.

The applicant, Irgens Development, originally filed a Rezoning Petition and Comprehensive Master Plan Amendment that went before the Plan Commission at their November 17th, 2022, meeting. Both applications were tabled at the meeting as the Plan Commission did not want to move forward without detailed site and building plans. The applicant has since filed a Site & Building Plan Review Application, which can be considered in conjunction with the previously submitted Rezoning Petition and Comprehensive Plan Amendment.

Comprehensive Master Plan

The applicant seeks to change the Comprehensive Master Plan Year 2050 Land Use/Transportation Plan map from Office/Commercial and Flood Plains, Lowland & Upland Conservancy and Other Natural Areas to Manufacturing/Fabrication/Warehousing. This is required to provide consistency between the requested zoning and the Comprehensive Master Plan.

As part of the proposed Comprehensive Master Plan Amendment, staff recommends that wetland areas be designated as Flood Plains, Lowland & Upland Conservancy and Other Natural Areas.

Rezoning

The applicant is requesting to rezone the property from Rs-1 Single Family Residential District and LC Lowland Conservancy District to M-2 Limited Industrial District and LC Lowland Conservancy District. Proposed uses in the future will be subject to either a Business Plan of Operation or a Conditional Use Permit, depending upon the allowance of the specific use in the M-2 District.

As part of this rezoning request, staff recommends that the existing LC Lowland Conservancy District on the property be revised to match the field delineated boundaries of the wetlands onsite.

Site and Building Plan Review
The proposed building and associated parking, landscaping, and lighting are further described below.

Project Description/Analysis

Site Plan
The proposed building is approximately 59,500 square feet and includes four loading docks and four future dock positions. Two 12' x 14' overhead doors are also shown on the rear or south elevation. The site includes about 2.36 acres of greenspace, which is nearly 44% of the site.

The access drive from Watertown Road is directly adjacent to the neighbor's existing gravel driveway. The applicant included the note below on the site plan indicating that their driveway would be eliminated if a shared access agreement could be agreed upon in the future with the adjacent landowner.

> DRIVEWAY ONTO WATERTOWN ROAD TO BE ABANDONED PROVIDED ADJACENT LANDOWNER GRANTS PERPETUAL VEHICULAR ACCESS RIGHTS OVER A TO-BE-CONSTRUCTED SHARED DRIVEWAY. THE SHARED DRIVEWAY MUST MEET CITY STANDARDS WITH RESPECT TO RIGHT-OF-WAY AND BE IN SHAPE AND FORM TO HANDLE VEHICULAR AND TRUCK TRAFFIC NEEDS OF BOTH PARTIES.

Natural Resources
A wetland delineation was completed on September 22, 2022, by the Heartland Ecological Group Inc. Two wetlands and associated wetland setback areas were identified. One wetland is in front of the proposed building and to the southeast of the parking lot. This wetland has an area of approximately 4,800 square feet. The second wetland is located along the south property line. This wetland has an area of about 435 square feet.

Note these areas are part of larger wetland complexes that are primarily located on the adjacent parcel and extend onto the subject property.

The applicant has revised and designed the site plan so not to disturb or impact these protected natural resources.

Parking
The site plan includes 73 proposed car parking spaces, of which 4 are ADA accessible. Additionally, 13 truck trailer stalls are being proposed to the rear of the building.

Lighting
The Lighting Plan consists of building and ground lighting. Light levels are between 0.0 and 0.5 footcandles at the property lines. According to the applicant, all fixtures have the capability to be dimmed.

Note all building and ground lighting is shown with a peak height or mounting height of 20-feet or less, in compliance with the City's Zoning Code.

Landscaping
The Landscape Plan consists of 15 Deciduous Trees, 28 Evergreen Trees, 4 Decorative Trees, and 169 shrubs, plus other grasses and perennials.

Staff suggests plantings be added along the access drive and to the east of the parking lot within the wetland setback area.

Architecture
The building exterior primarily consists of painted precast concrete wall panels of different colors. The building entrance is primarily glass windows with aluminum framing. The building also includes three metal accent canopies.

Signage
A monument sign is shown near the entrance of the site. Signage must comply with standards set forth in Section 17.0700 of the City's Zoning Code and will require separate review and approval by the City Planner as well as a Sign Permit from the Building Services Department, prior to installation.

Utilities/Stormwater management
A storm water management pond is located on the south end of the property. *Staff recommends that final grading, erosion control, utilities, and storm water management plans be approved by the Engineering Department prior to any land disturbance*.

Recommendation

A motion to recommend approval of the Comprehensive Master Plan Amendment, Rezoning, and Site & Building Plan Review Application, subject to the conditions within this report.

WAUKESHA COUNTY CITY OF PEWAUKEE STATE OF WISCONSIN

ORDINANCE NO. __-__

AN ORDINANCE TO AMEND THE CITY OF PEWAUKEE 2035 COMPREHENSIVE MASTER PLAN AND NEIGHBORHOOD PLANS 2015-2050 TO CHANGE THE YEAR 2050 LAND USE/TRANSPORTATION PLAN OF A PROPERTY LOCATED AT N15W22261 WATERTOWN ROAD BEARING TAX KEY NO. 0960987 FROM OFFICE COMMERCIAL AND FLOODPLAINS, LOWLAND & UPLAND CONSERVANCY AND OTHER NATURAL AREAS TO MANUFACTURING/FABRICATION/WAREHOUSING AND FLOODPLAINS, LOWLAND & UPLAND CONSERVANCY AND OTHER NATURAL AREAS

WHEREAS, pursuant to Wis. Stat. §§ 62.23(2) and (3) and 66.1001(4), the City of Pewaukee is authorized to prepare and adopt and to amend a comprehensive plan as defined in Wis. Stat. §§ 66.1001(1)(a) and 66.1001(2); and

WHEREAS, The Applicant, Fox Run Development Partners LLC has applied for an amendment to the Comprehensive Master Plan to change the Year 2050 Land Use/Transportation Plan of a property located at N15W22261 Watertown Road bearing Tax Key No. 0960987 from Office Commercial and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to Manufacturing/Fabrication/Warehousing and Floodplains, Lowland & Upland Conservancy and Other Natural Areas; and

WHEREAS, the Plan Commission of the City of Pewaukee by a majority vote of the entire Commission on December 21, 2023, recorded in its minutes, has adopted a resolution recommending to the Common Council the adoption of the Ordinance to Amend the City of Pewaukee Comprehensive Master Plan to change the Year 2050 Land Use/Transportation Plan of a property located at N15W22261 Watertown Road bearing Tax Key No. 0960987 from Office Commercial and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to Manufacturing/Fabrication/Warehousing and Floodplains, Lowland & Upland Conservancy and Other Natural Areas; and

WHEREAS, the City of Pewaukee held a public hearing upon this proposed Ordinance, in compliance with the requirements of Wis. Stat. § 66.1001(4)(d); the Common Council having received input from the public at a duly noticed public hearing on January 15, 2024; and

NOW THEREFORE, BE IT RESOLVED, by the Mayor and Common Council of the City of Pewaukee, Wisconsin, do ordain as follows:

SECTION 1: Adoption

The City of Pewaukee Comprehensive Master Plan is hereby amended to change the Year 2050 Land Use/Transportation Plan of a property located at N15W22261 Watertown Road bearing Tax Key No. 0960987 from Office Commercial and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to Manufacturing/Fabrication/Warehousing and Floodplains, Lowland & Upland Conservancy and Other Natural Areas.

SECTION 2: Document Transmittal

The City Common Council hereby directs the City Clerk/Treasurer to transmit a copy of the amendment as well as a signed copy of both the Resolution No. PC __-__-__ and this Ordinance No. __-__ to the Wisconsin Department of Administration, the Southeastern Wisconsin Regional Planning Commission, the Waukesha Park and Land Use Department, the Pewaukee Public Library and to each town, village and city that abuts the City of Pewaukee.

SECTION 3: Severability

The several sections and portions of this ordinance are declared to be severable. If any section or portion thereof shall be declared by a decision of a court of competent jurisdiction to be invalid, unlawful, or unenforceable, such decision shall apply only to the specific section or portion thereof directly specified in the decision, and shall not affect the validity of all other provisions, sections, or portions thereof of the ordinance. The remainder of the ordinance shall remain in full force and effect. Any other ordinances whose terms are in conflict with the provisions of this ordinance are hereby repealed as to those terms that conflict.

SECTION 4: Effective Date

This ordinance shall take effect immediately upon passage and posting of publication as provided by law.

Passed and adopted this 15th day of January, 2024.

FOR THE COMMON COUNCIL OF THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

ATTEST:

_____
Steve Bierce, Mayor

_____
Kelly Tarczewski, Clerk/Treasurer

WAUKESHA COUNTY CITY OF PEWAUKEE STATE OF WISCONSIN

RESOLUTION NO. __-__

A RESOLUTION RECOMMENDING THE ADOPTION OF AN ORDINANCE TO AMEND THE CITY OF PEWAUKEE 2035 COMPREHENSIVE MASTER PLAN AND NEIGHBORHOOD PLANS 2015-2050 TO CHANGE THE YEAR 2050 LAND USE/TRANSPORTATION PLAN OF A PROPERTY LOCATED AT N15W22261 WATERTOWN ROAD BEARING TAX KEY NO. 0960987 FROM OFFICE COMMERCIAL AND FLOODPLAINS, LOWLAND & UPLAND CONSERVANCY AND OTHER NATURAL AREAS TO MANUFACTURING/FABRICATION/WAREHOUSING AND FLOODPLAINS, LOWLAND & UPLAND CONSERVANCY AND OTHER NATURAL AREAS, PURSUANT TO WIS. STAT. § 66.1001(4)(b)

WHEREAS, pursuant to Wis. Stat. §§ 62.23(2) and (3) and 66.1001(4), the City of Pewaukee is authorized to prepare and adopt and to amend a comprehensive plan as defined in Wis. Stat. §§ 66.1001(1)(a) and 66.1001(2); and

WHEREAS, pursuant to Wis. Stat. § 66.1001(4)(b), the Plan Commission may recommend the amendment of the Comprehensive Master Plan to the Common Council by adopting a resolution by a majority vote of the entire Commission, which vote shall be recorded in the official minutes of the Plan Commission; and

WHEREAS, The Applicant, Fox Run Development Partners LLC has applied for an amendment to the Comprehensive Master Plan to change the Year 2050 Land Use/Transportation Plan of a property located at N15W22261 Watertown Road bearing Tax Key No. 0960987 from Office Commercial and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to Manufacturing/Fabrication/Warehousing and Floodplains, Lowland & Upland Conservancy and Other Natural Areas, more particularly described as follows:

PT SE1/4 SEC 24 T7N R19E; COM E1/4 COR; N88°10'W 1340.88 FT; S 786.45 FT THE BGN; S 363.21 FT; S70°03'W 642.89 FT; N19°57'W 17.38 FT; N87°55'W 136.08 FT; N04°30'E 13.76 FT; N43°56'E 656.69 FT; N34°01'E 219.87 FT; S57°15'E 197.98 FT TO BGN :: DOC# 3535686

WHEREAS, the Plan Commission having determined that the proposed amendment in form and content as presented to the Commission on December 21, 2023, is consistent with the Comprehensive Master Plan's goals, objectives and policies and in proper form and content for adoption by the Common Council as an amendment to the Comprehensive Master Plan, subject to such modifications the Common Council may consider reasonable and necessary, following public hearing, in order to protect and promote the health, safety and welfare of the City of Pewaukee.

NOW, THEREFORE, BE IT RESOLVED, by the Plan Commission of the City of Pewaukee, Wisconsin, that the application for and the proposed ordinance to amend the City of Pewaukee Comprehensive Master Plan to change the Year 2050 Land Use/Transportation Plan of a property located at N15W22261 Watertown Road from Office Commercial and Floodplains, Lowland & Upland Conservancy and Other Natural Areas to Manufacturing/Fabrication/Warehousing and Floodplains, Lowland & Upland Conservancy and Other Natural Areas, such property bearing Tax Key No. 0960987, be and the same is hereby recommended for adoption and incorporation into the Comprehensive Master Plan by the Common Council:

Passed and adopted this 21st day of December, 2023.

FOR THE PLAN COMMISSION OF THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN

ATTEST:

_____
Steve Bierce, Mayor

_____
Colleen Brown, Plan Commission Secretary

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 7.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action and Public Hearing for Fox Run Development Partners, LLC to Rezone Property Located at N15 W22261 Watertown Road from Rs-1 Single-Family Residential and LC Lowland Conservancy to M-2 Limited Industrial and LC Lowland Conservancy for the Purpose of Developing an Industrial Flex Building (PWC 0960987)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 8.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding the Site and Building Plans for Fox Run Development Partners, LLC for Property Located at N15 W22261 Watertown Road for the Purpose of Developing an Industrial Flex Building (PWC 0960987)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Fox Run revised site & building plans 12.12.23

IRGENS

PETITION FOR A REZONING DISTRICT MAP AMENDMENT

AND

AMENDMENT TO THE COMPREHENSIVE MASTER PLAN

NARRATIVE

Subject Property:	5.3 Acre Vacant site at N15 W22261 Watertown Road (Tax Key 0960.987)
Current Zoning:	RS-1, Single Family Residential
Proposed Zoning:	M-2, Limited Industrial District

The property owner, Fox Run Development Partners, LLC, an affiliate of Irgens Partners, LLC ("Irgens"), seeks to rezone the site from RS-1, Single Family Residential to M-2 Limited Industrial District. Irgens plans to develop and improve the site with a single-story, approximately 60,000 square foot, flexible light industrial center with either a build-to-suit single user or a multi-tenant building with 2 compatible users. We believe that there is a market for light manufacturing and fabrication, with related warehouse and office space at this location due to its proximity to interstate 94 and with a limited supply of available sites to serve the market for small to mid-size users.

The current zoning for single-family would restrict development of the site. It is highly unlikely that a single-family developer would find it financially feasible to pay the market rate for the site and speculate on the appeal of the site for home ownership between the GE training center, the multi-family use across Watertown Road, and the nearby industrial and distribution users to the east.

The M-2 Limited Industrial District provides the flexibility for Irgens to attract a suitable user for this location and create property values that are commensurate with the location and proximity to the interstate. It is our intention, should we be granted the rezoning request, to aggressively market the site and submit an appealing set of final site development and building plans for review by the City Plan Commission and Council in the first half of 2023.

The Comprehensive Master Plan for the City of Pewaukee calls for office development at this site. The site has remained vacant for many years without an office user coming forward for this location despite marketing efforts and listings. To our knowledge, adjacent locations have not attracted much interest in office use either.

It is our intention that the façade of the building to be developed facing Watertown Road will have architectural attributes of office use, while providing the practical efficiencies of light industrial in a balanced way. The receiving and shipping functions will be located to the south of the building.

IRGENS
PEWAUKEE, WISCONSIN

FOX RUN CENTER

PROJECT DATA

APPLICABLE CODES:
2015 IBC - INTERNATIONAL BUILDING CODE WITH WISCONSIN AMENDMENTS
2015 IEBC - INTERNATIONAL EXISTING BUILDING CODE

BUILDING CLASSIFICATION

CONSTRUCTION CLASSIFICATION:

TENANT IMPROVEMENTS:

EGRESS:

BUILDING DATA:

GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. CONTRACTOR SHALL FIELD VERIFY AND BECOME THOUROUGHLY FAMILIAR WITH ALL CONDITIONS AND DIMENSIONS.
3. EACH CONTRACTOR SHALL REVIEW AND COMPLETE PLANS FOR RELATED WORK.
4. ALL WORK SHALL BE IN COMPLIANCE WITH STATE AND LOCAL CODES FOR RESPECTIVE TRADES.

SHEET INDEX

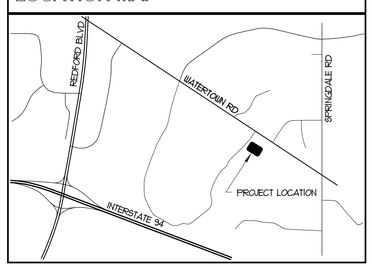
GENERAL
T1 TITLE SHEET

ARCHITECTURAL
A1.1 SITE PLAN
A3.1 OVERALL FLOOR PLAN
A4.1 EXTERIOR ELEVATIONS
A4.2 PERSPECTIVE VIEWS

ABBREVIATIONS

ALT	ALTERNATE	HM	HOLLOW METAL
A/E	ARCHITECT/ENGINEER	HT	HEIGHT
AFF	ABOVE FINISH FLOOR	HW	HOT WATER
ALUM	ALUMINUM	INT	INTERIOR
BD	BOARD	INSUL	INSULATION
B/O	BOTTOM OF	JT	JOINT
CPT	CARPET	LAV	LAVATORY
℄	CENTER LINE	MFR	MANUFACTURER
CLG	CEILING	MIN	MINIMUM
CJ	CONTROL JOINT	MO	MASONRY OPENING
CMU	CONCRETE MASONRY UNIT	MTL	METAL
CONC	CONCRETE	NIC	NOT IN CONTRACT
CONT	CONTINUOUS	NTS	NOT TO SCALE
CO	CLEAN OUT	OC	ON CENTER
CW	COLD WATER	OFCI	OWNER FURNISHED, CONTRACTOR TO INSTALL
CT	CERAMIC TILE	OPP	OPPOSITE
DBL	DOUBLE	PLYWD	PLYWOOD
DF	DRINKING FOUNTAIN	PL	PLASTIC LAMINATE
DIA	DIAMETER	PL	PLATE
DIM	DIMENSION	PT	PORCELAIN TILE
DN	DOWN	QT	QUARRY TILE
DR	DOOR	REQ'D	REQUIRED
DS	DOWNSPOUT	RO	ROUGH OPENING
DTL	DETAIL	SHT	SHEET
DWG	DRAWING	SV	SHEET VINYL
EA	EACH	SIM	SIMILAR
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	SS	SOLID SURFACE
EL	ELEVATION	SST	STAINLESS STEEL
EJ	EXPANSION JOINT	STD	STANDARD
EQ	EQUAL	SAT	SUSPENDED ACOUSTIC TILE CEILING
EQUIP	EQUIPMENT		
EXIST	EXISTING	TBD	TO BE DETERMINED
EXT	EXTERIOR	TEMP	TEMPORARY
EWC	ELECTRIC WATER COOLER	T/O	TOP OF
FEC	FIRE EXTINGUISHER CABINET	T&G	TONGUE AND GROOVE
		TYP	TYPICAL
FIN	FINISH	UNO	UNLESS NOTED OTHERWISE
FD	FLOOR DRAIN	VCT	VINYL COMPOSITION TILE
FLR	FLOOR	VB	VINYL BASE
FRP	FIBERGLASS REINFORCED PLASTIC	VIF	VERIFY IN FIELD
		WD	WOOD
GA	GAUGE	WWF	WELDED WIRE FABRIC
GALV	GALVANIZED		
GYP BD	GYPSUM BOARD		

LOCATION MAP



CLIENT:
IRGENS
833 EAST MICHIGAN STREET, SUITE 400
MILWAUKEE, WISCONSIN 53202
PHONE: 414.443.7594
ATTN: TOM IRGENS

ARCHITECT:
PARTNERS IN DESIGN ARCHITECTS
2610 LAKE COOK ROAD, SUITE 280
RIVERWOODS, ILLINOIS 60015
PHONE: 847.940.0300
ATTN: WERNER BRISSKE, AIA
OR ERIC ORTEGA

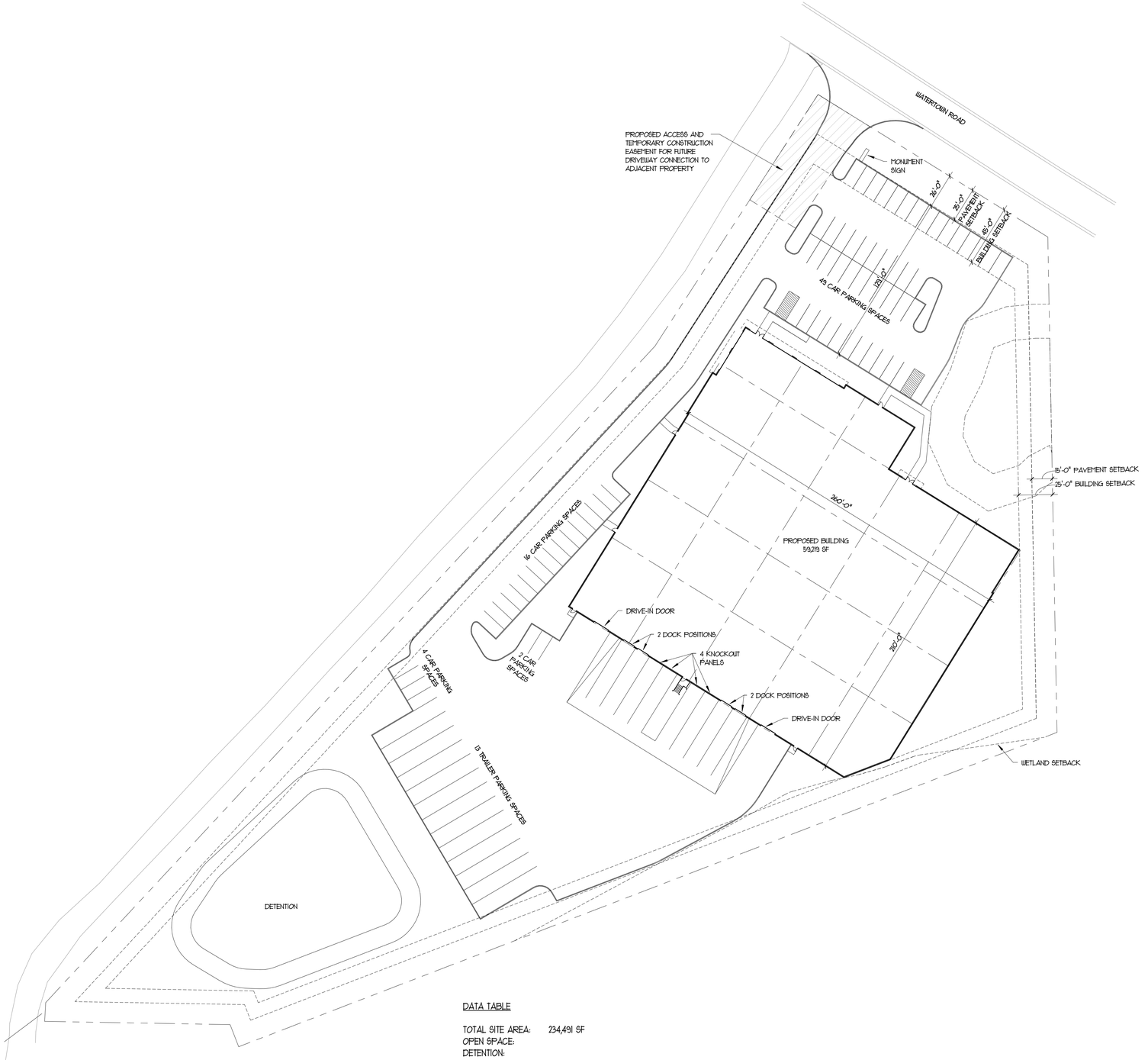
CIVIL ENGINEER
PINNACLE ENGINEERING GROUP
11850 W. BLUEMOUND ROAD, SUITE 210
BROOKFIELD, WISCONSIN 53005
PHONE: 262.754.8888
ATTN: MATTHEW CAREY

Partners in Design ARCHITECTS

FOX RUN CENTER

PROJECT NUMBER:
636.22.113

SITE PLAN SUBMITTAL
ISSUE DATE: DECEMBER 8, 2023



DATA TABLE

TOTAL SITE AREA:	234,491 SF
OPEN SPACE:	
DETENTION:	
BUILDING AREA:	59,219 SF
TRUCK DOCKS:	4 DOCK POSITIONS
(FUTURE):	4 DOCK POSITIONS
TRAILER STALLS:	17 SPACES
CAR PARKING:	71 SPACES

1 / A1.1 SITE PLAN
1" = 40'-0"

REVISIONS

FOX RUN CENTER
N15 W 22261 Watertown Road, Pewaukee, WI

SITE PLAN

2610 Lake Cook Road Suite 280 Riverwoods, IL 60015 Ph.: (847)940-0300

Partners in Design ARCHITECTS

PROJECT NO.: 636.22.113
DRAWN BY: EEO CHECKED BY: WHB
DATE: 12.08.23
SHEET NO.: A1.1

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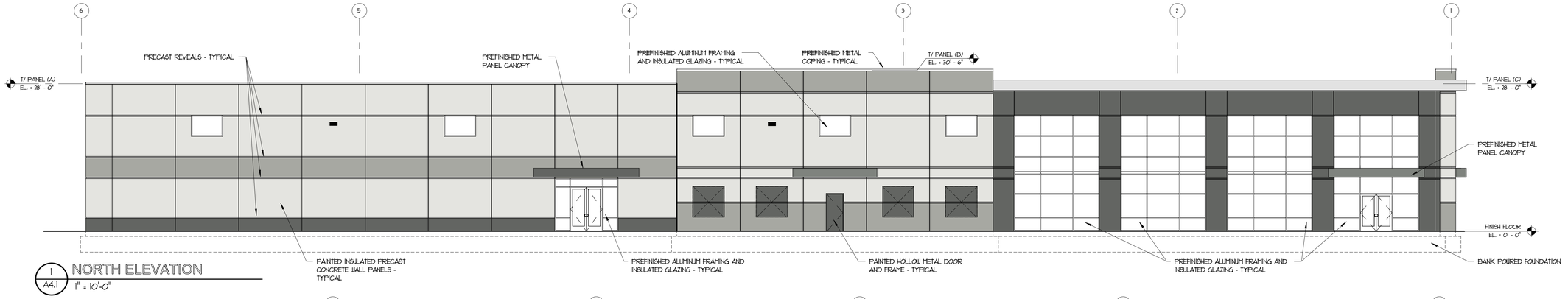
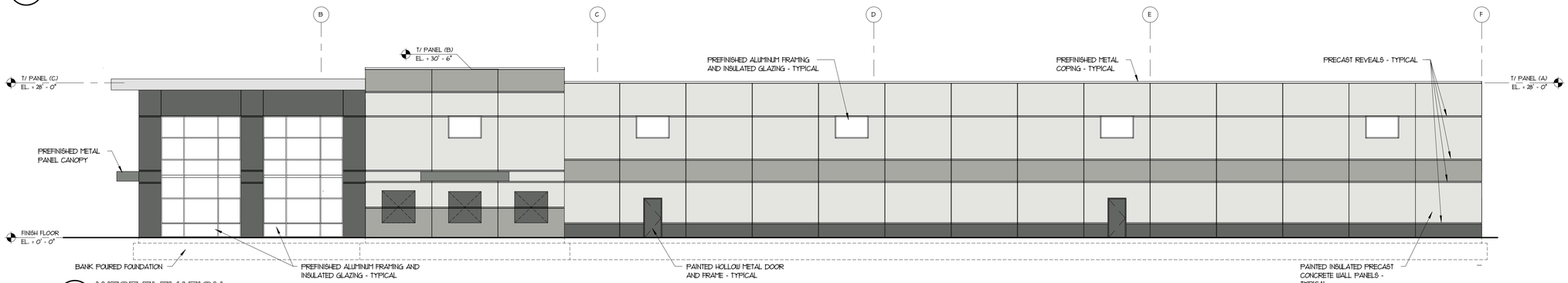
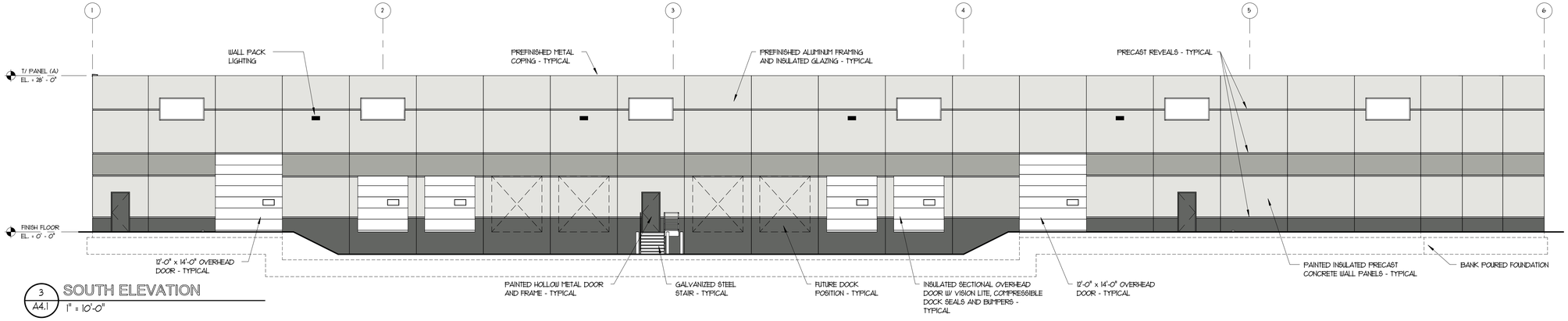


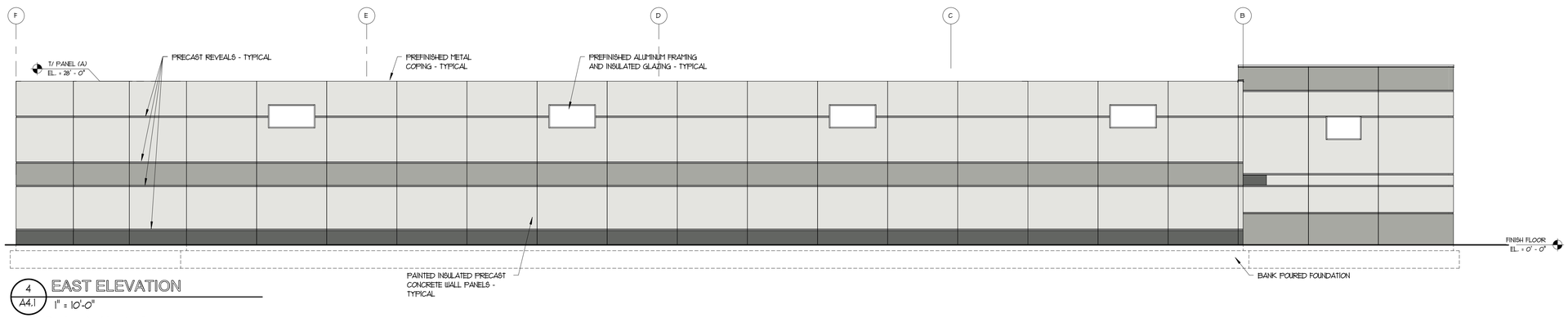
1 A4.1 **NORTH ELEVATION**
1" = 10'-0"



2 A4.1 **WEST ELEVATION**
1" = 10'-0"



3 A4.1 **SOUTH ELEVATION**
1" = 10'-0"



4 A4.1 **EAST ELEVATION**
1" = 10'-0"

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COLOR LEGEND:

- ACCENT COLOR 1: SHERWIN WILLIAMS T.B.D.
- ACCENT COLOR 2: SHERWIN WILLIAMS T.B.D.
- ACCENT COLOR 3: SHERWIN WILLIAMS T.B.D.
- METAL PANEL CANOPY COLOR: T.B.D.
- METAL COPING COLOR: PAC-CLAD T.B.D.

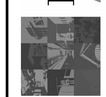
REVISIONS

FOX RUN CENTER
N15 W 22261 Watertown Road, Pewaukee, WI

EXTERIOR ELEVATIONS

2610 Lake Cook Road
Suite 280
Riverwoods, IL 60015
Ph.: (847)940-0300

Partners in Design ARCHITECTS



PROJECT NO.: 636.22.113
DRAWN BY: EEO
CHECKED BY: WHB
DATE: 12.08.23
SHEET NO.: A4.1

PERSPECTIVE 1

PERSPECTIVE 2

PERSPECTIVE 3

REVISIONS:

FOX RUN CENTER
N15 W 22261 Watertown Road, Pewaukee, WI

PERSPECTIVE VIEWS

2610 Lake Cook Road
Suite 280
Riverwoods, IL 60015
Ph.: (847)940-0300

PartnersinDesign
ARCHITECTS

PROJECT NO.:
636.22.113

DRAWN BY: EEO
CHECKED BY: WHB

DATE:
12.08.23

SHEET NO.:
A4.2

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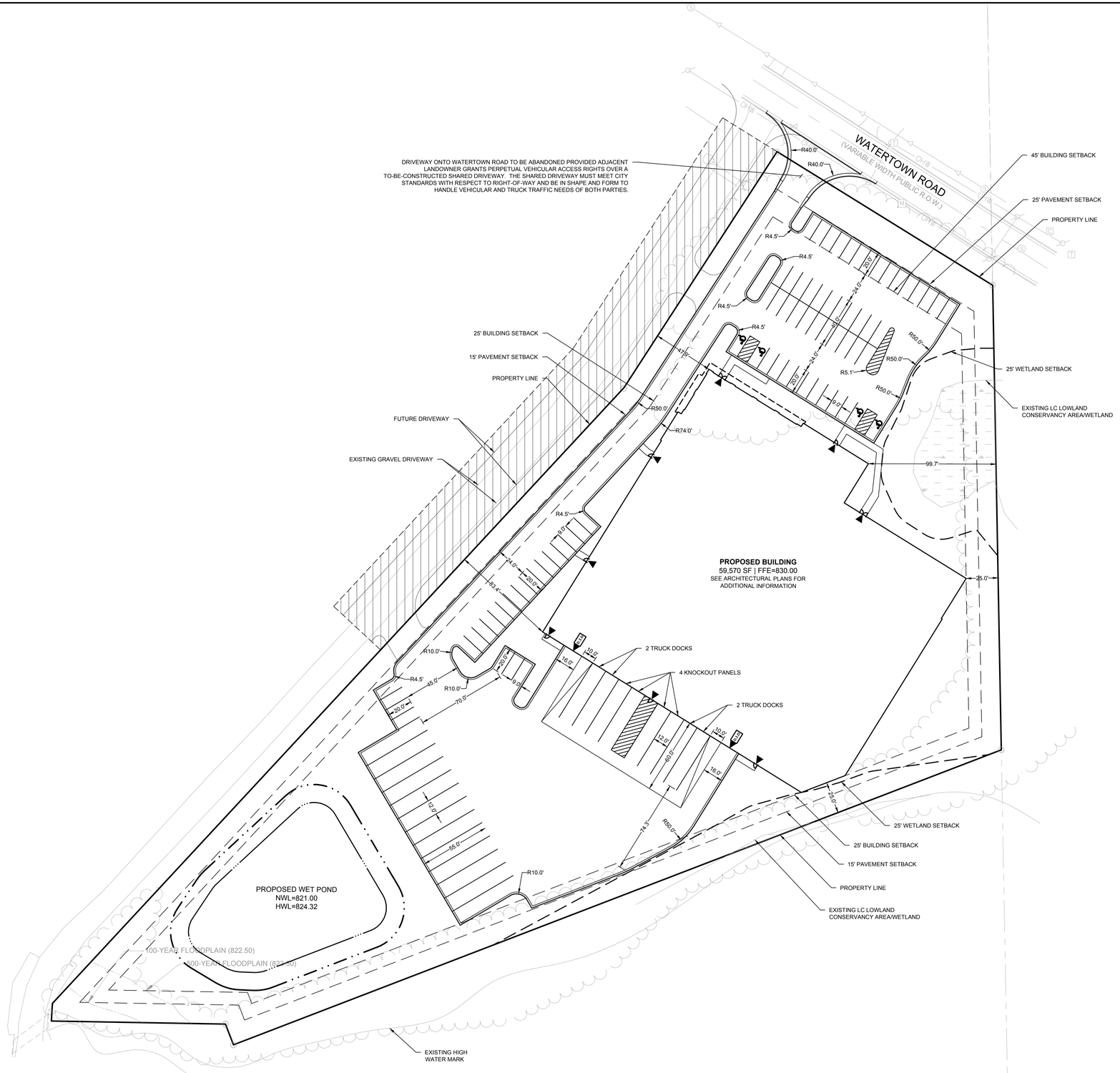

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 40' 80'

INDEX OF SHEETS

C-1	REZONING & MASTER PLAN AMENDMENT EXHIBIT
C-2	GRADING PLAN

SITE DATA TABLE

EXISTING ZONING:	RS-1 SINGLE-FAMILY RESIDENTIAL DISTRICT
PROPOSED ZONING:	M-2 LIMITED INDUSTRIAL DISTRICT
TOTAL SITE AREA:	234,491 SF (5.38 AC)
OPEN SPACE AREA:	102,599 SF (2.36 AC) 43.9%
PROPOSED CAR PARKING:	73 SPACES (4 A.D.A.)
PROPOSED TRAILER PARKING:	13 SPACES
PROPOSED TRUCK DOCKS:	4 DOCKS, 4 KNOCKOUT PANELS
REQUIRED PARKING:	1 SPACE / 2 EMPLOYEES IN A 12 HOUR PERIOD

www.pinnacle-engr.com

FOR REVIEW ONLY

REZONING & MASTER PLAN AMENDMENT EXHIBIT

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DRAFTED: DCC DESIGNED: DCC REVIEWED: MAC

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

FOX RUN CENTER

PEWAUKEE, WI

REZONING & MASTER PLAN AMENDMENT EXHIBIT

REVISIONS

PEG JOB No. 2757.00
PES PM MAC
START DATE 12/11/23
SCALE

SHEET
C-1
C-2

Z:\PROJECTS\2022\2757.00-WI\CAD\SHEETS\2757.00 SITE PLAN - ALT WETLANDS.DWG

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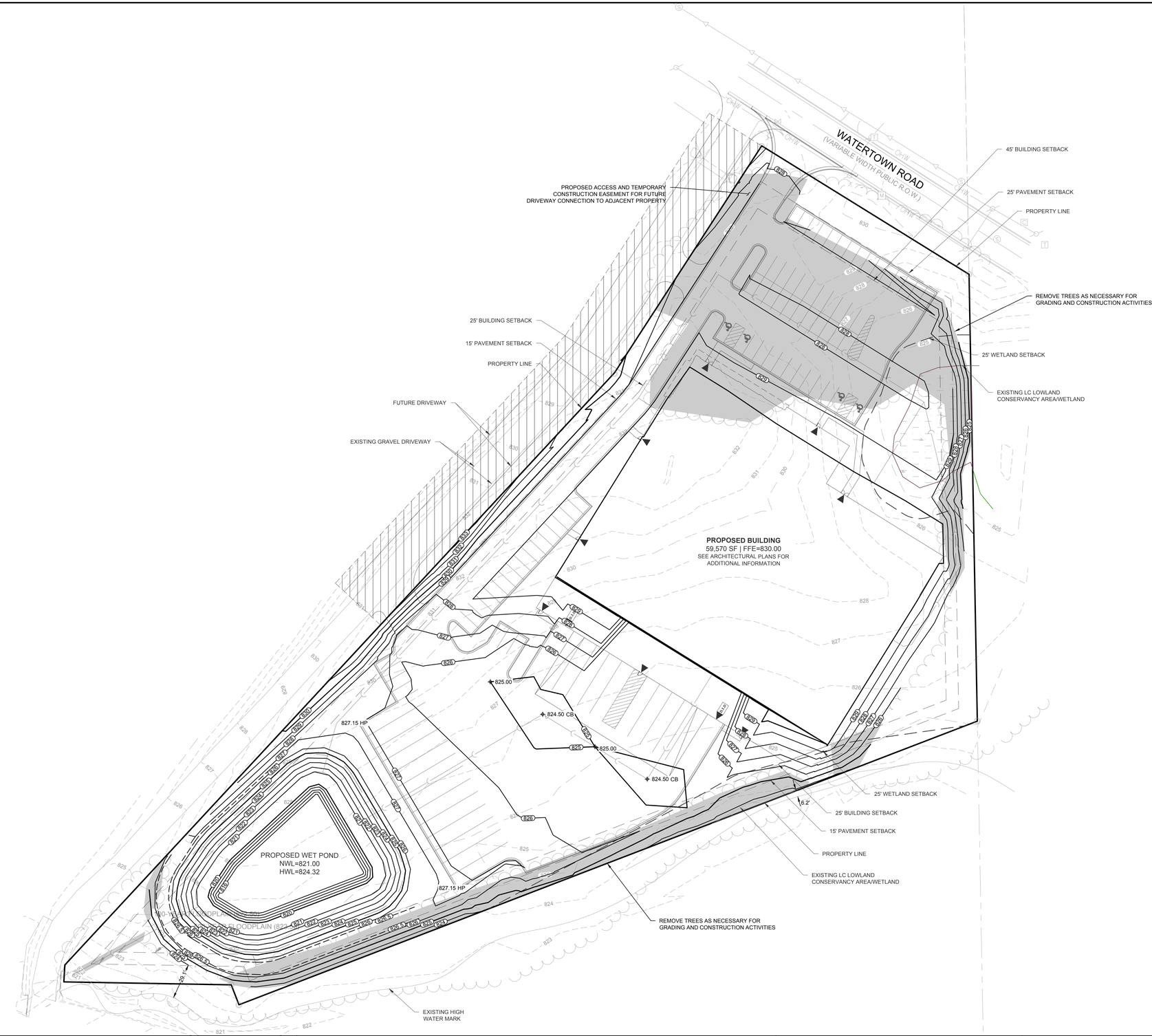
NORTH

GRAPHICAL SCALE (FEET)

0 1" = 40' 80'



LEGEND

	STORM SEWER MANHOLE
	STORM SEWER CATCH BASIN- ROUND CASTING
	STORM SEWER CATCH BASIN- RECTANGULAR CASTING
	PROPOSED CONCRETE FLARED END SECTION
749	PROPOSED CONTOUR
750.00	SPOT ELEVATION
	DIRECTION OF SURFACE FLOW
	DITCH OR SWALE
	DIVERSION SWALE
	OVERFLOW RELIEF ROUTING
	CONCRETE SIDEWALK
	CURB AND GUTTER
	DEPRESSED CURB
	REVERSE PITCH CURB & GUTTER
EP	EDGE OF PAVEMENT
FFE	FINISHED FLOOR ELEVATION
SW	TOP OF SIDEWALK
YG	YARD GRADE

www.pinnacle-engr.com

FOR REVIEW ONLY

GRADING PLAN

REVIEWED: MAC

DESIGNED: DCC

DRAFTED: DCC

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE - NATIONWIDE

FOX RUN CENTER

PEWAUKEE, WI

GRADING PLAN

REVISIONS

PEC JOB No. 2757.00
PEC PM MAC
START DATE 12/11/23
SCALE

SHEET
C-2
C-2

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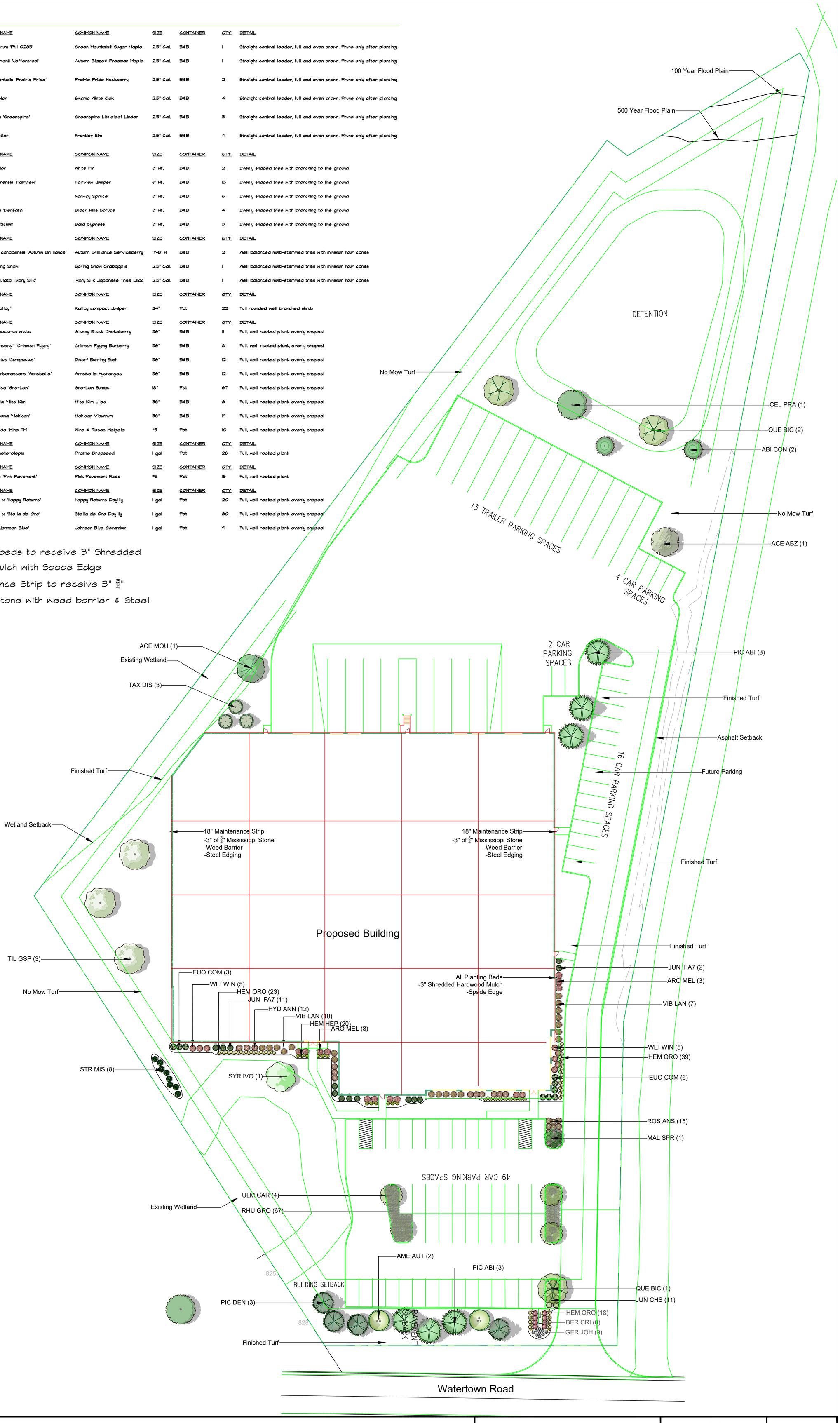
Z:\PROJECTS\2022\2757.00-WI\CAD\SHEETS\2757.00 GRADING PLAN.DWG

This plan as an instrument of service is the property of Breezy Hill Nursery, Inc. and may not be used in whole or part without our written consent. Violators are subject to prosecution.

PLANT SCHEDULE

DECIDUOUS TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY	DETAIL
	ACE MOU	Acer saccharum 'FNI 0285'	Green Mountain® Sugar Maple	2.5" Cal.	B&B	1	Straight central leader, full and even crown. Prune only after planting
	ACE ABZ	Acer x freemanii 'Jeffersred'	Autumn Blaze® Freeman Maple	2.5" Cal.	B&B	1	Straight central leader, full and even crown. Prune only after planting
	CEL PRA	Celtis occidentalis 'Prairie Pride'	Prairie Pride Hackberry	2.5" Cal.	B&B	2	Straight central leader, full and even crown. Prune only after planting
	QUE BIC	Quercus bicolor	Swamp White Oak	2.5" Cal.	B&B	4	Straight central leader, full and even crown. Prune only after planting
	TIL GSP	Tilia cordata 'Greenspire'	Greenspire Littleleaf Linden	2.5" Cal.	B&B	3	Straight central leader, full and even crown. Prune only after planting
	ULM CAR	Ulmus x 'Frontier'	Frontier Elm	2.5" Cal.	B&B	4	Straight central leader, full and even crown. Prune only after planting
EVERGREEN TREES	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**	**DETAIL**
	ABI CON	Abies concolor	White Fir	8' Ht.	B&B	2	Evenly shaped tree with branching to the ground
	JUN FA7	Juniperus chinensis 'Fairview'	Fairview Juniper	6' Ht.	B&B	13	Evenly shaped tree with branching to the ground
	PIC ABI	Picea abies	Norway Spruce	8' Ht.	B&B	6	Evenly shaped tree with branching to the ground
	PIC DEN	Picea glauca 'Densata'	Black Hills Spruce	8' Ht.	B&B	4	Evenly shaped tree with branching to the ground
	TAX DIS	Taxodium distichum	Bald Cypress	8' Ht.	B&B	3	Evenly shaped tree with branching to the ground
FLOWERING TREES	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**	**DETAIL**
	AME AU2	Amelanchier canadensis 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7'-8' H	B&B	2	Well balanced multi-stemmed tree with minimum four canes
	MAL SPR	Malus x 'Spring Snow'	Spring Snow Crabapple	2.5" Cal.	B&B	1	Well balanced multi-stemmed tree with minimum four canes
	SYR IVO	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	2.5" Cal.	B&B	1	Well balanced multi-stemmed tree with minimum four canes
CONIFERS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**	**DETAIL**
	JUN CHS	Juniperus "Kallay"	Kallay compact Juniper	24"	Pot	22	Full rounded well branched shrub
SHRUBS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**	**DETAIL**
	ARO MEL	Aronia melanocarpa elata	Glossy Black Chokeberry	36"	B&B	11	Full, well rooted plant, evenly shaped
	BER CRI	Berberis thunbergii 'Crimson Pygmy'	Crimson Pygmy Barberry	36"	B&B	8	Full. well rooted plant, evenly shaped
	EUO COM	Euonymus alatus 'Compactus'	Dwarf Burning Bush	36"	B&B	12	Full, well rooted plant, evenly shaped
	HYD ANN	Hydrangea arborescens 'Annabelle'	Annabelle Hydrangea	36"	B&B	12	Full, well rooted plant, evenly shaped
	RHU GRO	Rhus aromatica 'Gro-Low'	Gro-Low Sumac	18"	Pot	67	Full, well rooted plant, evenly shaped
	SYR MIS	Syringa patula 'Miss Kim'	Miss Kim Lilac	36"	B&B	8	Full, well rooted plant, evenly shaped
	VIB LAN	Viburnum lantana 'Mohican'	Mohican Viburnum	36"	B&B	19	Full, well rooted plant, evenly shaped
	WEI WIN	Weigela florida 'Wine TM'	Wine & Roses Weigela	#5	Pot	10	Full, well rooted plant, evenly shaped
GRASSES	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**	**DETAIL**
	SPO HET	Sporobolus heterolepis	Prairie Dropseed	1 gal	Pot	26	Full, well rooted plant
ROSES	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**	**DETAIL**
	ROS ANS	Rosa rugosa 'Pink Pavement'	Pink Pavement Rose	#5	Pot	15	Full, well rooted plant
ANNUALS/PERENNIALS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**QTY**	**DETAIL**
	HEM HAP	Hemerocallis x 'Happy Returns'	Happy Returns Daylily	1 gal	Pot	20	Full, well rooted plant, evenly shaped
	HEM ORO	Hemerocallis x 'Stella de Oro'	Stella de Oro Daylily	1 gal	Pot	80	Full, well rooted plant, evenly shaped
	GER JOH	Geranium x 'Johnson Blue'	Johnson Blue Geranium	1 gal	Pot	9	Full, well rooted plant, evenly shaped

* All Planting beds to receive 3" Shredded Hardwood Mulch with Spade Edge
* All Maintenance Strip to receive 3" ¾" Mississippi Stone with weed barrier & Steel edging.



Breezy Hill Nursery Inc.
7530 288th AVENUE
SALEM, WISCONSIN 53168
N96 W21627 COUNTY LINE ROAD
MENOMONEE FALLS, WISCONSIN 53051
(262) 537-2111 (262) 537-4080 (262) 843-3886
FAX (262) 537-3434
www.breezyhillnursery.com
email: contact@breezyhillnursery.com

Fox Run Industrial Center

Watertown Road, Pewaukee, WI

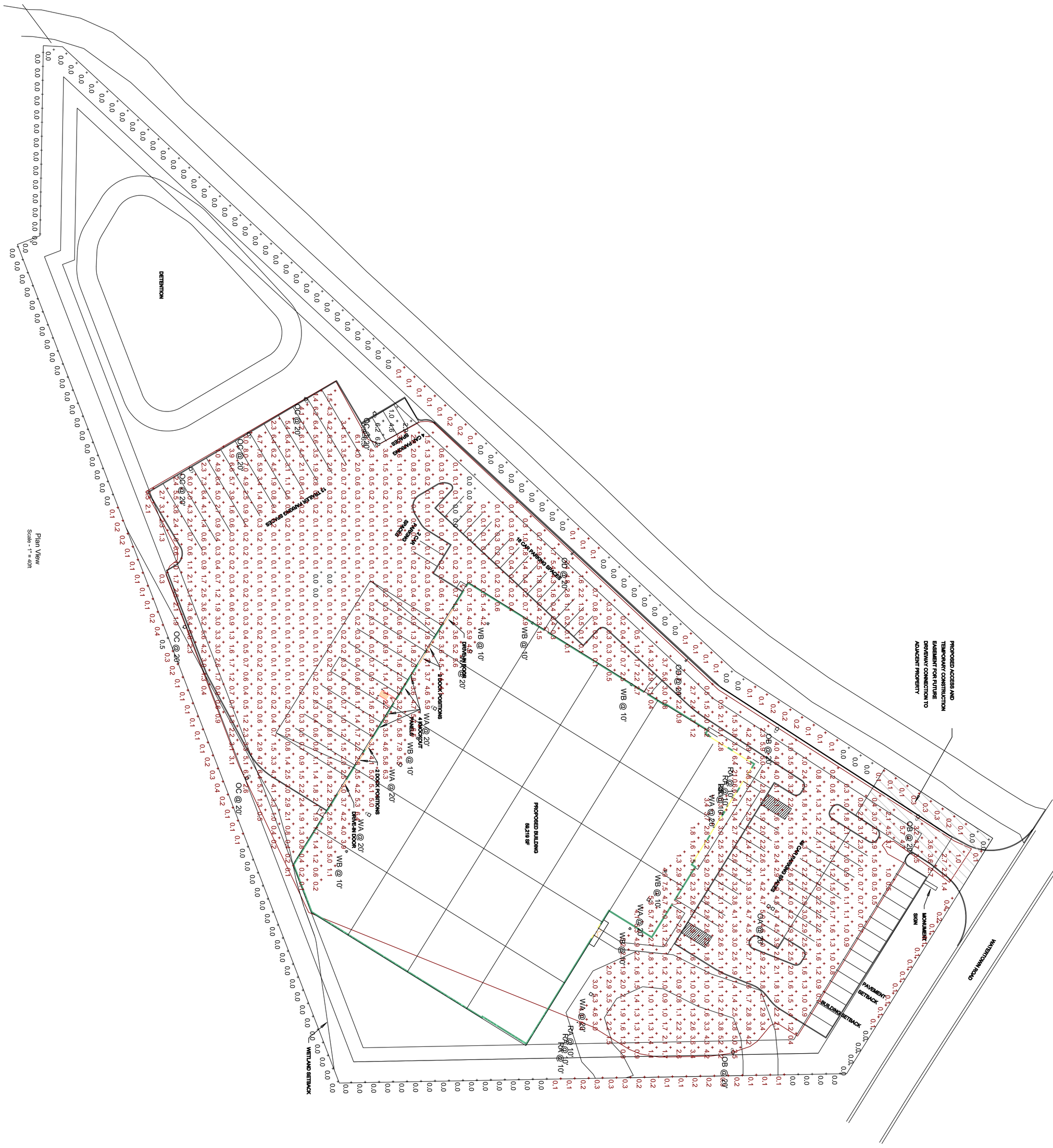
30 0 30
SCALE 1" = 30'

Designed By Mike Schierl
Drawn By Kathy Feucht
Date January 27th, 2023
Revised December 10th, 2023-kf
Project #-005855

N

Sheet
L1

This plan as an instrument of service is the property of Breezy Hill Nursery, Inc. and may not be used in whole or part without our written consent. Violators are subject to prosecution.



Plan View
Scale - 1" = 40ft

Luminaire Locations

		Location						Aim		
No.	Label	X	Y	Z	MH	Orientation	Tilt	X	Y	Z
5	OA	-84742.88	1988.17	20.00	20'	31.11	0.00			
	OA-1	-84741.98	1999.67	20.00	20.00	31.11	0.00	-84742.07	1989.66	0.00
	OA-2	-84743.98	1986.67	20.00	20.00	211.11	0.00	-84743.88	1986.67	0.00
7	OB	-84637.98	1961.48	20.00	20'	256.35	0.00	-84639.44	1961.12	0.00
8	OB	-84809.25	2094.27	20.00	20'	117.47	0.00	-84807.92	2093.58	0.00
9	OB	-84871.98	1993.48	20.00	20'	122.64	0.00	-84870.71	1992.67	0.00
7	OC	-84943.30	1567.50	20.00	20'	340.48	0.00	-84943.80	1568.92	0.00
8	OC	-85097.91	1704.46	20.00	20'	82.69	0.00	-85098.43	1704.86	0.00
9	OC	-84834.70	1612.22	20.00	20'	320.39	0.00	-84835.66	1613.38	0.00
10	OC	-85107.98	1654.76	20.00	20'	64.81	0.00	-85106.62	1655.40	0.00
11	OC	-85092.91	1613.86	20.00	20'	64.81	0.00	-85091.55	1614.50	0.00
12	OC	-85058.13	1572.37	20.00	20'	64.81	0.00	-85056.77	1573.01	0.00
5	OD	-84920.65	1928.46	20.00	20'	132.65	0.00	-84919.55	1927.44	0.00
6	OD	-84997.06	1846.86	20.00	20'	133.26	0.00	-84995.97	1845.83	0.00
13	RA	-84845.63	1964.27	10.00	10'	0.00	0.00	-84845.63	1964.27	0.00
14	RA	-84839.78	1960.52	10.00	10'	0.00	0.00	-84839.78	1960.52	0.00
15	RA	-84833.76	1957.20	10.00	10'	0.00	0.00	-84833.76	1957.20	0.00
16	RA	-84660.71	1849.77	10.00	10'	0.00	0.00	-84660.71	1849.77	0.00
17	RA	-84654.86	1846.02	10.00	10'	0.00	0.00	-84654.86	1846.02	0.00
18	RA	-84648.84	1842.70	10.00	10'	0.00	0.00	-84648.84	1842.70	0.00
15	WA	-84926.29	1773.41	20.00	20'	211.41	0.00	-84926.29	1773.41	0.00
16	WA	-84885.34	1747.84	20.00	20'	211.41	0.00	-84885.34	1747.84	0.00
17	WA	-84845.05	1723.12	20.00	20'	211.41	0.00	-84845.05	1723.12	0.00
18	WA	-84809.27	1700.76	20.00	20'	211.41	0.00	-84809.27	1700.76	0.00
19	WA	-84680.97	1859.48	20.00	20'	32.28	0.00	-84680.97	1859.48	0.00
20	WA	-84748.54	1900.79	20.00	20'	32.28	0.00	-84748.54	1900.79	0.00
21	WA	-84626.98	1951.98	20.00	20'	32.28	0.00	-84626.98	1951.98	0.00
17	WB	-84727.98	1887.26	10.00	10'	31.89	0.00	-84727.98	1887.26	0.00
18	WB	-84768.98	1912.67	10.00	10'	31.89	0.00	-84768.98	1912.67	0.00
19	WB	-84902.25	1888.31	10.00	10'	297.98	0.00	-84902.25	1888.31	0.00
20	WB	-84946.34	1817.46	10.00	10'	301.36	0.00	-84946.34	1817.46	0.00
21	WB	-84945.88	1785.98	10.00	10'	205.20	0.00	-84945.88	1785.98	0.00
22	WB	-84865.98	1735.48	10.00	10'	211.61	0.00	-84865.98	1735.48	0.00
23	WB	-84782.98	1684.76	10.00	10'	208.61	0.00	-84782.98	1684.76	0.00

Schedule

Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Lamp Number	Lamp Lumens	Lamp Color Temperature	Wattage	Filter
	OA		1	Lithonia Lighting	RSX1 LED P4 40K R5	RSX Area Wide Size 1 Performance Package 4000K CCT Type V R5 Reflector	1	16126	4000	296.22	None
	OB		3	Lithonia Lighting	RSX1 LED P4 40K R3M	RSX Area Wide Size 1 Performance Package 4000K CCT Type III Medium with R3 Reflector	1	11482	1	153.74	None
	OC		6	Lithonia Lighting	RSX1 LED P4 40K R4M	RSX Area Wide Size 1 Performance Package 4000K CCT Type IV Medium with R4 Reflector	1	10840	1	153.74	None
	OD		7	Lithonia Lighting	RSX1 LED P7 40K R2 HS	RSX Area Wide Size 1 Performance Package 4000K CCT Type II Short with HS	1	9394	1	81.34	None
	WA		7	Lithonia Lighting	WDGG1 LED P1 40K 70CRI BCW	WDGG1 LED WITH P1 PERFORMANCE PACKAGE 4000K CCT 70CRI BLACK FINISH	1	16743	1	114.985	None
	WB		7	Lithonia Lighting	WDGG1 LED P1 40K 70CRI VW	WDGG1 LED WITH P1 PERFORMANCE PACKAGE 4000K CCT 70CRI VERSA WIDE (VW) OPTIC	1	12251	1	114.985	None
	RA		6	Lithonia Lighting	LDN6 40/20 L120AR LD	LDN 6IN 4000K 2000LM SLEAR WHITE DIFFUSE RETROFIT LED DOWNLIGHT	1	1796	1	23.02	None

FOX RUN INDUSTRIAL CENTER

Designer	
Date	02/08/2023
Scale	Not to Scale
Drawing No.	
Summary	

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 9.

DATE: December 21, 2023

DEPARTMENT: Clerk/Treasurer

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding the Site and Building Plans for Zeilhofer Properties, LLC for Property Located at N4 W22540 Bluemound Road for the Purpose of Constructing an Attached Garage Addition and Front Porch Modifications to the Existing Structure (PWC 0963997)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Zeilhofer staff report 12.21.23

Zeilhofer office narrative

Zeilhofer plan set

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of December 21, 20023

Date: December 12, 2023

Project Name: Zeilhofer Garage and Front Porch Site & Building Plan Review

Project Address/Tax Key No.: N4W22540 Bluemound Road/PWC 0963997

Applicant: Robert Zeilhofer

Property Owner: ROBB ZEILHOFER

Current Zoning: B-4 Office District

2050 Land Use Map Designation: Manufacturing / Fabrication / Warehousing

Use of Surrounding Properties: Industrial to the north and west, single-family residential to the south, and mixed-use property zoned single-family residential to the east

Project Description/Analysis

The applicant submitted a Site & Building Plan Review Application for the construction of garage addition and front porch modifications for the building located at N4W22540 Bluemound Road. The additions and modifications are to the existing structure on the property, which was formerly a single-family home. The applicant previously converted and is now utilizing the building as an office for a real estate management and construction business.

According to the applicant, the proposed building changes are to add curb appeal and additional enclosed storage space on the property. The general use of the property is not changing.

Site Plan

The applicant is proposing an approximately 602 square foot attached garage addition and a 255 square foot porch addition to the front of the existing building. The front porch addition includes extending the existing roof for additional coverage and a stone knee wall.

Considering these proposed changes and the previously approved storage building and site changes, the site is about 48.5% greenspace, which is in compliance with the City's minimum greenspace ratio of 40%.

The attached landscape plan is similar to and in substantial conformance with the landscape plan approved in conjunction with the storage building. There are also no other changes to parking, lighting, signage, and utility plans. Note that any conditions as part of the previous storage building and use approvals are applicable and must be met. Below are the conditions of approval for the Zeilhofer Conditional Use Permit for reference.

1. Outdoor storage is prohibited onsite, except for the orderly parking of vehicles upon paved surfaces.

2. The applicant shall construct an enclosure around the dumpster to screen it and contain any loose trash and debris.
3. Final grading and erosion control plans shall be submitted for approval by the Engineering Department prior to any land disturbance.
4. Signage shall comply with all standards set forth in Section 17.0700 of the City's Zoning Code and require separate review and approval by the City Planner as well as a Sign Permit from the Building Services Department, prior to installation.
5. After the building is constructed, the applicant shall test to see if the septic system still works and functions appropriately. If it does not, the applicant shall be required to install a holding tank or connect to public facilities.
6. The property owner shall be required to connect to public sanitary sewer facilities within 5 years of the final resolution and shall not object to the connection or any related sewer extension assessments.

Architecture

The addition consists of LP Siding and a metal roof, which is the same siding and roofing material that will be on the recently approved storage building located to the north of this structure. The colors will match as well.

The south elevation consists of a 16' wide and 10' high overhead garage door and the east and west elevations both contain three windows. A service door is also shown on the east elevation.

It can be noted that staff suggested an architectural feature be included on the garage addition that would match or be complimentary to the front porch as well as a more decorative style garage door; however, the applicant indicated that they would like to draw more attention to the main entrance, opposed to the garage.

Recommendation

Staff recommends a motion to approve the Site & Building Plan Review Application for the proposed attached garage addition and front porch modifications.

November 7, 2023

Nick Fuchs
Planner & Community Development Director
City of Pewaukee
W240N3065 Pewaukee Road
Pewaukee, WI 53072

RE: Zeilhofer front office improvements, N4W22540 Bluemound Road
Plan Commission Submittal

Mr. Fuchs,

We are excited to present to you this request for Building Plan/Plan Commission review for our proposed front office improvements located at N4W22540 Bluemound Road, Pewaukee WI 53186.

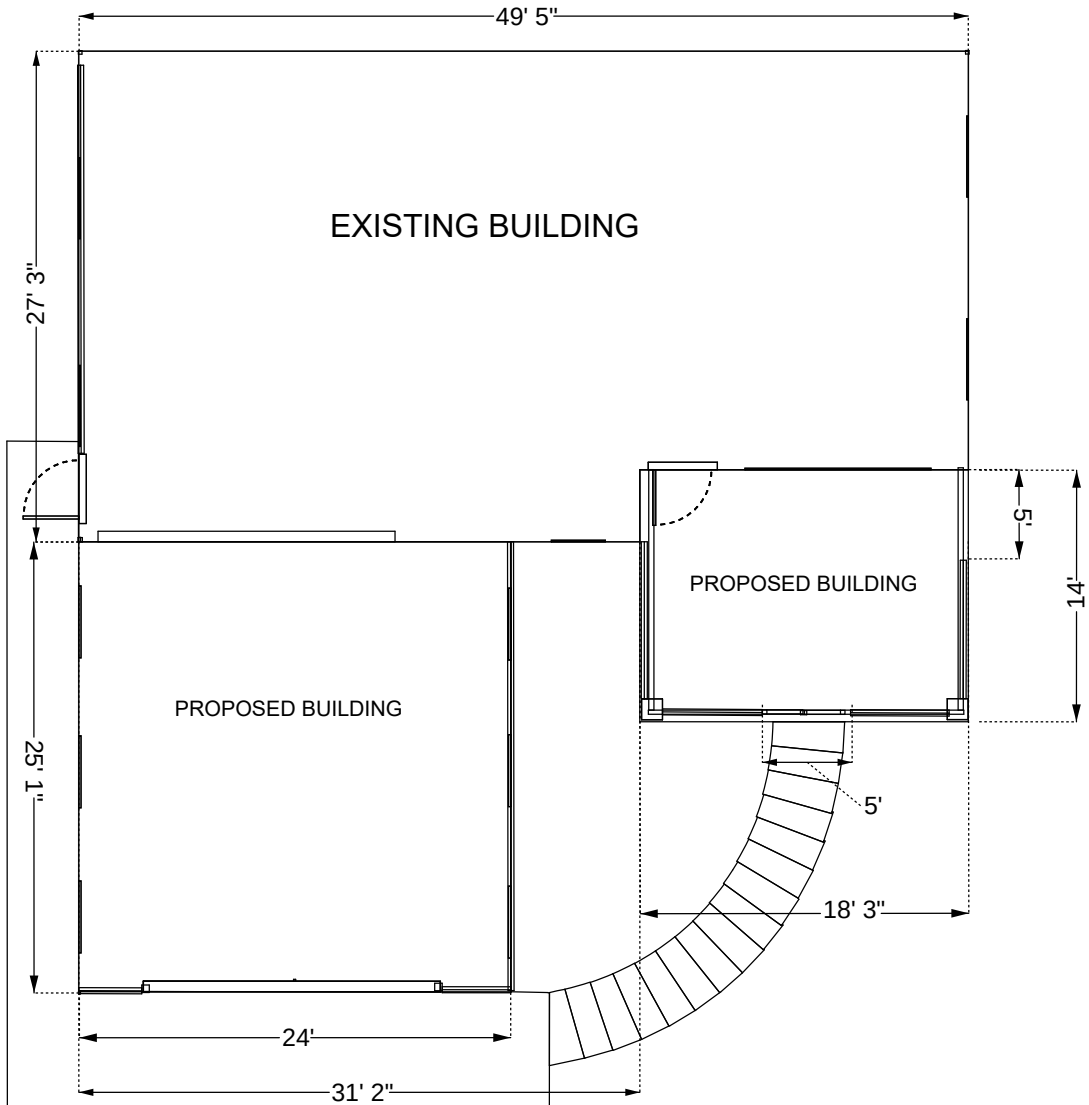
The proposed improvements are designed to give the building a much-needed face lift, adding curb appeal and functionality. The additional square footage will be used for storage of goods consumed in real estate management and real estate construction related businesses. Hours of operation would be unchanged. 7:00am – 7:00 pm, Monday through Saturday.

Construction would tentatively commence Winter of 2023 and be wrapped up by Summer of 2024. The estimated value of new construction is $65,000

If you have any additional questions about our business plan, please reach out to me directly.

Thank you,

Robb Zeilhofer, Owner
Zeilhofer Properties, LLC
(414) 507-1550



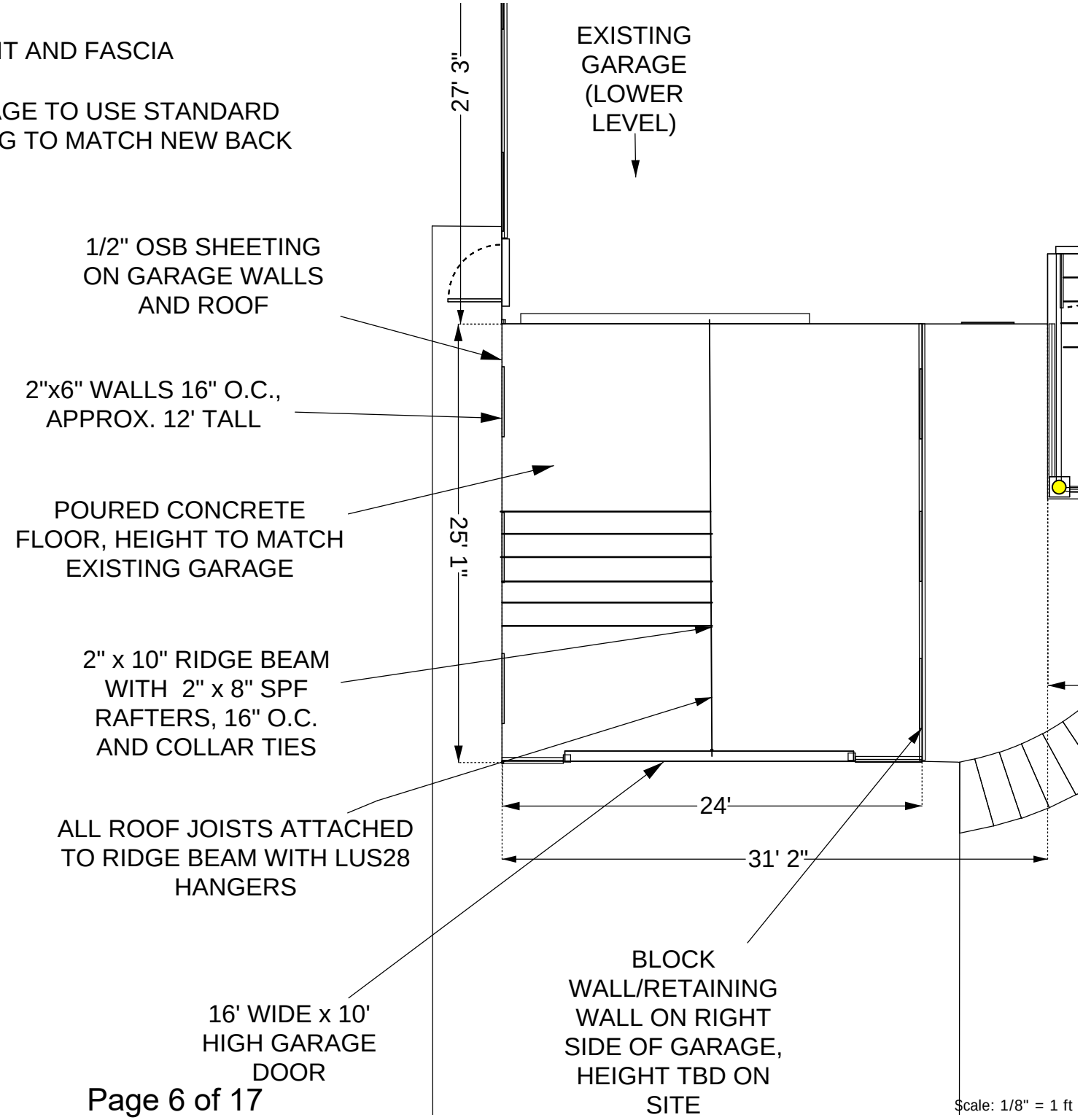
Zeilhofer Project - N4W22540 Bluemound Road, Waukesha WI 53186

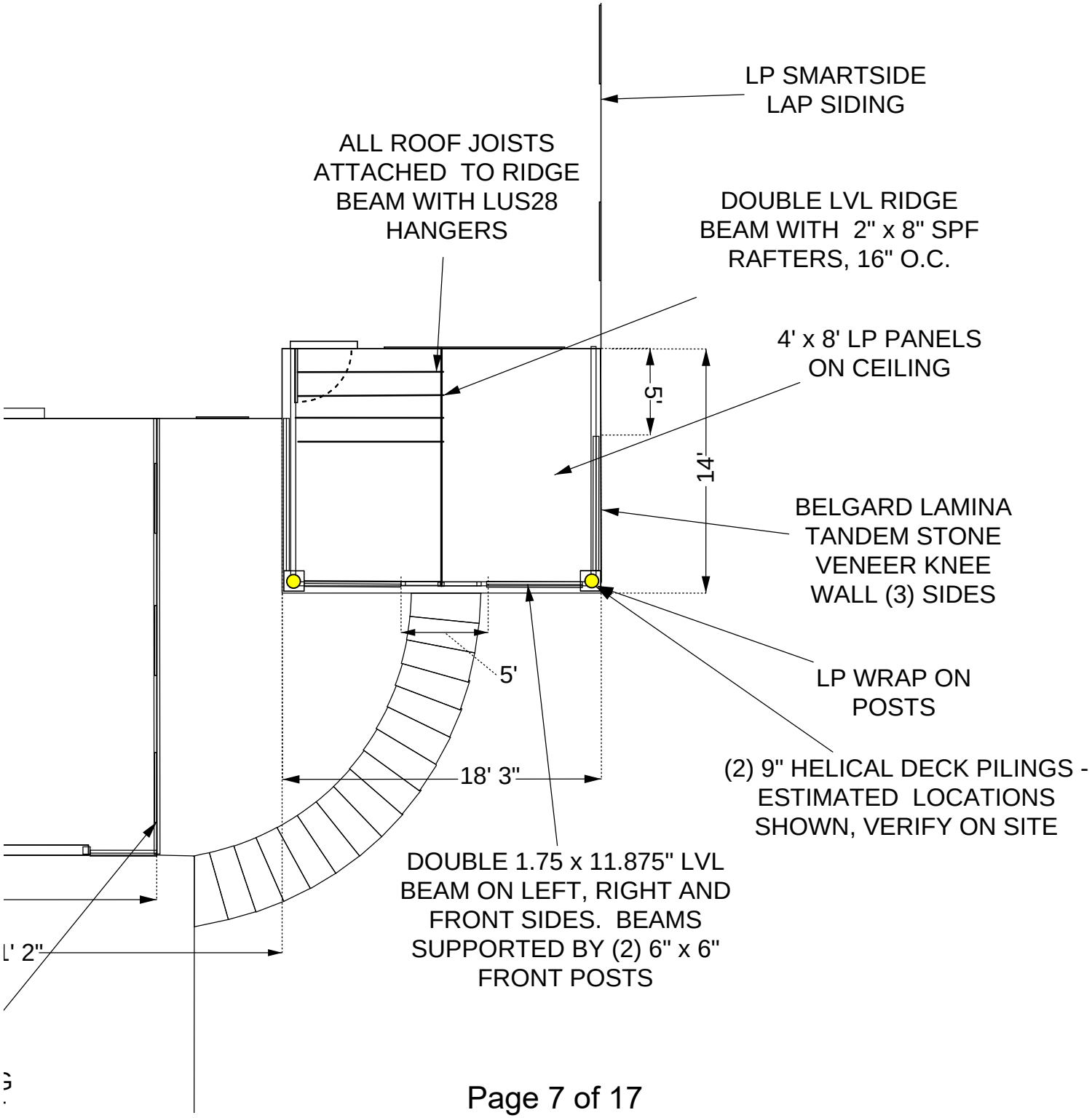
1) Structure conforms to UDC SPS 320-325 Appendix B
2) All perimeter dimensioning is to outside of deck including overhang
3) All framing material to be pressure/preservative treated southern pine

Scale: 3/32" = 1 ft

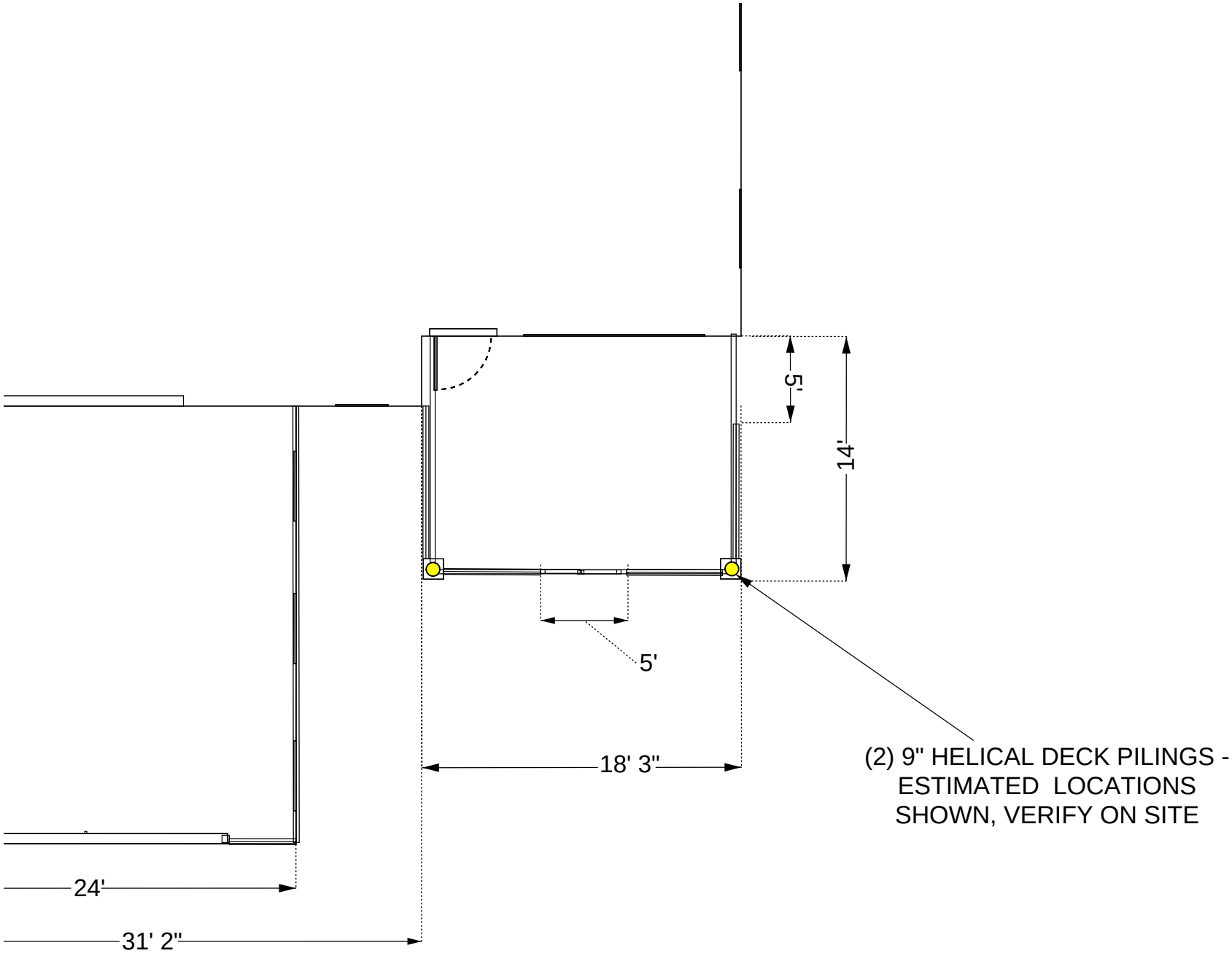
LP SIDING, TRIM, SOFFIT AND FASCIA

HOUSE AND NEW GARAGE TO USE STANDARD RIBBED METAL ROOFING TO MATCH NEW BACK STORAGE BUILDING




LP SMARTSIDE
LAP SIDING
ALL ROOF JOISTS
ATTACHED TO RIDGE
BEAM WITH LUS28
HANGERS
DOUBLE LVL RIDGE
BEAM WITH 2" x 8" SPF
RAFTERS, 16" O.C.
4' x 8' LP PANELS
ON CEILING
5'
14'
BELGARD LAMINA
TANDEM STONE
VENEER KNEE
WALL (3) SIDES
5'
LP WRAP ON
POSTS
18' 3"
(2) 9" HELICAL DECK PILINGS -
ESTIMATED LOCATIONS
SHOWN, VERIFY ON SITE
DOUBLE 1.75 x 11.875" LVL
BEAM ON LEFT, RIGHT AND
FRONT SIDES. BEAMS
SUPPORTED BY (2) 6" x 6"
FRONT POSTS
L' 2"

Scale: 1/8" = 1 ft

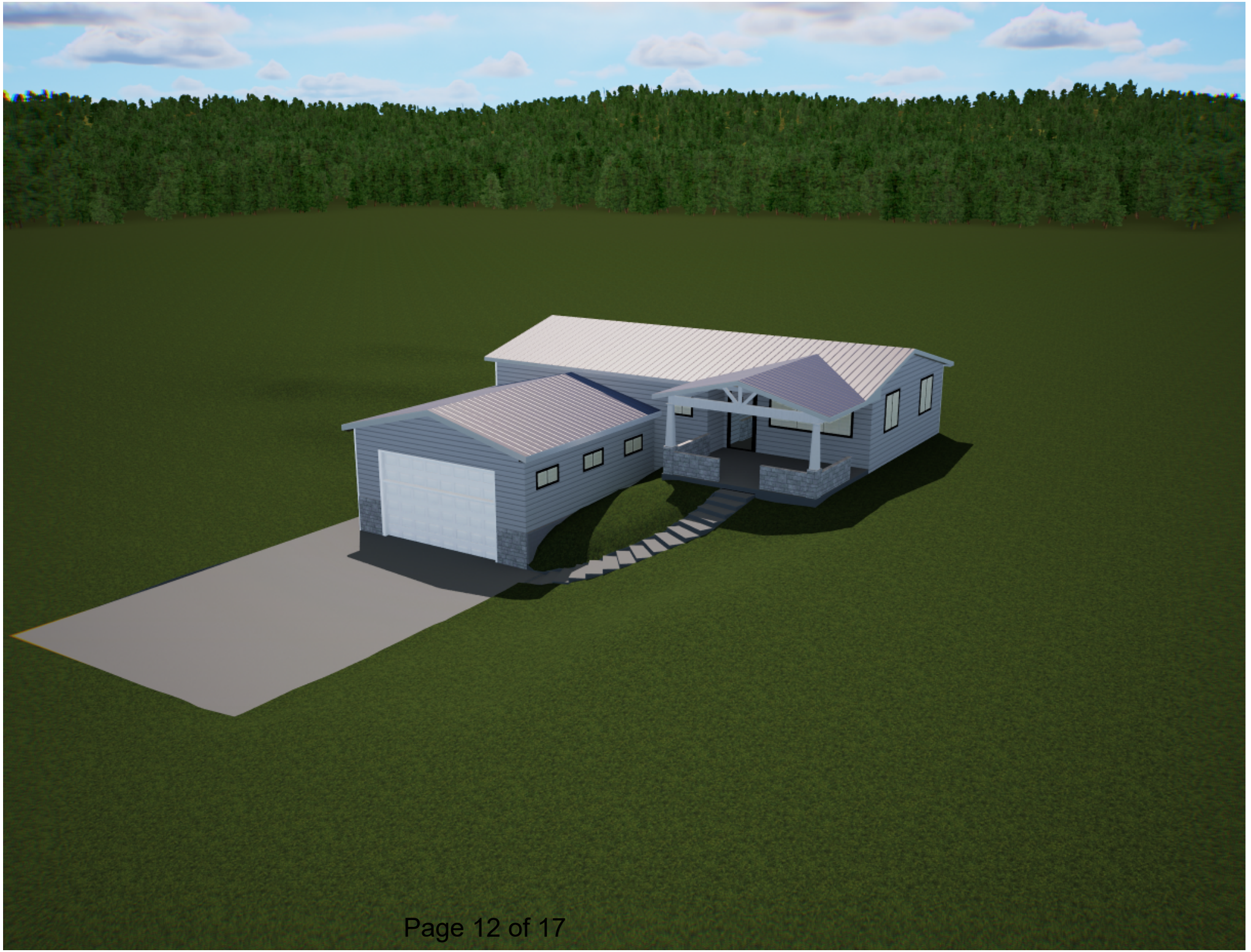

5'
14'
5'
18' 3"
(2) 9" HELICAL DECK PILINGS -
ESTIMATED LOCATIONS
SHOWN, VERIFY ON SITE
24'
31' 2"

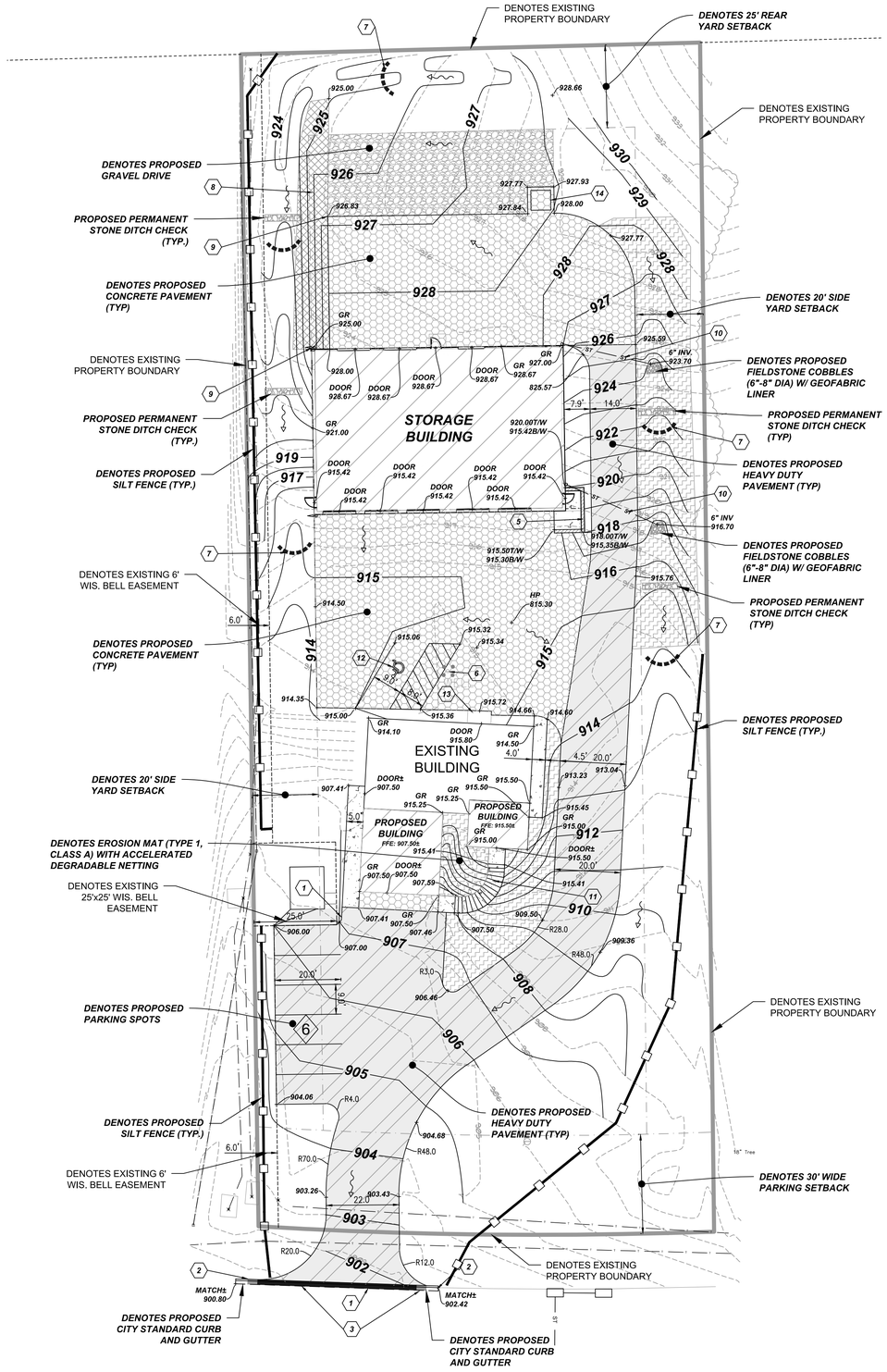
Scale: 1/8" = 1 ft

8' 8"
15' 10"
7' 4"
15' 8"
12'

12'
15' 8"

12'15' 8"





SITE CALCULATION TABLE

TOTAL SITE AREA	1,136 AC
TOTAL DISTURBED AREA	0.881 AC
PROPOSED GREENSPACE	0.551 AC (48.5% OF SITE)

*CONTRACTOR SHALL STAY WITHIN THE SILT FENCE BOUNDARY AND FOLLOW THE GRADING, EROSION CONTROL AND DEMO PLAN AS NOT TO DISTURB OVER 1 ACRE.

NOTES

1. SAWCUT EXISTING PAVEMENT (FULL DEPTH) AND CREATE BUTT JOINT WHERE PROPOSED MEETS EXISTING
2. MATCH INTO EXISTING CURB AND GUTTER.
3. DENOTES PROPOSED 3' CURB TAPER.
4. INSTALL NEW DEPRESSED CURB AND GUTTER. MATCH INTO EXISTING CURB AND GUTTER.
5. DENOTES PROPOSED SEGMENTAL CONCRETE RETAINING WALL. OWNER PROVIDED AND INSTALLED.
6. EXISTING WATER WELL TO REMAIN. WELL TO BE MODIFIED AS NEEDED TO MEET CODE. INSTALL 4 BOLLARDS AROUND EXISTING WELL
7. DENOTES PROPOSED DITCH CHECK
8. DENOTES PROPOSED PERMANENT EROSION MATTING
9. DENOTES PROPOSED DOWNSPOUT AT GRADE WITH SPLASHBLOCK
10. DENOTES PROPOSED 6" DOWNSPOUT CONNECTION. MINIMUM SLOPE OF 1.00% REQUIRED (SEE DETAIL)
11. DENOTES PROPOSED STAIRS. OWNER PROVIDED AND INSTALLED
12. DENOTES PROPOSED ADA PARKING. 2% MAX SLOPE IN ANY DIRECTION
13. OWNER TO MODIFY TO PROVIDE ADA ACCESSIBILITY
14. DENOTES PROPOSED DUMPSTER LOCATION

EROSION CONTROL LEGEND

- SILT FILTER FENCE
- EROSION MAT
- DITCH CHECK
- PERMANENT EROSION MATTING

HATCH LEGEND

- PROPOSED CONCRETE SIDEWALK
- PROPOSED GRAVEL DRIVE
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT

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IN ACCORDANCE WITH WISCONSIN STATUTE 182.0175, DAMAGE TO TRANSMISSION FACILITIES, EXCAVATOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE ADVANCE NOTICE TO THE DESIGNATED "ONE CALL SYSTEM" NOT LESS THAN THREE WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION REQUIRED TO PERFORM WORK CONTAINED ON THESE DRAWINGS, AND FURTHER, EXCAVATOR SHALL COMPLY WITH ALL OTHER REQUIREMENTS OF THIS STATUTE RELATIVE TO EXCAVATOR'S WORK.

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Consultant:
HARWOOD
255 N 21st Street, Milwaukee, WI 53233 | 414-475-5554

HEC Project Number: 20-0110.00

Project:
Zeilhofer Properties, LLC
New Storage Building

Location:
N4W22540 Bluemound Road
Pewaukee, Wi 53186

Key Plan: North

Sheet:
GRADING & EROSION CONTROL PLAN

Scale: SCALE: 1" = 20' North

Revisions:

No.	Date:	Description:

Date:
December 11, 2023

Project No.:
200110.00

Sheet No.:
C1.10

GENERAL NOTES:

DETAIL OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

WHEN POSSIBLE THE SILT FENCE SHOULD BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE, WITH THE ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.

① CROSS BRACE WITH 2" x 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.

② MINIMUM 14 GAGE WIRE REQUIRED, FOLD FABRIC 3" OVER THE WIRE AND STAPLE OR PLACE WIRE RINGS ON 12" C-C.

③ EXCAVATE A TRENCH A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.

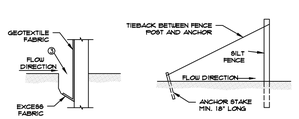
④ WIRE SUPPORT FENCE SHALL BE 14 GAGE MINIMUM WOVEN WIRE WITH A MAXIMUM MESH SPACING OF 6". SECURE TOP OF GEOTEXTILE FABRIC TO TOP OF FENCE WITH STAPLES OR WIRE RINGS AT 12" C-C.

⑤ GEOTEXTILE FABRIC SHALL BE REINFORCED WITH AN INDUSTRIAL POLY-PROPYLENE NETTING WITH A MAXIMUM MESH SPACING OF 3/4" OR EQUAL. A HEAVY DUTY NYLON TOP SUPPORT CORD OR EQUIVALENT IS REQUIRED.

⑥ STEEL POSTS SHALL BE STUDDED "TEE" OR "U TYPE" WITH A MINIMUM WEIGHT OF 1.33 lbs/in. ft. (WITHOUT ANCHORS). FIN ANCHORS SUFFICIENT TO RESIST POST PULL-OUT ARE REQUIRED. WOOD POSTS SHALL BE A MINIMUM SIZE OF 4" DIA. OR 1-1/2" x 3-1/2" EXCEPT WOOD POSTS FOR GEOTEXTILE FABRIC REINFORCED WITH NETTING SHALL BE A MINIMUM SIZE OF 1-1/8" x 1-1/8" OAK OR HICKORY.

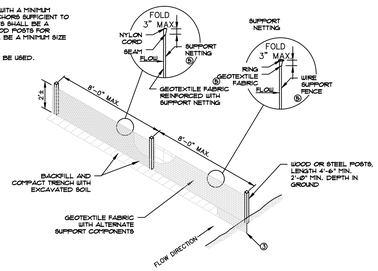
ALTERNATIVES A AND B ARE EQUAL AND EITHER MAY BE USED.

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

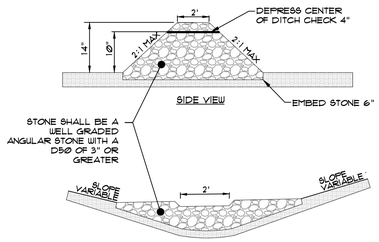


TRENCH DETAIL

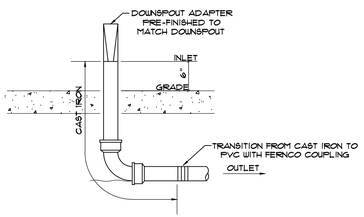
SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)



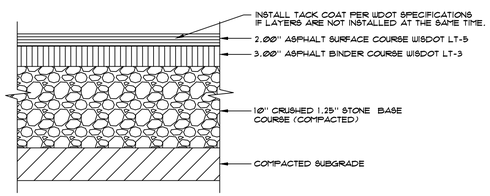
01 SILT FENCE DETAIL
NTS



02 STONE DITCH CHECK
NTS

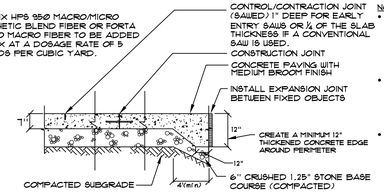


03 DOWNSPOUT DETAIL
NTS



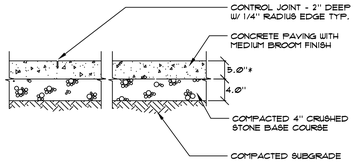
04 HEAVY DUTY ASPHALT DETAIL
NTS

NOTE:
- MATRIX HPS 950 MACRO/MICRO SYNTHETIC BLEND FIBER OR FORTA FERRO MACRO FIBER TO BE ADDED TO MIX AT A DOSAGE RATE OF 5 POUNDS PER CUBIC YARD.



NOTES:
- TIE BARS SHALL BE INSTALLED AT ALL AREAS WHERE CONCRETE PAVEMENT ABUTS CURB AND GUTTER AND CONSIST OF NO. 4 EPOXY COATED REINFORCING BARS 24 INCHES IN LENGTH AND 48 INCHES ON CENTER.
- CONTROL/ CONTRACTION/ CONSTRUCTION JOINTS SHALL BE SPACED AT 12' MAXIMUM AND CONSTRUCTED IN CONFORMANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI-330R) RECOMMENDATIONS.
- EXPANSION JOINTS SHALL BE PROVIDED WHERE PAVEMENT ABUTS FIXED OBJECTS, MEETING ACI-330R STANDARDS.

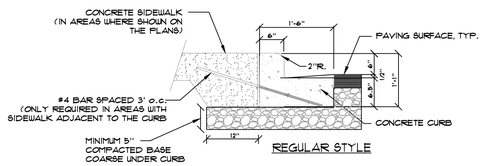
05 CONCRETE PAVEMENT DETAIL
NTS



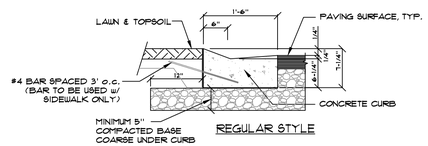
NOTE:
SIDEWALK SHALL BE 7" AT DRIVEWAY SECTIONS

NOTES:
- CONTROL JOINT SPACING SHALL BE A MAXIMUM OF 5' AND CONSTRUCTED IN CONFORMANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) RECOMMENDATIONS.
- EXPANSION JOINTS SHOULD BE PROVIDED WHERE PAVEMENT ABUTS FIXED OBJECTS.
- MATRIX BI BLEND MICRO FIBER TO BE ADDED AT A RATE OF 1.5 POUNDS PER CUBIC YARD.

06 CONCRETE SIDEWALK DETAIL
NTS

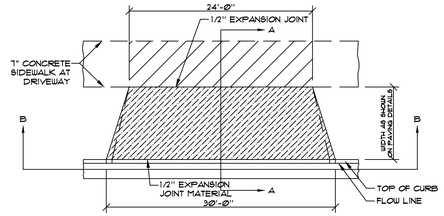


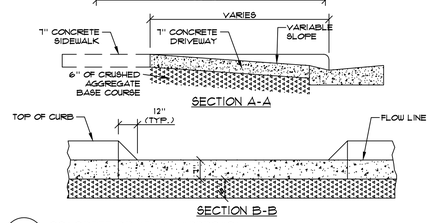
07 VERTICAL FACE CURB - 18" WIDE
NTS



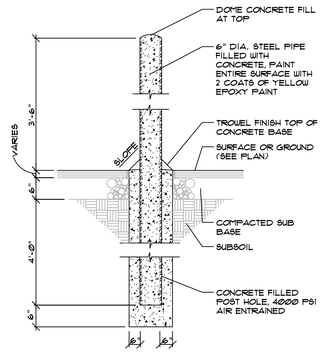
NOTE:
- REVERSE STYLE CURB LOCATIONS ARE NOTED ON THE PLANS.

08 18" DEPRESSED CURB
NTS





09 CONCRETE DRIVEWAY APPROACH
NTS



10 BOLLARD
NTS

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HEC Project Number: 20-0110.00

Project:
Zeilhofer Properties, LLC
New Storage Building

Location:
N4W22540 Bluemound Road
Pewaukee, Wi 53186

Key Plan: North

Sheet:
CONSTRUCTION DETAILS

Scale:

Revisions:

No.	Date:	Description:

Date:
December 11, 2023

Project No.:
200110.00

Sheet No.:
C5.00

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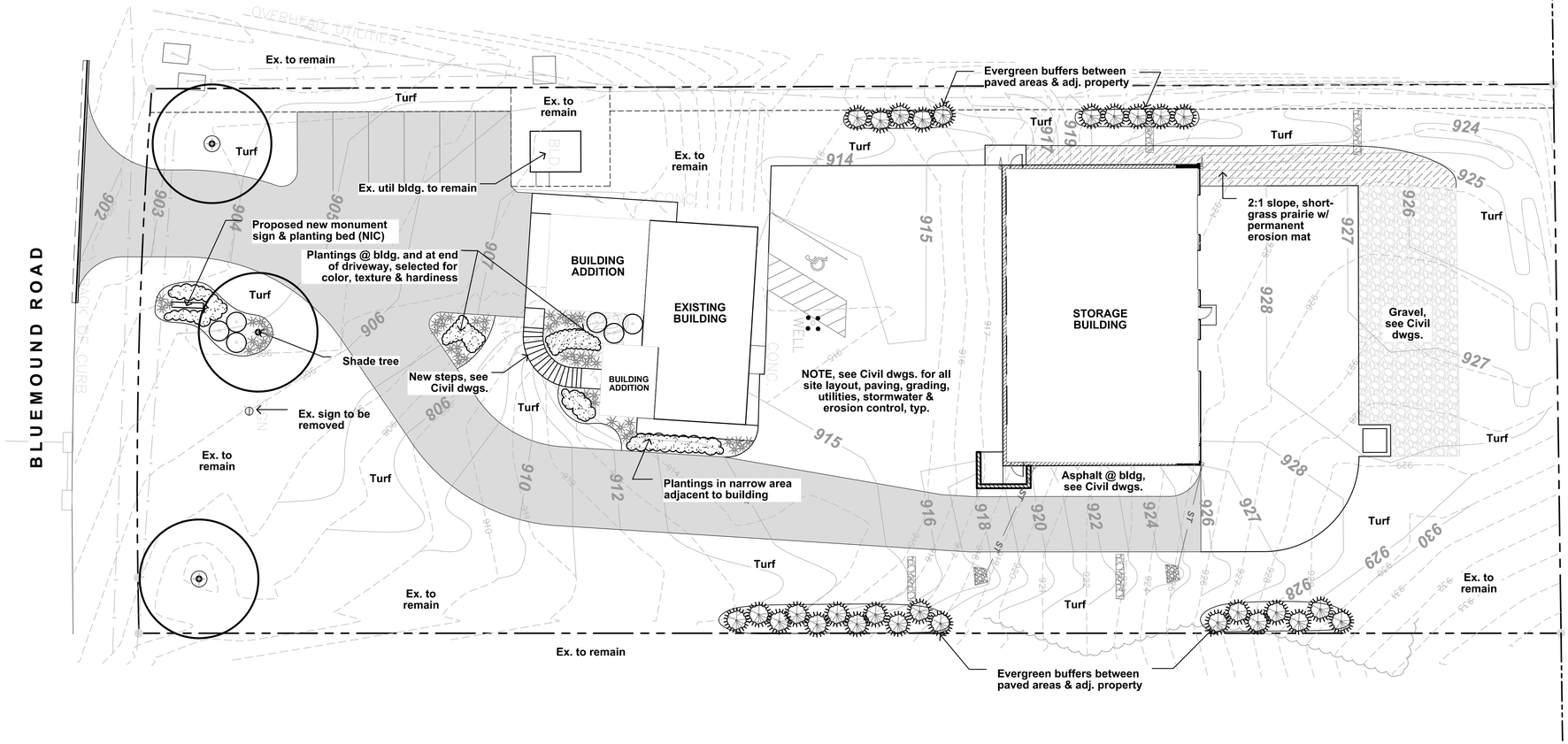

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255 N 21st Street, Milwaukee, WI 53233 | 414-475-5554

HEC Project Number: 20-0110.00

Project:

Zeilhofer Properties, LLC
New Storage Building

Location:
N4W22540 Bluemound Road
Pewaukee, WI 53186

Key Plan: North

Sheet:
Schematic Landscape Plan

Scale:
1/16"=1'-0" @ 36x24"

Revisions:

No.	Date:	Description:

Date:
December 11, 2023

Project No.:
200110.00

Sheet No.:
L1.00

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General Notes

1.00 Harwood Engineering's design scope is through Plan Commission submittal only. Remainder of project work (revisions per City approval requirements, final design, materials selections, species selection, detailing, shop drawing review, et al) shall be by Owner.

1.01 All landscape installation & maintenance to conform with all applicable local codes & ordinances, including (but not limited to) select portions of City of Pewaukee Municipal Code.

1.02 See Site / Civil dwgs. for work limits, scope of construction, hardscape, dimensions, construction notes, grading, stormwater management, site utilities & erosion control. See Landscape dwgs. for landscape plans, details, schedules, notes. See Arch. drawings for all other content.

1.03 Subcontractor (if any) shall provide shop drawings and material submittals of **all** hardscape & landscape construction elements shown in plan set for Owner review prior to construction.

1.04 Subcontractor shall provide samples for Owner's approval on all colors, finishes & materials prior to construction, including (but not limited to) topsoil, gravels, mulches, seed mixes et al.

1.05 Caution: underground utilities are present on site. Subcontractor shall verify location of all above- and below-grade utilities, both public & private, prior to commencement of site construction. If unanticipated above- or below-grade conditions are encountered, notify Owner prior to proceeding. Coordinate with local public utility locating entity as needed.

1.06 Subcontractor shall verify layout prior to construction. Contact Owner if discrepancies are found.

1.07 Subcontractor shall limit construction traffic to within work limit lines. See Civil drawings for limits of disturbance. All adjacent damage shall be the responsibility of the subcontractor to restore. Turf restoration outside of work limits shall be done with seeded turf.

1.08 Existing trees to remain on site shall be protected. Erect snow fencing @ 15' R or tree driplines, whichever is farther. All construction traffic, storage, compaction, parking or other disturbance within protection zones shall be prohibited for the duration of construction, except for work specifically indicated in the site plans.

1.09 All written dimensions supersede scaled dimensions. All dimensions are taken from face of curb, wall or existing building foundations.

Landscape Notes

2.01 Rough grading & topsoil import/spreading are to be completed by others. Finish grading, seed area and ornamental planting bed preparation shall be the subcontractor's responsibility. Verify all existing site and grading conditions prior to construction.

2.02 All landscape areas disturbed within the work limits shall be fine graded and restored with vegetative cover as shown. See plans for cover types & locations, see specifications for materials & installation.

2.03 Subcontractor shall verify plant quantities shown on plan. Symbol quantities take precedence over plant keys, except if noted in the schedule. The subcontractor shall forward a material list to the Owner prior to construction identifying species, sizes, quantities & plant sources to be used on the project.

2.04 All plant materials shall conform to the schedule and shall meet quality requirements outlined in the ANLA "American Standard for Nursery Stock", ANSI Z60.1-2004. The Owner reserves the right to reject any substandard planting material. Such rejected material shall be removed from the project site immediately.

2.05 An Owner's representative shall be allowed to inspect and approve trees at the nursery prior to delivery to the site. The subcontractor shall coordinate with the Owner in a timely fashion to confirm.

2.06 All nursery tags/labels shall be left on plant materials until the project punch-list inspection is completed by the Owner. Untagged materials will be assumed to be deficient.

2.07 All planting beds shall contain screened blended topsoil mix to a min. depth of 18". All seeded and/or sodded areas shall have min. 6". Subgrade shall be tilled and/or scarified prior to placement of topsoil. Suitable existing soil may be used & mixed if previously approved. Subcontractor shall be responsible for obtaining soil tests for existing or imported topsoil. Soil testing results shall include (but are not limited to) soil pH, % organic matter, phosphorus, potassium, calcium & texture (percentages of sand, silt and/or clay.) Remove excessive clay, gravel & stones detrimental to healthy plant growth. Remove all debris greater than 1" diameter.

2.08 Subcontractor shall be responsible for ensuring that all tree pits & planting areas drain properly. Notify Owner if drainage or moisture problems are encountered while planting.

2.09 Subcontractor shall backfill all trees, shrubs & evergreens with a mix of 1/3 plant starter mix & 2/3 remaining soil. Plant Starter Mix shall be provided by Liesener Soils, Cedarburg WI, or approved equal.

2.10 All perennial and groundcover areas shall receive a 3" layer of plant starter mix and perennial starter fertilizer, rototilled into the top 6" of blended topsoil in beds.

2.11 Unless otherwise shown, all perennials & shrubs shall be planted in triangular arrangements. For plants not shown individually, refer to the spacing shown in the plant schedule.

2.12 All plantings shall receive bark mulch in the beds. Bark mulch shall be hardwood bark, shredded, with no pieces larger than 1x4". Recycled mulch and/or dyed mulch will not be accepted. Mulch shall be applied @ 2-3" depth in woody planting areas and 1-2" depth in herbaceous areas. Mulch shall not touch plant trunks or stems.

2.13 Bed edging shall be 6" deep shovel-cut edging at all locations, typ.

2.14 Subcontractor shall provide positive drainage away from all structures for a minimum of 10'.

2.15 Subcontractor shall be responsible for providing base bid comprehensive landscape establishment, maintenance and warranty care for one year after installation. Work shall include all watering, weeding, pruning, fertilizing & pest management. Prior to beginning installation, the contractor shall submit a 12-mo. calendar for review/approval including all anticipated maintenance activities.

Seeding Notes & Mixes

3.01 This work shall consist of preparing the seed beds and furnishing, sowing and mulching the required seed on the various seeded areas, as outlined in the site plans and specifications. All turf restoration shall be seeded turf unless otherwise noted.

3.02 Rough grading, drainage work, topsoiling and fine grading shall be completed before sowing the seed mixes. The areas to be seeded shall be worked with plow chisels, discs & harrows, soil finishers and/or other appropriate equipment until a reasonably even and loose seedbed is obtained. Seed beds shall be prepared immediately in advance of the seeding. If proposed seed areas are weedy, contractor to apply herbicide or other weed control measures to eliminate weeds. Conform with seed supplier's specifications if required.

3.03 Confirm that anticipated project schedule date(s) fall within the respective seed supplier's approved calendar prior to installation. Installations completed outside of acceptable seeding dates shall be the performed at the sole responsibility and expense of the subcontractor. For dormant seeding, a min. of one over-seed application in the following season will be required.

3.04 Seeds shall be PLS and will be mixed in accordance w/ mfr's specifications. Provide invoices, bag-tags or mix analysis results for approval prior to installation.

3.05 Seed mixtures shall be sown by means of equipment adapted to the purpose. Mechanical distribution of seed (i.e. Truax seed drill, Brillion seeder, cultipacker, slit-seeder, drop spreader or broadcast spreader) are the only accepted methods. No hand-broadcasting of seed.

3.06 No seeding shall occur if the wind exceeds 12 MPH.

3.07 Coordinate erosion control and/or mulching with Civil dwgs:

- In sloped areas steeper than 4:1, erosion matting shall be installed by others. Landscape installation shall be coordinated with the erosion control contractor. Note areas where permanent erosion matting is specified.
- In areas with slopes between 4:1 and 8:1, subcontractor shall apply clean hay or straw mulch, free of debris and seeds, on all newly seeded areas. Mulch shall be uniformly spread over the designated area at a rate of 55 bales per acre or as indicated in the respective seed supplier's specifications. Mulch material shall be chopped and blown into the seeded area.
- Lightweight E.C. matting and/or hydromulch will be accepted as a no-cost alternate if approved by Owner prior to application.

3.08 See Civil dwgs for erosion control devices. Coordinate with erosion control contractor where required to ensure that topsoil, seeding and/or mat installations are properly coordinated.

3.09 Subcontractor shall be responsible for obtaining soil tests for all seeded areas. Soil testing results shall include (but are not limited to) soil pH, % organic matter, phosphorus, potassium, calcium & texture (percentages of sand, silt and/or clay.) Contaminated soil shall be removed from the project site if discovered. If necessary, supply soil amendments required for specified seed mixes and/or coordinate alternate mixes if soils cannot be properly conditioned.

3.10 Cover crop seeding: All seeded areas shall include temporary annual cover crop seeding. Cover crop shall be Annual Rye or approved alternate species, seed rates appropriate for the season (i.e. spring, summer or fall application.)

3.11 Seed mix substitutions shall be considered only if submitted for approval 10 days before the close of bidding. All mixes shall be installed & maintained per supplier's specifications.

BLUEGRASS MIX:
"Deluxe 50 Mix" shall be supplied by Reinders, Sussex WI, 262-786-3300. Apply @ 6 lbs per 1000 GSF.

SLOPE MIX:
"Erosion Control Mix for Medium Soils" shall be supplied by Prairie Nursery, Westfield WI, 800-476-9453 ph. Apply @ 10 lbs per AC, plus cover crop.

3.12 Subcontractor shall be responsible for providing base bid comprehensive seed area establishment, maintenance and warranty care for all seeded areas:

- Bluegrass areas shall be for one season after installation. Work shall include all watering, weeding, fertilizing & mowing. Assume one mowing per week, plus overseeding of any bare spots found after 60 days.

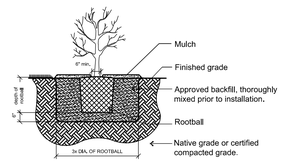
- All other seed areas shall be for three years after installation. Work shall include all watering, weeding (both spot herbicide and/or hand-pulling, depending on necessity), fertilizing, spring / fall clean-up & mowing. Expect 4-5 mowings in the first year, 3-4 mowings in the second year and 2-3 mowings in the third year. All mowings shall be timed to cut germinating weeds but not desirable forbs / grasses. Overseed each spring any bare areas larger than 1 sq. ft.

- Prior to beginning installation, the contractor shall submit a 36-month calendar for review/approval including all anticipated maintenance activities.

Preliminary Plant Schedule

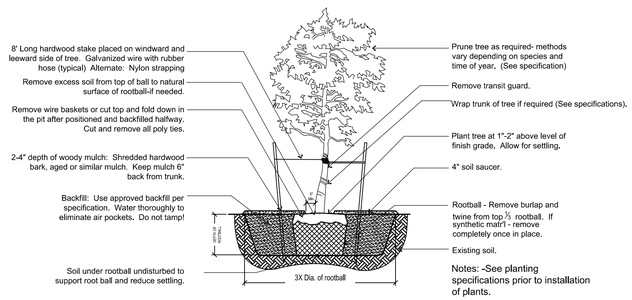
Note: Species & quantities TBD, final selections By Owner.

Symbol	Qty.	Botanical Name	Common Name	Installed Size	Root	Spacing	Notes
[Qty. 03] Shade Trees							
Ace Sie		Acer freemanii 'Sienna Glenn'	Sienna Glenn Maple	3" Cal.	B/B	As Shown	
[Qty. TBD] Ornamental Trees							
Ame Aut		Amelanchier x. 'Autumn Brilliance'	Autumn Brilliance Serviceberry	8' Ht.	B/B	As Shown	25x25' heavy 3-stem
[Qty. 00] Evergreen Trees							
Pic Gla		Pices glauca var densata	Black Hills Spruce	7' Ht.	B/B	As Shown	
[Qty. 34] Large Shrubs							
Thu Tec		Thuja occidentalis 'Technito'	Technito Dwf. Arborvitae	5' Ht.	B/B	As Shown	
Vib Red		Viburnum dentatum 'Red Feather'	Red Feather Arrowwood Viburnum	48" Ht.	B/B	As Shown	
[Qty. 200sf] Deciduous Shrubs							
Rib Gre		Ribes alpinum 'Green Mound'	Green Mound Alpine Currant	18-24" Ht.	2 Gal.	48" o.c.	
Spi Fri		Spiraea fritschiana	Fritsch Spirea	15-18" Ht.	2 Gal.	42" o.c.	
Vib Spi		Viburnum carlesii 'Spiced Bouquet'	Spiced Bouquet Comp. Kspice Viburnum	30-36" Ht.	7 Gal.	60" o.c.	
[Qty. 140sf] Evergreen Shrubs							
Jun Kal		Juniperus chinensis 'Kallay'	Kallay Compact Juniper	24" sprd.	7 Gal.	54-60" o.c.	
[Qty. 212sf] Perennials & Grasses							
Cal Ove		Calamagrostis acu. 'Overdam'	Overdam Feather Reed Grass	1 Gal.	Cont.	30-36" o.c.	
Hem Spp		50/50 mix of Hemerocallis 'Happy Returns' & 'Rosy Returns'		4.5"	Cont.	18-24" o.c.	In drifts of 3-5 per spp.
Spo Het		Sporobolus heterolepsis	Prairie Dropseed	1 Gal.	Cont.	24" o.c.	



NOTES:
-See planting specifications prior to installation of plants.

2 Shrub Planting Detail
Not To Scale



Notes: -See planting specifications prior to installation of plants.

1 Tree Planting Detail
Not To Scale

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Landscape Details, Schedules & Notes

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As Shown @ 36x24"

Revisions:

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December 11, 2023

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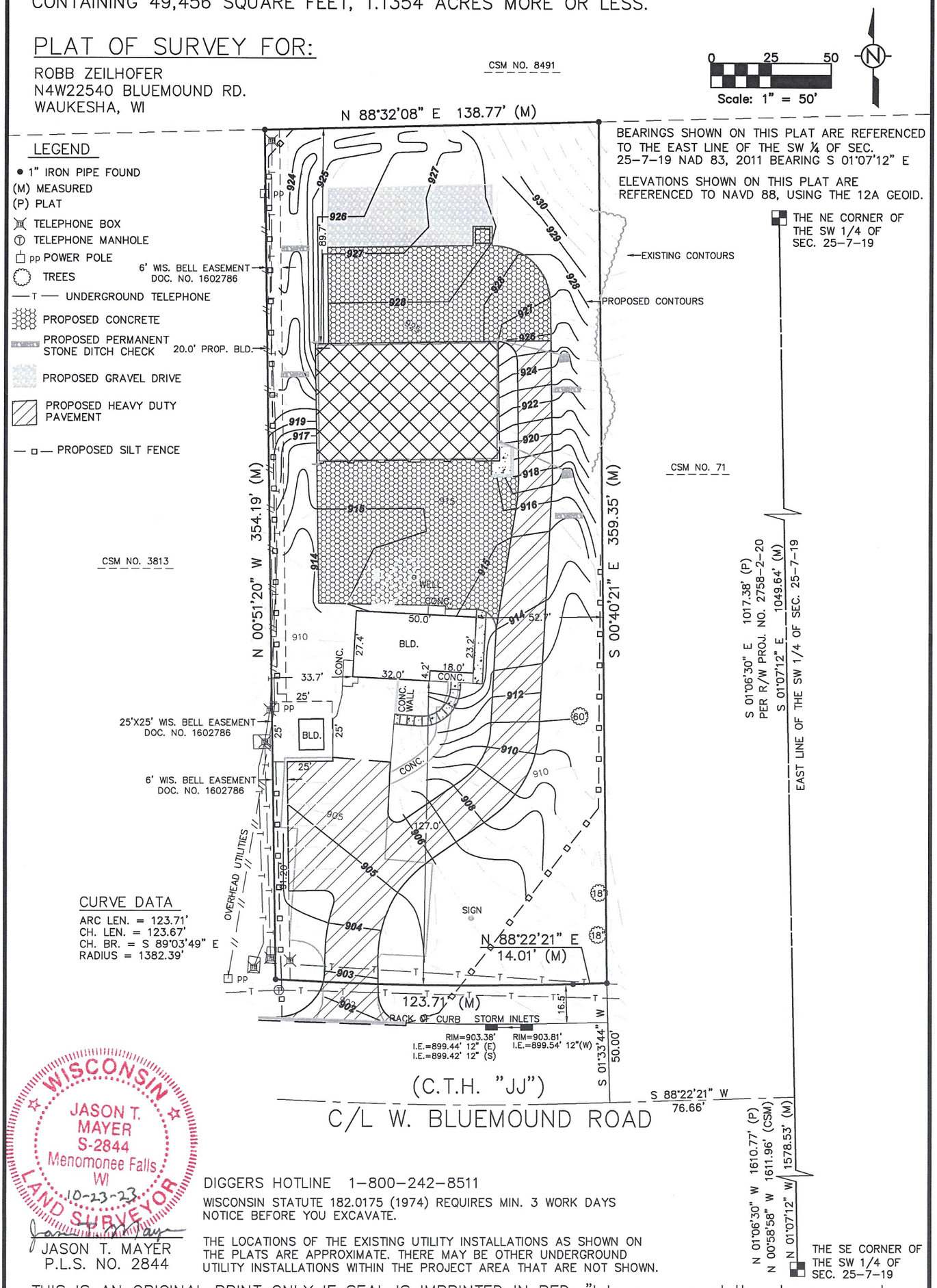
Sheet No.:
L5.00

CERTIFIED SURVEY MAP NO. 147, RECORDED MARCH 30, 1964 IN VOLUME 1 OF CERTIFIED SURVEY MAPS O PAGE 21, AS DOCUMENT NO. 607491, BEING A PART OF THE NORTHEAST ¼ OF THE SOUTHWEST ¼ OF SECTION 25, TOWNSHIP 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN, EXCEPTING THEREFROM THAT PART CONVEYED TO WAUKESHA COUNTY IN WARRANTY DEED RECORDED AS DOCUMENT NO. 1517378.

CONTAINING 49,456 SQUARE FEET, 1.1354 ACRES MORE OR LESS.

PLAT OF SURVEY FOR:

ROBB ZEILHOFER
N4W22540 BLUEMOUND RD.
WAUKESHA, WI



WISCONSIN
JASON T. MAYER
S-2844
Menomonee Falls
WI
10-23-23
LAND SURVEYOR

JASON T. MAYER
P.L.S. NO. 2844

DIGGERS HOTLINE 1-800-242-8511
WISCONSIN STATUTE 182.0175 (1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

THE LOCATIONS OF THE EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLATS ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THIS IS AN ORIGINAL PRINT ONLY IF SEAL IS IMPRINTED IN RED. "I have surveyed the above property, and the above map is a true representation thereof and shows the size and location of the property, its exterior boundaries, the location and dimensions of all structures thereon, fences, apparent easements, roadways, and visible encroachments and is in compliance with Wisconsin Administrative Code AE-7 for property survey standards and is correct to the best of my knowledge and belief.

This survey is made for the exclusive use of the present owner of the property; also those who purchase, mortgage, or guarantee the title thereto, within one year from the date hereof."

THIS INSTRUMENT WAS DRAFTED ON 10-23-2023 BY JASON T. MAYER, P.L.S. W241 N7303 S. WOODSVIEW DR. SUSSEX, WI 53089 (262)424-7552

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 10.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Certified Survey Map for Yench, LLC for Property Located on the West Side of Yench Road for the Purpose of Subdividing the Existing Property Into Three Lots and One Outlot (PWC 0885996006)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Yench LLC staff report 12.21.23

Yench LLC CSM narrative

Yench LLC CSM #1

Yench LLC staff comment responses

Yench LLC civil plans

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of December 21, 2023

Date: December 8, 2023

Project Name: Yench LLC Certified Survey Map

Project Address/Tax Key No.: Not Assigned/PWC 0885996006

Applicant: YENCH LLC

Property Owner: YENCH LLC

Current Zoning: Rs-2 Single-Family Residential District, A-2 Agricultural District, F-1 Floodplain District, and LC Lowland Conservancy District

2050 Land Use Map Designation: Low Density Residential (> 2 Ac. / D.U.) and Floodplains, Lowland & Upland Conservancy and Other Natural Areas

Use of Surrounding Properties: Single-family residential to the north and east, Highway 16 and Yench Road Wildlife Area to the south and single-family residential zoned A-2 to the west

Project Description/Analysis

The applicant filed two Certified Survey Map Applications requesting to subdivide the existing lot located along Yench Road into a total of four lots and one outlot.

The subject property is approximately 30.7-acres and contains split zoning of Rs-2 Single-Family Residential District and A-2 Agricultural District. The split zoning was a result of a previous Rezoning and Certified Survey Map (CSM) submittal. That CSM, however, did not move forward and was not recorded. Note the property also contains F-1 Floodplain District and LC Lowland Conservancy District.

The property is designated as Low Density Residential and Floodplains, Lowland & Upland Conservancy and Other Natural Areas on the City's Year 2050 Land Use/Transportation Plan.

CSM #1: 3 Lots and 1 Outlot
The first CSM that would be recorded consists of three lots and one outlot. Lot 1 has an area of 2.48-acres, Lot 2 has an area of 2.31-acres, and Lot 3 has an area of 25.21-acres. The area of Outlot 1 is about 0.69-acres.

CSM #2: 2 Lots
The second CSM provided is a redivision of Lot 3 noted above. That 25.21-acre lot is proposed to be subdivided into two separate lots. Lot 1 has an area of 2.31-acres and Lot 2 has an area of 22.90-acres.

All lots are planned for single-family residential development. The applicant would like to retain the A-2 District zoning of the larger parcel for the potential of agricultural uses in addition to a single-family residence.

All properties will be served by private utilities and *City approval of the access location for each lot is required.*

Staff also recommends that Lot 2 of the 2-Lot CSM shall have a minimum width of 220 feet at the setback line in accordance with the Rs-2 District minimum lot size requirements.

Storm Water Management

The applicant has provided a storm water management plan; however, it does not include lands that were previously subdivided as part of this development. It is staff's contention that this is a continuation of development or a common plan of development, and as such, the storm water management plan needs to consider all development that has been completed within the original 56.5-acre property.

Staff recommends resubmittal of a storm water management plan in compliance with Chapter 19 of the City's Municipal Code. Final grading and storm water management plans, including maintenance agreements, shall be reviewed and approved by the Engineering Department, prior to recording the CSM with the Waukesha County Register of Deeds.

Zoning

The current split zoning of Rs-2 and A-2 does not reflect the boundaries of the newly proposed lots. As such, *staff recommends submittal of a Rezoning Application to eliminate any split zoning that would be created by the recording of the subject certified survey maps.* Staff recommends that all lots and the outlot be zoned Rs-2 and only the boundary of Lot 2 of the 2-Lot CSM include A-2 zoning. Note the F-1 District and LC District zoning must match the field delineated boundaries of the floodplain and wetland areas onsite.

In addition, confirmation is needed that the wetland delineations are still valid. If not, the site shall be re-delineated, and the boundary revised on the certified survey maps if necessary.

Recommendation

Considering the zoning and storm water management concerns, staff is recommending a motion to table both certified survey maps to allow the applicant to submit a Rezoning Application and provide a storm water management plan in compliance with City regulations.

November 8, 2023

Re: "Yench Road Land Division"
Proposed 4 Lots and Storm water Outlot

Dear City of Pewaukee,

Yench, LLC appreciates the opportunity to bring forward for your approval a series of **two CSM's that will create a total of four (4) lots and one (1) Outlot along the west side of Yench Road, south of Lynndale Road (CTH JK)**. The property is currently zoned Rs-2 with the southern area zoned A-2; the proposed land divisions will conform to the existing zoning. The first CSM will create the two northern Rs-2 lots, an Outlot for storm water management, with the remaining south land as one large lot. The second CSM will further divide the first CSM's southern lot into an Rs-2 lot and a large A-2 lot.

You may recall that this property was before you in 2021, at which time you approved it for a four (4) lot CSM land division. Through this new application we are maintaining the same 4 lot concept, but have added an Outlot for storm water management.

This project has been designed to provide storm water management meeting City and Wisconsin DNR requirements within the extents of the two CSMs. A proposed biofiltration basin situated in the Outlot manages runoff from the proposed lots; this basin discharges through an easement to a large wetland adjacent to STH 16 to the south. The stormwater management plan demonstrates that this design meets City and DNR requirements.

The stormwater management plan for this project does not include other nearby properties or offsite areas that are downhill or not tributary to this site, as is appropriate and consistent with DNR policy. Pete Wood, a lead Water Resources Engineer at the DNR, has stated via email dated July 7, 2023, that this project is not considered a common plan of development with other homes built by others on lots adjacent to this property. Therefore, this project should not be burdened with retroactively creating storm water management facilities for downhill or offsite areas, and is not able to do so.

We herein request that the City Plan Commission and Common Council, as part of our desired approval, note that this project needs to provide stormwater management specific for the subject property.

The enclosures with this CSM application include the two (2) CSMs, site civil plans, and a storm water management plan, all designed per City of Pewaukee requirements.

We thank you for your time and consideration in this minor land division approval, and welcome any questions or discussion.

Sincerely,

Jeff Mierow
Yench, LLC

CERTIFIED SURVEY MAP NO. _____

BEING A REDIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NUMBER 11464 LOCATED IN THE NORTHWEST 1/4 AND THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

PREPARED FOR:
YENCH, LLC
3055 N. BROOKFIELD RD.
BROOKFIELD, WI 53005
PHONE: 414-254-0731

PREPARED BY:
TRIO ENGINEERING, LLC
4100 N. CALHOUN RD. SUITE 300
BROOKFIELD, WI 53005
PHONE: 262-790-1480
FAX: 262-790-1481

SETBACKS PER RS-2 ZONING
LOTS 1-2
FRONT = 45' WETLANDS = 25'
SIDE = 25' 100-YEAR FLOOD = 75'
REAR = 35' EASEMENTS = 5'

(P.O.C.)
NW. CORNER OF THE NE 1/4
SEC. 6-7-19
WIS. STATE PLANE COORD.
SYSTEM - SOUTH ZONE
FND. CONC. MON.
W/ BRASS CAP
N-407,391.66 E-2,455,521.07

LOCALITY MAP:
N.E. 1/4 SEC. 6, T. 7 N., R. 19 E.
SCALE: 1"=2000'

SCALE:1"=200'
0 100 200 400

LOT 1 CSM 11205 N88°40'11"E 492.00
LOT 1
108,057 S.F.
(2.4806 Ac.)
219.24
220.08
30' WIDE PRIVATE STORM WATER DRAINAGE EASEMENT
S88°46'01"W 491.99
60' WIDE PRIVATE STORM WATER DRAINAGE EASEMENT
LOT 2
100,526 S.F.
(2.3078 Ac.)
178.17
754.58
220.05
S88°50'05"W 183.60
N00°21'52"W 41.30
30.00
S88°50'05"W 308.38
112.60
S00°21'52"E 41.30
30'
S88°50'05"W 183.60
N00°21'52"W
244.56
261.60
OUTLOT 1
29,923 S.F.
(0.6869 Ac.)
YENCH ROAD (66' WIDE PUBLIC R.O.W.)
LOT 1 CSM 11464
LOT 2 CSM 11464
N88°40'11"E 798.61
13.12
30' WIDE PRIVATE STORM WATER DRAINAGE EASEMENT
S00°09'15"E 1199.67
P.O.B.
LOT 3
1,098,487 S.F.
(25.2178 Ac.)
N12°56'38"E 218.58
N12°56'38"E 222.08
1132.50
75' FLOODLINE SETBACK
S77°03'22"E 30.00
FLOODLINE PER CSM 11464
WETLANDS LINE PER CSM 11464
25' WETLANDS SETBACK
S00°21'52"E 1602.63
LOT 2 CSM 8949
N00°09'15"W 550.85
NORTH

LYNNDALE RD. (CTH JK)
YENCH RD.
S.T.H. 16

LEGEND:
- ■ – INDICATES Section Corner (See Plan for Details)
- ○ – INDICATES "Set" 0.750" O.D. X 18" long reinforcing bar weighing 1.502 lbs. per lineal foot.
- ● – INDICATES "Found" 1" iron pipe, unless noted otherwise.

R.O.W. POST LIES 5.00' E OF CORNER ON R.O.W. LINE
NO ACCESS PERMITTED (SEE NOTE)
S89°38'08"W 17.00
R.O.W. POST
155'
N74°12'17"W 1327.91
STATE HIGHWAY "16" (310' WIDE PUBLIC R.O.W.)
CENTERLINE S.T.H. "16"
3/4" IRF
S00°21'52"E 94.14

SW. CORNER OF THE NE 1/4
SEC. 6-7-19
WIS. STATE PLANE COORD. SYSTEM
SOUTH ZONE
FND. CONC. MON. W/ BRASS CAP
N-404,578.47 E-2,455,528.64

NOTES:
- ALL BEARINGS ARE REFERENCED TO GRID NORTH OF THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD-27), IN WHICH THE WEST LINE OF THE N.E. 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, BEARS S00°09'15"E.
- ALL TELEPHONE LINES, ELECTRIC LINES, CABLE TELEVISION LINES, TELECOMMUNICATION LINES AND OTHER SIMILAR UTILITY SERVICES SHALL BE PLACED UNDERGROUND UNLESS THE APPLICANT OR UTILITY CAN DEMONSTRATE THAT UNDERGROUNDING IS NOT FEASIBLE.
- WETLANDS AND FLOODLINE SHOWN HEREON ARE FROM CERTIFIED SURVEY MAP NUMBER 11464.
- THERE SHALL BE NO DIRECT VEHICULAR INGRESS OR EGRESS TO STATE HIGHWAY "16" FROM LOT 3. IT BEING EXPRESSLY INTENDED THAT THIS RESTRICTION SHALL CONSTITUTE A RESTRICTION FOR THE BENEFIT OF THE PUBLIC ACCORDING TO S.236.293 OF THE WISCONSIN STATUTES AND SHALL BE ENFORCED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION AND WAUKESHA COUNTY.
- OUTLOT 1 IS TO BE MAINTAINED BY THE LOT OWNERS OF THIS LAND DIVISION AND ANY FUTURE LAND DIVISIONS. WAUKESHA COUNTY SHALL NOT BE LIABLE FOR FEES OR SPECIAL CHARGES IN THE EVENT THEY BECOME THE OWNER OF ANY LOT WITHIN THIS LAND DIVISION.
- LOT 3 TO BE RETAINED BY DEVELOPER FOR FUTURE DIVISION.

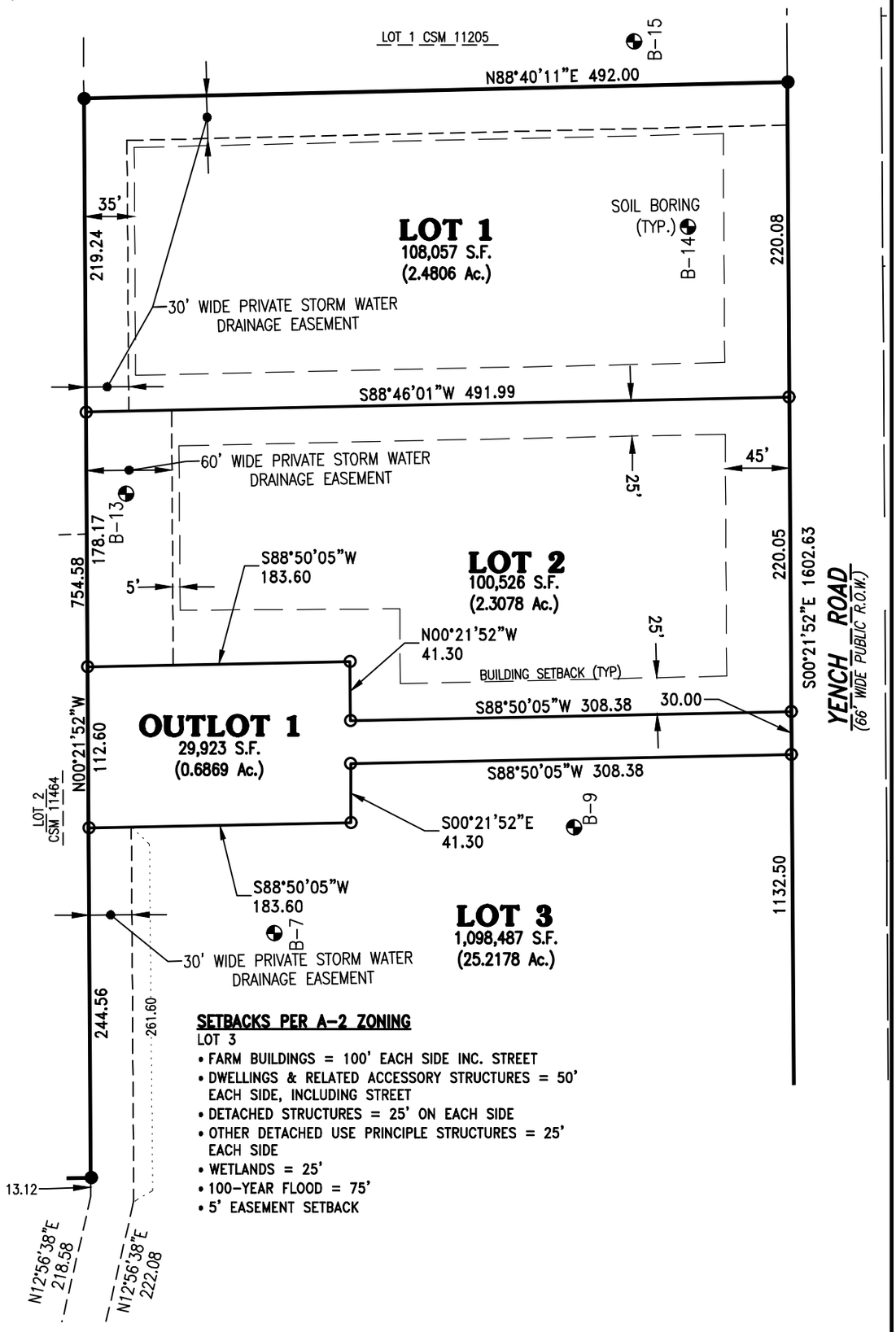
DRAFTED THIS 3RD DAY OF NOVEMBER, 2023. REVISED 11-22-23.
THIS INSTRUMENT WAS DRAFTED BY TED R. INDERMUEHLE, S-3119

SHEET 1 OF 5

H:\C400\467\16015-01-YENCH ROAD\Survey\CSM\530CSM01.dwg

CERTIFIED SURVEY MAP NO. _____

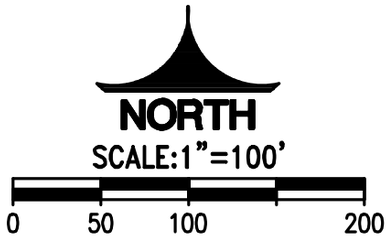
BEING A REDIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NUMBER 11464 LOCATED IN THE NORTHWEST 1/4 AND THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.



SETBACKS PER A-2 ZONING

LOT 3

- FARM BUILDINGS = 100' EACH SIDE INC. STREET
- DWELLINGS & RELATED ACCESSORY STRUCTURES = 50' EACH SIDE, INCLUDING STREET
- DETACHED STRUCTURES = 25' ON EACH SIDE
- OTHER DETACHED USE PRINCIPLE STRUCTURES = 25' EACH SIDE
- WETLANDS = 25'
- 100-YEAR FLOOD = 75'
- 5' EASEMENT SETBACK



DRAFTED THIS 3RD DAY OF NOVEMBER, 2023. REVISED 11-22-23.
THIS INSTRUMENT WAS DRAFTED BY TED R. INDERMUEHLE, S-3119

JOB NO. 16-015-467-01
SHEET 1 OF 5

H:\C400\467\16015-01-YENCH ROAD\Survey\CSM\530CSM01.dwg

CERTIFIED SURVEY MAP NO._____

BEING A REDIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NUMBER 11464 LOCATED IN THE NORTHWEST 1/4 AND THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

SURVEYOR'S CERTIFICATE:

STATE OF WISCONSIN)
)ss
COUNTY OF WAUKESHA)

I, Ted R. Indermuehle, Professional Land Surveyor, do hereby certify:

That I have surveyed, divided, and mapped a redivision of Lot 3 of Certified Survey Map Number 11464, recorded in the office of the Register of Deeds, Waukesha County on June 23rd, 2016 in Book 114 Pages 82-85 of Certified Survey Maps, inclusive as document number 4214210, located in the Northwest 1/4 and the Southwest 1/4 of the Northeast 1/4 of Section 6, Township 7 North, Range 19 East, in the City of Pewaukee, Waukesha County, Wisconsin.

The Parcel contains 1,336,993 Square Feet of land of (30.6931 Acres) of land, more or less.
.

That I have made such survey, land division and map by the direction of **Yench, LLC,** owner of said lands.

That such map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

That I have fully complied with the provisions of Chapter 236 of the Wisconsin Statutes and the Subdivision Regulations of the City of Pewaukee, in surveying, dividing and the mapping the same.

Dated this_____ day of_____, 20_____.

_____
Ted R. Indermuehle, P.L.S.
Professional Land Surveyor, S-3119
TRIO ENGINEERING, LLC
4100 N. Calhoun Rd. Suite 300
Brookfield, WI 53005
Phone: (262)790-1480 Fax: (262)790-1481

CERTIFIED SURVEY MAP NO._____

BEING A REDIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NUMBER 11464 LOCATED IN THE NORTHWEST 1/4 AND THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

CORPORATE OWNER'S CERTIFICATE OF DEDICATION:

Yench, LLC, a Limited Liability Company duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said Limited Liability Company has caused the land described on this map to be surveyed, divided, mapped and dedicated as represented on this map in accordance with the provisions of Chapter 236 of the Wisconsin Statutes and the Subdivision Regulations of the City of Pewaukee, this_____ day of _____, 20 _____.

Yench, LLC

_____
Jeff Mierow, Owner

_____
David Mierow, Owner

STATE OF WISCONSIN)
) ss
COUNTY OF)

Personally came before me this _____ day of _____, 20_____, Jeff Mierow, Member of the above named limited liability company, to me known to be the person who executed the foregoing instrument, and to me known to be such Member of said limited liability company, and acknowledged that he executed the foregoing instrument as such officer as the deed of said limited liability company, by its authority.

_____
Print Name: _____
Notary Public, _____County, WI
My commission expires: _____

WETLANDS AND FLOODPLAIN PRESERVATION RESTRICTIONS:

Those areas identified as Wetlands and Floodplain on this Plat shall be subject to the following restrictions:

1.Grading, filling and removal of topsoil or other earthen materials are prohibited except in connection with the construction of a proposed gravel path, unless specifically authorized by the Municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
2.The removal or destruction of any vegetative cover, i.e., trees, shrubs, grasses, etc., is prohibited, with the exception that dead, diseased, or dying vegetation may be removed, at the discretion of the landowner and with approval from the Municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use-Planning and Zoning Division. Silvicultural thinning upon the recommendation of a forester or naturalist and with approval from the Municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and land Use-Planning and Zoning Division shall also be permitted.
3.Grazing by domesticated animals, i.e., horses, cows, etc, is prohibited.
4.The introduction of plant material not indigenous to the existing environment is prohibited.
5.Ponds may be permitted subject to the approval of the Municipality in which they are located and, if applicable, the Waukesha County Department of Parks and Land Use, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
6.The construction of buildings is prohibited.

CERTIFIED SURVEY MAP NO._____

BEING A REDIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NUMBER 11464 LOCATED IN THE NORTHWEST 1/4 AND THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

PLAN COMMISSION APPROVAL:

APPROVED by the Planning Commission of the City of Pewaukee on this ____ day of _____, 20___.

_____
Steve Bierce, Mayor

_____
Colleen Brown, Plan Commission Secretary

COMMON COUCIL APPROVAL:

Resolved that the Certified Survey map, in the City of Pewaukee, **Yench, LLC,** owner, is hereby approved and dedication accepted by the City Board of the City of Pewaukee by Resolution No._____, on this ____ day of _____, 20___.

All conditions have been met as of this _____ day of _____, 20_____.

Date: _____ _____
Steve Bierce, Mayor

Date: _____ _____
Kelly Tarczewski, Clerk/Treasurer

Drafted this 3rd Day of November, 2023. REVISED 11-22-23. Job. No. 16-015-467-01
THIS INSTRUMENT WAS DRAFTED BY TED R. INDERMUEHLE, S-3119 SHEET 5 OF 5
L:\LOBBYS\WPDOCS\DOCUMENT\467\16015-01_YENCH ROAD\530-Certified Survey Map\Yench CSM-1.doc

November 29, 2023

Nick Fuchs,
Planner and Community
Development Director
City of Pewaukee
W240 N3065 Pewaukee Rd.
Pewaukee, WI 53072

RE: Staff Comments – Yench LLC Certified Survey Maps

Dear Mr. Fuchs:

Enclosed you will find our responses **(BOLD)** to your comments regarding Certified Survey Maps dated November 03, 2023, Civil Plans dated November 03, 2023, and Preliminary SWMP dated October 31 2023 for the proposed Lynndale Road CSM in the City of Pewaukee.

Comments and Recommendations:

Below are comments and recommendations for the proposed development application for property located at Tax Key No. PWC 0885996006.

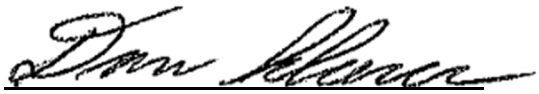
1. When were the wetlands delineated?
   - **Wetlands were delineated in 2015 by NES**
2. Note that all on-site soil absorption sanitary disposal systems must be approved by the Waukesha County Health and Human Services Department prior to installation.
   - **Noted**
3. Please revise both CSMs to list the Plan Commission secretary as Colleen Brown, not Brandon Bergman.
   - **Name has been revised.**
4. On both CSMs, please list the Plan Commission approval first and then Common Council approval.
   - **Document has been revised.**
5. Note that access for these lots will require City approval.
6. Below are comments related to the 3 Lot/1Outlot CSM:
   a) Include A-2 setback information in addition to the Rs-2 setbacks.
   - **Setback information has been included.**
   b) Please show a 5' setback from all public easements, including the drainage easement.
   - **5' setback has been included on CSMs and plans.**
   c) Please show the location of all Soil Boring and Soil Percolation Tests in accordance with Section 18.0603b.8. of the City's Land Division Ordinance.
   - **Soil borings included on CSMs.**
7. Below are comments related to the 2 lot CSM:
   a) Lot 1 requires a minimum width of 220 feet under the Rs-2 District.
      i. **Lot widths have been revised to comply with zoning ordinances.**
   b) As the A-2 District setbacks depend on an interpretation of the type of building proposed, it is recommended to remove the building setback line. The note indicating required setbacks will suffice.
      i. **Setback lines have been removed.**

CONSULTING ENGINEERING LAND SURVEYING LAND PLANNING
Trio Engineering, LLC • 4100 N. Calhoun Road Brookfield, WI 53005 • t: 262.790.1480 f: 262.790.1481 • jpudelko@trioeng.com

c) Please show a 5’ setback from all public easements, including the drainage easement.
    i. **5’ setback has been included on CSMs and plans.**
d) Please show the location of all Soil Boring and Soil Percolation Tests in accordance with Section 18.0603b.8. of the City’s Land Division Ordinance.
    i. **Soil borings included on CSMs.**

Please feel free to contact me with any questions, comments or to further discuss the updated plans.

Sincerely,



Dan Scherer, P.E.
Project Engineer
Trio Engineering
(262) 790-1480 ext.108
dscherer@trioeng.com

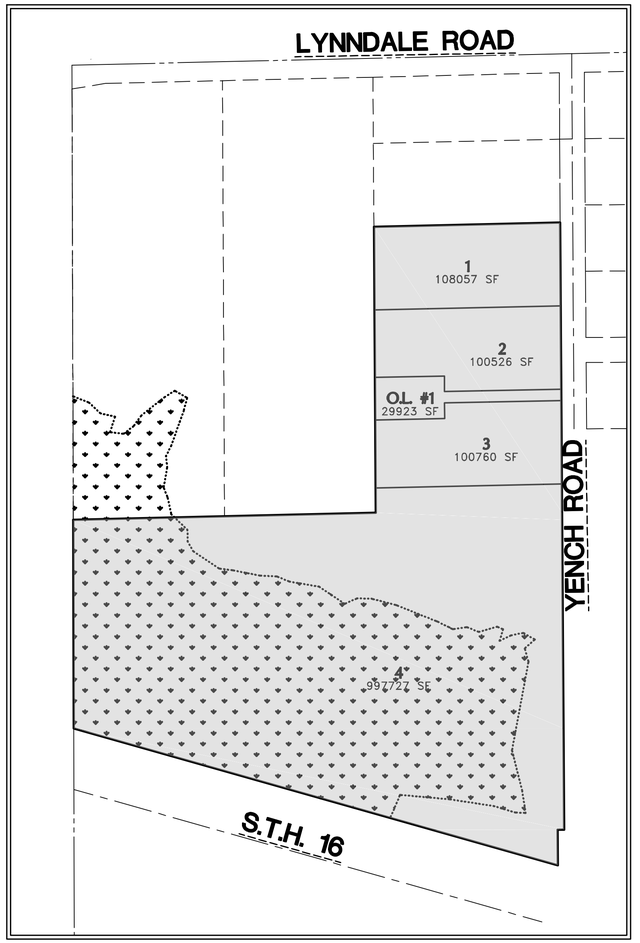
CONSULTING ENGINEERING LAND SURVEYING LAND PLANNING
Trio Engineering, LLC • 4100 N. Calhoun Road Brookfield, WI 53005 • t: 262.790.1480 f: 262.790.1481 • jpudelko@trioeng.com

LYNNDALE ROAD CSM

SINGLE-FAMILY SUBDIVISION

SITE DEVELOPMENT PLANS

CITY OF PEWAUKEE, WISCONSIN



SITE PLAN
SCALE: 1" = 200'

ENGINEER:
TRIO ENGINEERING, LLC
4100 N CALHOUN ROAD, SUITE 300
BROOKFIELD, WI 53005
CONTACT: MR. DAN SCHERER, P.E.
PHONE: 262-790-1480
FAX: 262-790-1481
EMAIL: dscherer@trioeng.com

GENERAL NOTES

1. THE LATEST EDITIONS OF THE FOLLOWING DOCUMENTS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS ON THIS PLAN UNLESS OTHERWISE NOTED.

   -STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, 6TH EDITION (SSSWCW)
   -THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
   -WDNR STORMWATER RUNOFF TECHNICAL STANDARDS.
   -WISDOT PAL APPROVED EROSION CONTROL MEASURES LIST, LATEST EDITION.
   -CITY OF PEWAUKEE TECHNICAL STANDARDS.

2. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.

3. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, AN APPROVED EROSION CONTROL PLAN WILL BE PROVIDED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY IMPLEMENTING THE APPROVED PLAN.

4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES, AND VERIFY FLOOR, CURB OR PAVEMENT ELEVATIONS WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES. NOTIFY ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH WORK.

5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION (CALL DIGGERS HOTLINE AT 800-242-8511). COST OF REPLACEMENT OR REPAIR OF EXISTING UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

6. EXISTING UTILITY INFORMATION IS SHOWN FROM SURVEY WORK, FIELD OBSERVATIONS, AVAILABLE PUBLIC RECORDS, AND AS-BUILT DRAWINGS. EXACT LOCATIONS AND ELEVATIONS OF UTILITIES SHALL BE DETERMINED PRIOR TO INSTALLING NEW WORK. EXCAVATE TEST PITS AS REQUIRED.

7. PROPERTY CORNERS SHALL BE CAREFULLY PROTECTED UNTIL THEY HAVE BEEN REFERENCED BY A PROFESSIONAL LAND SURVEYOR. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

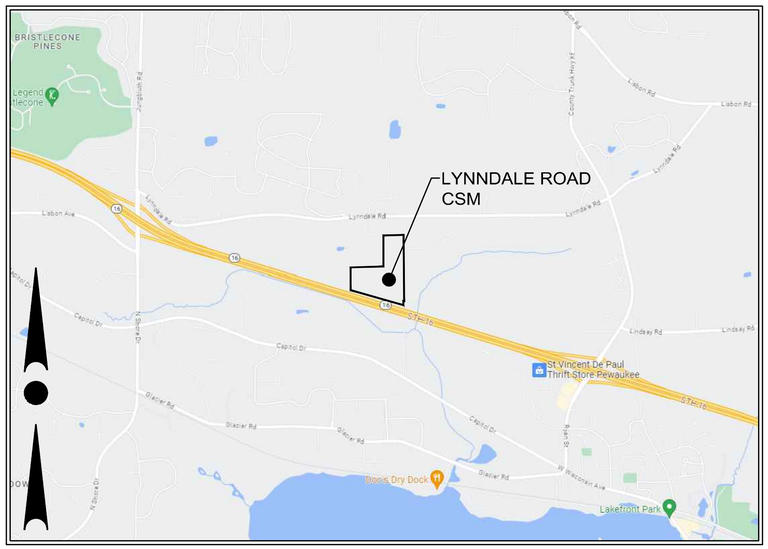
8. ENGINEER SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF PERFORMING ANY CONSTRUCTION.

9. ALL TRENCHING SHALL BE PERFORMED ACCORDING TO OSHA STANDARDS.

10. ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.

11. THE CONTRACTOR SHALL CLEAN ALL ADJACENT STREETS OF ANY SEDIMENT OR DEBRIS BY SWEEPING BEFORE THE END OF THE WORKING DAY OR AS REQUIRED BY THE CITY OF PEWAUKEE.

12. THE CONTRACTOR MUST AND IS REQUIRED TO NOTIFY THE CITY OF PEWAUKEE SEWER AND WATER UTILITY A MINIMUM OF 48 HOURS IN ADVANCE OF WATER MAIN FILLING, WATER MAIN FLUSHING, WATER MAIN TESTING AND WATER MAIN CONNECTIONS. NO CONNECTION SHALL BE MADE TO THE EXISTING WATER SYSTEM UNTIL SAFE SAMPLES FROM THE NEW MAIN HAVE BEEN OBTAINED.



LOCATION MAP
NOT TO SCALE

SHEET INDEX

CIVIL		
T1	–	COVER SHEET
C1.0	–	PROPOSED DEVELOPMENT PLAN
C1.1	–	EXISTING SITE PLAN
C2.0	–	OVERALL GRADING PLAN
C2.1	–	GRADING AND DRAINAGE PLAN
C2.2	–	POND PLANS AND DETAILS
C3.0	–	EROSION CONTROL PLAN
C4.0	–	CONSTRUCTION NOTES & DETAILS

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PROJECT:
LYNNDALE ROAD CSM
CITY OF PEWAUKEE, WISCONSIN

BY: YENCH LLC
3055 N. BROOKFIELD RD.
BROOKFIELD, WI 53045

REVISION HISTORY

DATE	DESCRIPTION
11/03/2023	PLAN COMMISSION
11/29/2023	PER REVIEW COMMENTS

DATE:
NOVEMBER 29, 2023

JOB NUMBER:
16015

DESCRIPTION:
COVER SHEET

SHEET
T1

H:\C400\467\16015-01-YENCH ROAD\CONSTRUCTION PLANS\YENCH ROAD_CIVIL PLAN SET_22X34.DWG

APPLICABLE ZONING SETBACKS

A-2 ZONING SETBACKS (LOT 4)

- FARM BUILDINGS = 100' EACH SIDE INCLUDING STREET
- DWELLINGS & RELATED ACCESSORY STRUCTURES = 50' EACH SIDE INCLUDING STREET
- DETACHED STRUCTURES = 25' ON EACH SIDE
- OTHER DETACHED USE PRINCIPLE STRUCTURES = 25' EACH SIDE
- WETLANDS = 25'
- 100 YEAR FLOODPLAIN = 75'

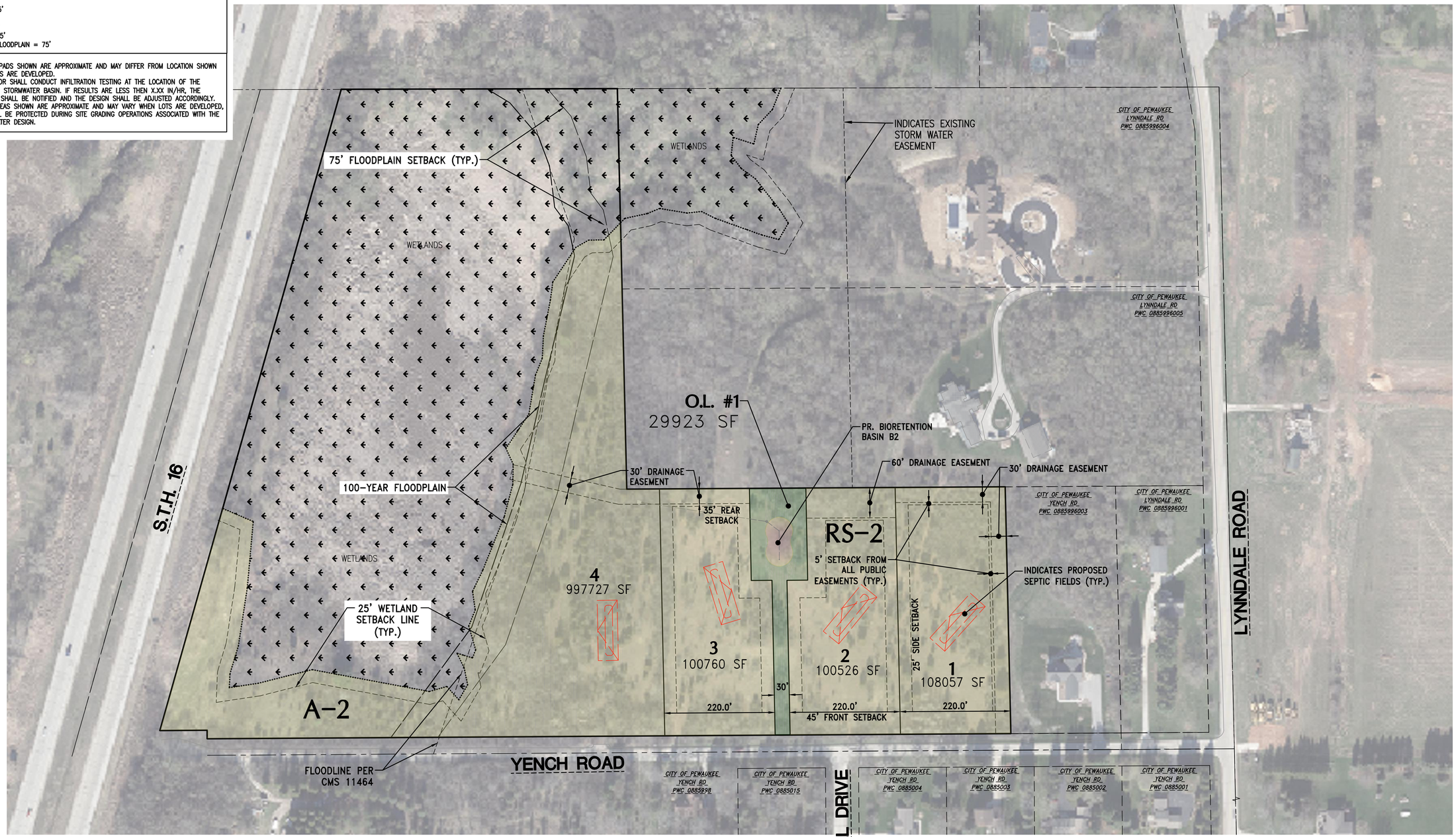
RS-2 ZONING SETBACKS (LOTS 1-3)

- FRONT = 45'
- SIDE = 25'
- REAR = 35'
- WETLANDS 25'
- 100 YEAR FLOODPLAIN = 75'

NOTES:

- BUILDING PADS SHOWN ARE APPROXIMATE AND MAY DIFFER FROM LOCATION SHOWN WHEN LOTS ARE DEVELOPED.
- CONTRACTOR SHALL CONDUCT INFILTRATION TESTING AT THE LOCATION OF THE PROPOSED STORMWATER BASIN. IF RESULTS ARE LESS THEN X.XX IN/HR, THE DESIGNER SHALL BE NOTIFIED AND THE DESIGN SHALL BE ADJUSTED ACCORDINGLY.
- SEPTIC AREAS SHOWN ARE APPROXIMATE AND MAY VARY WHEN LOTS ARE DEVELOPED, BUT SHALL BE PROTECTED DURING SITE GRADING OPERATIONS ASSOCIATED WITH THE STORM WATER DESIGN.

0 50 100 200
SCALE: 1" = 100' (22"X34")
SCALE: 1" = 200' (11"X17")



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DATE:
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JOB NUMBER:
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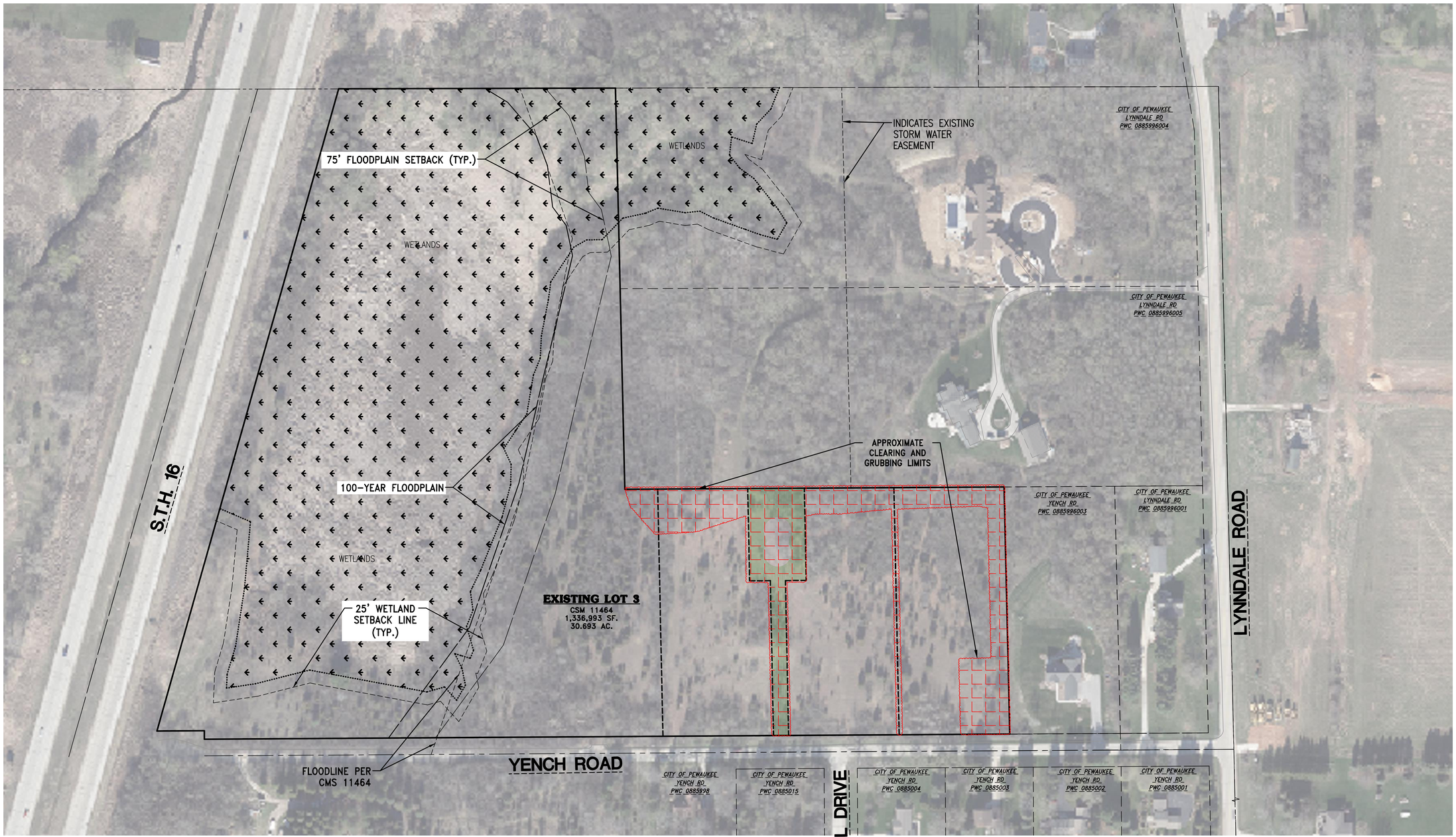
DESCRIPTION:
PROPOSED DEVELOPMENT PLAN

SHEET
C1.0

H:\C400\467\16015-01-YENCH ROAD\CONSTRUCTION PLANS\YENCH ROAD_CIVIL PLAN SET_22X34.DWG



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CITY OF PEWAUKEE, WISCONSIN

BY: YENCH LLC
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BROOKFIELD, WI 53045

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DATE	DESCRIPTION
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11/29/2023	PER REVIEW COMMENTS

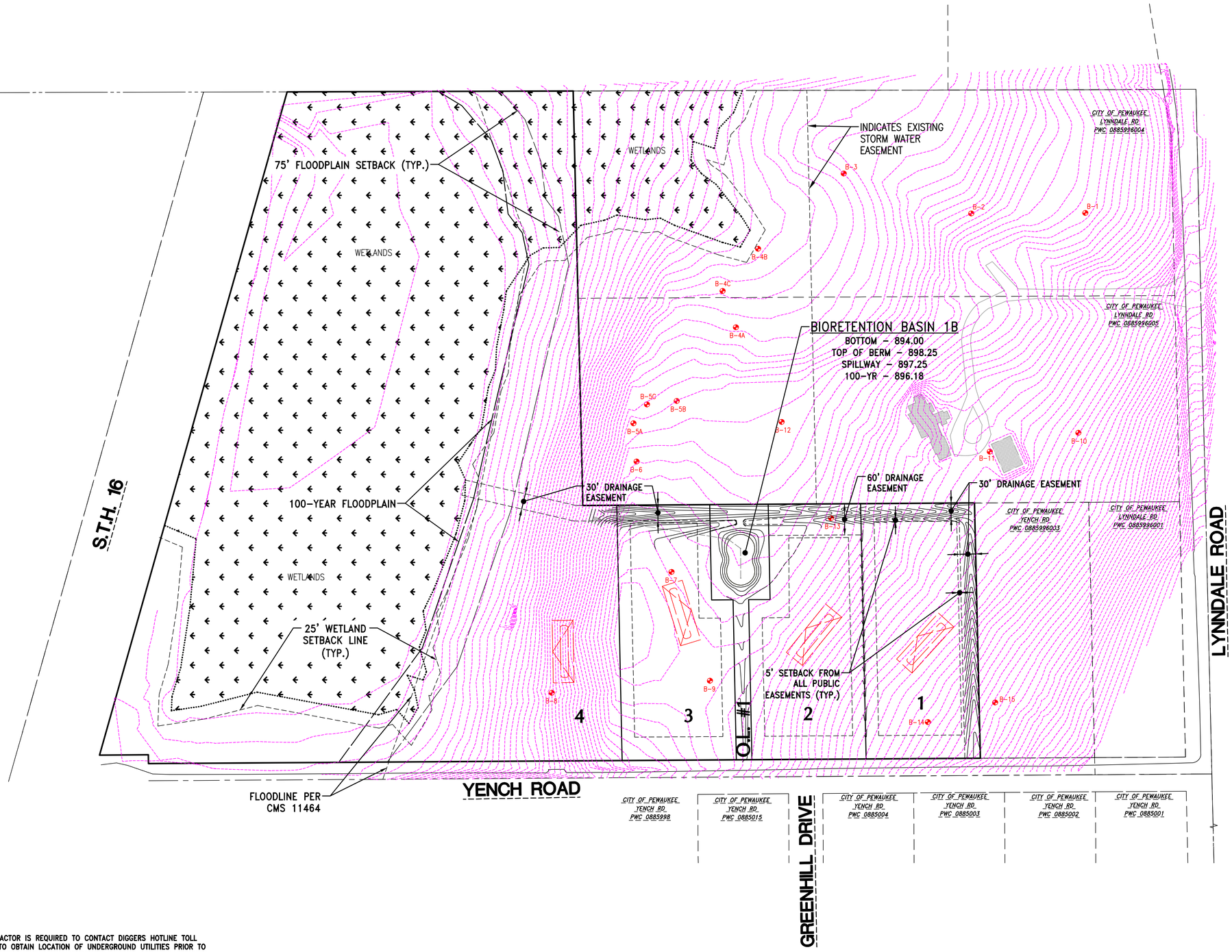
DATE: NOVEMBER 29, 2023

JOB NUMBER: 16015

DESCRIPTION: EXISTING SITE PLAN

SHEET C1.1

H:\C400\467\16015-01-YENCH ROAD\CONSTRUCTION PLANS\YENCH ROAD_CIVIL PLAN SET_22X34.DWG



CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

CALL DIGGERS HOTLINE 1-800-242-8511

NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

0 50 100 200
SCALE: 1" = 100' (22"X34")
SCALE: 1" = 200' (11"X17")

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11/29/2023	PER REVIEW COMMENTS

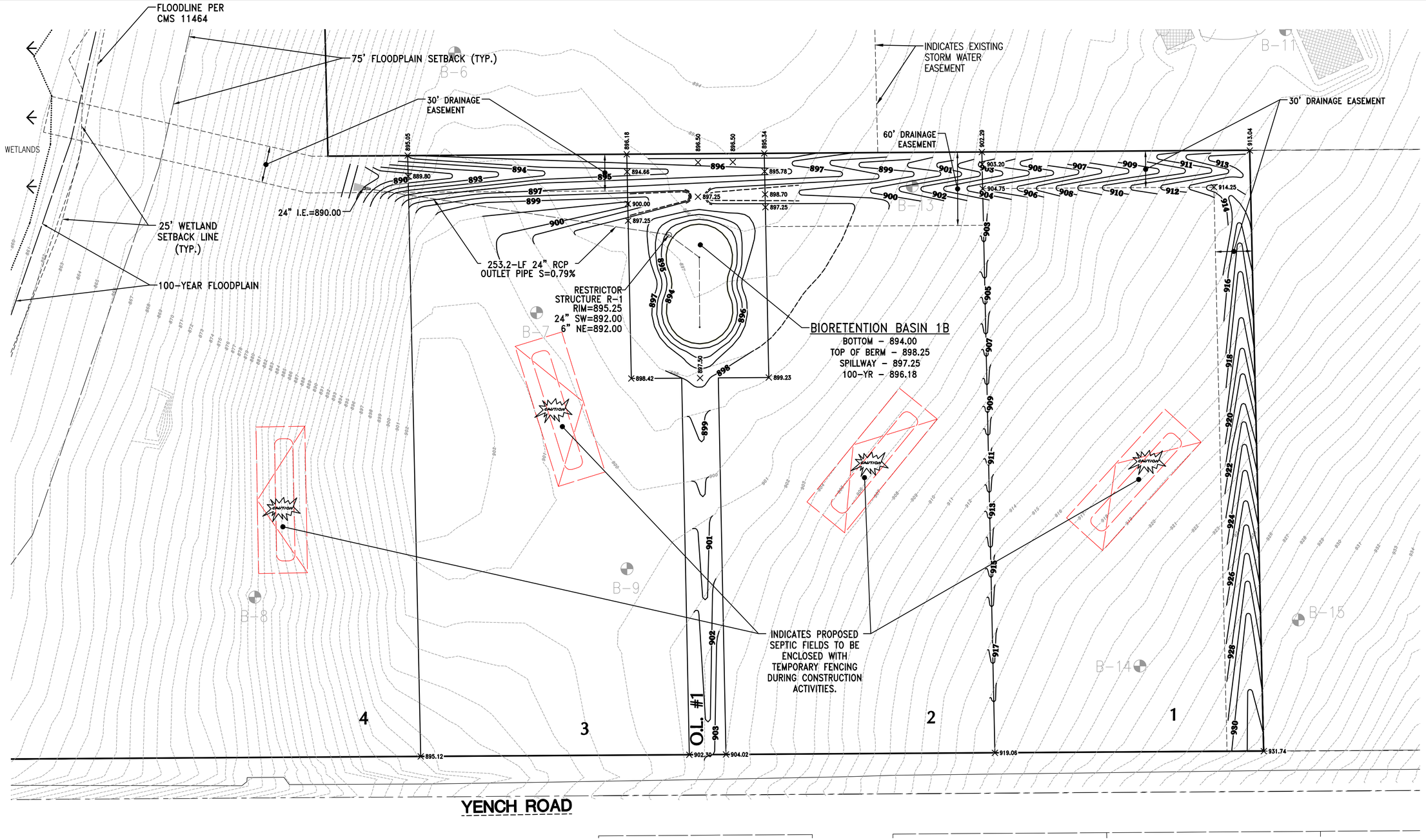
DATE:
NOVEMBER 29, 2023

JOB NUMBER:
16015

DESCRIPTION:
MASTER GRADING & DRAINAGE PLAN

SHEET
C2.0

H:\C400\467\16015-01-YENCH ROAD\CONSTRUCTION PLANS\YENCH ROAD_CIVIL PLAN SET_22X34.DWG



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SCALE: 1" = 80' (11"X17")

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DESCRIPTION:
MASTER GRADING & DRAINAGE PLAN

SHEET
C2.1

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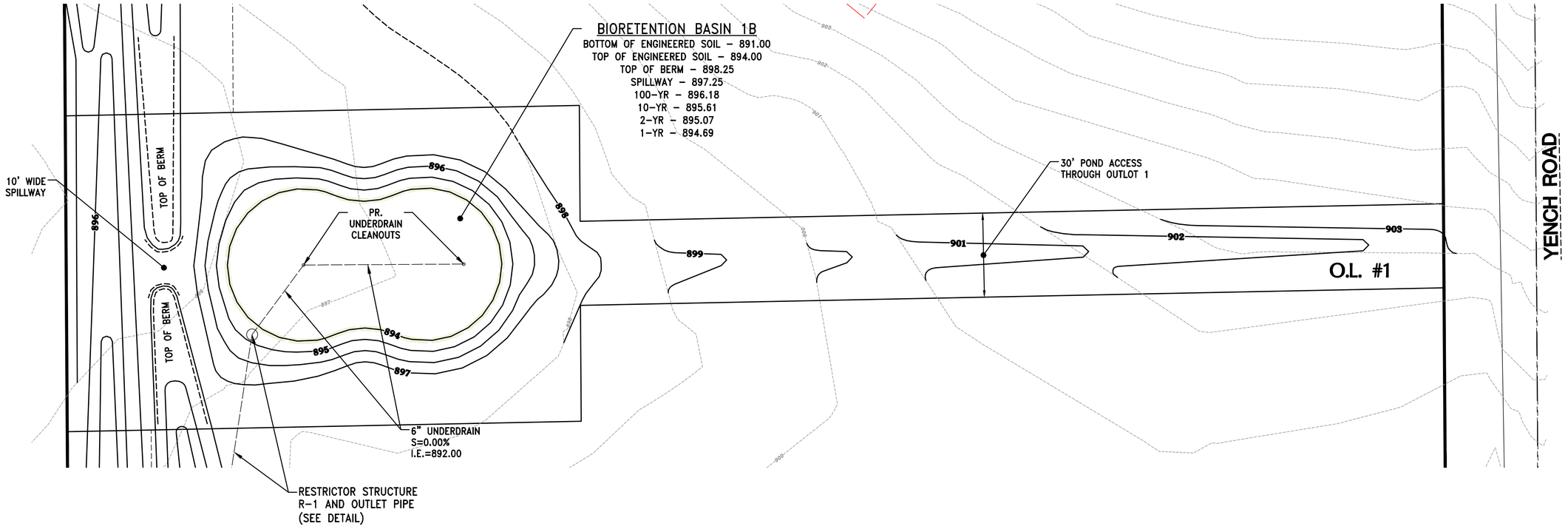
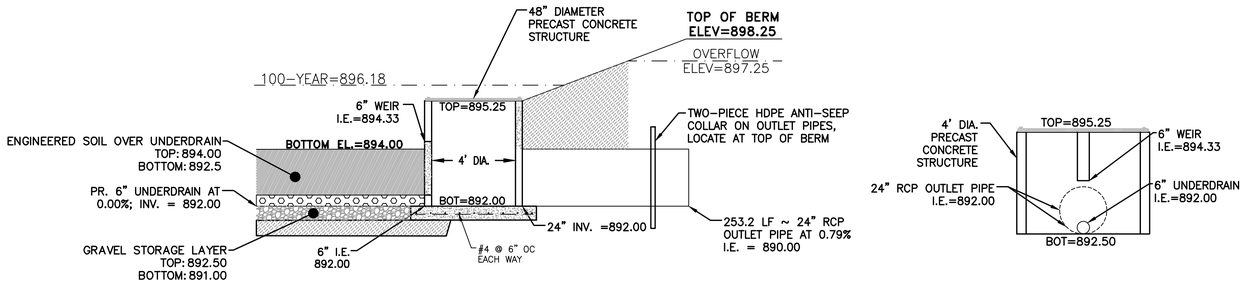
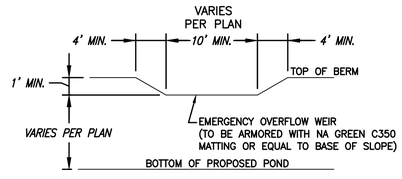




BIORETENTION BASIN 1B & RESTRICTOR STRUCTURE R-1 DETAIL

NOT TO SCALE

TWO–PIECE ANTI–SEEP COLLAR NOTES:
- ANTI–SEEP COLLAR MATERIAL SHALL MATCH OUTLET PIPE MATERIAL.
- ANTI–SEEP COLLARS SHALL BE 1/4" POLYETHYLENE SHEETS WITH COLLAR FOR PIPE; DIMENSIONS SHALL BE AS NOTED ON THE DETAIL.
- INSTALL ANTI–SEEP COLLARS PER MANUFACTURER SPECIFICATIONS.



TYPICAL EMERGENCY OVERFLOW WEIR DETAIL

NOT TO SCALE

NOTE: GRADES FOR TOP OF BERM, OVERFLOW SPILLWAY, AND BOTTOM OF POND SHALL BE PER PLAN.

0 10 20 40

SCALE: 1" = 20' (22"X34")

SCALE: 1" = 40' (11"X17")

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H:\C400\467\16015-01-YENCH ROAD\CONSTRUCTION PLANS\YENCH ROAD_CIVIL PLAN SET_22X34.DWG

WISCONSIN — DANIEL SCHERER — E-38672 — FORT ATKINSON, WI — PROFESSIONAL ENGINEER

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PROJECT: LYNNDALE ROAD CSM
CITY OF PEWAUKEE, WISCONSIN

BY: YENCH LLC
3055 N. BROOKFIELD RD.
BROOKFIELD, WI 53045

REVISION HISTORY

DATE	DESCRIPTION
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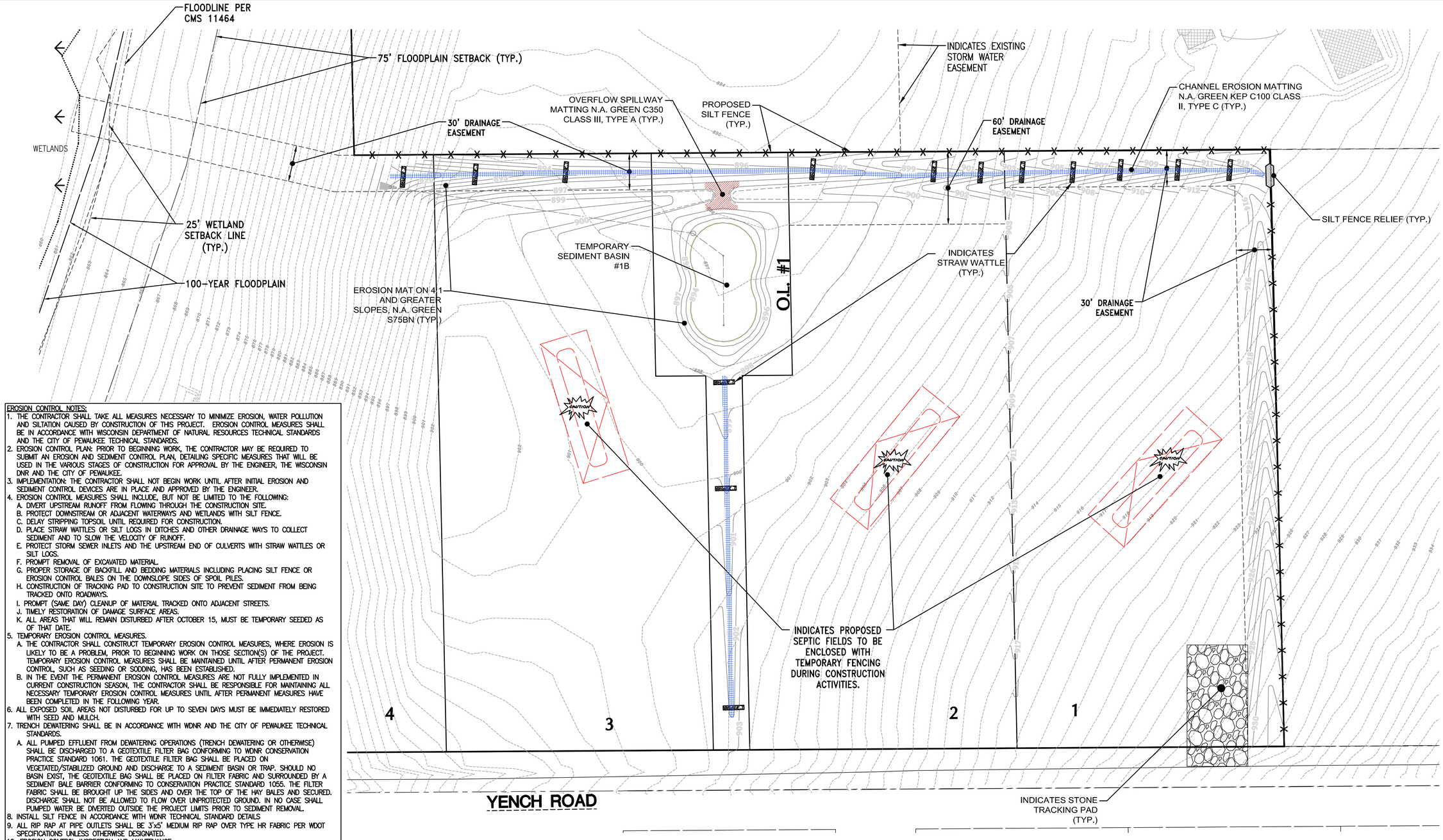
11/29/2023	PER REVIEW COMMENTS

DATE: NOVEMBER 29, 2023

JOB NUMBER: 16015

DESCRIPTION: POND DETAIL

SHEET C2.2



EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS AND THE CITY OF PEWAUKEE TECHNICAL STANDARDS.
2. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN, DETAILING SPECIFIC MEASURES THAT WILL BE USED IN THE VARIOUS STAGES OF CONSTRUCTION FOR APPROVAL BY THE ENGINEER, THE WISCONSIN DNR AND THE CITY OF PEWAUKEE.
3. IMPLEMENTATION: THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL AFTER INITIAL EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER.
4. EROSION CONTROL MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   A. DIVERT UPSTREAM RUNOFF FROM FLOWING THROUGH THE CONSTRUCTION SITE.
   B. PROTECT DOWNSTREAM OR ADJACENT WATERWAYS AND WETLANDS WITH SILT FENCE.
   C. DELAY STRIPPING TOPSOIL UNTIL REQUIRED FOR CONSTRUCTION.
   D. PLACE STRAW WATTLES OR SILT LOGS IN DITCHES AND OTHER DRAINAGE WAYS TO COLLECT SEDIMENT AND TO SLOW THE VELOCITY OF RUNOFF.
   E. PROTECT STORM SEWER INLETS AND THE UPSTREAM END OF CULVERTS WITH STRAW WATTLES OR SILT LOGS.
   F. PROMPT REMOVAL OF EXCAVATED MATERIAL.
   G. PROPER STORAGE OF BACKFILL AND BEDDING MATERIALS INCLUDING PLACING SILT FENCE OR EROSION CONTROL BALES ON THE DOWNSLOPE SIDES OF SPOIL PILES.
   H. CONSTRUCTION OF TRACKING PAD TO CONSTRUCTION SITE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ROADWAYS.
   I. PROMPT (SAME DAY) CLEANUP OF MATERIAL TRACKED ONTO ADJACENT STREETS.
   J. TIMELY RESTORATION OF DAMAGE SURFACE AREAS.
   K. ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15, MUST BE TEMPORARY SEEDED AS OF THAT DATE.
5. TEMPORARY EROSION CONTROL MEASURES.
   A. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES, WHERE EROSION IS LIKELY TO BE A PROBLEM, PRIOR TO BEGINNING WORK ON THOSE SECTION(S) OF THE PROJECT. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL AFTER PERMANENT EROSION CONTROL, SUCH AS SEEDING OR SODDING, HAS BEEN ESTABLISHED.
   B. IN THE EVENT THE PERMANENT EROSION CONTROL MEASURES ARE NOT FULLY IMPLEMENTED IN CURRENT CONSTRUCTION SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL AFTER PERMANENT MEASURES HAVE BEEN COMPLETED IN THE FOLLOWING YEAR.
6. ALL EXPOSED SOIL AREAS NOT DISTURBED FOR UP TO SEVEN DAYS MUST BE IMMEDIATELY RESTORED WITH SEED AND MULCH.
7. TRENCH DEWATERING SHALL BE IN ACCORDANCE WITH WDNR AND THE CITY OF PEWAUKEE TECHNICAL STANDARDS.
   A. ALL PUMPED EFFLUENT FROM DEWATERING OPERATIONS (TRENCH DEWATERING OR OTHERWISE) SHALL BE DISCHARGED TO A GEOTEXTILE FILTER BAG CONFORMING TO WDNR CONSERVATION PRACTICE STANDARD 1061. THE GEOTEXTILE FILTER BAG SHALL BE PLACED ON VEGETATED/STABILIZED GROUND AND DISCHARGE TO A SEDIMENT BASIN OR TRAP. SHOULD NO BASIN EXIST, THE GEOTEXTILE BAG SHALL BE PLACED ON FILTER FABRIC AND SURROUNDED BY A SEDIMENT BALE BARRIER CONFORMING TO CONSERVATION PRACTICE STANDARD 1055. THE FILTER FABRIC SHALL BE BROUGHT UP THE SIDES AND OVER THE TOP OF THE HAY BALES AND SECURED. DISCHARGE SHALL NOT BE ALLOWED TO FLOW OVER UNPROTECTED GROUND. IN NO CASE SHALL PUMPED WATER BE DIVERTED OUTSIDE THE PROJECT LIMITS PRIOR TO SEDIMENT REMOVAL.
8. INSTALL SILT FENCE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD DETAILS
9. ALL RIP RAP AT PIPE OUTLETS SHALL BE 3'x5' MEDIUM RIP RAP OVER TYPE HR FABRIC PER WDOT SPECIFICATIONS UNLESS OTHERWISE DESIGNATED.
10. EROSION CONTROL INSPECTION AND MAINTENANCE
    A. INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER SITE RECEIVES 0.5" OF RAIN IN A 24-HOUR PERIOD DURING CONSTRUCTION.
    B. REPAIR OR REPLACE EROSION CONTROLS THAT ARE DAMAGED OR FAILING.
11. ALL AREAS TO BE SEEDED AND MULCHED SHALL USE WDOT SEED MIXTURE NO. 20. MULCH SHALL APPLIED PER WDOT SPECIFICATIONS USING METHOD B FOR PLACEMENT.

CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

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TEMPORARY DEWATERING GEOTEXTILE BAG

1. IF DEWATERING IS REQUIRED, A GEOTEXTILE DEWATERING BAG MEETING THE SPECIFICATIONS IN THE TABLE TO THE RIGHT SHALL BE UTILIZED AS STATED ON THE EROSION CONTROL PLAN.
2. REFER TO WDNR TECHNICAL STANDARDS 1061 AND MANUFACTURERS REQUIREMENTS FOR INSTALLATION AND MAINTENANCE REQUIREMENTS.
3. CONTRACTOR MAY USE THRACE-LINQ, INC 275EX GEOTEXTILE BAG, OR FUNCTIONAL EQUIVALENT TO MEET TECHNICAL STANDARD REQUIREMENTS.
4. CONTRACTOR MAY INSTALL HAY BALES AROUND DEWATERING BAG FOR STABILIZATION AS DICTATED BY SITE CONDITIONS.
5. MAX FLOW RATE SHALL NOT EXCEED 100GPM

Property	Test Method	Type I Value
Maximum Apparent Opening Sizes	ASTM D-4751	0.212 mm
Grab Tensile Strength	ASTM D-4632	200 lbs.
Mullen Burst	ASTM D-3786	350 psi
Permeability	ASTM D-4491	0.28 cm/sec
Fabric	Nominal Representative Weight	8 oz

WISCONSIN DEPARTMENT OF NATURAL RESOURCES, CONSERVATION PRACTICE STANDARD:
1052 – NON-CHANNEL EROSION MAT
1053 – CHANNEL EROSION MAT
1055 – SEDIMENT BALE BARRIER (NON-CHANNEL)
1056 – SILT FENCE
1062 – DITCH CHECK
1057 – STONE TRACKING PAD AND TIRE WASHING
1058 – MULCHING FOR CONSTRUCTION SITES
1059 – TEMPORARY SEEDING
1061 – DE-WATERING
1064 – SEDIMENT BASIN

0 20 40 80
SCALE: 1" = 40' (22"X34")
SCALE: 1" = 80' (11"X17")

WISCONSIN PROFESSIONAL ENGINEER
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FORT ATKINSON, WI

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DATE:
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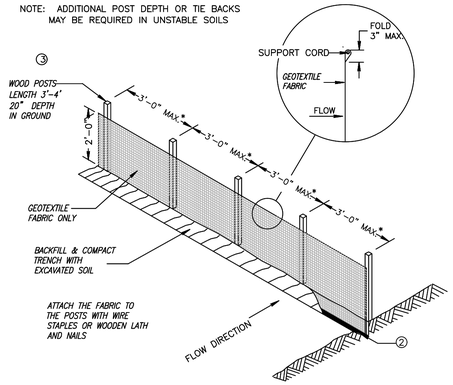
JOB NUMBER:
16015

DESCRIPTION:
EROSION CONTROL PLAN

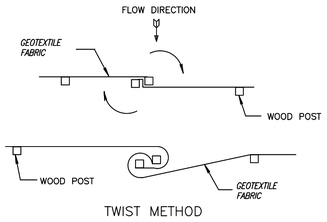
SHEET
C3.0

H:\C400\467\16015-01-YENCH ROAD\CONSTRUCTION PLANS\YENCH ROAD_CIVIL PLAN SET_22X34.DWG

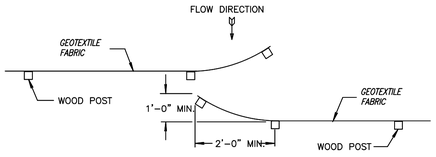


* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

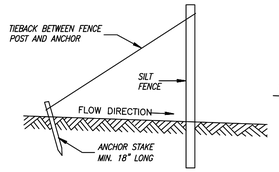


TWIST METHOD

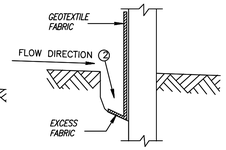


HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



TRENCH DETAIL

GENERAL NOTES

① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② *TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.*

③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1?" X 1?" OF OAK OR HICKORY.

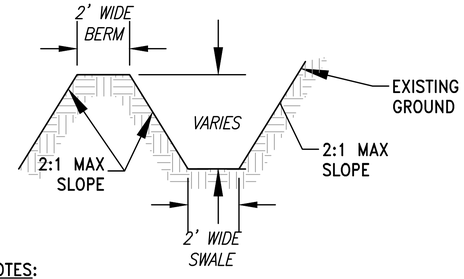
④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ *CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.*

SILT FENCE INSTALLATION DETAIL

NO SCALE

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.

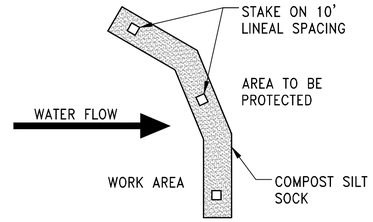


NOTES:

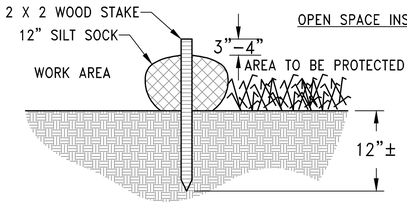
1. TEMPORARY SEED/STABILIZE BERMS AND DITCHES IMMEDIATELY AS ANY SECTION IS COMPLETED PER WisDOT STD. SPEC.
2. REFER TO WISCONSIN DNR TECHNICAL STANDARD 1066 FOR ADDITIONAL INFORMATION.

DIVERSION BERM/SWALE DETAIL

NO SCALE



OPEN SPACE INSTALLATION – PLAN VIEW



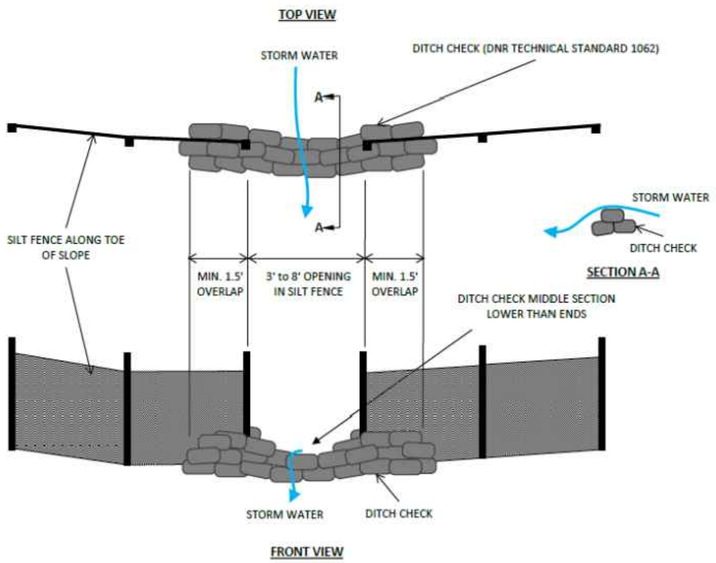
PROFILE VIEW

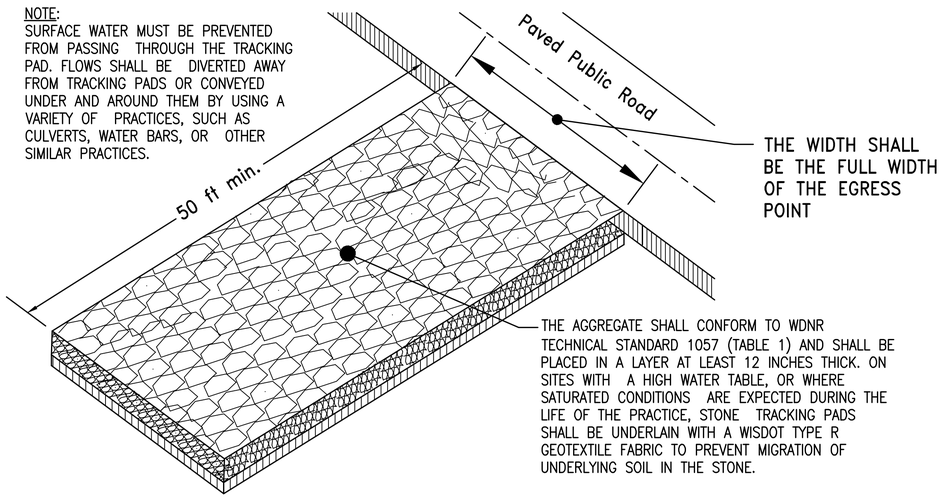
NOTES:

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS
2. REFER TO MANUFACTURERS AND/OR SUPPLIERS. SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
3. ACTUAL LOCATION MAY BE FIELD ADJUSTED TO MINIMIZE DISTURBANCE TO EXISTING VEGETATION.
4. INSTALL EVERY 200' OR 2' GRADE DROP IN SWALES.

STRAW WATTLE DITCH CHECK INSTALLATION DETAIL

NO SCALE





CONSTRUCTION ENTRANCE DETAIL

NO SCALE

WISCONSIN
DANIEL J. SCHERER
E-38874
FORT ATKINSON, WI
PROFESSIONAL ENGINEER

TRIO
DESIGN • LAND SURVEYING
CIVIL ENGINEERING
4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: jpudelko@trioeng.com

PROJECT:
LYNNDALE ROAD CSM
CITY OF PEWAUKEE, WISCONSIN

BY: YENCH LLC
3055 N. BROOKFIELD RD.
BROOKFIELD, WI 53045

REVISION HISTORY

DATE	DESCRIPTION
11/03/2023	PLAN COMMISSION
11/29/2023	PER REVIEW COMMENTS

DATE:
NOVEMBER 29, 2023

JOB NUMBER:
16015

DESCRIPTION:
CONSTRUCTION NOTES & DETAILS

SHEET
C4.0

H:\C400\467\16015-01-YENCH ROAD\CONSTRUCTION PLANS\YENCH ROAD_CIVIL PLAN SET_22X34.DWG

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 11.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Certified Survey Map for Yench, LLC for Property Located on the West Side of Yench Road for the Purpose of Further Subdividing the Property Into Two Lots (PWC 0885996006)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Yench LLC CSM #2

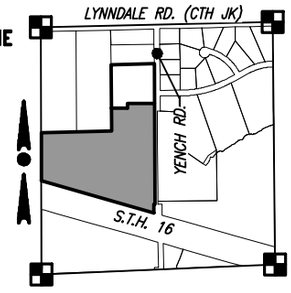
CERTIFIED SURVEY MAP NO. _____

BEING A REDIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NUMBER _____, LOCATED IN THE NORTHWEST 1/4 AND THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

(P.O.C.)
NW. CORNER OF THE NE 1/4 SEC. 6-7-19
WIS. STATE PLANE COORD. SYSTEM – SOUTH ZONE
FND. CONC. MON. W/ BRASS CAP
N-407,391.66
E-2,455,521.07

PREPARED FOR:
YENCH, LLC
3055 N. BROOKFIELD RD.
BROOKFIELD, WI 53005
PHONE: 414-254-0731

PREPARED BY:
TRIO ENGINEERING, LLC
4100 N. CALHOUN RD.
STE 300
BROOKFIELD, WI 53005
PHONE: 262-790-1480
FAX: 262-790-1481



LOCALITY MAP:
N.E. 1/4 SEC. 6, T. 7 N., R. 19 E.
SCALE: 1"=2000'

W. LINE, N.E. 1/4, SEC. 6-7-19
S00°09'15"E 2813.47'
S00°09'15"E 1199.67

LOT 1 CSM 11464
LOT 2 CSM 11464
OUTLOT 1 CSM _____

N00°21'52"W 41.30
N88°50'05"E 308.38
N88°50'05"E 183.60
5'
25'
N00°21'52"W 244.56
179.23
65.33
82.41
25'
S88°46'00"W 491.99
219.95
45'
SOIL BORING (TYP.)
BUILDING SETBACK (TYP)

LOT 1
100,760 S.F.
(2.3131 Ac.)

LOT 2
997,727 S.F.
(22.9047 Ac.)

N88°40'11"E 798.61
13.12
30' WIDE PRIVATE STORM WATER DRAINAGE EASEMENT
N12°56'38"E 218.58
N12°56'38"E 222.08
75' FLOODLINE SETBACK
FLOODLINE PER CSM 11464
S77°03'22"E 30.00
WETLANDS LINE PER CSM 11464
25' WETLANDS SETBACK
P.O.B.
N00°09'15"W 550.85
912.55
N00°21'52"W 1132.50
YENCH ROAD (66' WIDE PUBLIC R.O.W.)

SETBACKS PER A-2 ZONING
LOT 2
- FARM BUILDINGS = 100' EACH SIDE INC. STREET
- DWELLINGS & RELATED ACCESSORY STRUCTURES = 50' EACH SIDE, INCLUDING STREET
- DETACHED STRUCTURES = 25' ON EACH SIDE
- OTHER DETACHED USE PRINCIPLE STRUCTURES = 25' EACH SIDE
- WETLANDS = 25'
- 100-YEAR FLOOD = 75'
- 5' EASEMENT SETBACK

SETBACKS PER RS-2 ZONING
LOT 1
FRONT = 45'
SIDE = 25'
REAR = 35'
WETLANDS = 25'
100-YEAR FLOOD = 75'
EASEMENTS = 5'

R.O.W. POST LIES 5.00' E OF CORNER ON R.O.W. LINE
155'
NO ACCESS PERMITTED (SEE NOTE)
N74°12'17"W 1327.91
S89°38'08"W 17.00
R.O.W. POST
CENTERLINE S.T.H. "16"
3/4" IRF
S00°21'52"E 94.14

SW. CORNER OF THE NE 1/4 SEC. 6-7-19
WIS. STATE PLANE COORD. SYSTEM – SOUTH ZONE
FND. CONC. MON. W/ BRASS CAP
N-404,578.47
E-2,455,528.64

STATE HIGHWAY "16" (310' WIDE PUBLIC R.O.W.)

NORTH

SCALE:1"=200'
0 100 200 400

LEGEND:
- ■ – INDICATES Section Corner (See Plan for Details)
- ○ – INDICATES "Set" 0.750" O.D. X 18" long reinforcing bar weighing 1.502 lbs. per lineal foot.
- ● – INDICATES "Found" 1" iron pipe, unless noted otherwise.

NOTES:
- ALL BEARINGS ARE REFERENCED TO GRID NORTH OF THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD-27), IN WHICH THE WEST LINE OF THE N.E. 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, BEARS S00°09'15"E.
- ALL TELEPHONE LINES, ELECTRIC LINES, CABLE TELEVISION LINES, TELECOMMUNICATION LINES AND OTHER SIMILAR UTILITY SERVICES SHALL BE PLACED UNDERGROUND UNLESS THE APPLICANT OR UTILITY CAN DEMONSTRATE THAT UNDERGROUNDING IS NOT FEASIBLE.
- WETLANDS AND FLOODLINE SHOWN HEREON ARE FROM CERTIFIED SURVEY MAP NUMBER 11464.
- THERE SHALL BE NO DIRECT VEHICULAR INGRESS OR EGRESS TO STATE HIGHWAY "16" FROM LOT 2. IT BEING EXPRESSLY INTENDED THAT THIS RESTRICTION SHALL CONSTITUTE A RESTRICTION FOR THE BENEFIT OF THE PUBLIC ACCORDING TO S.236.293 OF THE WISCONSIN STATUTES AND SHALL BE ENFORCED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION AND WAUKESHA COUNTY.

DRAFTED THIS 3RD DAY OF NOVEMBER, 2023. REVISED 11-22-23.
THIS INSTRUMENT WAS DRAFTED BY TED R. INDERMUEHLE, S-3119

JOB NO. 16-015-467-02
SHEET 1 OF 4

H:\C400\467\16015-01-YENCH ROAD\Survey\CSM\530CSM02.dwg

CERTIFIED SURVEY MAP NO._____

BEING A REDIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NUMBER _____ LOCATED IN THE NORTHWEST 1/4 AND THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

SURVEYOR'S CERTIFICATE:

STATE OF WISCONSIN)
)ss
COUNTY OF WAUKESHA)

I, Ted R. Indermuehle, Professional Land Surveyor, do hereby certify:

That I have surveyed, divided, and mapped a redivision of Lot 3 of Certified Survey Map Number _____, recorded in the office of the Register of Deeds, Waukesha County on _____ in Book _____ Pages _____ of Certified Survey Maps, inclusive as document number _____, located in the Northwest 1/4 and the Southwest 1/4 of the Northeast 1/4 of Section 6, Township 7 North, Range 19 East, in the City of Pewaukee, Waukesha County, Wisconsin.

The Parcel contains 1,106,928 Square Feet of land of (25.4116 Acres) of land, more or less.
.

That I have made such survey, land division and map by the direction of **Yench, LLC,** owner of said lands.

That such map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

That I have fully complied with the provisions of Chapter 236 of the Wisconsin Statutes and the Subdivision Regulations of the City of Pewaukee, in surveying, dividing and the mapping the same.

Dated this_____ day of_____, 20_____.

_____
Ted R. Indermuehle, P.L.S.
Professional Land Surveyor, S-3119
TRIO ENGINEERING, LLC
4100 N. Calhoun Rd. Suite 300
Brookfield, WI 53005
Phone: (262)790-1480 Fax: (262)790-1481

CERTIFIED SURVEY MAP NO._____

BEING A REDIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NUMBER _____ LOCATED IN THE NORTHWEST 1/4 AND THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

CORPORATE OWNER'S CERTIFICATE OF DEDICATION:

Yench, LLC, a Limited Liability Company duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said Limited Liability Company has caused the land described on this map to be surveyed, divided, mapped and dedicated as represented on this map in accordance with the provisions of Chapter 236 of the Wisconsin Statutes and the Subdivision Regulations of the City of Pewaukee, this_____ day of _____, 20 _____.

Yench, LLC

_____
Jeff Mierow, Owner

_____
David Mierow, Owner

STATE OF WISCONSIN)
) ss
COUNTY OF)

Personally came before me this _____ day of _____, 20_____, Jeff Mierow, Member of the above named limited liability company, to me known to be the person who executed the foregoing instrument, and to me known to be such Member of said limited liability company, and acknowledged that he executed the foregoing instrument as such officer as the deed of said limited liability company, by its authority.

_____
Print Name: _____
Notary Public, _____County, WI
My commission expires: _____

WETLANDS AND FLOODPLAIN PRESERVATION RESTRICTIONS:

Those areas identified as Wetlands and Floodplain on this Plat shall be subject to the following restrictions:

1.Grading, filling and removal of topsoil or other earthen materials are prohibited except in connection with the construction of a proposed gravel path, unless specifically authorized by the Municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
2.The removal or destruction of any vegetative cover, i.e., trees, shrubs, grasses, etc., is prohibited, with the exception that dead, diseased, or dying vegetation may be removed, at the discretion of the landowner and with approval from the Municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and Land Use-Planning and Zoning Division. Silvicultural thinning upon the recommendation of a forester or naturalist and with approval from the Municipality in which this land is located and, if applicable, the Waukesha County Department of Parks and land Use-Planning and Zoning Division shall also be permitted.
3.Grazing by domesticated animals, i.e., horses, cows, etc, is prohibited.
4.The introduction of plant material not indigenous to the existing environment is prohibited.
5.Ponds may be permitted subject to the approval of the Municipality in which they are located and, if applicable, the Waukesha County Department of Parks and Land Use, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
6.The construction of buildings is prohibited.

CERTIFIED SURVEY MAP NO._____

BEING A REDIVISION OF LOT 3 OF CERTIFIED SURVEY MAP NUMBER _____ LOCATED IN THE NORTHWEST 1/4 AND THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 6, TOWN 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

PLAN COMMISSION APPROVAL:

APPROVED by the Planning Commission of the City of Pewaukee on this ____ day of _____, 20___.

_____
Steve Bierce, Mayor

_____
Colleen Brown, Plan Commission Secretary

COMMON COUCIL APPROVAL:

Resolved that the Certified Survey map, in the City of Pewaukee, **Yench, LLC,** owner, is hereby approved and dedication accepted by the City Board of the City of Pewaukee by Resolution No._____, on this ____ day of _____, 20___.

All conditions have been met as of this _____ day of _____, 20_____.

Date: _____ _____
Steve Bierce, Mayor

Date: _____ _____
Kelly Tarczewski, Clerk/Treasurer

Drafted this 3rd Day of November, 2023. REVIED 11-22-23. Job. No. 16-015-467-02
THIS INSTRUMENT WAS DRAFTED BY TED R. INDERMUEHLE, S-3119 SHEET 4 OF 4
L:\LOBBYS\WPDOCS\DOCUMENT\467\16015-01_YENCH ROAD\530-Certified Survey Map\Yench CSM-2.doc

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 12.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action Regarding a Conceptual Review for Land by Label Development Company for a Mixed-Use Residential Re-Development of the Willow Run Golf Course Located at N12 W26506 Golf Road (PWC 0944994 & PWC 0941988094 through 0941988103)

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Land by Label staff report 12.21.23

Land by Label narrative

Land by Label plan set

Land by Label infrastructure design approach

Office of the Planner & Community Development Director
W240 N3065 Pewaukee Road
Pewaukee, Wisconsin 53072
Phone (262) 691-0770 Fax (262) 691-1798
fuchs@pewaukee.wi.us

REPORT TO THE PLAN COMMISSION

Meeting of December 21, 2023

Date: December 21, 2023

Project Name: Land By Label Conceptual Review

Project Address/Tax Key No.: Approximately N12W26506 Golf Road/PWC 0944994 and PWC 0941988094 through 0941988103

Applicant: Land by Label Development Co.

Property Owner: VARIN-WILLOW RUN LLC

Current Zoning: P-1 Park and Open Space District, F-1 Floodplain District & Recreation District, and LC Lowland Conservancy District (PWC 0944994) and Rm-3 Multiple-Family Residential District (PWC 0941988094 through 0941988103)

2050 Land Use Map Designation: Public or Private Park and Recreation

Use of Surrounding Properties: Vacant property zoned A-2 District and multi-family to the north, Froedtert Health, Ingleside Hotel and Golf Road to the south, GE Medical Systems and Froedtert Health to the east, and multi-family to the west

Project Description/Analysis

The applicant submitted conceptual plans for Plan Commission review of a proposed single-family and multi-family residential development located upon the Pewaukee Golf Club property along Golf Road as well as unplatted lands and Outlot 2 of CSM No. 9757 to the west.

The proposed development and conceptual site plan consist of 300 dwelling units in 15 buildings within the multi-family development area, which is located roughly in the center of the site. The north end of the site includes 160 single-family lots with about a half-acre minimum lot area.

The golf club property contains a substantial floodplain area and several wetland areas. The conceptual plan does not anticipate significant disturbance of the floodplain outside of potential impacts from the access road extending from Golf Road. Note that floodplain mitigation may be allowed at a ratio of 2:1.

The site plan shows access extending from Golf Road, traveling north through the multi-family area and into the single-family subdivision, which then connects to Fieldhack Drive to the west. It is anticipated that these would be public roadways built to City standards.

The golf course property has an area of about 142-acres. The adjacent property to the west has an area of 19-acres. With 161 acres and 460 dwelling units proposed, the gross density is about 2.86 units per acre.

The single-family residential portion of the project appears to conform to the Rs-4 District, which would allow residential densities of 2.18 dwelling units per net acre or less. The Rs-4 District also requires a minimum lot size of 20,000 square feet and a lot width of not less than 110 feet at the building setback line.

The City's multiple-family residential districts also require minimum densities based on net acreage, which is the total acreage less protected natural resources (unusable land), public rights-of-way, and other public lands.

Currently there is not sufficient information to calculate the proposed net density for the residential and multi-family residential portions of the development. Again, it appears the Rs-4 District would be an option for the single-family area and it would be anticipated that the Rm-2 or Rm-3 district would be utilized to accommodate the multi-family area.

The applicant has indicated that parking for the multi-family development will consist of a mix of attached garages, detached garages, and surface parking.

Process

The proposed development will require a rezoning of the property as well as a Comprehensive Master Plan Amendment. A preliminary and final plat will be needed for the single-family residential subdivision and a Site and Building Plan Review Application would be required for the development of the multi-family area. Other applications may be needed as well.

Recommendation

No action required.

It is recommended that sufficient feedback be provided to allow the applicant to determine whether to proceed or not with detailed development plans and the required applications.

LAND By LABEL
DEVELOPMENT CO.

7044 South Ballpark Drive
Suite 305
Franklin, WI 53132

Main: 414-285-3470

November 10, 2023

Nick Fuchs
Planner & Community Development Director
City of Pewaukee
W240 N3065 Pewaukee Road
Pewaukee, WI 53072

Re: Willow Run Golf Course Mixed-use Residential Redevelopment Concept Review

Mr. Fuchs,

Land By Label is pleased to present our application and plans for Concept Review for a mixed-use residential redevelopment of Pewaukee Golf Club and adjacent vacant parcel previously planned for a future phase of the Meadowbrook Village condominiums. Our proposal converts the roughly 161-acre site into an environmentally sensitive mix of residential housing with community-oriented recreation opportunities.

The inception of the redevelopment has been the product of important concepts that align with Land By Label core business values - a detailed understanding of the land that inspires creative concepts driven by in-depth market research. Our concept is founded on the following philosophy:

The Right Site in Harmony with Surroundings. The site is a highly unique location at the edge of the City of Pewaukee. The site is bordered by Waukesha County on the east, south and southwest where adjacent commercial uses including GE Healthcare, Froedtert Lake County Surgery Center and the Ingleside Hotel operate. Where the site is bordered by City of Pewaukee, neighboring uses include high-density multi-family and agricultural uses. The site's primary access stemming from Golf Road and proposed through connection to Fieldhack alleviates traffic impact and improves circulation for existing residents.

Informed by the Land. The land, its environmental conditions and ecology also guided the development vision. Our concept contemplates roughly 60 acres of preserved floodplains on the south end of the site and converts it into a public park with over a mile of walking trails that connect to the Lake Country Trail. The only impact to the floodplain is the construction of the public road to Golf Road. The preservation of wetlands, floodplains and woodlands help us respect the surrounding uses, creating defined buffers and setbacks from the existing multifamily to the west.

A Permitted Use, Reorganized on the Site. Roughly 19 acres are already zoned for high-density multifamily, permitting up to 228 units. Our proposal relocates the permitted use over 300 feet from the existing residents to the west. The Willow Run redevelopment also includes up to 160 single-family homes located on the northern 80 acres, a logical transition to the between existing and proposed uses. The site planning has been a thoughtful, intentional study of the surrounding context and land, but we understand further refinement may be necessary to ensure a cohesive vision with the City of Pewaukee.

The Site Will Not Remain a Golf Course. The seller acquired the parcel with the long-term vision of redevelopment of the site. We believe our concept is a thoughtful, quality redevelopment informed by the land, site context and market fundamentals. However, we know our work is not done. We welcome input

LAND By LABEL
DEVELOPMENT CO.

7044 South Ballpark Drive
Suite 305
Franklin, WI 53132

Main: 414-285-3470

from community stakeholders, including elected officials, City staff and the community to ensure the end result is a viable, quality and thoughtful revival. We will engage the community through series of neighborhood meetings. We believe the best redevelopments are those informed by actionable feedback, conversations and ideas that result from partnerships with the communities in which we work. Our efforts in Pewaukee will follow that open-minded strategy.

A Proven Real Estate Solution. The comprehensive residential redevelopment is a real estate solution meeting the housing needs of demographic changes occurring nationally and locally. There is a broad, national consensus that the United States has a housing shortage which will continue to drive demand for well-executed, high-end residential communities. Our redevelopment concept delivers a variety of high-quality housing types, offering life-cycle housing to meet the wide-cross section of Pewaukee's population. Similar developments in neighboring municipalities have successfully capitalized on these demographic tailwinds, driving growth and enhancing the communities in which they were developed.

Technically Feasible. Through our due diligence efforts, we learned about several technical considerations including access, wetlands, floodplains, municipal water and sanitary sewer service and capacity. On-site investigation, preliminary discussions with City Staff and in-depth research has informed our development concept. While the issues will require refinement, we believe the concept is technically feasible.

We thank you for your time in reviewing our application and look forward to your comments. Enclosed under cover of this letter you will find the following:

(1a) Application for Concept Review
(1b) Property Description in Word Format
(2a-c) ALTA Survey prepared by Payne & Dolan and dated 10.17.2023
(3) Site Plan, Exhibits and Precedent Imagery prepared by Rinka and dated 11.10.2023
(4) Technical Memo prepared by Walbec Group and dated 11.10.2023
(5) Wetland Delineation prepared by Wetland & Waterway Consulting LLC and dated 10.9.2023

In addition to and simultaneously with the foregoing hard copies, we are providing an electronic copy of the information via dropbox.com link. If there are any questions regarding our application or materials, please do not hesitate to contact me. We look forward to advancing our efforts on this exciting redevelopment.

Sincerely,

Emily Cialdini
Vice President of Development
Land By Label

LAND By LABEL
DEVELOPMENT CO.

7044 South Ballpark Drive
Suite 305
Franklin, WI 53132

Main: 414-285-3470

The Development Team

Land By Label

Land By Label is an integrated multifamily and mixed-use real estate company. We have over 50 years of combined real estate experience, including development, finance, legal, construction oversight, asset management and disposition strategy. While our primary focus is southeastern Wisconsin, our team has significant experience developing multifamily assets across the country. Our cultivated network of brokers and consultants, including architects, engineers and property management experts, allows Land By Label to identify and execute the best development opportunities in our backyard and beyond.

Methodical risk management guides Land By Label's development process. Market and site identification is driven by empirical supply-demand factors, including detailed demographics and multifamily performance. Site conceptualization and design is a hands-on experience informed by market/site conditions and the best branding, architectural and engineering minds in the business. The site concept must accomplish two goals—satisfying the real time demand of our customers and creating a positive impact on the local community. Land By Label conducts outreach with elected officials and surrounding property owners as the best ideas are incorporated into our thinking. Our due diligence is exhaustive. We understand development risks ranging from geotechnical and environmental conditions to title and survey challenges. Our Managing Principal's legal experience combined with outside development counsel ensures all the issues are identified, considered and solved.

Willow Run Redevelopment will be led by Ian Martin, Founder and Managing Principal of Land by Label, Emily Cialdini, Vice President of Development and Brian Strandt, Vice President of Construction.

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The Design Team

RINKA +

Founded in 2006, RINKA is an award-winning design collective specializing in creative problem-solving and innovative place-making to create meaningful experiences for people. They maintain a broad-based architectural practice that connects inspiring designs with practical and functional solutions. Collaborating to ensure success, their team builds long-term relationships with progressive and visionary clients.

Spotlight Projects:

- Woodnote Residences - Hartland, WI
- Norden Range - Oconomowoc, WI
- The Emree – West Bend, WI

The Walbec Group

As a family of vertically integrated civil engineering, construction, and material supply companies, we have been helping our team members, partners, customers, and communities reach their destinations since 1930. Our value is maximized by working smart and safe as we deliver exceptional quality and seek innovative solutions. Founded on strong ethics, we treat everyone with respect and support ideas that strengthen the communities and customers we serve.

Spotlight Projects:

- Hartland Apartments, Hartland, WI
- Landings at Bain Station, Pleasant Prairie, WI
- Bain Station Crossing, Pleasant Prairie, WI
- Lawrence County, Appleton, WI
- Urban Ecology Center, Milwaukee, WI
- Cobblestone Meadows, Muskego, WI
- Sandhill Meadows, Menomonee Falls, WI
- McKinley School, Milwaukee, WI

LAND By LABEL DEVELOPMENT CO.

7044 South Ballpark Drive
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Development Considerations

Project Vision

Crafted to conserve the current ecology of the vast property, including floodplains, wetlands and forests, the Willow Run Redevelopment creates carefully designed living environments in harmony with the nature and surrounding uses. A rustic, domestic setting that deeply respects the site's history and context and allows the environmentally significant features to be conserved, enhanced and made publicly accessible.

The design is driven by three important principles: (1) Foster a neighborhood environment through scale, shared amenities and pedestrian connectivity; (2) protect and reinforce access to the natural landscape through view corridors, passive amenities and efficient planning; (3) develop vernacular that responds to materials, forms and methods from Pewaukee's rich history.

Site Context

Willow Run represents a rare location within the City of Pewaukee. The site is bordered by the City of Waukesha to the east, southeast and southwest where nearby existing businesses and commercial uses operate, including GE Healthcare, Froedtert Lake Country Surgery Center and the Ingleside Hotel. The City of Pewaukee only borders the site to the west and north. Adjacent uses within Pewaukee include high density for-sale multifamily, garden-style apartments and agricultural uses. While the predominant housing type of the City of Pewaukee, no single-family residential is directly adjacent to the site. Given the unique position and context, the site represents an ideal location for the mix of proposed residential and community-oriented park space. The "Site Adjacencies" exhibit enclosed depicts the adjacent uses.

Furthermore, the site's existing zoning already contemplates high density residential development. Roughly 19 acres is currently zoned Rm-3 Multiple-Family Residential District of 12 units per acre for a permitted density of up to 228 units. Our concept relocates the permitted use further from the adjacent existing multifamily west of the site. Moreover, our proposed density with roughly 460 housing units over 161 acres is approximately 2.8 units/acre.

The site's main access stems from Golf Road, a county highway of Waukesha County jurisdiction. With this clear front door to the site, traffic impact to Fieldhack and Milkweed will be limited. Golf Road provides superior access the site and will be the obvious access point for both the residential and single-family. A Traffic Impact Analysis will be prepared as required to evaluate any traffic impacts of our proposed development. It should also be noted that the through connection from Golf Road to Fieldhack greatly improves the connectivity of the neighborhoods to the west. It is likely that existing residents are more likely to use the through connection for eastbound movement rather than any traffic from our development moving west on Fieldhack.

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The Land First, Then Good Design

The site design responds first to the land and the ecological features found on site. Instead of imposing our development onto the site we preserved roughly 60 acres of floodplain and several additional acres of wetlands and old growth woodlands to create a community in close contact with its natural habitat. At the same time, the natural environment maintains an effective buffer to the multifamily to the west. The creation of over a mile of walking trails with ties to the Lake Country Trail and Landsberg Center Trailhead welcomes the community into the site. Communal and expansive outdoor amenities such as walking trails, restored wetlands, dog parks, and natural play areas promote active lifestyles for residents.

Incorporated within our proposal are historical design drivers and representative precedent imagery of garden style apartments and clubhouse images to provide a sense of architectural character and scale for the proposed redevelopment. Our exterior design will incorporate traditional architectural vernacular with gabled roofs and an emphasis on the “front door” private entry experience. Our site plan creates communal resident green space and view corridors of the natural environment. We understand that building architecture and landscaping will need to be refined as we advance through the zoning process. Our goal is to provide a high-level depiction to share the general character, scope and appearance of the redevelopment.

Finally, the delivery of protected natural resources and higher density housing remains a more sustainable housing delivery. Our high-end developments incorporate sustainable and eco-friendly features and we participate in the Focus on Energy program to ensure our overall building efficiency, design and selection of fixtures and appliances meets and exceeds energy standards. We are also evaluating opportunities to incorporate geothermal solutions and solar panels to deliver sustainable power to common areas and community amenities like the clubhouse. Integrating these sustainable features can promote a culture of environmental responsibility and contribute to the overall improvement of the community's environmental quality.

Program Statement

The redevelopment site measures roughly 161 acres. We proposed to redevelop the site into the following uses:

Luxury Apartments

Willow Run includes approximately 300 luxury multi-family units across 25 acres of the site. Units will range from studios to three-bedrooms and offer Class A finishes and amenities, including quartz countertops, stainless steel appliances, and hard surface plank flooring.

Units are contained in two-story buildings with all units having a private entry and roughly 40% of the units containing an attached garage. The variety of building types and unit styles allows us to appeal to a divergent demographic of renters. Supplementary detached garages are provided to meet our operational parking need of roughly one enclosed stall per unit.

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Single-Family Homes
The northern roughly 80 acres of the site is planned for up to 160 single-family homes. We have expressed interest from a number of homebuilders ranging from semi-custom to custom homes.

Resident Amenities
A roughly 6,000 square foot clubhouse is at the front door of the development, along the preserved floodplain creating a defined marker as you enter the residential setting. The clubhouse will include our leasing center and management offices along with an expansive clubroom that opens up onto ample patio space, outdoor kitchen and private pool. Adjacent outdoor uses including a pickle ball court, a putting and chipping green, gardens and open green space elaborate the natural character of ecological features. The site planning will also include resident dog parks.

Pedestrian Connectivity
With such a large redevelopment opportunity featuring a variety of uses, pedestrian connectivity within the site and the community at large is a critical component of the redevelopment's success. To that end, we will ensure that a series of pedestrian walking trails connecting not only the uses within our proposed redevelopment, but also the adjacent Lake Country Trail and the Landsberg Trailhead thoughtful and well considered. Expanding upon these walking trails are nodes for residents to explore and meander including picnic areas, open plazas for yoga sessions, natural play areas for kids. We will work directly with planning staff to ensure that the redevelopment expands upon the City's network of walking trails and sidewalks.

Natural Resource Protection
As identified previously, roughly 60 acres of floodplain, wetlands and woodlands will be preserved. Access roads are designed to circumvent these significant features to the best extent possible. Where any wetland impacts must occur, all wetland filling activities will be permitted through the Army Corp of Engineers and Wisconsin Department of Natural Resources.

A Proven Solution in Successful Peer Communities
Residential developments including those with high quality, thoughtfully designed apartments represent a proven real estate response to demographic trends that reflect on housing preferences occurring nationally and locally. The success of the product type is evident in the continued solid performance of several comparable apartment communities in western Waukesha County submarkets. Luxury apartment communities such as Woodnote Residences in Hartland and Hackney House in Oconomowoc are prime examples of thriving developments that helped satisfy demand in their respective communities. All experienced rapid leasing velocity, maintain near 100% occupancy and see strong year-over-year rent growth. Included herein are photos and key performance indicators demonstrating the success and quality of the comparable product type.

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More importantly, these developments have fostered healthy communities by delivering a housing option to both attract new residents and retain established residents. Delivering a wide variety housing options makes communities more adaptable to the changing needs and circumstances of individuals and families as they progress through different stages of their lives.

For instance, we know that millennials, burdened with student debt, have delayed major life events, including marriage and home ownership. Rising home prices and a record low inventory of affordable housing for sale have also impeded homeownership. However, most millennials still aspire to homeownership. Successful communities must offer an appealing rental option to attract these future homeowners. Moreover, apartment communities also offer maintenance-free options for Baby Boomers to downsize out of their larger homes, but remain in the community in which they are rooted, maintaining their ties to family, friends and neighbors. Finally, Gen Z is beginning to step out on their own and showing a strong propensity to rent, slated to quickly become the largest renter demographic cohort. Communities with life cycle housing options are better prepared to adapt to changing demographics and societal trends. This adaptability enhances the community's resilience and ability to thrive.

A strong, demonstrated demand for multifamily apartments is evident in the Eastern Waukesha county submarket fundamentals. Overall vacancy in the submarket currently sits at 3.6% and stabilized occupancy is projected to remain below 3% with absorption keeping pace with supply. Rent growth over the past four quarters has averaged 2.9% and is projected to remain between 2% and 4% the next four quarters. Even with the delivery of roughly 500 units to the submarket over the past two years, absorption has kept pace and exceeded the overall deliveries. The success of neighboring developments as mentioned previously further demonstrates strong demand in the Lake Country area.

Technical Considerations

The design team has taken time to evaluate the technical challenges to successfully facilitate development. Enclosed herein is a Technical Memo prepared by Walbec Group that summarizes the feasibility of the development in terms of site access, floodplains, wetlands, stormwater management and sanitary and water service.

Development Operations

Land By Label will hire a third-party property management company to oversee the development operations including leasing, maintenance, and operation of the public spaces. The residential leasing offices will be open 9 am to 6pm Monday through Friday and 9 am to 4 pm Saturday and Sunday. These hours are subject to change with input from our management team. The maintenance and leasing team will response to maintenance emergencies 24/7. The clubhouse will be open and accessible to residents 24/7 with secure, fobbed access. The pool will be open in the summer months, typically Memorial Day to Labor Day from 9am to 7pm.

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Development Schedule

We are at the very beginning of the development process and we know continued coordination will be required. It is anticipated that construction activities for the apartments will take approximately two years. A construction phasing plan will be submitted to the City for review as part of our zoning approvals.

Development Ownership, Controls and Regulations

Land By Label is the lead developer and will control, manage, and execute the design, development and construction of the apartments, public parks and infrastructure, including roadways. The single-family land will be developed by a third party, but will still be subject to multiple layers of Land By Label and City control, including design and operational guidelines.

Land By Label will record against the entire property a restrictive covenant agreement (the "Restrictive Covenant") that provides cross-access easements among all the varied uses. The Restrictive Covenant will also give Land By Label control over the architecture, site planning and landscaping on the entire redevelopment including the single-family redevelopment. The City retains final approval rights of the single-family homes. The Restrictive Covenant will also impose on-going maintenance standards and requirements to ensure the overall site is kept in good condition and repair. It is likely that Land By Label, as manager of the apartments, will be responsible for maintaining general common areas, like stormwater management, and the public park and the homeowners association will pay their share of such maintenance costs.

Land By Label and the City will encumber the entire site with a mutually agreeable development agreement which will impose an on-going maintenance obligations to ensure the development remains in good condition and repair.

The floodplain preservation is designed and programmed to be a public space that welcomes the community in for exploring and passive recreation. There are multiple options to ensure that this space remains public including recording public access easements against the property. We will continue to advance discussions with City staff to ensure we reach an agreement and approach with which the City is comfortable.

ALTA/NSPS LAND TITLE SURVEY
WILLOW RUN GOLF COURSE

ALTA/SURVEY CERTIFICATION

To: Chicago Title Insurance Company, as Title Insurance Company; Land By Label LLC, a Wisconsin Limited Liability Company, and Varin/Willow Run, LLC, a Wisconsin Limited Liability Company.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2021, and includes items 1, 2, 3, 4, 5, 6(a), 7(a)(b1)(c), 8, 9,11(b), 13, 16, 17, 18 and 19 of Table A thereof. Pursuant to Accuracy Standards as adopted by ALTA and NSPS, and in effect on the date of this certification, undersigned further certifies that in my professional opinion, as a land surveyor registered in the State of Wisconsin, the Relative Positional Accuracy of this survey does not exceed that which is specified therein.

WISCONSIN PETER J. NIELSON S-2527 BROOKFIELD, WI LAND SURVEYOR

Peter J. Nielson, Professional Land Surveyor
Registration No. S-2527
Within the State of WI
Date of field work completion: September 11th, 2023
Date of Survey: November 10th, 2023
Date Printed: November 10th, 2023

Survey Prepared by: Peter J. Nielson, PLS
This Instrument Drafted by: Peter J. Nielson, PLS
Payne & Dolan

This Survey is based on Title Commitment No. C0-14167 Revision A prepared by Chicago Title Insurance Company, with a Commitment Date of September 26th, 2023 at 8:00 A.M.

NOTES CORRESPONDING TO SCHEDULE B - II

These exceptions are based on Title Commitment No. C0-14167 Revision A, Chicago Title Insurance Company, with a Commitment Date of September 26th, 2023.

Items 1 - 9 are not survey related or not able to be shown on this map.

10. Intentionally Deleted

11. Intentionally Deleted

12. Rights of the Public in any portion of the Land lying below the ordinary high water mark of the creek, and rights of the government to regulate the use of the shore and riparian rights.

13. Utility Easement granted to Wisconsin Electric Power Company recorded May 13, 1974 as Document No. 881204 - Document is illegible. General location of easement is shown.

14. Possible charges and/or assessments by reason of an order of the Town Board of the Town of Pewaukee establishing Sanitary District No. 3 of the Town of Pewaukee, Waukesha County, Wisconsin, as disclosed by resolution recorded December 6, 1976 on Reel 213, Image 323, as Document No. 977265 - not able to be shown on this map - Not survey related.

15. Holding Tank Agreement recorded on December 21, 1982 as Document No. 1199664 - Description is illegible. General location of Agreement area shown.

16. Utility Easement to Wisconsin Electric Power Company and Wisconsin Bell, Inc. recorded March 12, 1992 as Document No. 1199664.

17. Any rights, interests, or claims which may exist or arise by reason of the following matters disclosed by survey, dated September 12, 2023, prepared by Payne & Dolan, matters shown:
a. Gap in legal description.
b. Utility lines and facilities cross the property without the benefit of recorded easements.

Legal Descriptions:

ALL THAT PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4, AND SOUTHWEST 1/4 OF SECTION 20, TOWNSHIP 7 NORTH, RANGE 19 EAST, CITY OF PEWAUKEE, COUNTY OF WAUKESHA, STATE OF WISCONSIN, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF SECTION 20; THENCE N 0°26'25" W ALONG THE EAST LINE OF SAID NORTHEAST 1/4, 1940.36 FEET; THENCE S 89°59'43" W ALONG THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF SAID NORTHEAST 1/4, 1315.11 FEET; THENCE S 0°21'14" E ALONG THE WEST LINE OF THE EAST 1/2 OF SAID NORTHEAST 1/4, 1959.90 FEET; THENCE S 89°08'41" W ALONG THE NORTH LINE OF THE SOUTHEAST 1/4 OF SECTION 20, A DISTANCE OF 1318.06 FEET; THENCE S 89°08'41" W ALONG THE NORTH LINE OF THE SOUTHWEST 1/4 OF SECTION 20, A DISTANCE OF 80.00 FEET; THENCE S 0°16'28" E, 1381.86 FEET; THENCE S 54°00'00" E ALONG THE NORTH LINE OF THE WISCONSIN ELECTRIC POWER COMPANY RIGHT OF WAY, 655.37 FEET; THENCE S 45°30'00" E ALONG SAID NORTH LINE, 397.52 FEET; THENCE S 44°00'00" E ALONG SAID NORTH, LINE 615.00 FEET; THENCE S 76°19'40" E ALONG THE NORTH LINE OF ISH '94' RIGHT-OF-WAY, 173.82 FEET; THENCE N 0°25'02" W ALONG THE EAST LINE OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 20, A DISTANCE OF 1221.45 FEET; THENCE; N 89°10'19" E ALONG THE SOUTH LINE OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SAID SOUTHEAST 1/4, 660.69 FEET; THENCE N 0°29'19" W ALONG THE EAST LINE OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SAID SOUTHEAST 1/4, 1326.90 FEET; THENCE N 88°58'00" E ALONG AN EXISTING FENCE, 659.05 FEET TO THE PLACE OF BEGINNING.

SAID AREA CONTAINS 6,203,837 SQUARE FEET OR 142.420 ACRES, MORE OR LESS.

TAX KEY NO: PWC 0944-994
ADDRESS N12 W26506 GOLF ROAD

NOTES:

Tax Key No.: PWC 0944.994

Site Address: N12 W26506 Golf Road, Pewaukee, WI 53072

Elevations are based on the NAVD '88 datum. Contours derived from LiDAR data.

The subject parcel is in Flood Zone X (areas determined to be outside the 0.2% annual chance floodplain) per FIRM Map No. 55133C01926 - Rev 10-19-23.

Parcel is Zoned P-1 (Park & Recreation) North of the Floodplain line and F-1 (Floodland) South of the Floodplain line.

P-1 Zoning requires a minimum of 40' from any building to a lot line. All structures shall be a minimum of 75' from the designated 100 year recurrence interval (base flood) floodplain of all navigable streams and bodies of water and 25' from any designated wetland.

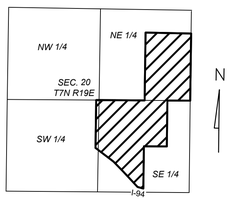
There are 141 regular parking stalls and 3 disabled stalls in the parcel.

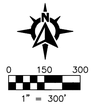
There is no evidence of recent earth moving work or building additions.

No information of proposed street right-of-way changes have been provided.

There are no known offsite easements.

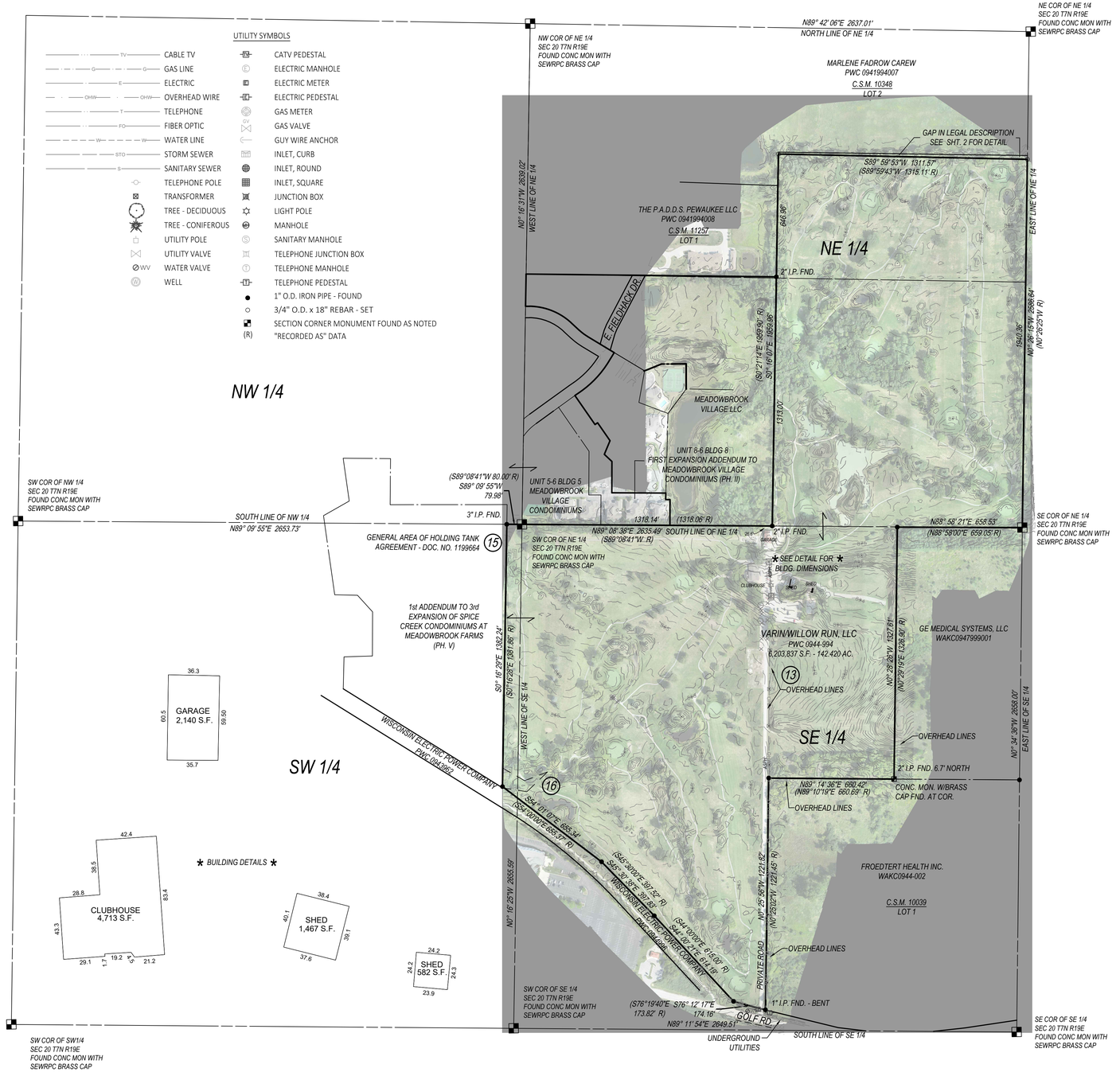
VICINITY MAP
1" = 2000'





BEARING REFERENCE: Bearings are referenced to the Wisconsin State Plane Coordinate System - South Zone (NAD '27), within which the South line of the Northeast 1/4 of Section 20, T7N, R19E, bears N 89°08'38" E.

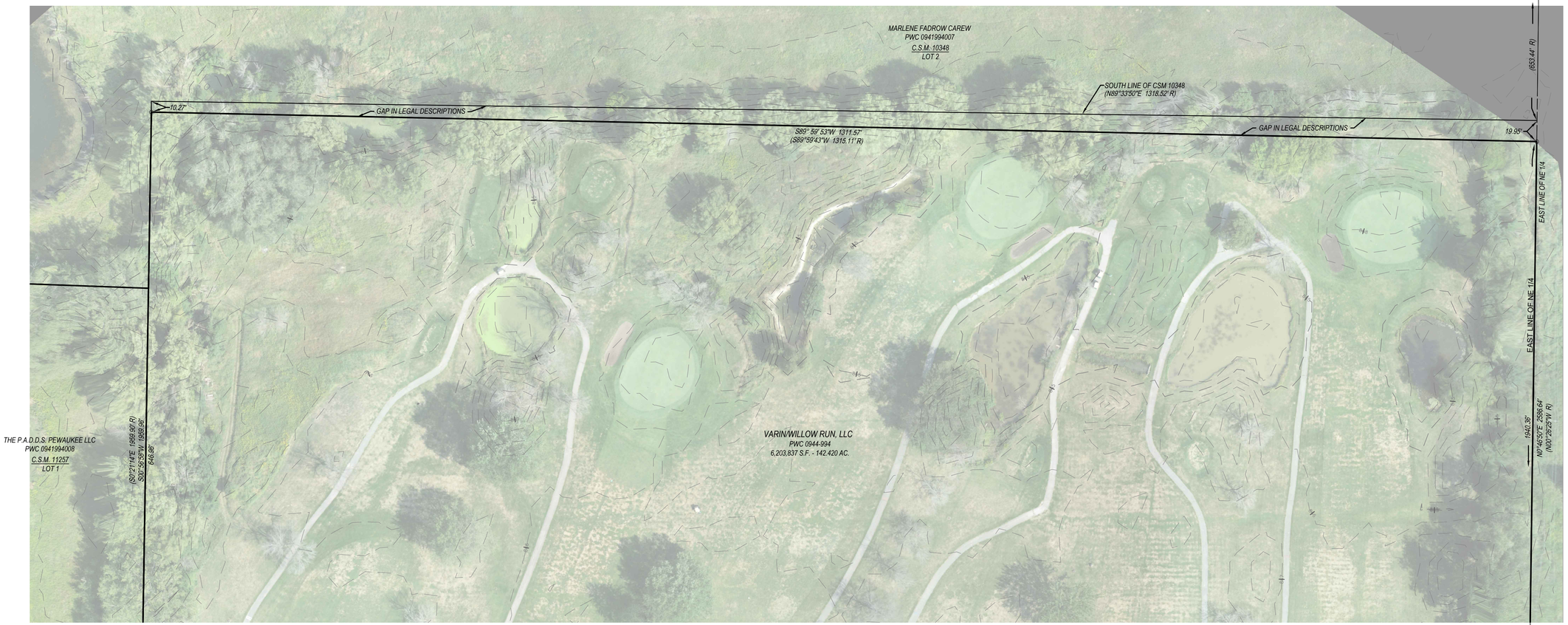
Payne+Dolan
A WALBEC COMPANY
www.walbecgroup.com
(920) 757-7559



THIS INSTRUMENT WAS DRAFTED BY PETER J. NIELSON

SHEET 1 OF 2

ALTA/NSPS LAND TITLE SURVEY
WILLOW RUN GOLF COURSE



WISCONSIN
PETER J. NIELSON
S-2527
BROOKFIELD, WI
LAND SURVEYOR

Peter J. Nielson

Payne+Dolan
A WALBEC COMPANY
www.walbecgroup.com
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N

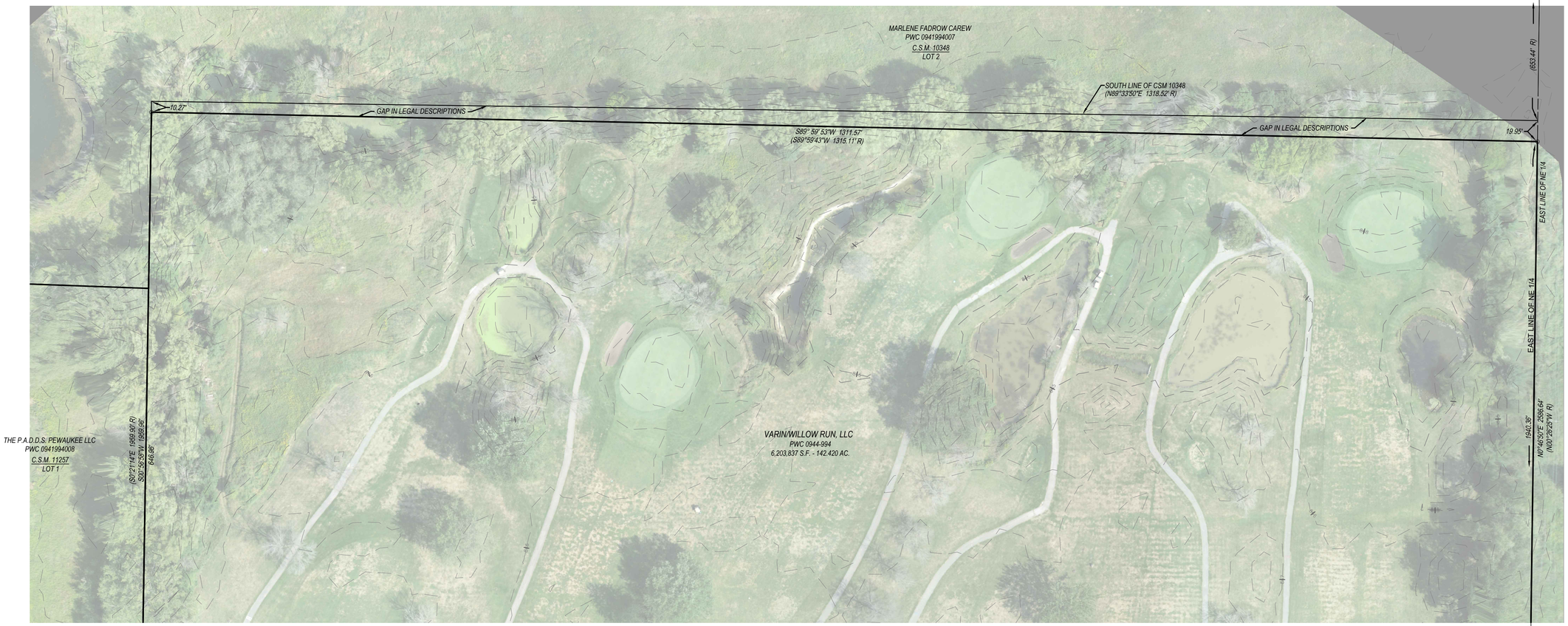
0 25 50
1" = 50'

BEARING REFERENCE: Bearings are referenced to the Wisconsin County Coordinate System, within which the South line of the Northeast 1/4 of Section 20, T7N, R19E, bears S 89°38'17" E.

THIS INSTRUMENT WAS DRAFTED BY PETER J. NIELSON

SHEET 2 OF 2

ALTA/NSPS LAND TITLE SURVEY
WILLOW RUN GOLF COURSE



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N

0 25 50
1" = 50'

BEARING REFERENCE: Bearings are referenced to the Wisconsin County Coordinate System, within which the South line of the Northeast 1/4 of Section 20, T7N, R19E, bears S 89°38'17" E.

THIS INSTRUMENT WAS DRAFTED BY PETER J. NIELSON

SHEET 2 OF 2

ALTA/NSPS LAND TITLE SURVEY
MEADOWBROOK CONDOMINIUMS

ALTA/SURVEY CERTIFICATION

To: Chicago Title Insurance Company, as Title Insurance Company; Land By Label LLC, a Wisconsin Limited Liability Company, and Meadowbrook Village LLC, a Wisconsin Limited Liability Company.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2021, and includes items 1, 2, 3, 4, 5, 6(a), 7(a)(b1), 8, 9,11(b), 13, 16, 17, 18 and 19 of Table A thereof. Pursuant to Accuracy Standards as adopted by ALTA and NSPS, and in effect on the date of this certification, undersigned further certifies that in my professional opinion, as a land surveyor registered in the State of Wisconsin, the Relative Positional Accuracy of this survey does not exceed that which is specified therein.

Peter J. Nielson, Professional Land Surveyor
Registration No. S-2527
Within the State of WI
Date of field work completion: September 11th, 2023
Date of Survey: October 17th, 2023
Date Printed: October 17th, 2023

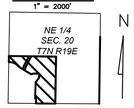
WISCONSIN · PETER J. NIELSON · S-2527 · BROOKFIELD, WI · LAND SURVEYOR

Survey Prepared by: Peter J. Nielson, PLS
This Instrument Drafted by: Peter J. Nielson, PLS
Payne & Dolan

Payne+Dolan
A WALBEC COMPANY
www.walbecgroup.com
(920) 757-7559

This Survey is based on Title Commitment No. C0-14166 Revision A, prepared by Chicago Title Insurance Company, with a Commitment Date of September 26th, 2023 at 8:00 A.M.

VICINITY MAP
1" = 2000'



0 50 100
1" = 100'

BEARING REFERENCE: Bearings are referenced to the Wisconsin County Coordinate System, within which the West line of the Northeast 1/4 of Section 20, T7N, R19E, bears N 0°56'34" E.

NOTES CORRESPONDING TO SCHEDULE B - II

These exceptions are based on Title Commitment No. C0-14166 Revision A, Chicago Title Insurance Company, with a Commitment Date of September 26th, 2023.

Items 1 - 9 are not survey related or not able to be shown on this map.

10. Intentionally Deleted

11. Rights of the Public in any portion of the Land lying below the ordinary high water mark of the creek, and rights of the government to regulate the use of the shore and riparian rights.

This policy does not insure the exact location of any portion of the Land created by gradual buildup of the shore (accretion) or the lowering of the water level (reliction), or the title to land cut off by a change in the course of the water body (avulsion), or to artificially filled land.

12. Intentionally Deleted

13. Possible charges and/or assessments by reason of an order of the Town Board of the Town of Pewaukee establishing Sanitary District No. 3 of the Town of Pewaukee, Waukesha County, Wisconsin, as disclosed by resolution recorded December 6, 1976 on Reel 213, Image 323, as Document No. 977265 - not survey related.

14. Easement(s) for the purpose(s) and rights incidental thereto, as granted in a document, granted to the Milwaukee Electric Railway and Light Company, recorded on February 6, 1929, as Document No. 163567 - Blanket Easement with undefined location.

15. Easement agreement recorded January 3, 1994 as Document No. 1921698.

16. Intentionally Deleted

17. Intentionally Deleted

18. Intentionally Deleted

19. Recitals and Wetland Boundary as shown on that CSM Map No. 9757, recorded on April 8, 2004 as Document No. 3146899.

20. Intentionally Deleted

21. Easement Agreement recorded November 1, 2004 as Document No. 3218687 - Not on Subject Parcel.

22. Covenants, conditions, restrictions and easements but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document recorded on January 20, 1997, as Document No. 3218688.

Liens and charges if any as set forth in the above mentioned declaration, for Meadowbrook Village Condominium Association, Inc.

First amendment to Declaration of Meadowbrook Village Condominiums recorded April 26, 2005 as Document No. 3270191.

First Expansion Addendum to Meadowbrook Village Condominiums (Phase II) and Second Amendment to Declaration pf Meadowbrook Village Condominiums recorded April 24, 2006 as Document No. 3380642, as affected by Affidavit of Correction recorded August 10, 2006 as Document No. 3411037.

Second Expansion Addendum to Meadowbrook Village Condominiums (Phase III) and Third Amendment to Declaration pf Meadowbrook Village Condominiums recorded September 24, 2007 as Document No. 3515164, as affected by Affidavit of Correction recorded November 21, 2007 as Document No. 3528193 - See "2nd EXPANSION" area.

Fourth Amendment to Declaration of Meadowbrook Village Condominiums (Phase IV) recorded September 30, 2014 as Document No. 4102630.

Exception 22 does not affect Subject Parcel.

23. Recitals, 100 year flood line, Stream setback and Waukesha County shoreland jurisdictional limits line as shown on that certain CSM Map No. 10993 recorded on August 9, 2012 as Document No. 3940285.

24. Intentionally Deleted

25. Storm Water Drainage Easement Agreement recorded October 9, 2018 as Document No. 4365062 - General locations shown on map.

UTILITY SYMBOLS

CABLE TV	TELEPHONE POLE	ELECTRIC METER	M	MANHOLE
GAS LINE	TRANSFORMER	ELECTRIC PEDESTAL	S	SANITARY MANHOLE
ELECTRIC	TREE - DECIDUOUS	GAS METER		TELEPHONE JUNCTION BOX
OVERHEAD WIRE	TREE - CONIFEROUS	GAS VALVE	T	TELEPHONE MANHOLE
TELEPHONE	UTILITY POLE	GUY WIRE ANCHOR		TELEPHONE PEDESTAL
FIBER OPTIC	UTILITY VALVE	INLET, CURB	●	1" O.D. IRON PIPE - FOUND
WATER LINE	WATER VALVE	INLET, ROUND	○	3/4" O.D. x 18" REBAR - SET
STORM SEWER	WELL	INLET, SQUARE		SECTION CORNER MONUMENT FOUND AS NOTED
SANITARY SEWER	CATV PEDESTAL	JUNCTION BOX	(R)	"RECORDED AS" DATA
	ELECTRIC MANHOLE	LIGHT POLE		

LEGAL DESCRIPTION:

PARCEL A:

PART OF PARCEL 2 AND A PART OF OUTLOT 2 OF CERTIFIED SURVEY MAP NO. 9757 RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS FOR WAUKESHA COUNTY, WISCONSIN ON 04-08-04 IN VOLUME 90 OF CERTIFIED SURVEY MAPS AT PAGE 139 AS DOCUMENT NO. 3146899, BEING A PART OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 20, TOWNSHIP 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE NORTHEAST 1/4 OF SAID SECTION 20, T 7 N, R 19 E; THENCE S 0°16'13" E, 1319.53 FEET TO THE PLACE OF BEGINNING; THENCE CONTINUING S 0°16'13", 169.99 FEET; THENCE N 89°43'04" E, 22.20 FEET; THENCE SOUTHEASTERLY 240.80 FEET ALONG AN ARC OF A CURVE WHOSE RADIUS OF 330.00 FEET LIES TO THE SOUTHWEST, SAID ARC HAS A CHORD WHICH BEARS S 69°22'41" E, 235.49 FEET; THENCE S 48°28'26" E, 56.43 FEET; THENCE SOUTHEASTERLY 54.92 FEET ALONG AN ARC OF A CURVE WHOSE RADIUS OF 270.00 FEET LIES TO THE NORTHEAST, SAID ARC HAS A CHORD WHICH BEARS S 54°18'03" E, 54.82 FEET; THENCE S 60°07'41" E, 164.28 FEET; THENCE S 30°03'55" W, 54.80 FEET; THENCE SOUTHWESTERLY, 222.38 FEET ALONG AN ARC OF A CURVE WHOSE RADIUS OF 530.00 FEET LIES TO THE NORTHWEST, SAID ARC HAS A CHORD WHICH BEARS S 42°05'07" W, 220.75 FEET; THENCE S 54°06'19" W, 32.82 FEET; THENCE S 35°53'39" E, 185.84 FEET; THENCE N 54°06'19" E, 16.48 FEET; THENCE S 35°53'41" E, 115.00 FEET; THENCE S 21°23'15" W 78.17 FEET; THENCE S 48°31'13" E, 55.00 FEET; THENCE S 0°53'46" E, 165.00 FEET; THENCE N 89°06'14" E, 284.80 FEET; THENCE S 0°26'01" W, 34.53 FEET; THENCE N 89°06'14" E, 22.89 FEET; THENCE S 0°53'46" E, 135.49 FEET TO THE SOUTH LINE OF THE NORTHEAST 1/4 OF SECTION 20, T 7 N, R 19 E; THENCE N 89°09'07" E, ALONG SAID SECTION LINE, 539.23 FEET; THENCE N 0°15'37" W, 1313.21 FEET; THENCE S 89°25'36" W, 1318.42 FEET TO THE PLACE OF BEGINNING.

EXCEPTING THEREFROM ALL THAT PROPERTY IN CSM MAP NO. 10993, RECORDED AUGUST 9, 2012, IN BOOK 107, PAGES 176-178 AS DOCUMENT NO. 3940285, BEING A PART OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 20, TOWNSHIP 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

FURTHER EXCEPTING THEREFROM ANY PORTION LYING WITHIN E. FIELDHACK DRIVE AS DEDICATED BY CSM MAP NO. 10993, RECORDED AUGUST 9, 2012 IN BOOK 107, PAGES 176-178 AS DOCUMENT NO. 3940285

EXCEPTING THEREFROM MEADOWBROOK VILLAGE CONDOMINIUMS PHASE III, MORE PARTICULARLY DESCRIBED AS FOLLOWS: PART OF PARCEL 2 OF CERTIFIED SURVEY MAP 9757 RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS FOR WAUKESHA COUNTY, WISCONSIN ON APRIL 8, 2004 IN VOLUME 90 OF CERTIFIED SURVEY MAPS, AT PAGE 139, AS DOCUMENT NO. 3146899 BEING A PART OF THE SE 1/4 OF THE NW 1/4 AND THE SW 1/4 OF THE NE 1/4 OF SECTION 20, TOWNSHIP 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE NORTHEAST 1/4 OF SECTION 20, T7N, R19E, THENCE S 0°16'13" E, 2639.05 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST 1/4 OF SECTION 20, T7N, R19E; THENCE N 89°09'07" E, 779.01 FEET ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SECTION 20, T7N, R19E; THENCE N 0°53'46" W, 135.49 FEET; THENCE S 89°06'14" W, 22.89 FEET; THENCE N 0°26'01" E, 34.53 FEET TO THE PLACE OF BEGINNING; THENCE CONTINUING N 0°26'01" E, 260.57 FEET; THENCE S 89°33'41" W, 156.50 FEET; THENCE N 66°31'30" W, 139.38 FEET; THENCE S 21°23'15" W, 166.25 FEET; THENCE S 48°31'13" E, 55.00 FEET; THENCE S 0°53'46" E, 165.00 FEET; THENCE N 89°06'14" E, 284.80 FEET TO THE PLACE OF BEGINNING.

FURTHER EXCEPTING THEREFROM MEADOWBROOK VILLAGE CONDOMINIUMS PHASE IV, MORE PARTICULARLY DESCRIBED AS FOLLOWS: PART OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 9757 RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS FOR WAUKESHA COUNTY, WISCONSIN ON APRIL 8, 2004 IN VOLUME 90 OF CERTIFIED SURVEY MAPS, AT PAGE 139, AS DOCUMENT NO. 3146899 AND OTHER LANDS, BEING A PART OF THE SW 1/4 OF THE NE 1/4 OF SECTION 20, TOWNSHIP 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN, ALL BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID 1/4 SECTION; THENCE S 0°16'13" E, 2639.05 FEET TO THE SOUTHWEST CORNER OF SAID 1/4 SECTION; THENCE N 89°09'07" E ALONG THE SOUTH LINE OF SAID 1/4 SECTION A DISTANCE OF 779.01 FEET TO A POINT; THENCE N 0°53'46" W, 135.49 FEET TO A POINT; THENCE S 89°06'14" W, 22.89 FEET TO A POINT; THENCE N 0°26'01" E, 295.10 FEET TO THE POINT OF BEGINNING OF LANDS TO BE DESCRIBED; THENCE S 89°33'41" W, 156.50 FEET TO A POINT; THENCE N 66°31'30" W, 139.38 FEET TO A POINT; THENCE S 21°23'15" W, 48.48 FEET TO A POINT; THENCE N 35°53'41" W, 115.00 FEET TO A POINT; THENCE S 54°06'19" W, 16.48 FEET TO A POINT; THENCE N 35°53'41" W, 185.84 FEET TO A POINT; THENCE N 54°06'19" E, 32.82 FEET TO A POINT; THENCE NORTHEASTERLY ALONG AN ARC OF A CURVE WHOSE CENTER LIES TO THE NORTHWEST, WHOSE RADIUS IS 530.00 FEET AND WHOSE CHORD BEARS N 42°05'07" E, 220.75 FEET TO A POINT; THENCE N 30°03'55" E, 54.80 FEET TO A POINT; THENCE S 60°07'39" E, 186.28 FEET TO A POINT; THENCE N 72°16'54" E, 75.00 FEET TO A POINT; THENCE S 89°52'56" E, 152.32 FEET TO A POINT; THENCE S 0°09'01" W, 113.25 FEET TO A POINT; THENCE S 35°36'24" W, 161.52 FEET TO A POINT; THENCE S 0°26'01" W, 158.89 FEET TO THE POINT OF BEGINNING.

TAX KEY NO.: PWC 0941-988-104

PARCEL B:

OUTLOT 1 OF CSM MAP NO. 10993, RECORDED AUGUST 9, 2012, IN BOOK 107, PAGES 176-178 AS DOCUMENT NO. 3940285, BEING A PART OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 20, TOWNSHIP 7 NORTH, RANGE 19 EAST, IN THE CITY OF PEWAUKEE, WAUKESHA COUNTY, WISCONSIN.

TAX KEY NO.: PWC 0941-988-073

NOTES:

Elevations are based on the NAVD '88 datum.

Parcel is in Flood Zone X per FIRM Map No. 55133C01926 - Rev. 11-5-2014.

Parcel is zoned RM-3 (Single Family Residential). Minimum setback is 35' from all Right-Of-Ways, 30' on sideyards, 35' rear, and 75' from 100 year floodplain of any navigable streams or bodies of water and 25' from wetlands.

There are no public parking stalls on the parcel.

There is no evidence of recent earth moving work or building additions.

No information of proposed street right-of-way changes have been provided.

There are no known offsite easements.

THIS INSTRUMENT WAS DRAFTED BY PETER J. NIELSON

SHEET 1 OF 1

SITE LOCATION

MILKWEED LANE

E FIELDHACK DRIVE

PROPOSED SITE

161 ACRES

GOLF ROAD

INTERSTATE 94

ZONING

RD-2

LC

A-2

LC

RS-4

RM-1

LC

MILKWEED LANE

RD-2

P-1

LC

E FIELDHACK DRIVE

RM-3
19.5 ACRES
234 UNITS

RM-3

F-1

CITY OF PEWAUKEE

CITY OF WAUKESHA

LC

GOLF ROAD

INTERSTATE
94

SITE ADJACENCIES

RD-2

RS-4

LC

A-2

LC

RM-1

2-STORY
GARDEN STYLE
APARTMENTS

LC

MILKWEED LANE

RD-2
CONDOS

E FIELDHACK DRIVE

RM-3

LC

2-STORY
CONDOS

GE HEALTHCARE

RM-3

2-STORY
CONDOS

THE INGLESIDE HOTEL

FROEDERT LAKE COUNTRY
SURGERY CENTER

BRIGHT
HORIZONS

GOLF ROAD

INTERSTATE
94

ZONING - REALLOCATED

RD-2

LC

A-2

LC

RS-4

RM-1

LC

MILKWEED LANE

RD-2

RS

160 - 1/2 ACRE
SINGLE FAMILY LOTS

LC

E FIELDHACK DRIVE

RM-3

RM-3

RM-3

300 UNITS

F-1

LC

GOLF ROAD

INTERSTATE 94

NATURAL BUFFER

2-STORY GARDEN STYLE APARTMENTS

WETLANDS

WOODLANDS

MILKWEED LANE CONDOS

E FIELDHACK DRIVE

WETLANDS

WOODLANDS

2-STORY CONDOS

WETLANDS

WOODLANDS

2-STORY CONDOS

WETLANDS

FLOODPLAIN

WOODLANDS

GOLF ROAD

INTERSTATE 94

PUBLIC AMENITIES

2-STORY
GARDEN STYLE
APARTMENTS

MILKWEED LANE
CONDOS

2-STORY
CONDOS

1.25 MILE - 4 SEASON
WILLOW RUN TRAIL

LAKE COUNTRY TRAIL

LANDSBURG CENTER
TRAILHEAD

PRIMARY
ACCESS

GOLF ROAD

INTERSTATE
94

IDEAL SITE LOCATION

2-STORY
GARDEN STYLE
APARTMENTS

SINGLE FAMILY
RESIDENTIAL

MILKWEED LANE
CONDOS

E FIELDHACK DRIVE

2-STORY
CONDOS

2-STORY
CONDOS

2-STORY
GARDEN STYLE
APARTMENTS
~25 ACRES

300'
600'
900'

GOLF ROAD

INTERSTATE
94

CONCEPTUAL SITE PLAN

MILKWEED LANE

E FIELDHACK DRIVE

GOLF ROAD

INTERSTATE 94

CONCEPTUAL SITE PLAN

MILKWEED LANE

E FIELDHACK DRIVE

SINGLE FAMILY RESIDENTIAL

300 UNITS
15 BUILDINGS

PEDESTRIAN TRAILS

PASSIVE WETLANDS

LAKE COUNTRY TRAIL CONNECTIVITY

GOLF ROAD

INTERSTATE 94

ENLARGED SITE PLAN

75’

125’

WOODNOTE RESIDENCES - HARTLAND, WI

KEY OBSERVATIONS

- First luxury, large scale delivery to Village of Hartland
- Gabled roofs and private entries reflect traditional design
- 150 units in two-story stacked flats
- 97% occupancy and leased up in 12 months
- Average rental rate $1,899
- Rental rates outpaced market by $150 per month and 5% YOY rent growth

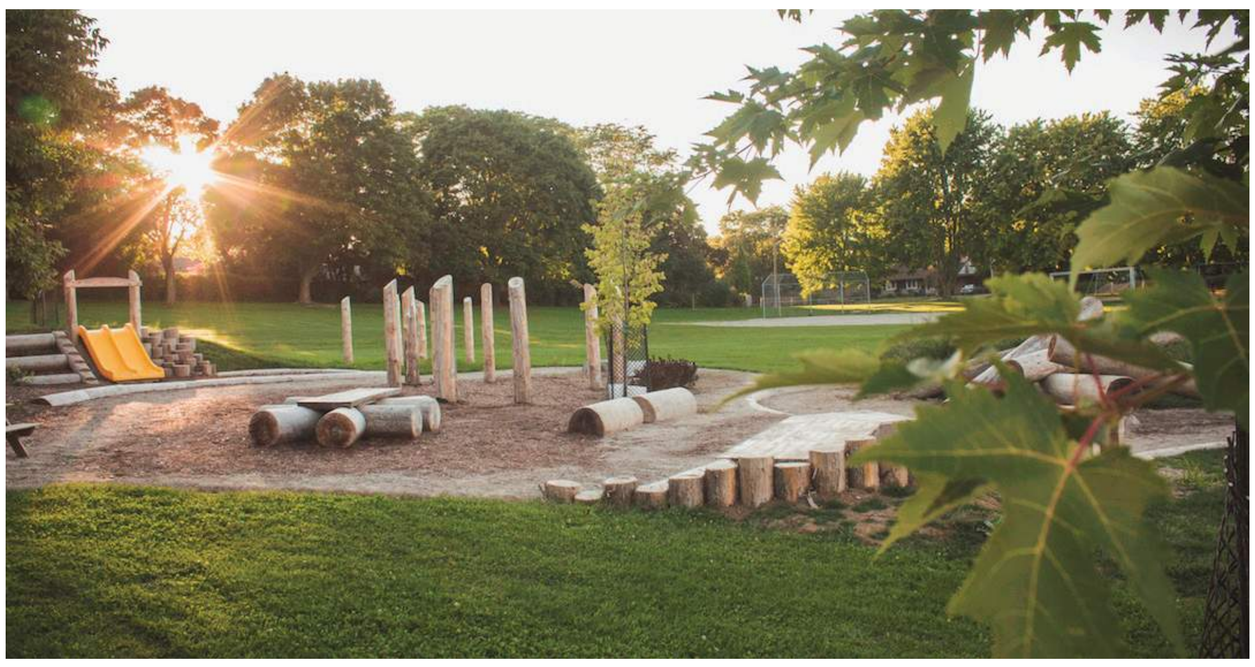
HACKNEY HOUSE - OCONOMOWOC, WI

KEY OBSERVATIONS

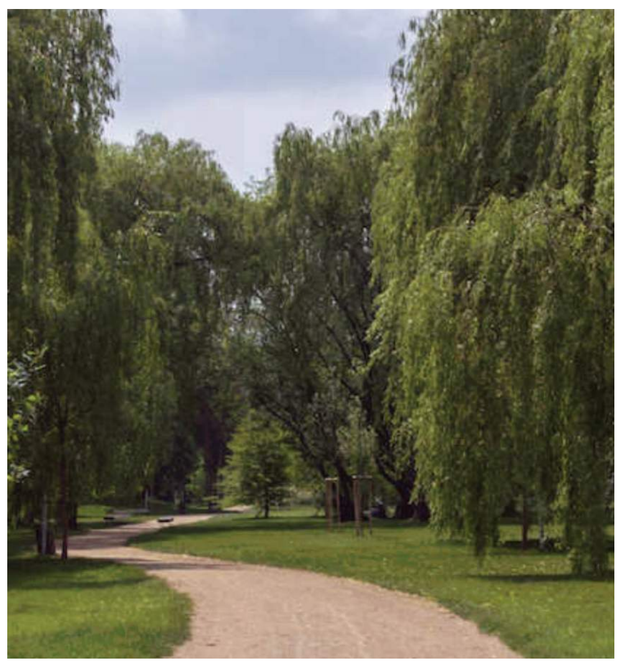
- Pabst Farms neighborhood in City of Oconomowoc
- Modern farmhouse aesthetic with intimate courtyards
- 302 units in two-story stacked flats and townhomes
- 98% occupancy and initial lease-up velocity at 25 units/month
- Average rental rate $2,035 per unit per month
- Rental rates $300 above competitive set and 5% YOY rent growth

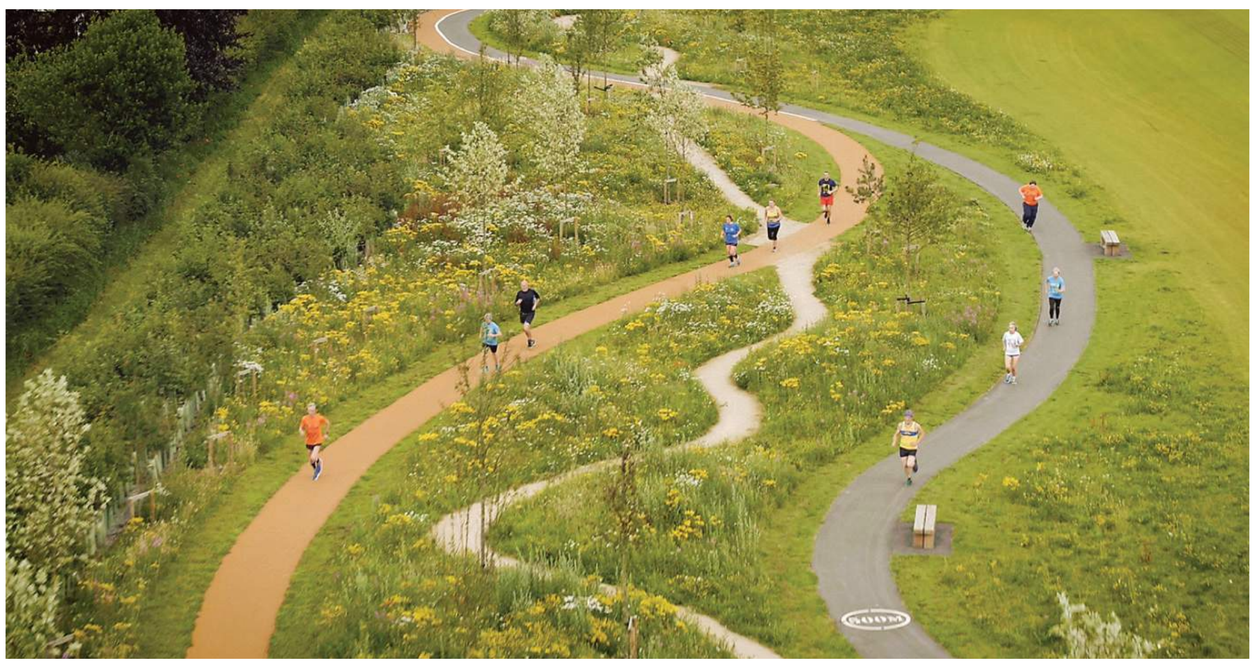
MULTIFAMILY & AMENITY

NATURAL PLAYGROUND



PEDESTRIAN TRAILS

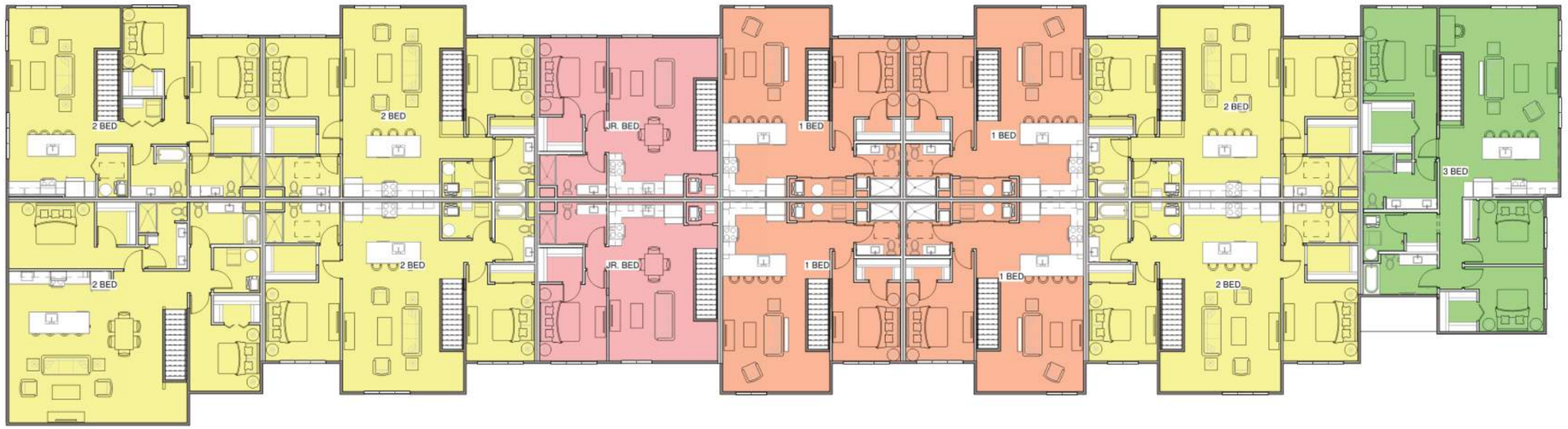




23 UNIT LAYOUT

UNIT MIX

JR. BED - 4 (17%)
1 BED - 7 (30%)
2 BED - 10 (43%)
3 BED - 2 (8%)



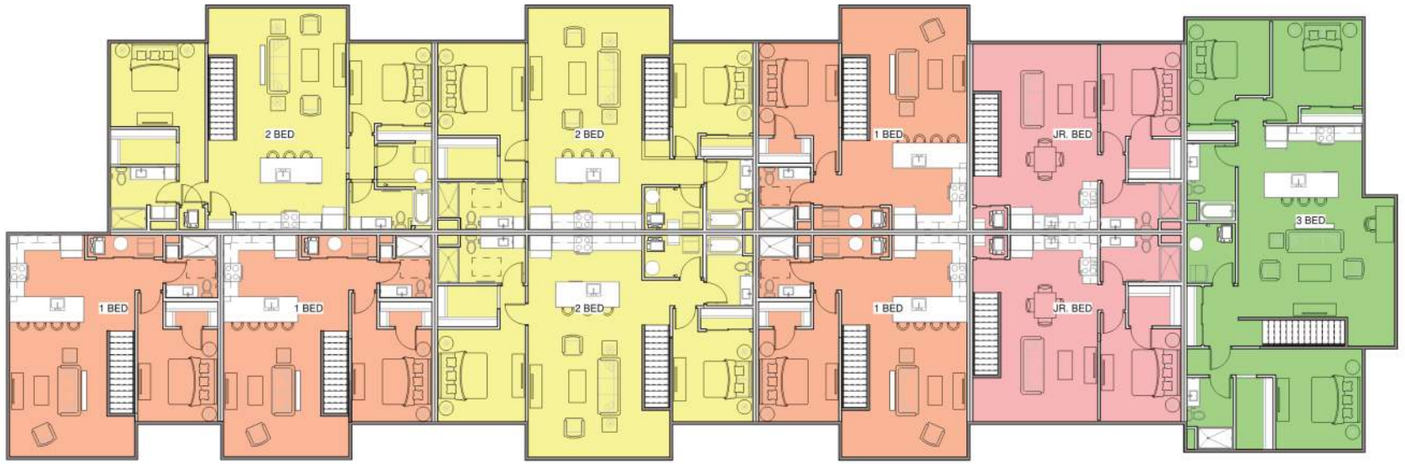
SECOND FLOOR PLAN

FIRST FLOOR PLAN

17 UNIT LAYOUT

UNIT MIX

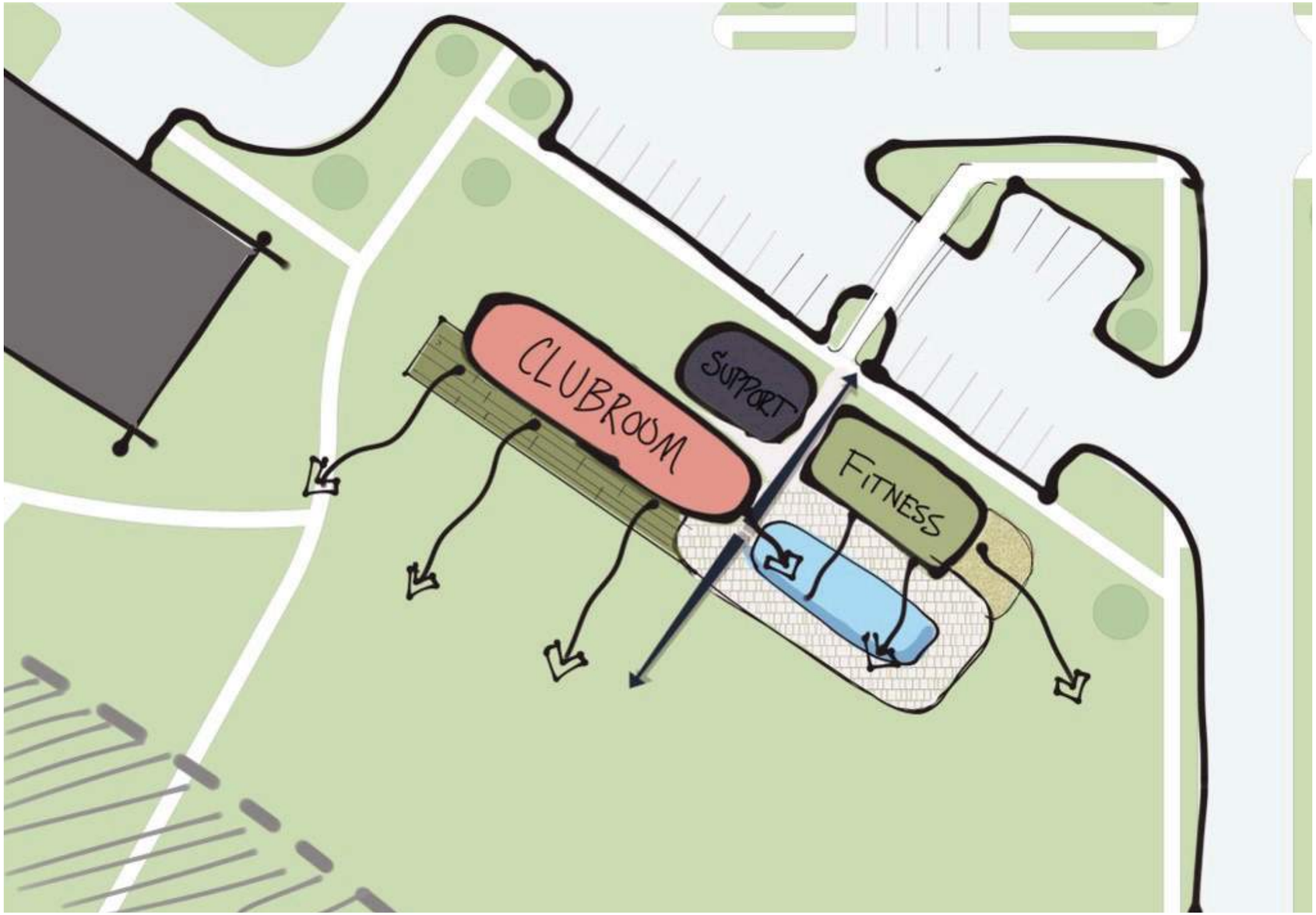
JR. BED - 3 (18%)
1 BED - 7 (41%)
2 BED - 5 (29%)
3 BED - 2 (12%)



SECOND FLOOR PLAN

FIRST FLOOR PLAN

CLUBHOUSE DIAGRAM: NATURAL VIEWS



Payne+Dolan
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Land by Label
7044 South Ballpark Drive
Suite 305
Franklin, WI 53132

November 10, 2023

RE: Pewaukee Golf Club Redevelopment – Infrastructure Design Approach

All infrastructure for the subject development shall be designed and constructed in accordance with the City of Pewaukee Technical Standards for public and private infrastructure, last revised 05/18/2021.

Sanitary Sewer Capacity

A public sanitary sewer extension will be required to serve the development with a connection point in Fieldhack Drive. The March 2019 Stand report evaluated the sanitary sewer system capacity downstream of the Pewaukee Golf Course based on projected average daily flow of 41 gpm, with a projected peak hour flow of 164 gpm. The proposed residential development is projected to not exceed these sanitary flows.

Source	Persons per Unit	Units	Unit Flow Rate (gpd/person)	Projected Flow (gpd)	Projected Flow (gpm)
Multi-Family	2.63	300	80	63,120	43.8
Single Family	2.70	160	75	32,400	22.5
Proposed					66.3
Lake Country Commons					79

As a result, the magnitude and timing of downstream sanitary sewer improvements is anticipated to remain similar to those identified with the Lake Country Commons development proposal.

Sanitary Sewer

Sanitary sewer main shall have a minimum size of 8" have a minimum grade of 0.45% and shall be located on the centerline of the roadway when applicable. It is desirable for all sanitary manholes to be located outside the floodplain. In the event that a sanitary manhole is located within the floodplain, the manhole shall be flood-proofed with a secured lid constructed above the base flood elevation.

Sewer shall have a minimum depth of 11 feet for buildings with basements and 9 feet for buildings without. When sanitary sewer main is more than 14 feet deep to the top of the pipe, risers shall be required. Six inch sanitary sewer laterals shall be designed at a slope between 1% and 4% between mainline sewer and building pads. Sanitary mains between 8" and 15" and less than 18 feet deep shall be PVC SDR 35. Sanitary mains between 18 and 25 feet deep shall be PVC AWWA C900 or C905 SDR 18. The same size, type, and material of sanitary sewer pipe must be used from manhole to manhole. Any lateral or riser within a 25 foot radius of a well shall be either ductile iron or pressure rated PVC pipe SDR-26 or stronger. Marker boards must be the same depth as the lateral and extend at least 2' above ground grade. Additional

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specifications for sanitary sewer shall be referenced from the Standard Specifications for Sewer and Water Construction in Wisconsin.

Water Main

A looped or redundant public water system will be required to serve the development with two separate connection points in Fieldhack Drive and/or Milkweed Lane. Dual watermain are anticipated to be required to create the desired loop with the mains located behind the curbs and on opposite sides of the road for a portion of the development.

Water mains shall be located north and east of the centerline of the roadway. Valves shall be spaced no further than 600 feet for single family residential developments and 400 feet multifamily developments. All water mains shall be at least 8". Hydrants shall be located on the same side of the roadway as the watermain and set back 4' from the back of curb. Hydrant shall not be placed in islands or cul-de-sac islands. Hydrants shall be spaced less than 500 feet in single family residential developments and 400 feet for multifamily residential developments. Hydrants shall be located accessibly within 150 feet of every building in a multifamily development. If possible, water services shall be designed such that they do not lay closer than 3' to the left of the sanitary lateral. Pipe used for water main shall be ductile iron, AWWA thickness Class 52 or Class 150 PVC pressure pipe and shall meet the requirements laid out in the city's technical standards. All hydrants shall be Clow F2500, Waterous WB-67 Pacer, or Mueller Centurion. All services from the water main to the lot line shall be a minimum 1.25" polyethylene SDR 9. Services must have corporation stops, service saddles, curb boxes, and curb stops in accordance with the city's technical standards.

Roadways

A public street connection will be required between Golf Road and Fieldhack Drive at an elevation above the base flood elevation to provide "dry" access during flood events. Connection to Fieldhack Drive thru the adjacent Meadowbrook Villa or Sprice Creek condominiums as noted in the May 2018 Department of Public Works conceptual plan review letter to the Plan Commission for Lake County Commons is impractical without assistance from the City of Pewaukee to obtain a right-of-way by condemnation due to the need to obtain approval from each unit owner and the consent of all corporate mortgagees.

Public streets shall be 28 feet wide from back of curb to back of curb. The concrete curb and gutter shall be 30 inch mountable and shall be standard vertical face curb in any cul-de-sac islands. The right-of-way for urban residential developments shall be 66 feet. The minimum radius for an intersection return between two residential streets shall be 20 feet from back of curb. The minimum street grade shall be 0.5%. The residential binder course shall be 3.25" and the surface course shall be 1.75". The final centerline crown shall be 2%. Asphalt pavement shall be in accordance with State Specification 460 and the city's technical standards. Stone base course for asphalt paving shall consist of 10 inches of crushed limestone TB and shall conform to a 5 inch base layer of 1-1/4 inch TB and 5 inch surface layer of 3/4 inch TB.

Storm Water Management

Stormwater management facilities shall be designed to reduce the total suspended solids by 80% in accordance with Chapter NR 151, Wis Adm. Code. Peak runoff rates for the post-developed condition shall not exceed pre-settlement rates for the 1, 2, 10 & 100 year design storm events using runoff curve numbers noted in the City's technical standards to model pre-settlement landscape. Rainfall data is to be used in conjunction with TR-55 methodology shall

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be NOAA Atlas 14 precipitation depths noted in the City's technical standards. All ponds shall be designed with 1 foot of freeboard between the 100 year water surface elevation and the crest elevation of the emergency spillway. The top of berm shall be not less than 1 foot above the emergency spillway. Stormwater management areas are depicted on the concept site plans.

Storm Sewer

Design using rational method for a 10-year rain event using the minimum runoff coefficients and time of concentrations noted in the City's technical standards. All storm sewer shall be 12" in diameter or greater and shall be located south and west of the centerline of the roadway and 10' from the right-of-way. All storm sewer will consist of reinforced concrete pipe. All drainage swales shall have a longitudinal grade of 1 percent or greater.

Grading

The plan shall show if cuts and fills will be balanced on the site. If the site is not balanced, the overage or shortage shall be calculated along with a haul route for approval by the City Engineer. The interim grading plan shall show proposed building pad areas at 1.75' (+/-0.25') below the proposed finished yard grade. Five foot wide "no touch" zones shall be established at all side and rear lot lines.

Erosion Control

Erosion control reinforcement mat shall be used in areas of concentrated flow, slopes exceeding 4:1, sediment traps, sediment basins, and detention ponds. Soil stockpiles shall be located away from channelized flow and no closer than 25' from roads, ditches, lakes, streams, ponds, wetlands, and environmental corridors, and they should have silt fence or perimeter control placed on their downstream sides. Winter construction site erosion control shall occur in accordance with the city's technical standards.

Drain Tile & Groundwater

All existing drain tiles encountered during construction are to be connected to the storm sewer system. Drain tile shall consist of fabric wrapped Perforated Polyvinyl Chloride Pipe conforming to AASHTO M278, or fabric wrapped Perforated High Density Polyethylene smooth interior conforming to AASHTO M252. Reinforced concrete casing pipe is required for drain tile under driveways.

PSC Utility Availability

Electric, gas and communications facilities will be provided to each unit within the development and connect to existing infrastructure in Fieldhack Drive and Golf Road.

Wetlands & Hydric Soils

Buildings shall be setback 25' from any designated wetlands.

Floodplains

There shall be a minimum buildings setback of 75' from the designated 100-year recurrence interval (base flood) floodplain for all navigable waterways.

The subject property contains an area that was previously mapped as Zone A floodplain which has no Base Flood Elevation determined for the Pewaukee Lake Tributary 2 also known as Meadowbrook Creek. The subject property is located beyond the limits of the current

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floodplain study area and now considered an unstudied area, refer to Panel 55133C with an effective date of October 19, 2023. It is anticipated that the portions of Meadowbrook Creek within the Pewaukee Golf Course property will need to be added to the floodplain model to determine a base flood elevation for zoning purposes.

City zoning 17.0435(f) requires the developer to determine the Base Flood Elevation. It is anticipated that any fill in the floodplain will be mitigated at a ratio of 1:1. Floodplain may comprise no more than 20 percent of the total 'green space' requirement. As currently designed, the only impact to floodplain is the construction of the road from Golf Road to Fieldhack. All other improvements will be outside the floodplain area and respect the floodplain setbacks.

Navigable Waterways

Buildings shall be setback 75' from the floodplain of all navigable streams and bodies of water. There is an unnamed ditch that crosses the existing golf course driveway from the Froedert Health property which is anticipated to be navigable as a result of a 2005 navigability determination made by WDNR staff during the approval process for the Lake Country Surgery Center. A mapped unnamed ditch cross the property from the wetland areas north of GE Medical Systems to the wetland area north and west of the Pewaukee Golf Course clubhouse. A navigability determination will be needed for this reach in order to determine the building setbacks.

Environmental Corridors

The City of Pewaukee does not place additional zoning restrictions on land development activities within environmental corridors. There are environmental corridors present on the subject property which coincide with the unnamed tributaries to Meadowbrook Creek.

NHI Review

A Natural Heritage Inventory review for the property indicates that terrestrial and wetland species exist within a 1-mile buffer of the site and/or aquatic species exist within a 2-mile buffer of the site. As a result, an endangered resources review will be required to identify if state of federal threatened or endangered plants or animals exist within the construction project area and if any mitigation measures are required. The site overlaps with the Karner Blue Butterfly and Rusty Patched Bumble Bee high potential areas.

Respectfully,

Craig Donze, PE PLS
Engineering Manager

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 13.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action and Public Hearing Regarding Revisions to Section 17.0500 of the City's Zoning Code Related to Review and Approval and Public Hearing Requirements for Conditional Use Permits

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

CUP hearing amendment staff report

Zoning Code 17.0500 amendment to CUP hearings

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REPORT TO THE PLAN COMMISSION

Meeting of December 21, 2023

Date: December 6, 2023
Project Name: Amendment to Public Hearing Requirements for Conditional Use Permits
Project Address/Tax Key No.: City-wide
Applicant: City of Pewaukee

Background

The attached amendment revises Section 17.0500 of the Zoning Code to require that the Common Council hold public hearings for Conditional Use Permits, opposed to the Plan Commission.

No other changes are proposed related to the Conditional Use process.

Recommendation

It is recommended that the Plan Commission recommend approval of the proposed text amendment to the Zoning Code.

SECTION 17.0500 CONDITIONAL USE REGULATION

17.0501 PERMITS

The City Common Council may authorize the City Planner or Zoning Administrator to issue a conditional use permit for conditional uses after review and a public hearing, provided that such conditional uses and related structures are in accordance with the purpose and intent of this Ordinance and are found to be not hazardous, harmful, offensive, or otherwise adverse to the environment or the value of the neighborhood or the community. Conditional uses are listed in the regulations of each zoning district as set forth in Section 17.0400 or this Chapter.

17.0502 APPLICATION

Applications for conditional use permits shall be made in triplicate to the City Clerk/Treasurer on forms furnished by the City Planner, Zoning Administrator or other designated City employee, and shall include at least the following:

a. Name and addresses of the applicant, owner of the site, architect, professional engineer, contractor, and all opposite and abutting owners of record of property within 600 feet of the property for which a conditional use is being requested.

b. Description of the subject site by lot, block, and recorded subdivision or by metes and bounds; address of the subject site; type of structure; proposed operation or use of the structure or site; number of employees; and the zoning district within which the subject site is located. For conditional uses within or in the vicinity of floodplains, such description shall also include information that is necessary for the Plan Commission to determine whether the proposed development will hamper flood flows, impair floodplain storage capacity, or cause danger to human or animal life. This additional information may include plans, certified by a registered professional engineer or land surveyor, showing elevations or contours of the ground at two (2)-foot intervals; fill or storage elevations; first floor elevations of structures; size, location, and spatial arrangement of all existing and proposed structures on the site; location and elevation of streets, water supply, and sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream; soil types and other pertinent information.

c. Certified survey map (CSM) or Plat of Survey prepared by a registered land surveyor showing all of the information required under Section 17.0203 for a Building and/or Zoning permit as well as the mean and historic high water lines, 100 year recurrence interval base flood floodplains on or within 75 feet of the subject premises, and existing and proposed landscaping.

d. Additional Information as may be required by the Plan Commission, City Planner, City Engineer, Zoning Administrator, or Building Inspector.

17.0503 REVIEW AND APPROVAL

The City Plan Commission shall review the site, existing and proposed structures, architectural plans, neighboring uses, parking areas, driveway locations, highway access, traffic generation and circulation, drainage, sewerage and water systems, and the proposed operation~~, and~~ prior to Common Council action~~, shall hold a public hearing as set forth in Section 17.1300~~ (Also see sub-section 17.0210).

In addition:

a. Conditions such as landscaping, architectural design, type of construction, flood proofing, anchoring of structures, construction commencement and completion dates, sureties, lighting, fencing, planting screens, operational control, hours of operation, improved traffic circulation, deed restrictions, signage, highway access restrictions, increased yards, storm water management improvements or parking requirements may be required by the Plan Commission upon its finding that these are necessary to fulfill the purpose and intent of this Ordinance. (Also see sub-section 17.0210)

b. Notice to DNR: The Plan Commission shall transmit a copy of each application for a conditional use within a floodplain or shoreland area to the Wisconsin Department of Natural Resources (WisDNR) for review and comment. Action on the application shall not be taken for 30 days or until the WisDNR has made its recommendation, whichever comes first. A copy of all floodplain conditional use permits shall be transmitted to the WisDNR within 10 days of the effective date of such permit. (Rep. & Rec. 14-03)

17.0504 SPECIAL CONDITIONAL USES NOT SET FORTH IN DISTRICT REGULATIONS MAY BE ALLOWED, INCLUDING:

a. All uses similar in character to the permitted uses on the premises, as determined by the Plan Commission**,** which meet the intent of the district but which are not specifically listed as permitted principal, accessory or conditional uses within the text of the zoning district classification or other section of this ordinance.

b. Uses proposed to be located in a Plan Commission approved multi – tenant building that are included on a list of uses for that building previously given 'blanket' approval by the Common Council following a conditional use hearing may not require individual conditional use permits but only approval of a Business Plan of Operation as set forth herein. Non-conditional use status of such uses shall be determined by the City Planner or the Plan Commission.

17.0505 COMMON COUNCIL ACTION

a. Following a public hearing held by the Common Council as set forth in Section 17.1300, and after careful consideration of the Plan Commission's recommendations, the Common Council may grant the Conditional Use Permit as applied for, grant the Conditional Use Permit with conditions deemed appropriate by the Common Council, or deny the permit. Compliance with all other provisions of this ordinance, such as lot width and area, yards, height, parking, loading, traffic, highway access, and performance standards, shall be required of all conditional uses unless otherwise stipulated in the individual district regulations. Variances shall only be granted as provided in sections 17.1000 and 17.1100 of this ordinance. If the conditional use permit is granted (with or without conditions) official notice of such conditional use shall be transmitted to the County Register of Deeds on forms provided by the City. The County Register of Deeds shall take whatever action necessary to append the permitted conditional use forms to the deed of the property for which a conditional use has been granted. Any approving action by the Common Council will be valid only if the conditional use is recorded by the County Register of Deeds and the use or operation commenced within six (6) months from the date of such action.

b. When the ~~Plan Commission~~Common Council makes a determination either by observation or by official citizen complaint that a permitted conditional use is or has been apparently violated, the ~~Plan Commission~~Common Council may convene a public hearing as set forth in section 17.1300, giving at least 30 days notice to the holder of the conditional use permit and, advising the permit holder as well as property owners within 300 feet of the conditionally permitted use of the purpose of the hearing, which may be to ~~recommend to the Common Council the~~ alter~~ing~~, rescind~~ing~~, or reaffirm~~ation of~~ the conditional use permit then in effect. The Common Council, following a recommendation by the Plan Commission, may take action to rescind or alter the conditional use permit then in effect and by doing so direct the City Clerk to take any necessary steps to rescind or alter the covenants or other pertinent documents concerning the conditional use and attached to the property deed held in the office of the County Register of Deeds.

c. Any conditional use that moves from the premises on which it was originally permitted or that ceases to occupy such premises for a period of three months or as evidenced by legal, authoritative documentation, shall be declared to be no longer a legitimate use of the premises and shall be removed from the list of current conditional uses.

CITY OF PEWAUKEE
PLAN COMMISSION AGENDA ITEM 14.

DATE: December 21, 2023

DEPARTMENT: Planning

PROVIDED BY:

SUBJECT:

Discussion and Action and Public Hearing Regarding Revision and Codification of Chapter 17 Zoning as Chapter 340 of the City's Municipal Code

BACKGROUND:

FINANCIAL IMPACT:

RECOMMENDED MOTION:

ATTACHMENTS:

Description

Zoning code adoption staff report

Zoning code adoption Ordinance

Zoning code ordinance schedule A

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REPORT TO THE PLAN COMMISSION

Meeting of December 21, 2023

Date: December 6, 2023
Project Name: Amendment to Public Hearing Requirements for Conditional Use Permits
Project Address/Tax Key No.: City-wide
Applicant: City of Pewaukee

Background

The City has been working with a company, General Code, to review and update the entire Municipal Code and to provide a digital version of the code through their eCode360 platform.

As part of that review, many changes were made to the Zoning Code. These are generally technical changes, legal updates, or clarifications that were needed in the ordinance. The attached Schedule A outlines these changes.

It is anticipated that the codification and adoption of the entire Municipal Code will be on the January 15, 2024, Common Council agenda. Amendments to the Zoning Code, however, require a public hearing to be held by the Plan Commission, prior to review and adoption by the Common Council. As such, just the Zoning Code changes are coming before the Plan Commission for review.

Note that the Municipal Code will be re-numbered as part of this project. Chapter 17 Zoning will become Chapter 340 Zoning in the updated ordinance.

Recommendation

It is recommended that the Plan Commission recommend approval of the revisions to the Zoning Code.

CITY OF PEWAUKEE
WAUKESHA COUNTY, STATE OF WISCONSIN

ORD. NO. _____

AN ORDINANCE ADOPTING A REVISION AND CODIFICATION OF THE ORDINANCES OF THE CITY OF PEWAUKEE, WISCONSIN

The Common Council of the City of Pewaukee does hereby ordain as follows:

§ 1-5. Code adopted; existing ordinances continued.

Pursuant to § 66.0103, Wis. Stats., the Zoning Code of the City of Pewaukee of a general and permanent nature adopted by the Common Council of the City of Pewaukee, as revised and codified as Chapter 340, are hereby approved, adopted, ordained and enacted as the Code of the City of Pewaukee, hereinafter referred to as the "Code." The provisions of the Code, insofar as they are substantively the same as those of the ordinances in force immediately prior to the enactment of the Code by this ordinance, are intended as a continuation of such ordinances and not as new enactments. This ordinance and the Code adopted hereby shall supersede and replace the prior Code of Ordinances, as amended and supplemented.

§ 1-6. Code on file; additions and amendments.

A. In accordance with § 66.0103, Wis. Stats., a copy of the Code has been filed in the office of the City Clerk-Treasurer and made available for public inspection for not less than two weeks prior to adoption of this ordinance, and following adoption of this ordinance such copy shall be maintained and available for public inspection in the office of the City Clerk-Treasurer.

B. Additions or amendments to the Code, when adopted in such form as to indicate the intent of the Common Council to make them a part thereof, shall be deemed to be incorporated into such Code so that reference to the "Zoning Code of the City of Pewaukee" shall be understood and intended to include such additions and amendments.

§ 1-7. Notice; publication.

The Clerk-Treasurer of the City of Pewaukee shall cause notice of the passage of this ordinance to be given in the manner required by law. The notice of passage of this ordinance coupled with the filing of the Code in the office of the City Clerk-Treasurer as provided in § 1-6 shall be deemed, held and considered to be due and legal publication of all provisions of the Code for all purposes.

§ 1-8. Severability.

Each section of this ordinance and of the Code and every part of each section is an independent section or part of a section, and the holding of any section or a part thereof to be unconstitutional, void or ineffective for any cause shall not be deemed to affect the validity or constitutionality of any other sections or parts thereof. If any provision of this Code or the application thereof to any person or circumstances is held

invalid, the remainder of this Code and the application of such provision to other persons or circumstances shall not be affected thereby.

§ 1-9. Repealer.

A. Ordinances or parts of ordinances inconsistent with the provisions contained in the Code adopted by this ordinance are hereby repealed; provided, however, that such repeal shall only be to the extent of such inconsistency, and any valid legislation of the City of Pewaukee which is not in conflict with the provisions of the Code shall be deemed to remain in full force and effect.

§ 1-10. Ordinances saved from repeal.

The adoption of this Code and the repeal of ordinances provided for in § 1-9 of this ordinance shall not affect the following ordinances, rights and obligations, which are hereby expressly saved from repeal:

A. Any ordinance adopted subsequent to January 15, 2024.

B. Any right or liability established, accrued or incurred under any legislative provision prior to the effective date of this ordinance or any action or proceeding brought for the enforcement of such right or liability.

C. Any offense or act committed or done before the effective date of this ordinance in violation of any legislative provision or any penalty, punishment or forfeiture which may result therefrom.

D. Any prosecution, indictment, action, suit or other proceeding pending or any judgment rendered prior to the effective date of this ordinance brought pursuant to any legislative provision.

E. Any franchise, license, right, easement or privilege heretofore granted or conferred.

F. Any ordinance providing for the laying out, opening, altering, widening, relocating, straightening, establishing grade, naming, improvement, acceptance or vacation of any right-of-way, easement, street, road, highway, park or other public place or any portion thereof.

G. Ordinances authorizing the purchase, sale, lease or transfer of property or any lawful contract or obligation.

H. The annexation or dedication of property or approval of preliminary or final subdivision plats.

I. Any ordinances adopting or amending the Zoning Map or otherwise rezoning property.

J. Any charter ordinances.

K. Any ordinance or portion of an ordinance establishing or amending a specific fee amount for any license, permit or service obtained from the City.

§ 1-11. Changes in previously adopted ordinances; new ordinances.

A. In preparing the revision and codification of the ordinances, certain minor grammatical and nonsubstantive changes were made in one or more of said ordinances, and references to state statutes and regulations were updated to reflect the numbering and titles of the statutes and regulations as of the publication of this Code. It is the intention of the Common Council that all such changes be adopted as part of the Code as if the ordinances so changed had been formally amended to read as such.

B. In accordance with § 66.0103, Wis. Stats., the Code of the City of Pewaukee, on file in the office of the City Clerk-Treasurer, is adopted and incorporated by reference, including the revisions set forth in Schedule A attached hereto and made a part hereof. (Chapter and section number references in Schedule A are to the ordinances as they have been renumbered and appear in the Code.)

§ 1-12. Titles and headings; editor's notes.

A. Chapter and article titles, headings and titles of sections and other divisions of the Code are inserted in the Code and may be inserted in supplements to the Code for the convenience of persons using the Code and are not part of the legislation.

B. Editor's notes indicating sources of sections, giving other information or referring to the statutes or to other parts of the Code are inserted in the Code and may be inserted in supplements to the Code for the convenience of persons using the Code and are not part of the legislation.

§ 1-13. Altering or tampering with Code; violations and penalties.

It shall be unlawful for anyone to change, alter or tamper with the Code in any manner which will cause the laws of the City of Pewaukee to be misrepresented thereby. Anyone violating this section shall be subject, upon conviction, to a penalty as provided in § 1-4 of the Code.

§ 1-14. When effective.

This ordinance shall take effect upon final passage and publication or posting as provided by law.

Ch. 340, Zoning.

Section 340-1.4A is amended to delete "Housing Code" from the last sentence.

Section 340-2.6 is amended to change "occupancy/use permit" to "certificate of occupancy."

Section 340-2.9B(2)(c)[2] is amended to change "ornamental" to "decorative."

Section 340-3.2A is amended to change "shall be required to be paid upon application for a building permit" to "shall be required to be paid at the time of the issuance of a building permit."

Section 340-3.2C is amended to add the following: "At the time that the City collects an impact fee, it shall provide to the developer from which it received the fee an accounting of how the fee will be spent."

Section 340-4.1A is amended to change "Park and Recreation District" to "Park and Open Space District" and to add the HPO Historic Preservation Overlay District.

Section 340-4.1C is amended to change the map date from November 19, 2008, to November 5, 2014.

Section 340-4.3 is amended to change "City Land Use Plan" to "City Comprehensive Plan" at the end of the first sentence.

Sections 340-4.5A(3), 340-4.6A(3), 340-4.7A(3), 340-4.8A(3), 340-4.9A(3), 340-4.10A(3) and 340-4.34A(7) are amended to change "family day-care home" to "family child care home."

Section 340-4.19C(14) is amended to change "Bed-and-breakfast inns" to "Bed-and-breakfast establishments."

Section 340-4.29 is amended to change "Mixed Industrial Use District" to "Mixed-Use Industrial District."

Section 340-4.36 is amended to delete "attached hereto as Appendix A" from the end of the opening paragraph.

Section 340-9.13G is amended to change "Electrical Inspector" to "Building Inspector."

Section 340-10.2B is added to read as follows:

> Pursuant to § 62.23(7)(hc), Wis. Stats., and notwithstanding any other provision of this chapter, a nonconforming structure damaged or destroyed by violent wind, vandalism, fire, flood, ice, snow, mold or infestation after March 2, 2006, may be restored to, or replaced at, the size, location, and use that it had immediately before the damage or destruction occurred, and no limits may be imposed on the costs of the repair, reconstruction, or improvement of said structure. The size of the structure may be larger than the size it was immediately before the damage or destruction if necessary for the structure to comply with applicable state or federal requirements.

Section 340-12.3D is amended to read as follows: "If a quorum is present, a majority vote of the members present shall be necessary to correct an error; grant a variance; make an interpretation; and permit a utility, temporary, unclassified, or substituted use."

Section 340-12.4B is amended as follows: "To hear and grant appeals for area and use variances, as defined below, as will not be contrary to the public interest, when, owing to special conditions, a literal enforcement will ~~results:~~ result in practical difficulty or unnecessary physical hardship, so that the spirit and purposes of this chapter shall be observed and the public safety, welfare, and justice secured."

Section 340-12.9C and D are amended to add "The Board shall" at the beginning of the subsection.

Section 340-13.7A is amended to change the map date from November 19, 2008, to November 5, 2014.

The definition of "bed-and-breakfast establishment" in § 340-16.2G is amended to read as follows:

> Any place of lodging that satisfies all of the following: provides eight or fewer rooms for rent to no more than a total of 20 tourists or transients; provides no meals other than breakfast and provides the breakfast only to renters of the place; is the owner's personal residence; is occupied by the owner at the time of rental; and was originally built and occupied as a single-family residence or, prior to use as a place of lodging, was converted to use and occupied as a single-family residence.

The definition of "occupancy permit" in § 340-16.2G is amended to "certificate of occupancy" and to change "required permit" to "required certificate."

The definition of "community living arrangement" in § 340-16.2G is amended to change "group foster homes for children under § 48.02(1m) to "group homes for children under § 48.02(7)."

The definition of "dwelling, multiple-family" in § 340-16.2G is amended to read as follows: "A building containing three or more separate residential, dwelling or living units designed for or occupied by three or more families, with the number of families in residence not to exceed the number of dwelling units provided."

The definition of "family" in § 340-16.2G is amended to read as follows: "One or more persons occupying a dwelling unit as a single nonprofit housekeeping unit, who are living together as a bona fide, stable and committed living unit, being a traditional family unit or the functional equivalent thereof, exhibiting the generic character of a traditional family."

The definition of "fence, ornamental" in § 340-16.2G is amended to change "ornamental" to "decorative."

The definition of "fence, privacy" in § 340-16.2G is amended to change "ornamental fence" to "decorative fence."

The definition of "group foster home" in § 340-16.2G is repealed.

The definition of "multiple-family dwelling" in § 340-16.2G is amended to read: See "dwelling, multiple-family."

The definition of "side setback" in § 340-16.2G is amended as follows: "The area prescribed to as the minimum side yard setback distance between the principal or ~~access our~~ accessory structure and the side property boundary as set forth in the ~~distant~~ district regulations."

The definition of "two-family dwelling" in § 340-16.2G is amended to read: See "dwelling, two-family."

The definition of "variance" in § 340-16.2G is amended to read as follows:

> Permission to depart from the literal requirements of this chapter. An area variance authorizes modification to a dimensional, physical, or locational requirement such as a setback, frontage, height, bulk or density restriction for a structure. A use variance authorizes the use of land for a purpose that is otherwise not allowed or is prohibited by the applicable zoning ordinance.