Village of Germantown

MEETING: ***AMENDED*** **REGULAR MEETING OF THE PLAN COMMISSION**

DATE & TIME: **Monday, September 14, 2026 at 6:30 PM**

LOCATION: **Germantown Village Hall Board Room**
N112 W17001 Mequon Road

Any member of the body and/or citizen may attend the meeting virtually through the WebEx platform, Meeting #: **2553 216 2843** Password: **qRNiKJrY345** which can be accessed by phone at **408-418-9388** or by logging on at **https://villageofgermantown.my.webex.com/villageofgermantown.my/j.php?MTID=m3e60c9657945a5ad89155bdbfd3c356f**

Citizens not wishing to attend the meeting personally or virtually may submit any public comments by filling out the **Online Comment Form** by 4:00 PM on the day of the meeting so that it can be provided to the members of the body for their consideration.

Previously recorded Board, Committee, and Commission meeting videos can be viewed at **https://www.youtube.com/@villageofgermantownwi**

AGENDA

I. **CALL TO ORDER:** *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*

II. **ROLL CALL:**

III. **CITIZEN INPUT/PUBLIC APPEARANCE:** *(Please be advised per 19.84(2) that information and comment will be received from the public. It is the policy of this municipality that public input be limited to a four (4) minute period per person with a time extension granted at the discretion of the Chairperson. Be advised that there may be limited discussion of the information received but no action will be taken under public comments.) Comments that may be injurious to village personnel or other individuals will not be allowed.*

IV. **MEETING MINUTES:**

A. PC Minutes 8-10-26 (ACTION)

V. **NEW BUSINESS:**

A. CR Devco, LLC, Agent for Daniel, Douglas & Todd Roskopf, John & Mary Barnes, D&S Weyer No. II LLC, Property Owners; GTNV 282-999 & 281-978 - Applications to (1) Amend the 2050 Future Land Use Plan classification of 40 acres from the "Schoen Laufen-Menomonee River District" to the "Lannon-Mequon Road District"; (2) Create a new Planned Development Zoning District (PDD) to be called "Heyday Germantown"; and (3) Rezone approximately 71 acres from the A-1: Agricultural & A-2: Agricultural Districts into the Heyday Germantown PDD for purposes of developing a 256-unit residential community located on Lilac Lane east of Schoen Laufen Park and west of Division Road. (PUBLIC HEARING & ACTION) *ADDITIONAL ATTACHMENTS ADDED*

B. Premier Real Estate Management, LLC, Agent for Victory Place, LLC, Property Owner. Site Plan and Certified Survey Map applications for a 48-unit multifamily residential development (Town Nine Apartments) totaling 7.0 acres located on Fond du Lac Avenue (approximately W140N9889 Fond du Lac Avenue) in the Victory Center Corridor. (ACTION)

C. DAHM NO 74 LLC (d.b.a. Crew Carwash), Property Owner of N96 W17500 County Line Road. Request to extend Village approval of the Site Plan and Conditional Use Permit No. 05-2025 for a 4,500 sqft automated car wash facility. (ACTION)

VI. COMMUNITY DEVELOPMENT DIRECTOR'S REPORT:

A. Status of Village Center District Community Engagement & Holy Hill Gateway District Master Plan Projects

B. Status of Approved Residential Development (Sutton Farm and Carillon)

VII. NEXT MEETING DATE:

VIII. ANNOUNCEMENTS:

IX. ADJOURNMENT:

UPON REASONABLE NOTICE, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service, please contact the Village Clerk at (262) 250-4745 at least 2 days prior to the meeting.

Notice is hereby given that a possible quorum of other boards, committees, and/or commissions may attend this meeting to gather information about an item over which they have decision-making responsibility. This may constitute a meeting of these bodies per State ex rel. Badke v Greendale Village Board, even though these bodies will not take formal action at this meeting.

MEETING:	**REGULAR MEETING OF THE PLAN COMMISSION**
DATE AND TIME:	**Monday, August 10, 2026 6:30 PM**
LOCATION:	**Germantown Village Hall Board Room** **N112 W17001 Mequon Road**

MINUTES

I. CALL TO ORDER: *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*

Chairman Soderberg called the meeting to order at 6:30pm.

II. ROLL CALL:

Committee Members Soderberg, Tarantino, Williams, Henk, Fisher and Ewert were present. Also present were Community Development Director Retzlaff, Associate Planner Yanke and Planning Assistant Deb Remich (via Webex). Committee Member Warren was absent excused.

III. CITIZEN INPUT/PUBLIC APPEARANCE: *(Please be advised per 19.84(2) that information and comment will be received from the public. It is the policy of this municipality that public input be limited to a four (4) minute period per person with a time extension granted at the discretion of the Chairperson. Be advised that there may be limited discussion of the information received but no action will be taken under public comments.) Comments that may be injurious to village personnel or other individuals will not be allowed.*

Residents who spoke included:
Lynn Bednarz who lives on Pawnee Court.

IV. MEETING MINUTES:

A. PC Minutes 7-27-26 (ACTION)

Motion: Approve as presented
Motioned By: Josh Tarantino
Seconded By: Russell Ewert
Yes: Bob Soderberg, Robert Warren, Bob Williams, Josh Tarantino, Bridget Henk, Russell Ewert, Brian Fisher
No: None
Abstain: None
Motion Passed (Yes 7, No 0, Abstained 0)

V. NEW BUSINESS:

A. Design 2 Construct, Agent for WAGO Corporation, Property Owner. Site Plan application for parking lot additions for an existing office/industrial facility (WAGO) located at N120W19129 Freistadt Road in the Germantown Industrial Park. (ACTION)

Associate Planner Yanke went over the proposal, which includes 4 separate parking lot additions totaling 116 spaces (net 99 increase), new landscape plantings, and lighting. Yanke also stated that there is an ATC easement along the western side of the property that is currently being worked on by applicant for approval of parking/landscaping in easement. Yanke introduced Mark Hertzfeldt from Design 2 Construct, who stated that this is the first of 2 phases of this project, the 2nd phase would include a 61,000 sqft expansion, thus the reason for the parking lot additions.

Staff recommends approval of the site plan application for WAGO Corporation to construct parking lot additions for an existing office/industrial facility located at N120W19129 Freistadt Road in the Germantown Industrial Park, subject to the following conditions:

1. This approval is for the various plan sheets that comprise the site development plan set as noted below and is subject to compliance with all the conditions and requirements set forth herein and subsequently adopted and/or revised by the Plan Commission. Approval is granted for the following unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission:

    a. *Civil engineering plans dated June 8, 2026.*
    b. *Landscape plan dated June 29, 2026.*
    c. *Photometric lighting plan dated June 18, 2026.*

    If revised plan sheets are necessary, each revised sheet shall contain the date of said revision clearly stamped in the lower right corner.

2. The technical issues and plan revisions identified in the June 26, 2026, memo from Public Works and the Village Engineer shall be addressed in revised plan sheets and/or supplemental documents as necessary prior to commencing construction activities.
3. The shut down and relocation of the hydrant shown on the Site Plan (Sheet C1.02) shall be coordinated with the Village's Water Utility Superintendent and the relocation of the hydrant shall be inspected by an approved inspection firm.
4. Prior to issuance of an Erosion Control Permit and commencement of construction activities, applicant/owner shall obtain approval from the American Transmission Company (ATC) and submit such documentation to the Village for the installation of parking spaces (15 spaces) and landscaping in the ATC easement running north/south along the west side of the property. Applicant/owner shall also show/confirm on the site plan that the proposed parking stalls on the west side of the building meet the 15-foot setback requirement from the western lot line.
5. Prior to issuance of an Erosion Control Permit and commencement of construction activities, applicant/owner shall submit final light pole, light bollard, and fixture specifications to confirm compliance with the height and fixture requirements per the Village's Lighting Guidelines.
6. All temporary and permanent exterior signs require a permit and shall comply with all current Village sign regulations.

7. Pursuant to Section 17.47 of the Zoning Code, if the Village observes and/or receives complaints regarding negative impacts associated with and/or created by construction activities or the facility's day-to-day operation on the property, including but not limited to glare, noise, or dust, among other things, the Property Owner/Operator shall work with the Village to identify the source of such impact(s), evaluate alternative mitigation measures, and implement a mutually-agreeable solution to mitigating the impact(s).

Motion: Approve as presented
Motioned By: Brian Fisher
Seconded By: Josh Tarantino
Yes: Bob Soderberg, Bob Williams, Josh Tarantino, Bridget Henk, Russell Ewert, Brian Fisher
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

B. PLM Paving & Concrete, Agent for Phoenix Metals Corp, Property Owner N115 W18945 Edison Drive. Zoning Permit for driveway replacement and repair exceeding maximum width allowance. (ACTION)

Director Retzlaff stated that the proposal includes removing the existing high back curbing and replacing it with mountable curbing and increasing the width of the driveway to 180'. The zoning code states that the Plan Commission can vary the driveway width accordingly. The highway department supports this proposal. Jay Mealey from PLM Paving came forward to point out that they are only taking out the center section of high back curbing.

Staff recommends approval of the Zoning Permit application to reconstruct an existing driveway that will exceed the maximum 35' driveway width allowed under Section 17.45(4) of the Zoning Code for the industrial building located at N115 W18945 Edison Drive in the Germantown Industrial Park subject to the following (1) condition:

1. A Driveway Permit is required.

Motion: Approve as presented
Motioned By: Josh Tarantino
Seconded By: Bridget Henk
Yes: Bob Soderberg, Bob Williams, Josh Tarantino, Bridget Henk, Russell Ewert, Brian Fisher
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

C. City Signs Service, Agent for ID Logistics and F Street Germantown, LLC, Property Owner. Sign Review application for ID Logistics at N104W12659 Donges Bay Road. (ACTION)

Associate Planner Yanke went over the sign proposal which included 2 signs; one on the North and the Eastern exterior walls.

Staff recommends approval of the proposed sign plan for ID Logistics for property located at N104W12659 Donges Bay Road.

Motion: Approve as presented
Motioned By: Josh Taratino
Seconded By: Brian Fisher
Yes: Bob Soderberg, Bob Williams, Josh Tarantino, Bridget Henk, Russell Ewert, Brian Fisher
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

D. Michaels Signs Inc., Agent for CQ WI 2021 LLC, Property Owner N128W20833 Holy Hill Road (Capstone 41 Business Park). Sign Permit application for wall, monument, and on-site directional signage. (ACTION)

Director Retzlaff went over the sign proposal, which is for signage on Buildings 2 & 3, including a monument, wall and onsite directional signage.

Staff recommends approval of the proposed wall, monument, and on-site directional signs for the Phase II & Phase III industrial buildings located at N128 W20955 & W20833 Holy Hill Road in the sign specification package dated March 6, 2026, subject to the following condition:

1. Applicant/owner shall obtain electrical permits from Inspection Services prior to sign installation.

Motion: Approve as presented
Motioned By: Josh Taratino
Seconded By: Bob Williams
Yes: Bob Soderberg, Bob Williams, Josh Tarantino, Bridget Henk, Russell Ewert, Brian Fisher
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

VI. COMMUNITY DEVELOPMENT DIRECTOR'S REPORT:

A. Status of Village Center District Community Engagement & Holy Hill Gateway District Master Plan Projects

B. Update on Recent Storm Water Flooding & Sanitary Sewer Backup Events

C. Status of Approved Residential Development (Sutton Farm, Carillon, and Town 9 Apartments)

VII. NEXT MEETING DATE:

VIII. ANNOUNCEMENTS:

None.

IX. ADJOURNMENT:

Chairman Soderberg adjourned the meeting at 7:15pm.

COMMUNITY DEVELOPMENT DEPARTMENT

DIRECTOR'S REPORT

AUGUST 10, 2026

GERMANTOWN 2050

Planning our future together.

DEPARTMENT ACTIVITIES

- Village Center District – Community Engagement
  - August Activities
    - Community Open House (August 13)
    - Focus Group Meeting (late August-TENTATIVE)

- Holy Hill Gateway District Master Plan
  - August Activities
    - Community Open House (August 25)
    - Focus Groups – Interviews (mid-August through Sept)

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DEVELOPMENT PROJECTS

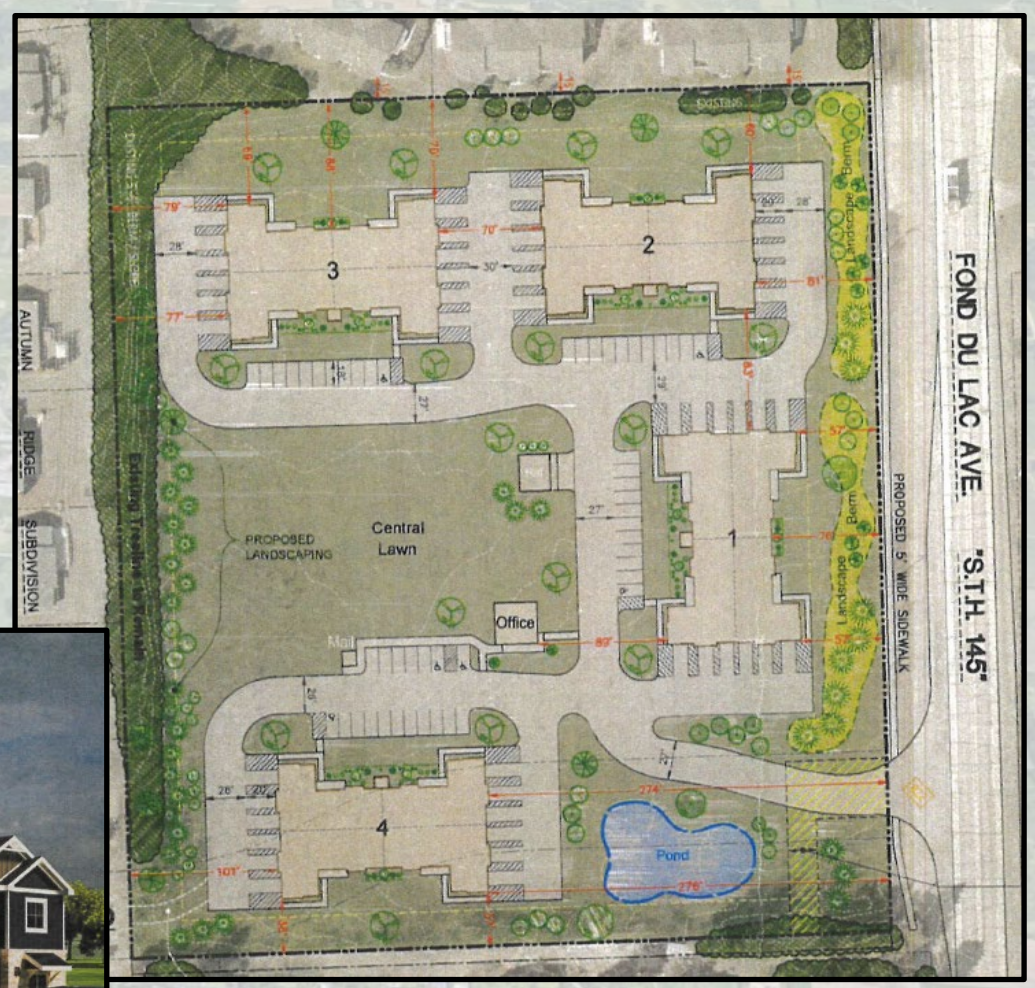
- **Sutton Farm** (271-units; SF-detached, Two-family, SF-attached townhouse)
  - Preliminary Plat – APPROVED
  - Development Agreement – under review
  - Construction Plans – under review
  - Expected Construction:
    - Grading & Blasting – Fall ‘26
    - Roads & Utilities – Spring ‘27
    - Homes (Phase 1) – Summer ‘27

DEVELOPMENT PROJECTS

- **Carillon** (36-units; SF-attached rental)
  - Site Plan – APPROVED
  - Development Agreement – under review
  - Construction Plans – under review
  - Expected Construction:
    - Grading – Fall ‘26
    - Roads & Utilities – Fall ‘26
    - Homes – Spring ‘27

DEVELOPMENT PROJECTS

- **Town 9 Apartments (48-units; MF rental)**
  - Rezoning – APPROVED
  - Site Plan – PC September 14, 2026
  - Development Agreement – TBD
  - Construction Plans – TBD
  - Expected Construction – TBD



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PLANNED DEVELOPMENT DISTRICT (PDD) REZONING & 2050 LAND USE PLAN AMENDMENT

9/14/26 Plan Commission Meeting

"Heyday Germantown" CR Devco LLC, Applicant
Roskopf / Barnes / D&S Weyer II LLC, Property Owners

Village Staff Report & Recommendation ***Germantown, Wisconsin***

SUMMARY

Ryan Swingruber, Agent for CR Devco LLC, and the property owners is requesting approval of applications to amend the 2050 Future Land Use Plan, create a Planned Development District (PDD) known as "Heyday Germantown", and rezone 71.34 acres from the A-1 & A-2: Agricultural Districts into the Heyday Germantown PDD for purposes of developing a 256-unit multi-family residential community located on Lilac Lane east of Schoen Laufen Park and west of Division Road.

Location: Lilac Lane ¼-mile west of Division Road (east of Schoen Laufen Park)

Applicant/
Property Owners:

CR Devco LLC	Roskopf Family	D&S Weyer II LLC
44 S. Vail Ave	8314 Gateway Ct	John & Mary Barnes
Arlington Hghts, IL	Greendale, WI	5966 Eagle Point Rd
		Hartford, WI

Current Zoning: A-1: Agricultural (Roskopf) & A-2: Agricultural (D&S Weyer/Barnes)
Proposed Zoning: Rm-1 Multi-Family w/ Planned Development District (PDD) Overlay

Adjacent Land Uses		Zoning
North	Agricultural/Professional Office	A-1/B-4
South	Agricultural/Residential	A-1/A-2/Rs-2
West	Institutional	I
East	Residential/Elderly Housing	Rs-1/EH

Location Map

Proposal

Ryan Swingruber, Agent for CR Devco LLC, and the property owners (Daniel, Douglas & Todd Roskopf, John & Mary Barnes, and the D&S Weyer No. II LLC) is requesting approval of the following applications for purposes of developing a 256-unit multi-family residential community located on Lilac Lane west of Division Road:

1. Amend the 2050 Future Land Use Plan to reclassify 40-acre "Roskopf parcel" from "Schoen Laufen-Menomonee River District" to the "Lannon-Mequon Road Corridor";
2. Create a Planned Development District (PDD) with an underlying Rm-1: Multi-Family Residential District known as "Heyday Germantown"; and
3. Rezone 71.3 acres from the A-1: Agricultural (39.2 acres) & A-2: Agricultural District (32.1 acres) into the Heyday Germantown PDD

Summary Description of Proposed Development

As shown in the General Development Plan (GDP), Heyday Germantown is a proposed residential neighborhood comprised of 256 one-story ranch & two-story townhouse units in 45 separate buildings each with 4, 6 or 8 units per building. The units are interconnected with private streets, sidewalks, pedestrian pathways, and interior and perimeter open space amenities. Table 1 presents a summary of the proposed residential neighborhood characteristics:

TABLE 1.
Heyday Germantown

Total Development Area	71.34 ac (gross)
Open/Green Space/Stormwater/Wetland/Woodland	47.1 ac (66.0%)
Impervious (Total)	24.2 ac (34.0%)
Building/Patio	12.8 ac
Sidewalk/Path/Trail	3.2 ac
Private Road/Drive/Parking	8.2 ac
Dwelling Units	
Total Dus in 4, 6 & 8-unit buildings (45 buildings total)	256
Gross Density (DU/ gross ac)	3.6
Net Density (DU/net ac excludes wetland/floodplain/ROW)	4.0
1-story attached DUs	226
2-story townhouse DUs	30

To accomplish the proposed mix of housing units within the new neighborhood, the Developer is proposing to create a Planned Development District (PDD) based on the Village's Rm-1: Multi-Family Zoning District. The General Development Plan (see Figure 1 below) and specific zoning regulations will guide development and use of the property.

Figure 1- GENERAL DEVELOPMENT PLAN (GDP)

Housing Types & Rental Rates

As detailed in the document titled "Potential Rents & Affordability Analysis" contained in the packet, the portfolio of housing types proposed for Heyday Germantown include the following floor plans, configurations, and estimated monthly rents as generally depicted in the General Development Plan (GDP) and the color elevations and renderings included in the application packet:

Floor Plan	Config.	Beds/Baths	Gar.	Liv. SF	Mo. Rent	Rent/SF	Units	% Mix
Wisconsin (A)	Ranch	1 BR / 1 BA	2-car	1,034	$2,169	$2.10	24	9.4%
Elkhart (B-ALT)	Ranch	2 BR / 1 BA	2-car	1,166	$2,354	$2.02	32	12.5%
Menona (C)	Ranch	2 BR / 2 BA	2-car	1,369	$2,631	$1.92	32	12.5%
Geneva (D)	Ranch	2 BR / 2 BA	2-car	1,480	$2,769	$1.87	78	30.5%
Mendota (F)	Ranch	3 BR / 2 BA	2-car	1,730	$3,138	$1.81	60	23.4%
La Belle (TH-C)	Townhome	3 BR / 2.5 BA	2-car	1,597	$2,954	$1.85	30	11.7%
PORTFOLIO AVG				1,457	$2,752	$1.89	256	100%

The intention is to build all 256 units without interruption once construction has commenced; however, the decision to phase construction has not yet been finalized. If phased, the development would be completed in two phases with the number, type and location of units in each phase as shown in the figure below.

Figure 2- Conceptual Phasing Plan

Vehicle & Pedestrian Access and Circulation

Access to the development will be provided by connections to three (3) existing public streets: (1) River Lane will be extended from the north; Virginia Avenue to the east; and Lilac Lane to the south. Private streets internal to the development will provide access and circulation to the (45) multi-unit buildings, walking trails, and other open space amenities. Sidewalks will be constructed on one side of all private streets. Additional pedestrian access through the neighborhood will be provided via paved pedestrian paths. All access intersection, street, and pedestrian path improvement costs are the responsibility of the Developer.

Water & Sanitary Sewer Utilities

Private water main and sanitary sewer will be extended westerly along Virgina Avenue to the east side of the property and then looped into and through the property to serve the development. A private system comprised of a lift station, forcemain, and sanitary sewer will be installed in and serve the Heyday community. Sewer will be extended to the north along the extension of River Lane and be available to tie into a separate private lift station that serves the Aurora clinic on River Lane. The Heyday lift station will be gravity-fed and located in the southeast corner of the site and a force main will direct sewer flow north and east to Virginia Avenue. Eventually, if/when additional development along the south side of Lilac Lane occurs, both the Aurora and Heyday lift stations will be abandoned with the sewer flows from both directed south by gravity sewer and tie into future public sewer going east along Lilac Lane. All water & sanitary sewer improvement costs are the responsibility of the Developer.

Storm Water Management

The existing site generally drains from east to west. The proposed development includes an 8.43-acre storm basin with private on-site storm sewers, ditches, and sheet flow designed to drain the development to the west storm water detention basin with eventual discharge to the Menomonee River. All storm sewer improvement costs are the responsibility of the Developer.

Open Space, Landscaping, and Buffering

The proposed Heyday development is designed as a "conservation subdivision" with smaller building footprints clustered in areas with common open space within and around the perimeter of the development. An existing wooded area and 2.17-acre wetland in the northeast corner of the site adjacent to Schoen Laufen Park will be preserved (and possibly dedicated to the Village to accommodate a segment of the Village's trail plan along the Menomonee River). A total of 47.1 acres of open space (66% of the site) provides a perimeter buffer and central greenway with gathering spaces, a network of trails running through the development with connections to off-site locations to the north, east, south, and into Schoen Laufen Park. The Developer has indicated a willingness to dedicate a portion of the northwest corner of the site to the Village for future use as a public trail AND grant a public easement over the central greenway trail to allow non-residents access through the Heyday development to/from Schoen Laufen Park and wherever the trails lead.

More details about the proposed Heyday development are provided in the project narrative and other supplemental information provided by the developer contained in the meeting packet.

2050 Future Land Use Plan Amendment

To develop the Heyday residential community as proposed, the Village's 2050 Future Land Use Plan will have to be amended. As shown in the 2050 Future Land Use Plan map below, the westerly 39+ acres (i.e. the "Roskopf" parcel) would have to be reclassified from the current "Schoen Laufen-Menomonee River District" (GREEN) to the "Lannon-Mequon Road Corridor" (BLUE).

The Schoen-Laufen Menomonee River District includes the environmentally sensitive land associated with the Menomonee River corridor and Jefferson Ditch west of Division Road. Although there are a small number of existing, large-lot residential parcels along Maple Road and Lilac Road, this District is intended to remain as undeveloped open space except for those existing residential and institutional uses (Schoen-Laufen Park). The easterly 32+ acres (i.e. the "Barnes" parcel) lies in the "Lannon-Mequon Road Corridor".

This corridor is intended to continue the existing pattern of mixed uses, including commercial, institutional, and residential development at single-family densities up to 2.9 DU/acre and multi-family densities up to 10 DU/acre.

PREFERRED FUTURE LAND USE

Lannon-Mequon Road Corridor

Preferred Future Land Uses												Enviro Corr.	SSA	Preferred Site Design			Maximum Density (residential uses)
Existing Uses (+ existing non-conforming zoning) See NOTE 5 for details	Residential: Single Family	Residential: Two to Four Family	Residential: Multi-family / Senior	Mixed-Use: Commercial / Residential	Mixed-Use: Commercial / Industrial	Commercial (includes "Activity Centers")	Institutional	Open Space & Recreational	Mineral Extraction	Industrial	Agricultural / Hobby Farming / Agribusiness	Contains an Environmental Corridor?	Sewered? (Y/N/Partial)	Traditional Neighborhood	Suburban Subdivision	Conservation Subdivision**	Dwelling Units / Acre See NOTE 4 for details
A	A	A	A	A	A	D	A	A	u	u	u	Yes	P	D	U	U	SF: 2.9 units/ac 2-4F: 6 units/ac MF: 10 units/ac

Planned Development District (PDD) Creation & Rezoning

The Developer is also proposing to create a Planned Development District (the "Heyday Germantown PDD") and rezone the entire 71.34-acre property out of the current agricultural districts that apply and into the new PDD with appropriate residential zoning district regulations based on the Rm-1: Multi-Family District consistent with the "Lannon-Mequon Road Corridor" density provisions.

As stated in the project narrative and shown in the General Development Plan, the Developer is proposing the following zoning changes:

- Rezone 71.34 acres of land from the A-1: Agricultural District & A-2: Agricultural District into the Rm-1: Multi-Family District;
- Create a Planned Development District (PDD) for the entire 71.34-acre property with a General Development Plan and set of restrictions that specifies a maximum of 256 multi-family units at a density not to exceed 3.6 dwelling units/acre

The proposed densities are less than the maximum allowed in the Rm-1 District (maximum 6 DU/acre) and significantly less than the maximum densities prescribed for the "Lannon-Mequon Road Corridor" (up to 10 DU/ac for multi-family). Further, the PDD District will allow more "flexibility" to provide a more creative layout of buildings consistent with the "conservation design" development concept, e.g. large areas of open space with clustered buildings and narrower setbacks.

To facilitate the proposed layout, the Developer is proposing minor modifications to the basic Rm-1 District bulk regulations including setback requirements that allow the buildings to be closer to each other while increasing setbacks to the property line.

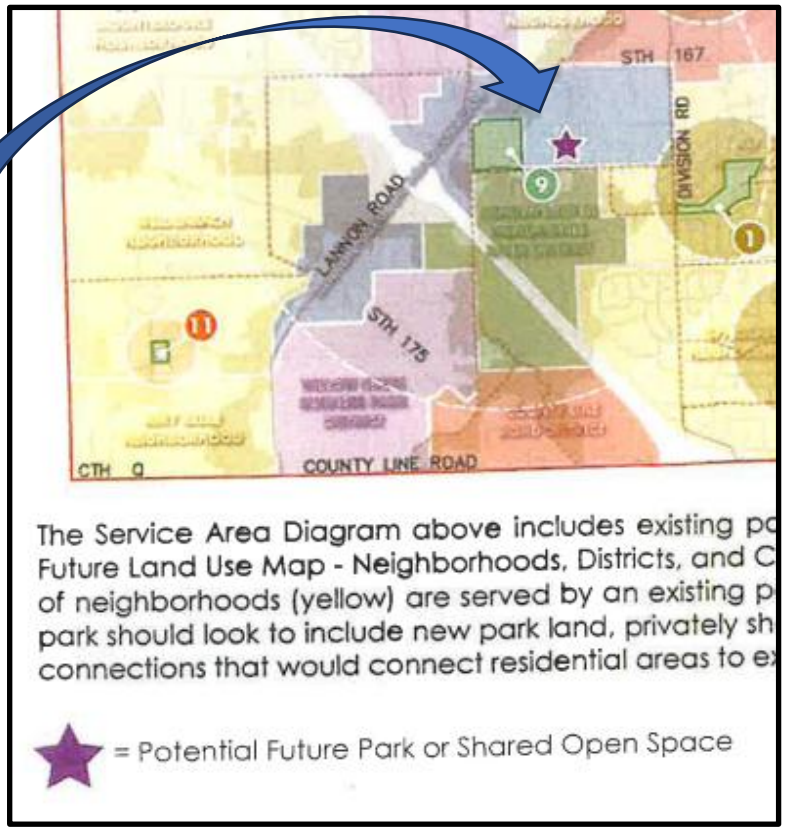
NOTE: If the development proposal moves forward, a separate PDD Conditions & Restrictions resolution containing -specific bulk regulation allowances, references to the detailed general development plan, and any other conditions of approval deemed appropriate by the Village, will be prepared by Staff at the time the PDD is considered by the Village Board.

Staff Comments: Planning & Zoning

2050 Plan Amendment – Future Village Park Designation

A component of the 2050 Plan (by reference and through the Implementation Element) is the Village's Comprehensive Outdoor Recreation Plan (CORP) that was adopted in 2019 prior to adoption of the 2050 Plan in 2022. At the time the 2050 Plan was adopted, including the Future Land Use Plan map that classified the "Roskopf" parcel as part of the "Schoen Laufen-Menomonee River District", the Village was contemplating relocating the existing Little League baseball facility on Division Road to the Roskopf parcel in order to make way for a new and expanded Department of Public Works facility at the existing Division Road @ Fond du Lac Ave site. When the decision was made to locate the DPW facility to a new location on Donges Bay Road, relocation of the Little League facility as part of developing a new sports complex was dropped from further consideration.

However, as pointed out by the Village's Park & Recreation Director, Gil Standridge, in an August 17 memorandum to the Plan Commission (copy included in the meeting packet), the CORP adopted a plan for future park sites that included a "Future Park or Shared Open Space" designation in the vicinity of the Roskopf parcel (see inset map).



Additionally, the Village's Pedestrian & Trail Recreation Plan adopted in 2022 includes a river trail along the west side of the Menomonee River through Schoen Laufen Park and adjacent properties, including the northwest corner of the Roskopf parcel.

These facts are brought to the attention of the Plan Commission and Village Board for consideration with respect to the 2050 Plan amendment and overall Heyday development proposal. Put another way, now is the time for the Village to decide if it is going to follow through to implementation of what is planned in the adopted in the CORP and Pedestrian & Trail plans. Approval of the 2050 Plan amendment and rezoning will effectively eliminate any further idea or plan the Village has to acquire the Roskopf (or Barnes) parcels for development and use for public park purposes.

It should be noted that the statement made by the Director in the August 17 memo may be more "wishful thinking" when compared to what is actually stated in the CORP. The Director refers to the 40-acre Roskopf property east of Schoen Laufen Park as THE designated location for a community park, community center, and athletic or "youth sports complex". However, other than the future park or shared open space "purple star" found in the diagram on page 27 of the CORP (see diagram above), there is no reference to the 40-acre Roskopf property found anywhere in the CORP nor any statement indicating that the Roskopf parcel is suitable and preferable for any type of park, much less a community park, community center, or outdoor youth sports complex.

Further, there is no mention of ANY specific location having already been determined for such a park facility but only a statement that there is a need for a feasibility study for such a facility. Further, on page 64 where the Goals & Objectives of the CORP are listed Objective 2.1 is the only one that refers to an "outdoor sports complex" and it states as follows: *"Pursue an Outdoor Sports Complex Feasibility Study that identifies a potential location and design for active recreation facilities"*. Again, the CORP is non-specific when it comes to identifying where, how big, and for what specific purposes such an outdoor sports complex should be.

While it may be true that there are or have been a number of plans that were drafted for an outdoor sports or youth sports complex on the Roskopf property dating as far back as the early 2000's, the reality is that none of those plans were ever adopted by the Village Board in any previous CORP, capital improvement program or other formal document or process. For all intents and purposes, one might argue that such plans represent little more than wishful thinking at this point in time... at least and until the feasibility study called for in the CORP has been conducted.

With that said, it should be noted that the “purple star” designates the area shown as a “Future Park or Shared Open Space”. Arguably, the Heyday proposal is consistent with that designation given that it includes just that… a “shared open space” in the form of a public easement over the central open space area and trails that non-residents can use to travel through the development to access Schoen Laufen Park and beyond.

The Developer provides an extensive explanation as to how the Heyday proposal is not only consistent with but also furthers various objectives of the 2050 Plan and justification supporting the proposed 2050 Plan amendment in the project narrative and other documents in the meeting packet.

NOTE: The Park & Recreation Director has indicated that he and the Chairman of the Village’s Park Commission will attend the Sept 14 PC meeting and available for questions.

While the Park Commission has not yet made a formal recommendation regarding the Heyday proposals, the Commission is scheduled to meet in Late September to discuss the Heyday proposal and the issue of the "future park or shared open space" designation that appears in the CORP. If the Commission makes a formal recommendation, it will go on to the Village Board for its consideration.

2050 Plan Amendment - Land Use & Density

As indicated previously, the "Lannon-Mequon Road Corridor" is intended to further develop as a mixed-use area with commercial, institutional, and residential development. With respect to residential, development can be in in the form of either a traditional or conservation design pattern with single-family densities up to 2.9 DU/acre on 15-20,000 sqft lots; two and four-family densities up to 6 DU/acre; and multi-family densities up to 10 DU/acre.

The Heyday proposal includes a total of 256 dwelling units at a maximum density of 3.6 DU/acre (gross) consistent with the parameters for residential development allowed in the "Lannon-Mequon Road Corridor". Although commercial land use is the only "desirable" land use intended within the Corridor, "acceptable" land uses include all types of residential uses including those proposed in the Heyday development.

Despite abutting commercial/professional office uses to the north (Aurora Clinic), to the northeast (Stonegate Office Park), and institutional uses to the east (nursing home & adult CBRF), Staff believes this property is best suited for residential (vs. commercial) development. The property abuts existing large-lot, single-family residential parcels south of Lilac Lane. The Heyday development provides a step-down in intensity of uses from the north to the south.

The maximum density for multi-family residential development allowed in the "Lannon-Mequon Road Corridor" is 10 DU/acre regardless if it is owner-occupied condominiums, rental apartments, or any other multi-unit residential types in between… ownership or rental. Staff's vision for future residential development in the "Lannon-Mequon Road Corridor" as well as other corridors in the Village is one where the type of dwelling units and buildings will vary within the corridor and not necessarily be all of one type or density (unlike the existing single-family residential "neighborhoods" designated in the 2050 Plan). Other than the two parcels that comprise this development site, most if not all the remaining developable or potentially re-developable parcels in the "Lannon-Mequon Road Corridor" are under 10 acres in size with many in the 3 to 10-acre range. Staff believes that development densities at or near the maximum 10 DU/acre should be reserved for those smaller parcels in order to encourage infill development and re-development of those smaller parcels or other parcels that have challenging characteristics or land use compatibility issues. Staff supports the proposed 3.6 DU/acre density for the 71.34-acre site.

Residential Housing & Market Demand

It should be noted that the proposed Heyday residential community meets many of the objectives contained within the Housing element under the Implementation section of the Village's 2050 Comprehensive Plan. The 2050 Plan provides the following:

> "*Developing a diversity of housing choices is also an important part of community resiliency, allowing residents of all ages to grow up and stay in the community through all life's stages and encouraging inter-generational interaction and support. Diverse housing choices are also important for Germantown's economic development, allowing the workers that earn their livelihood in Germantown the opportunity to live in the Village as well. Finally, a diverse housing stock can help ensure that living in Germantown is accessible to residents of various income levels and family sizes.*"

The development not only meets this goal/objective laid out in the 2050 Plan, but it also provides for a needed housing product in the Village as specified in the Residential Market Analysis prepared by Tracy Cross & Associates, Inc., dated February 9, 2024. The Heyday proposal is consistent with and intended to satisfy an existing market demand for new rental housing in the Village's target household annual income range of $50k-$150k as identified in the Tracy Cross report. As shown in the table above, rental prices will range from $2,100/month for a 1-bed/1-bath unit w/ private entrance, patio and attached 2-car garage up to $3,100/month for a 3-bed/2-bath unit w/ private entrance, patio and 2-car attached garage (average of $2,700/month).

Single-Family vs. Multi-Family Housing Ratio

In 2025, staff was directed to keep track of the Village's ratio of multi-to-single-family housing units. Using January 1, 2024, estimate as a baseline, the table below presents the effect of the proposed Heyday development on the number and ratio of single-family vs. multi-family housing units in the Village (middle table). The cumulative effect of the Heyday development plus all other residential developments approved since Jan 1, 2024, is also shown below (lower table).

Baseline (Jan. 1, 2024)	Total Units	Single-Family Units	Multi-Family Units	Single-Family to Multi-Family Ratio	
				% SF Units	% MF Units
Housing Units	8,619	6,464	2,155	**75.0%**	**25.0%**

Heyday		Total Units	Single-Family Units	Multi-Family Units	Single-Family to Multi-Family Ratio	
SF Units:	0	8,875	6,464	2,411	% SF Units	% MF Units
MF Units:	256				**72.8%**	**27.2%**

Cumulative (Jan. 1, 2024, to Sept. 1, 2026)		Total Units	Single-Family Units	Multi-Family Units	Single-Family to Multi-Family Ratio	
SF Units:	169	9,234	6,633	2,601	% SF Units	% MF Units
MF Units:	446				**71.8%**	**28.2%**

Residential Development Included in Cumulative Total:		
Sutton Farm - Home Path Financial; 2025	169 SF	102 MF
Carillon - Cirrus Development Corp.; 2025	0 SF	36 MF
Virtus Townhomes; 2026	0 SF	4 MF
Town 9 Apartments/ Pre-3; 2026	0 SF	48 MF

As shown in the table above, the net effect of the Heyday proposal alone would increase the percentage of multi-family units in the Village from 25.0% to 27.2% (+2.2%) and the cumulative effect of the Heyday proposal combined with the four (4) previously approved residential developments since January 1, 2024, would increase the percentage of multi-family units in the Village from 25.0% to 28.2% (+3.2%).

NOTE: Although the table above counts 102 units in Sutton Farm as multi-family because the units are in buildings with multiple units per building, these 102 units are being developed as owner-occupied condominium units and not rental units as are the units in the other residential developments listed (Carillon, Virtus, Town 9 Apartments, and Heyday).

Financial Impact: Annual Property Tax

As summarized in the table below, the Heyday development is expected to generate approximately $363,250 in annual property tax revenue for the Village of Germantown (only); $541,400 for the Germantown School District; and a total of approximately $1,080,700 in annual property tax revenue for all taxing jurisdictions (including MATC and Washington County).

Housing Type	Units	Projected Value (avg per unit)	Estimated Total Value	Estimated 2026 Property Taxes (Village Germantown)	Estimated 2026 Property Taxes (Germantown School Dist)	Estimated 2026 Property Taxes (ALL Taxing Jurisdictions)
Multi-Family	256	$ 308,600	$ 79,000,000	$ 363,242	$ 541,387	$ 1,080,641
Total	**256**		**$ 79,000,000**	**$ 363,242**	**$ 541,387**	**$ 1,080,641**

Financial Impact: Village Impact Fees

As summarized in the table below, the Heyday development is expected to generate approximately $2,242,160 in one-time impact fee revenue for the Village of Germantown:

RESIDENTIAL			
Impact Fee Type	**Units**	**2026 Fee**	**Total**
Water Connection	256	$ 1,003	$ 256,768
Sewer Connection	256	$ 5,414	$ 1,386,094
Police Protection	256	$ 148	$ 37,888
Park & Recreation	256	$ 1,311	$ 335,616
Library	256	$ 711	$ 182,016
Fire Protection	256	$ 171	$ 43,776
Total			**$ 2,242,158**

The Developer has prepared a comprehensive summary of the projected financial impacts of the Heyday development in a single sheet found in the meeting packet (repeated below).

HEYDAY GERMANTOWN

Fiscal Impact Summary

256 homes • 71.34 acres • $0 Village financial assistance • Private financing only

ANNUAL PROPERTY TAX	ONE-TIME IMPACT FEES	NEW ASSESSED VALUE	CURRENT SITE TAX REVENUE	VILLAGE FINANCIAL ASSISTANCE
$1.0M–$1.1M	$2,242,158	$75M–$79M	$443 / yr	$0
Village portion: $345K–$363K	police, fire, library, parks — at permitting	added to Village tax base	71.34 acres generating almost nothing	no TIF, no public financing
total across all taxing jurisdictions				

Heyday Germantown is estimated to generate $1.0M–$1.1M in total annual property taxes across all jurisdictions — with $345K–$363K flowing directly to the Village. The site currently produces $443/year. No TIF, no abatement, no strings attached.

VILLAGE PROPERTY TAX — IN BUDGET CONTEXT

2026 General Fund Revenue	$22,841,423
Property Tax Share of Revenue	57.4%
2026 Property Tax Levy	$13,101,043
Heyday total annual taxes (all jurisdictions)	**$1,000,000–$1,100,000**
→ *Village of Germantown portion*	*$345,000–$363,000*
Current site annual tax revenue	$443 / yr

LEVY CAPACITY EXPANSION

Under Wisconsin's levy limit, the Village can only increase its levy in proportion to net new construction. Heyday's $75M–$79M in new assessed value expands the Village's levy capacity while lowering the effective tax rate for all existing Germantown residents.

IMPACT FEES — HEYDAY vs. VILLAGE ANNUAL BUDGET

Impact Fee Fund	2026 Budget	Heyday*
Water & Sewer Impact	—	$1,642,862
Police Impact	$19,500	$37,888
Fire Impact	$36,600	$43,776
Library Impact	$13,650	$182,016
Parks & Rec Impact	$33,000	$335,616
TOTAL IMPACT FEES	**$102,750**	**$2,242,158**

ADDITIONAL ONE-TIME PERMIT & FEE REVENUE — 2027 RATES

Building Permit	**$223,012**
Electrical, Plumbing & HVAC Permits	**$152,054**
Plan Review, Inspection, Occupancy & Records	**$130,020**
Site Erosion Control & Improvement Review	**$13,249**
Zoning / Entitlement Application Fees	**$24,330**
TOTAL PERMIT & FEE REVENUE	**$542,665**

School District Student Enrollment Impact

The proposed Heyday development is located within Germantown School District (GSD) Attendance Area #47 which feeds County Line Elementary School. Based on a student generation rate of 0.11 students/new multi-family unit recommended in the MDRoffers June 2025 Report (titled *Community Growth & Students Enrollment Projection Report* dated June 2, 2025), the 256-unit Heyday development can be expected to generate a total of approximately twenty-eight (28) school-aged children (4K-Grade 12 students).

According to the Roffers Report, a total of 126 new dwelling units (26 single-family and 100 multi-family) are included in the assumed growth projections for Attendance Area #47 through the Year 2040. Area #47 is the same attendance area within which the recently approved 36-unit Carillon residential development is located. As shown in the table below, the number of units assumed in the Roffers Report to develop by 2040 is different than what has recently been approved or proposed.

Proposed Development	# Dwelling Units by Type		Student Generation Rates per DU		Total # Projected Students (K-12)
	SF	MF	SF	MF	
Roffers Report	26	100	0.61	0.11	27
Total	**26**	**100**	**1**	**0**	**27**
Carillon	0	36	0.61	0.11	4
Heyday	0	256	0.61	0.11	28
Total	**0**	**292**	**1**	**0**	**32**

Although the type and number of units approved/proposed is both different and higher, the number of projected students is not as significantly different given that there are fewer (none) single-family units approved or proposed than what is assumed in the Roffers Report. As shown above, the 292 multi-family units for the Heyday & Carillon developments are projected to generate 32 students vs. 27 students projected in the Roffers Report being generated from a mix of 26 single-family and 100 multi-family units. This due to the assumption that single-family units having a higher student generation rate (.6 students per unit) than a multi-family unit (.11 students per unit).

Since there has been no other new residential units, single or multi-family, approved or constructed within Attendance Area #47 since the MD Roffers Report was published in June 2025, most (27 out of 32 new students or 85 percent) of the additional student impact expected to be generated from the 256 multi-family Heyday units has already been taken into account in the student enrollment projections and school capacity impacts presented in the MD Roffers report.

Traffic Impact Analysis (TIA) & Access Study

A Traffic Impact Analysis (TIA) and supplemental access study were completed for the proposed Heyday development (see TADI Technical Memorandums dated June 25, 2026).

As summarized in the TIA, the development is expected to generate a total of 135 morning peak-hour trips, 140 evening peak-hour trips, and an overall 1,680 daily trips that will impact the existing local road system and intersections, including:

Roads

- River Lane
- Virginia Avenue
- Maple Road
- Lilac Lane
- Division Road

Intersections

- Mequon Road (STH 167) @ River Lane
- Mequon Road (STH 167) @ Division Road
- Virginia Avenue/Ava Circle @ Division Road
- Lilac Lane/Hawthorne Drive @ Division Road
- Lilac Lane @ Maple Road
- Development entrance @ River Lane, Virginia Ave & Lilac Lane

The TIA indicates that all roads and intersections currently operate at an acceptable level of service (LOS "D" or better) during the peak traffic hours on the day and that the impact of additional traffic expected to be generated from the Heyday development, as well as from the Carillon and Culver's developments, will NOT reduce the level of service on the roads and intersections below an acceptable LOS "D" condition during the peak-hours.

Further, the supplemental study of alternatives layouts "with access to Lilac Lane" and "without access to Lilac Lane" have the same conclusions: the amount of traffic expected to be generated from the Heyday development, in combination with additional traffic from the Carillon and Culver's developments, does not drop the level of service along the roads and intersections in the study area below an acceptable level of service (LOS "D" or better).

The distribution of traffic from the Heyday development to the adjacent road system was assumed to be as follows based on existing traffic patterns from other, existing residential development in the area:

- 40% to/from the west on Mequon Road (STH 167)
- 25% to/from the east on Mequon Road (STH 167)
- 5% to/from north on Maple Road
- 5% to/from the north on River Lane
- 15% to/from the south on Maple Road
- 10% to/from the south on Division Road

Because access from the Heyday development includes connections to River Lane (north), Virginia Ave (east, and Lilac Lane (south), development traffic is dispersed onto the road system more easily than if access was from only a single point such as River Lane. Consequently, the traffic impact is less on any given road or intersection serving the development. At the same time, the meandering pattern of privately maintained roads in the Heyday development do not provide an opportunity for non-local traffic to "cut through" the development if River Lane was extended directly through the development as a public road.

Citizen Petition

A petition circulated by Dale Pruitt and Amanda Kaiser and signed by approximately 50 individuals stating various objections to the proposed Heyday development has been received by the Village and is included in the meeting packet. As a reminder, petitions such as this have no legal standing in terms of mandating a particular action or requiring a special number of votes by the Village Board to approve/deny the development applications and overall proposal. Despite what is stated therein, none of the persons who signed the petition are actually owners of land within the "district" (presumably the Heyday

Germantown Planned Development District) and the claim that said persons "…constitute 51 percent or more of the landowners within the boundaries of the proposed district…" has not been verified (but is not correct since the only two property owners of land within the proposed Heyday Germantown Planned Development District are the co-applicants requesting creation of the PDD and rezoning of the 71.34 acres of land within it).

As it stands, the petition is another means by which residents, property owners, and other potentially affected persons can convey their opinions and feedback about the proposed Heyday development.

Other Miscellaneous Comments

1. If the proposed Heyday development moves forward with the 2050 Plan amendment and PDD rezoning approved, a detailed set of Site Development & Building plans will need to be submitted and reviewed/approved by the Plan Commission pursuant to Section 17.43 of the Zoning Code. Said plans to include storm water management, landscaping, signage & lighting, water & sewer utilities, road & intersection construction;
2. A certified survey map (CSM) is required to combine the two parcels that comprise the Heyday Germantown PDD property (GTNV 281-978 & 282-999) Said CSM shall be submitted for Village approval prior to or concurrent with Site Development & Building Plan approval;
3. Detailed landscaping and street tree plans will be required for the common areas, open space, and along the internal private roads consistent with the Village's Street Tree Plan;
4. Prior to Village Board consideration and action on the proposed PDD, a detailed set of "conditions and restrictions" will be drafted by Staff to codify the proposed development features and underlying Rm-1 Zoning District requirements and proposed modifications that will guide development;
5. A Development Agreement (DA) between the Village and Developer is a requirement of the development approval process. The DA is prepared and adopted by the Village's Public Works & Highway Committee and Village Board prior to final approval and acceptance of the detailed construction plans and drawings for all public improvements. The DA contains any developer commitments and other provisions and requirements specific to the proposed development. In this case, Staff recommends that the DA include or otherwise address the following:
    a. Possible dedication of land in the northwest corner of the site for development with a potential river trail consistent with the Village's Pedestrian & Trail Plan and the creation of a public access easement over the central parkway and trail system intended to provide access to non-local (not Heyday) residents

Next Steps

If the Plan Commission is receptive to the proposed Heyday Germantown development proposal and the 2050 Plan amendment and PDD rezoning applications, a recommendation will go to the Village Board for consideration and action. If approved by the Village Board, the following permits/approval will be required from the Village as development proceeds:

1. Certified Survey Map (CSM) or Subdivision Plat
2. Site Development & Building Plan approval
3. Site Grading & erosion control plans & permit
4. Storm water management plan approval
5. Road construction, utility, storm water, and other improvement plans
6. Building permits

VILLAGE STAFF RECOMMENDATION

APPROVE the proposed 2050 Land Use Plan amendment to reclassify 40-acre “Roskopf parcel” from the “Schoen Laufen-Menomonee River District” to the “Lannon-Mequon Road Corridor” as proposed.

APPROVE creating a Planned Development District (PDD) based on the underlying Rm-1: Multi-Family Zoning District to be known as the “Heyday Germantown PDD” and rezoning 71.34 acres from the A-1: Agricultural & A-2: Agricultural Districts into the “Heyday Germantown PDD” subject to the following requirements and conditions:

1. The Rm-1: Multi-Family Zoning District regulations shall constitute the underlying conditions and restrictions for the PDD subject to the Developer proposed modifications and Village staff provisions summarized herein. A complete “conditions & restrictions” resolution establishing all use and development allowances, requirements, and restrictions shall be drafted for review and approval by the Village Board concurrent with review and approval of an ordinance creating the Heyday Germantown Planned Development District (PDD);
2. The General Development Plan dated August 25, 2026, and any subsequent revisions necessary because of satisfying Village approvals shall constitute the General Development Plan (GDP) required under Section 17.27 of the Zoning Code;
3. Developer shall enter into a Development Agreement with the Village pursuant to Section 18 of the Village Code (Subdivision and Platting), as well as, the preparation of detailed construction plans for improvements including, but not limited to public street and intersection improvements, sanitary sewer, water, storm water management facilities, master grading and erosion control, landscaping & street trees, open space trails, lighting and signage. At a minimum, said agreement shall require the review and approval of said plans by Village staff prior to the commencement of construction activities and establish the timing for installation of said improvements (or as otherwise provided therein).
4. A certified survey map (CSM) is required to combine the two parcels that comprise the Heyday Germantown PDD property (GTNV 281-978 & 282-999). Said CSM shall be submitted for Village approval prior to or concurrent with Site Development & Building Plan approval.

NOTICE OF PUBLIC HEARING
VILLAGE OF GERMANTOWN

NOTICE is hereby given that a Public Hearing will be held before the Village of Germantown Plan Commission at the Germantown Village Hall located at N112W17001 Mequon Road, Germantown, Wisconsin and virtually through the Webex platform on the following date and at the time noted below (or soon thereafter):

DATE: Monday, September 14th, 2026
TIME: 6:30pm or later

The purpose of said hearing is to hear any and all parties, their attorneys or agents, for or against the following applications to: (1) amend the 2050 Comprehensive Plan by changing the Future Land Use classification of a 40-acre parcel described below (Parcel 2) from the "Schoen Laufen-Menomonee River District" to the "Lannon-Mequon Road Corridor"; (2) create a Planned Development District (PDD) Zoning District for a 72 +/- acre area comprised of Parcel 1 & Parcel 2 described below; and (3) rezone Parcel 1 from the A-2: Agricultural Zoning District and Parcel 2 from the A-1: Agricultural Zoning District into the newly created PDD Zoning District for the purpose of developing a 256-unit residential community referred to as "Heyday Germantown":

Applicant: CR Devco, LLC, Agent for Daniel, Douglas & Todd Roskopf and D&S Weyer No II LLC/John P & Mary Ann Barnes, Property Owners

Property Description (Parcel 1)
Tax Parcel GTNV 281-978 (32 acres)
LOT 2 of CSM 3635 in the SW ¼ of the NE ¼ of Section 28, Township 9 North, Range 20 East, Village of Germantown, Washington County, Wisconsin

Property Description (Parcel 2)
Tax Parcel GTNV 282-999 (40 acres)
SE ¼ of the NW ¼ of Section 28, Township 9 North, Range 20 East, Village of Germantown, Washington County, Wisconsin

A copy of the application(s) and a map showing the property described above are on file at the Community Development Department-Planning & Zoning Services office in the Germantown Village Hall.

Citizens wishing to submit any public comments should do so by sending them by email to: comments@germantownwi.gov no later than 4:00pm on the meeting date listed above.

Donna Ott, Village Clerk
Dated this 19th day of August 2026

To Be Published On: August 26th & September 2nd, 2026

VILLAGE OF GERMANTOWN
PLAN COMMISSION · PUBLIC HEARING

HEYDAY GERMANTOWN

Comprehensive Plan Amendment &
Planned Development District Rezoning

256 rental homes · 71.34 acres · 3.59 du/ac · 65.9% green space

September 14, 2026

Ryan Swingruber · Josh Wohlreich · CR Devco, L.L.C. (d/b/a Heyday)

WHAT WE'LL COVER TONIGHT

First, the proposal itself. Then the three topics we heard most about over a year of listening.

THE PROPOSAL

256 rental homes on 71.34 acres — what they look like, who lives in them, and what the public gets

TOPIC 1

1

Comp Plan Alignment

A minor amendment to one parcel — to a use lighter than it once carried — that keeps the green space and trails the plan intends.

TOPIC 2

2

Stormwater

How the plan captures and controls runoff that today sheets west, uncontrolled, across the site.

TOPIC 3

3

Fiscal Contribution

New tax base, impact fees and ratepayers for the Village — at $0 public cost.

THE PROPOSAL

A neighborhood of 47-acres of green space, 1.44 miles of walking trails and 256 single family rental homes

Single-story focused. House-scale buildings. Private garages and front porches. Two thirds of the site kept green, with a public trail to Schoen Laufen Park. A significant fiscal contribution at $0 public cost.

HOW WE GOT HERE

After our November 2025 concept review, the Village asked us to take our time — to listen before we asked. We did. Tonight is roughly eleven months and dozens of conversations later, and the plan you just saw reflects every one of them.

Nov 10, 2025
Concept plan review — Plan Commission

Winter–Spring 2026
Trustee, staff & stakeholder meetings

Jun 23, 2026
Public meeting — Germantown Library

Jul 28, 2026
Parks Board presentation

Sep 14, 2026
Plan Commission — tonight

WHO WE LISTENED TO — AND WHAT WE DID

THE VILLAGE

- ✓ Village President & Board trustees
- ✓ Board candidates, contested districts
- ✓ Finance Director — fiscal validation
- ✓ DPW Director — blasting & utilities
- ✓ Engineering staff — stormwater & design
- ✓ Village staff — a half-dozen meetings

THE COMMUNITY

- ✓ School Board President & Superintendent
- ✓ Economic Development Commission
- ✓ Neighbors & concerned citizens
- ✓ Candidate Forum & GGF — observed
- ✓ Tim O'Brien Homes — for-sale feasibility

ACCESS & TRANSPARENCY

- ✓ Public meeting at the library
- ✓ Heyday Oak Creek property tours
- ✓ Parks Board presentation
- ✓ Public website — plans, Q&A, materials
- ✓ Every concern logged with a response

None of this was rushed. It was intentional, transparent, and inclusive — we listened even to those opposed, and the plan changed dramatically because of it.

THE SITE PLAN

71.34 acres at Lilac Lane and North River Lane — homes clustered along the corridor edge, the west third kept as basin, trail, and green space beside Schoen Laufen Park.

RINKA site plan, July 28, 2026 — conceptual, not for construction.

THE PROGRAM

256
rental homes in 45 house-scale buildings

226 + 30
single-story homes + two-story townhomes

24 · 142 · 90
one-, two- and three-bedroom homes

3.59
homes per acre — gross

65.9%
of the site kept green — 47.01 acres

1.44 mi
of public trail, pavilion & lookout

Two phases. Private interior streets with sidewalks · central lawn, leasing & mail · passive play area · lookout over the basin · pavilion and trail connection to Schoen Laufen Park · 1,094 parking spaces (512 garage, 512 driveway, 70 guest) · 60-ft minimum setback and landscape buffer along Lilac Lane.

THE HOMES

Rental homes, not apartments — every home has its own front door, attached two-car garage, and covered back porch, with no one living above or below.

Single-story homes — 226 of 256

Two-story townhomes — 30

Covered back porches & shared green

House-scale buildings

Four-, six- and eight-home buildings with Craftsman-influenced elevations, front porches and street trees — it reads as a neighborhood of homes.

Private garage & entry

Attached two-car garage plus driveway for every home; a private front door — no shared lobbies, corridors or stairwells.

Built for staying put

Predominantly two- and three-bedroom homes; single-story living with no stairs for downsizers, and in-unit full-size laundry.

One check, everything handled

Rent covers taxes, repairs, landscaping and snow removal. Heyday owns and maintains the whole neighborhood, long-term, with on-site staff.

Renderings: RINKA Architects, July 2026 (conceptual). Program per the RINKA unit matrix and Heyday Germantown Rent & Housing Market Analysis (March 24, 2026).

WHO LIVES HERE — AND WHY

The households Heyday serves in Cottage Grove, Sun Prairie and Oak Creek today — and would serve in Germantown.

WHY SOMEONE CHOOSES HEYDAY

- A home and a garage without a mortgage, roof maintenance, or a snowblower or lawnmower
- Single-story, no stairs — stay in Germantown as needs change
- A front porch, sidewalks, a trail out the back door, and neighbors
- Long-term ownership and on-site management — the same owner for decades

Downsizers & empty nesters

Germantown homeowners ready to leave the upkeep of a house but not ready for senior living. They stay in the community — and their house goes back on the market for the next family.

Young families getting started

Couples who need more than an apartment but are still saving for a down payment. Heyday lets them live in Germantown now and buy here later.

Newcomers to the area

Professionals relocating to the Milwaukee region who want to know a community before they buy a home in it.

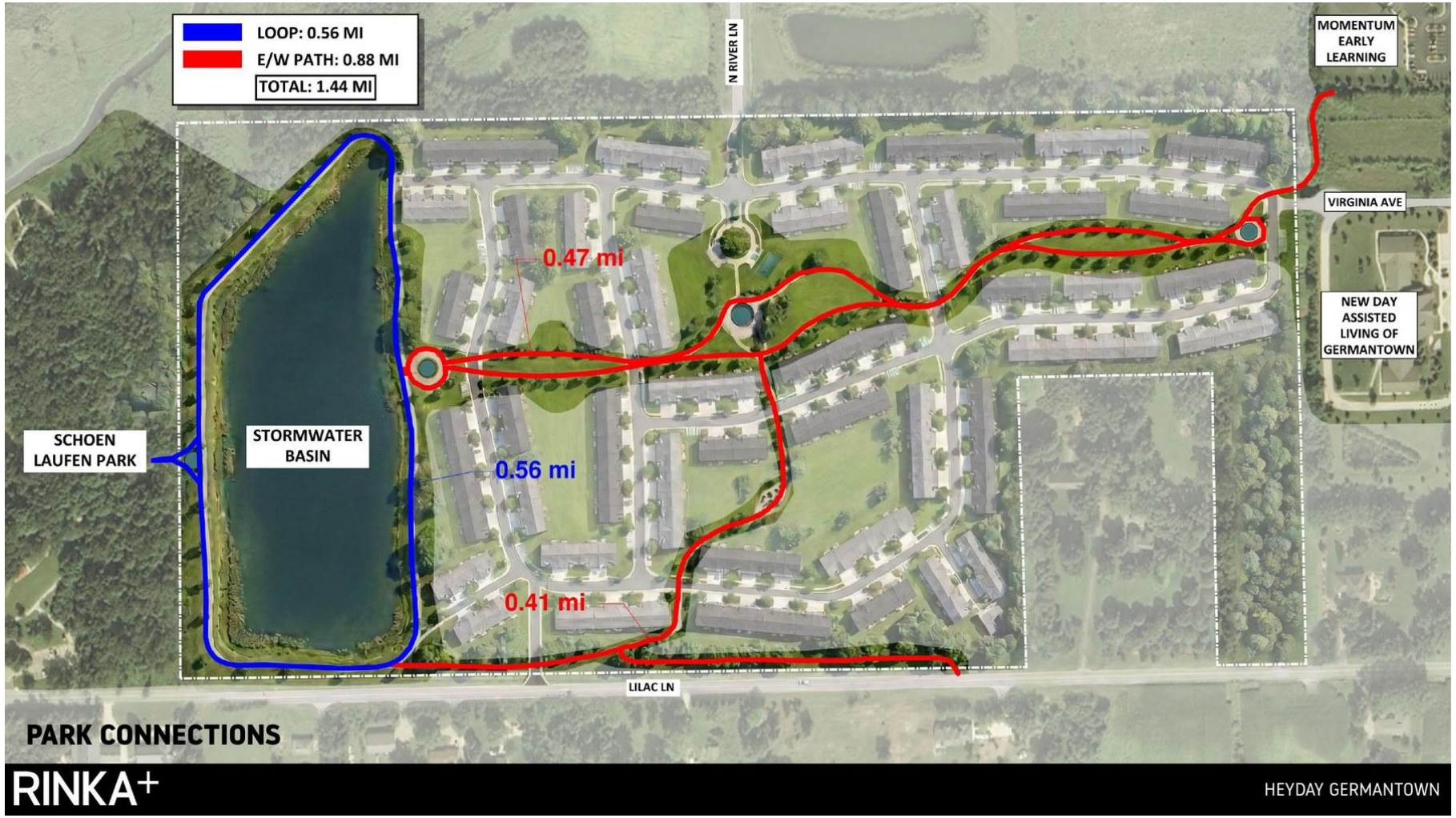
Renters ready for more

Households in conventional apartments who want a garage, a private entrance, and a yard — without leaving the Village.

Track record: Heyday Sun Prairie (170 homes, 95% occupied) and Heyday Oak Creek (130 homes, 99% occupied) — average stays over three years, a predominantly working-age adult demographic, and minimal school enrollment.

PARK CONNECTIONS — 1.44 MILES OF PUBLIC TRAIL

A public trail network connecting Schoen Laufen Park, the neighborhood, and Virginia Avenue.



A 0.56-mile loop around the stormwater basin plus east–west paths — **1.44 miles total, built and maintained by Heyday** under a recorded public-access easement.

WHAT THE PUBLIC GETS — BUILT AND MAINTAINED BY HEYDAY

The Roskopf Trail

The pavilion at the Schoen Laufen connection

A trailhead, trail, and pavilion the Village never has to fund — dedicated green space and a 2.17-acre wetland trailhead, kept public by recorded easement.

HOW THE PLAN EVOLVED

October 2025 to today — the plan grew bigger, greener, and more connected because we listened.

OCTOBER 2025 · FIRST CONCEPT

164 units · ~40 ac as then drawn (Roskopf only) · 4.1 du/ac · no public park

TODAY · AFTER A YEAR OF LISTENING

256 homes · 71.34 ac · 3.59 du/ac · 65.9% green space · public trail, pavilion & lookout

Everything that makes the plan better came from listening — **a larger site, lower density, two thirds of the site kept green, the green corridor to New Day Assisted Living, the public trail, pavilion, lookout, and the improved stormwater basin.**

WHAT WE HEARD

From a year of listening — every trustee, stakeholder, and neighbor willing to meet — two concerns rose above all others.

THEME 1

The Village's fiscal health

Real infrastructure and facility needs — storm and sanitary systems, lift-station upgrades, fire and police. How does the Village pay for what it needs without asking existing residents for more?

THEME 2

Stormwater & flooding

Neighbors and trustees worry that development will worsen flooding in an area that already floods. Basements and lift stations have flooded in recent storms.

Tonight we start with the plan question, answer stormwater, and close with what the project contributes to the Village.

1

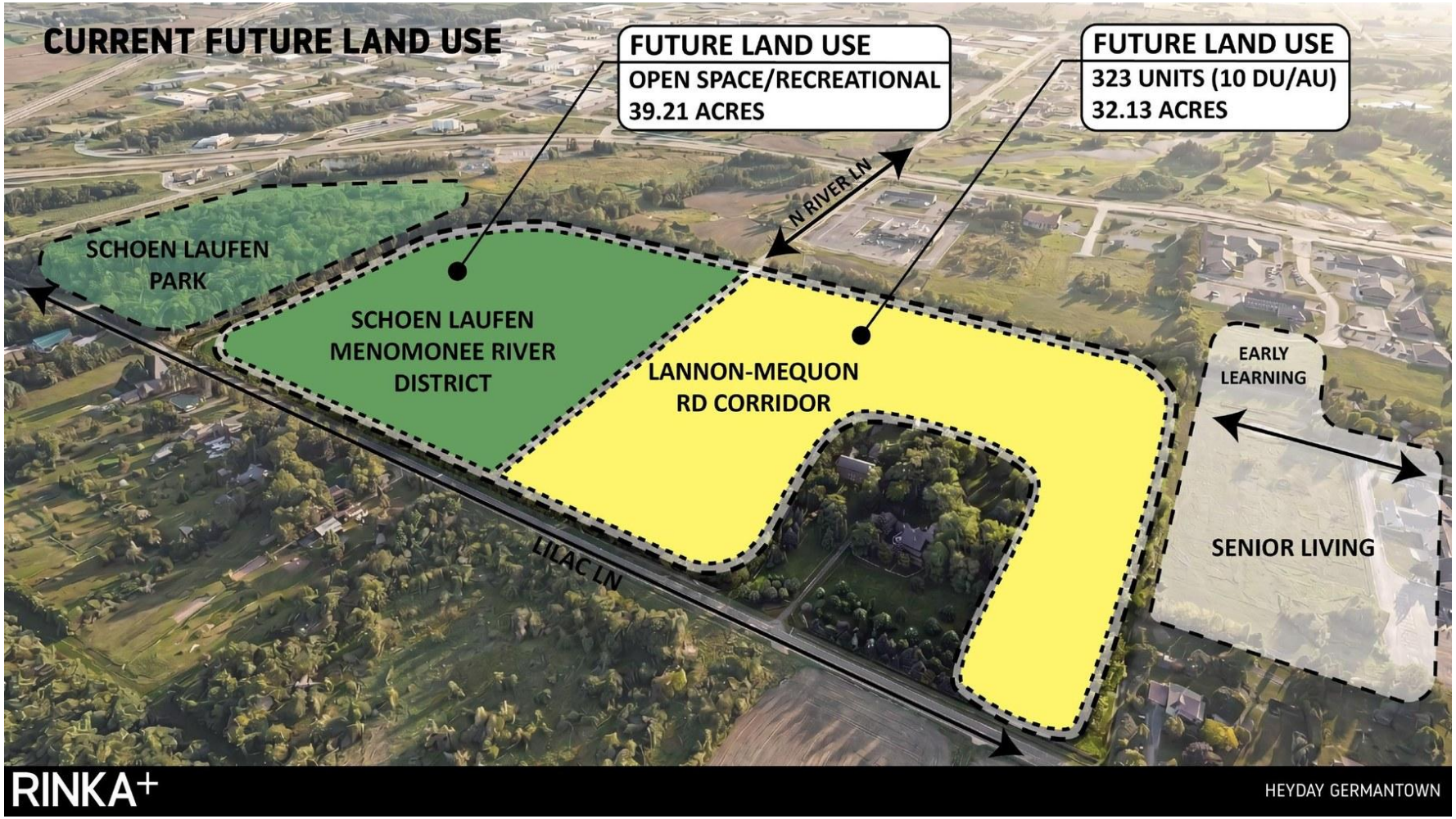
TOPIC ONE

Why the comp plan amendment is a minor change

Only one of the two parcels needs amending — to a use lighter than it once carried under the former 2020 Plan. Even then, we still deliver the green space and trails the current plan intends here.

CURRENT FUTURE LAND USE

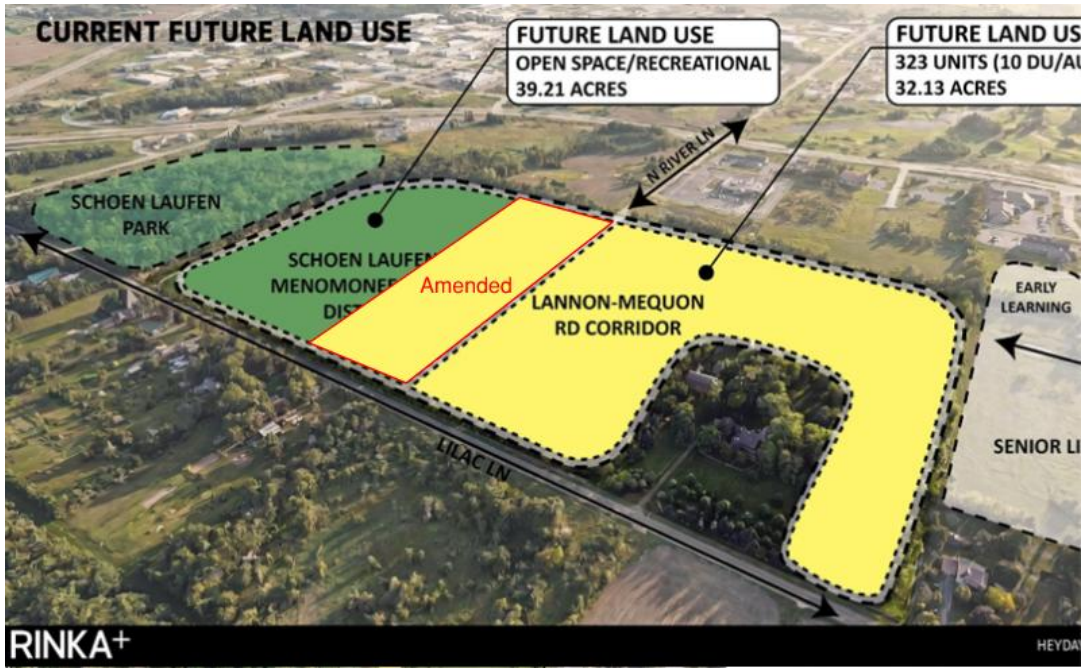
The 2050 Plan already splits the site at the seam — and already allows residential uses on the Barnes side.



Green = Schoen Laufen–Menomonee River District (open space). Yellow = Lannon–Mequon Corridor (Barnes, 32.13 ac), already planned for up to 323 homes at 10 du/ac.
Only the Roskopf parcel needs the amendment.

ONE PLAN, TWO PARCELS — WE'RE ASKING TO MOVE A LINE

The 2050 Plan already allows homes on the Barnes parcel and calls for open space and recreation on the Roskopf parcel. Heyday delivers both — and asks only that the boundary between them shift.



THE PLAN TODAY	Roskopf 39.21 ac — open space & rec		Barnes 32.13 ac — to 10 du/ac
WHAT WE ASK	Kept open — trail, basin, park link	the slice	Barnes — 142 homes, 4.42/ac

▲ *the line moves here — nothing else in the Plan changes*

	THE PLAN ALLOWS TODAY	HEYDAY DELIVERS
Homes	Up to 321 on the Barnes parcel alone (10 du/ac). None on Roskopf.	256 across both parcels — 3.59 du/ac. Fewer homes than the corridor side alone already allows.
Open space & recreation	Designated on 39.21 acres — on paper. Farmed today, with no plan or funding to build it.	47.01 acres kept green across the site — an 8.43-acre basin, 1.44 miles of public trail, pavilion, lookout and a 2.17-acre wetland dedicated.
Schoen Laufen Park	A district named for the park, with no connection to it.	A trailhead, trail and pavilion at the park edge — public by recorded easement, built and maintained by Heyday.
What it costs the Village	Currently no budget or funding plan.	$0. Plus ~$335k in park fees.

Nothing the Plan intends here is lost: fewer homes than the corridor allows, more land kept green than the district designates, and the open space finally built — at Heyday's cost. **If the line doesn't move, the field stays a field, and neither parcel's plan is realized.**

Sources: Village of Germantown 2050 Comprehensive Plan — Schoen Laufen–Menomonee River District (p.109) and Lannon–Mequon Road Corridor (p.111; residential Allowable to 10.0 du/ac; 32.13 ac × 10 = 321); RINKA Future Land Use exhibit (red outline = the slice of the Roskopf parcel proposed to move from the Schoen Laufen–Menomonee River District into the Lannon–Mequon Corridor) and site plan, July 2026; Snyder & Associates C300. Barnes carries 142 of 256 homes (4.42 du/ac). Amended area is conceptual pending the Comp Plan amendment.

THE SITE WAS ONCE PLANNED FOR MORE THAN WE PROPOSE

Under the Village's former 2020 Plan, these parcels were designated Mixed Use — commercial, office, and residential. What we ask for now is a lighter use.

THEN — THE FORMER 2020 PLAN

Mixed Use

In the Village's own words, Mixed Use is "a blend of compatible commercial, office and residential land uses." Shown on the former 2020 Plan's Future Land Use Maps 8-2 and 8-3; adopted October 2004 by Ord. 30-04 (p.114).

HIGHER INTENSITY

NOW — WHAT HEYDAY PROPOSES

256 single-story homes

3.59 du/ac and 65.9% green space — no commercial, no office. A fraction of the intensity the former plan contemplated here.

LIGHTER THAN THE FORMER 2020 PLAN

We're asking to move one parcel into a residential use the former 2020 Plan already contemplated — **at far less intensity, with two thirds of the site kept green.**

Village of Germantown Year 2020 Comprehensive Plan (the former '2020 Plan'), adopted October 2004 (Ord. 30-04). Mixed Use shown on Future Land Use Maps 8-2 and 8-3; defined on p.114 as a blend of compatible commercial, office, and residential uses.

A MINOR AMENDMENT — AND WE STILL HONOR THE PLAN'S INTENT

One parcel, not two

Only the Roskopf 39.21 acres needs a Comp Plan amendment to allow residential. The Barnes parcel already allows residential up to 10 du/ac — and carries just 4.42 du/ac here, less than half of that.

Lighter than it once carried

The Village's former 2020 Plan designated this parcel Mixed Use (commercial/office/residential) across two planning horizons — a heavier, more intense use than 256 single-story-focused homes at 3.59 du/ac.

We still deliver the intent here

Even amended, the Roskopf parcel keeps its green space congruent to Schoen Laufen Park — a public trail, pavilion, lookout, and greenway — the open-space and recreation use the district calls for.

The change is what activates the site

Allowing residential is what develops the land, funds the stormwater fix, and delivers the fiscal contribution — none of which happen if it stays a farm field.

Read plainly, **we're asking to move one 39.21-acre parcel into a residential use it was once planned for — while keeping two thirds of the site green.**

Former Village of Germantown 2020 Comprehensive Plan (adopted 2004, Ord. 30-04), Maps 8-2 and 8-3, Mixed Use (p.114). Ordinance that changed the designation requested from Community Development for the record.

THE PLAN KEEPS THE SITE GREEN

Homes cluster on the corridor edge; two thirds of the site stays green.

256 homes at 3.59 du/ac, with **65.9% of the site — 47.01 acres — kept as green space,** trails, and the stormwater basin, congruent to Schoen Laufen Park.

AND WE STILL DELIVER FOR PARKS

Parks asked to keep this land for a future park. We say yes to the intent — we deliver public green space here, and the Village pays nothing and buys no land.

Dedicated green space

The Roskopf parcel's green space kept public — trail, pavilion, lookout, and passive play — congruent to Schoen Laufen Park

Wetland dedication

The 2.17-acre delineated wetland dedicated for the Village's future river boardwalk / trailhead

A public trail, maintained

A walking & jogging trail we build and maintain in perpetuity, under a public-access easement

A lookout & pavilion

A paver lookout and a pavilion — funded by Heyday, connecting the greenway through the site

Kept public, by agreement

Public access secured through a development agreement / recorded easement with the Village

Plus $335,616 in park fees

Unrestricted park impact fees toward land the Village can actually buy and build on

We honor two of the three outcomes the CORP map asks for — and pay to build and maintain them. Denying the project doesn't build the park. The Roskopf family does not wish to sell to the Village — it stays a farm field.

2

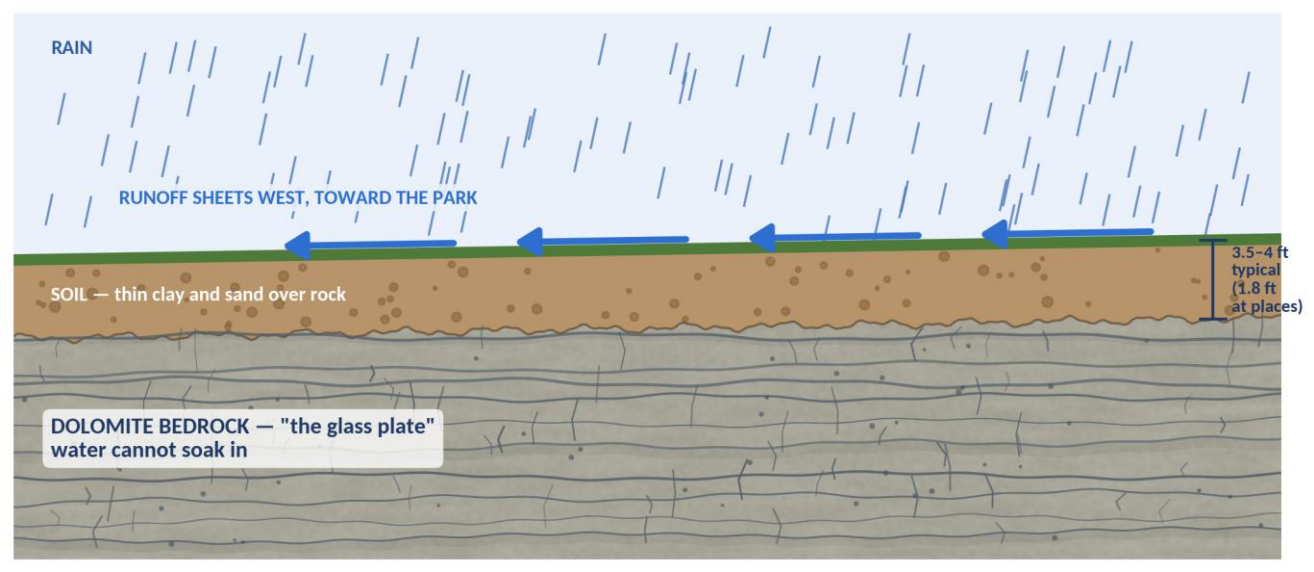
TOPIC TWO

Stormwater — we don't add to the flooding. We fix it.

Undeveloped, this bedrock site sheds water onto its neighbors. Built, it captures and controls that water for the first time — an oversized system we pay for and maintain, in an area that has flooded.

THE PROBLEM TODAY: A BEDROCK PLATE

Do nothing with this site, and the flooding problem does not go away — it stays exactly as it is.



Like a glass plate

Shallow dolomite bedrock sits typically 3.5 to 4 feet below grade — and as little as 1.8 feet — across 33 test pits on the site. Rain can't soak in; it runs off the surface, following the topography, with nothing to slow or hold it.

Runs off the site

No pond, no storm sewer, no inlets, no control — just surface runoff at whatever rate the storm delivers.

Onto the neighbors

Water sheds west across the site — over neighboring land, into Schoen Laufen Park, and on to the Menomonee River — at whatever rate the storm delivers.

And overwhelms the system

In big storms — including a recent storm the design team reviewed as a 500-year event — it floods the wetlands, the park, and adjacent property.

Bedrock depths from R.G. Huston Co. test pit logs TP-1 to TP-33, Feb. 17, 2026 (excavator refusal on hard dolomite). Schematic not to scale. Site topography drains west toward Schoen Laufen Park and the Menomonee River corridor. August 2025 rainfall reviewed by the design team as equivalent to a 500-year event.

WHERE THE WATER GOES TODAY

The site drains east to west — off the farm field, across Schoen Laufen Park, and into the Menomonee River — with nothing to slow it down.

Direction of existing surface runoff shown over the proposed site plan (RINKA, July 2026). Arrows are diagrammatic.

IN THE ENGINEER'S WORDS

"The existing site generally drains from east to west, outleting across Schoen Laufen Park to the west and ultimately to the Menomonee River."

— Brian Arcand, P.E., Snyder & Associates — stormwater memorandum to the Village, June 26, 2026

East to west Grade falls toward the park; runoff leaves the site along its west edge.

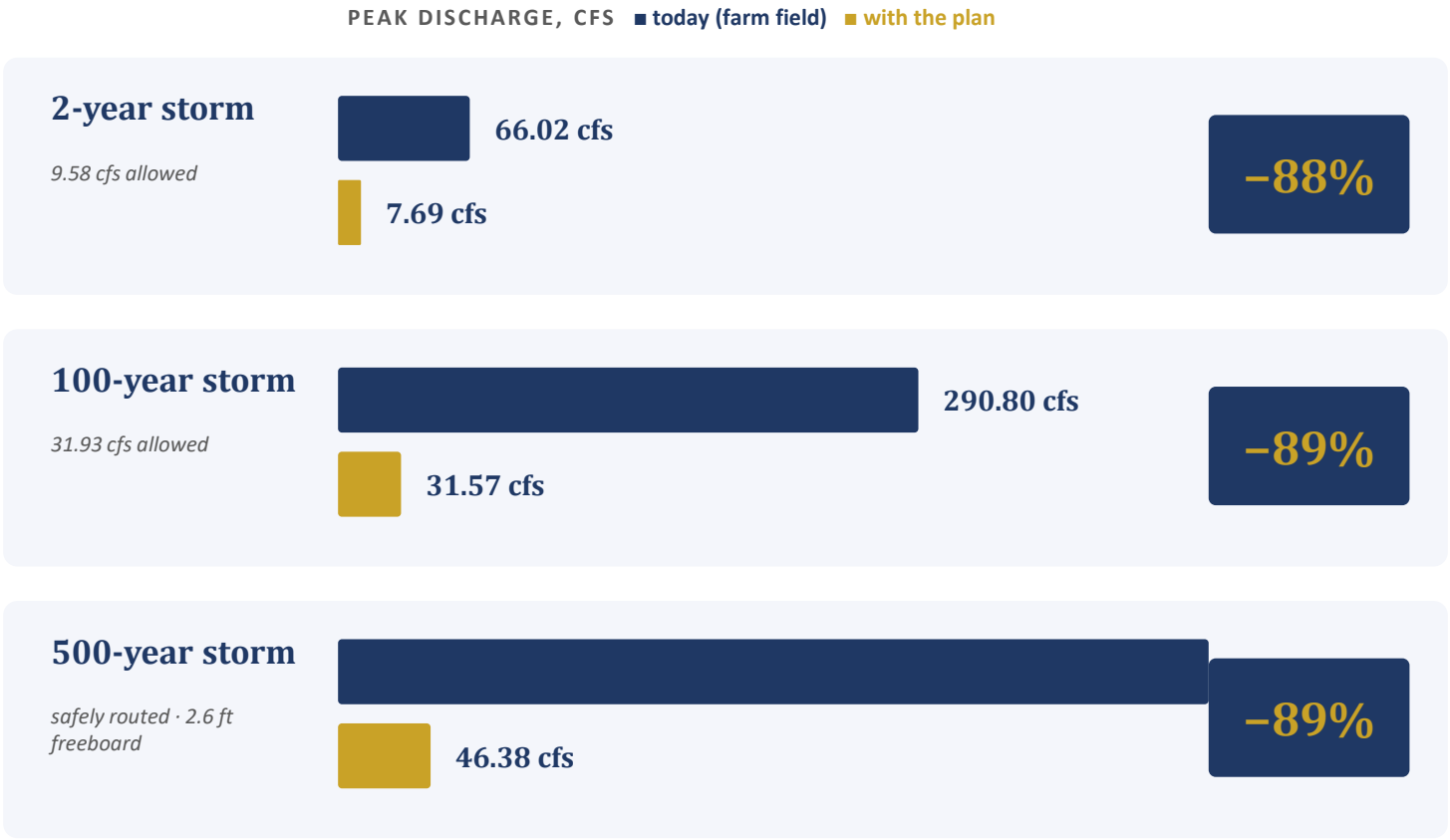
Over bedrock Shallow dolomite means little soaks in — most of the rain runs off.

Into the park & river Today that water arrives uncontrolled, at whatever rate the storm delivers.

That is why the basin sits where it does. The low point of the site is its west edge, beside the park — so the plan intercepts the water on its way there, holds it, and releases it slowly.

PEAK FLOW LEAVING THE SITE: BEFORE AND AFTER

Preliminary HydroCAD results, GDP site plan of July 28, 2026 — every design storm leaves the site at roughly a tenth of today's rate.



THE STANDARD THAT APPLIES

Matching pre-development peaks is not the test in this jurisdiction. MMSD Chapter 13 sets unit release rates — 0.15 cfs per acre for the 2-year storm and 0.50 cfs per acre for the 100-year storm — and they are more restrictive. The preliminary design meets them.

2-yr allowed *design 7.69*	**9.58 cfs**
100-yr allowed *design 31.57*	**31.93 cfs**

Village practice (DPW, 8/17/26): detain the 100-year storm on site and release it at no more than the 10-year pre-development rate — 131.12 cfs. The design releases the 100-year storm at 31.57 cfs, about four times below that.

We build it, we pay for it, we maintain it. It does not solve every storm — but it meaningfully improves an area that floods, at zero Village cost.

Sources: Snyder & Associates preliminary HydroCAD model and stormwater memorandum to the Director of Public Works (Brian Arcand, P.E., Sept. 2026), GDP site plan 7/28/26; MMSD Rules Chapter 13 unit release rates on the 63.86-acre disturbed area. Preliminary design — final figures at site plan.

THE WATER STAYS IN. THE HOMES STAY WELL ABOVE IT.

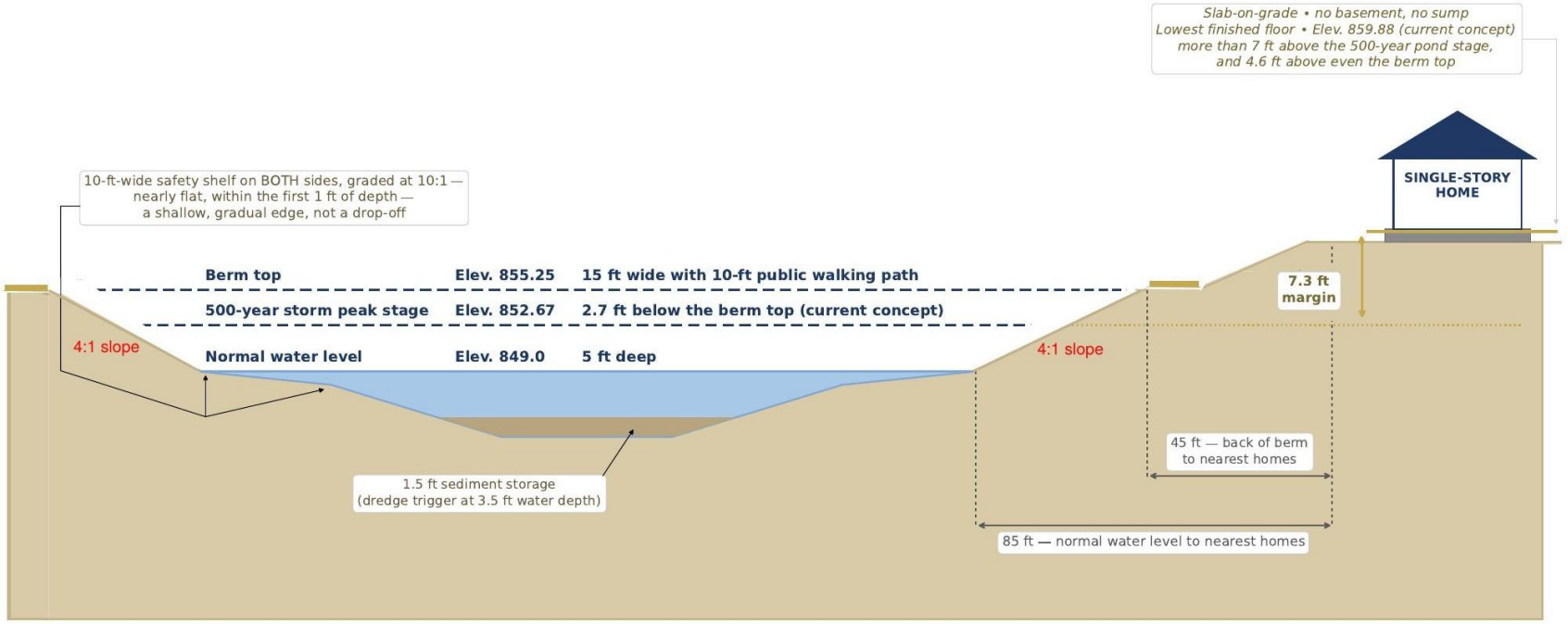
PRELIMINARY · SNYDER & ASSOCIATES

Concept cross-section, Snyder & Associates — the 500-year storm held inside the berm (stage 852.67 ft), homes elevated well above it.

HEYDAY GERMANTOWN — STORMWATER POND & HOME ELEVATIONS

Concept cross-section: flood protection by design • 500-year storage within the embankment • homes elevated above

Homes sit in FEMA Zone X — Area of Minimal Flood Hazard (FIRM panels 55131C0357E & 55131C0359E, eff. 2/20/2026). The mapped floodplain (Zone AE) follows the Menomonee River corridor west and south of the site — home floors sit roughly 14 ft above the river's base flood elevation at the site (845.5).



CONCEPT EXHIBIT — NOT TO SCALE; drawn for clarity with dimensions as labeled (safety-shelf width and vertical scale exaggerated for readability), consistent with WDNR Technical Standard 1001 conceptual figures.
Elevations per Snyder & Associates July 2026 concept design; dimensions may be refined in final engineering. Design commitment: the 500-year, 24-hour event contained within the basin embankment. FEMA data per NFHL FIRMette exported 7/23/2026.

500-yr
storm fully contained within the embankment

+2.6 ft
of freeboard above the 500-year peak

7.2 ft
home floors above the 500-year water level

5 ft
normal pond depth · slab-on-grade, FEMA Zone X

HOW THE DESIGN FITS THE COUNTY'S WATERSHED STUDY

Washington County's Menomonee River watershed study, presented to the Public Works & Highways Committee on August 5, 2026, will identify and rank places to add flood storage in the headwaters. This site does that — on private land, at no public cost.

Added storage in the headwaters — at no public cost

The field has no engineered storage today. The pond holds about 24.1 acre-feet at the 100-year stage and 33.0 at the 500-year — the detention the study seeks to site regionally, built and maintained privately.

Wetland and floodplain protected

Wetland A is avoided with its 50-foot NR 151 protective area; no fill in the regulatory floodplain; every structure sits about 14 feet above the river's Zone AE elevations.

No new channelization

The study maps 82.5% of the Village's Menomonee stream miles as highly channelized. The design adds none — a wet basin with a 10:1 safety shelf, and conveyance kept on the property.

Ready to work with the County

Heyday and Snyder will share the site survey and hydrologic model with the study team and evaluate whether the basin can contribute to the study's storage and open-space goals.

RINKA rendering. The basin at the low point of the site, ringed by the public trail, beside Schoen Laufen Park.

The study's objective is more storage in the headwaters. **Today this field stores nothing. The plan detains the 100-year storm on site, about four and a half inches of runoff, and releases it slowly. Privately built, privately maintained, on land the Village never has to buy.**

Sources: Washington County Conservationist presentation to the Public Works & Highways Committee, 8/5/26 (WEM Pre-Disaster Flood Resilience Grant study; final product Dec. 2027); MMSD presentation to PWHC, 8/5/26; Snyder & Associates stormwater memorandum (Sept. 2026); Wetland & Waterway Consulting delineation, 7/15/26; FIRM panels 55131C0357E/0359E.

3

TOPIC THREE

The Village's fiscal health — and what Heyday contributes

Germantown is investing in the things it needs. New tax base, impact fees, and utility ratepayers from growth are how a village pays for that without asking existing residents for more. Here is what this project adds.

THE VILLAGE IS INVESTING IN WHAT IT NEEDS

These are needed investments, and we applaud them. They are also why recurring revenue that arrives without a matching liability matters.

WHAT THE VILLAGE IS FUNDING

$6.5M Fire Station No. 2 expansion & remodel

$3.0M Police station — design placeholder in the 2026 budget; construction to follow

Ongoing Storm, sanitary & lift-station upgrades

How does a village fund this? Under Wisconsin's levy limits (Wis. Stat. §66.0602), the operating levy can grow only with net new construction. Growth that arrives without new obligations is the tool the state leaves in the Village's hands.

$92.4M → ~$109.5M

Municipal G.O. debt after the May 2026 issue — from 41.75% to ~49.5% of the statutory limit

57.4%

of 2026 General Fund revenue is the property-tax levy — $13.1M of $22.8M

–$1.05M / –$0.77M

2025 operating losses in the Water and Sewer utilities

$1.64M

in water and sewer connection fees Heyday pays at permitting, from 256 new connections, into the two utilities above

Sources: Village of Germantown 2025 ACFR / Baker Tilly audit (8/17/26); 2026 Village Operating Budget (General Fund $22,841,423; levy $13,101,043; Fire Station No. 2 $6.5M; police design $3.0M). Connection fees per Heyday Fee Calculations v3, reviewed and confirmed by Village Community Development 9/2/26; sewer at the 2027 rate. Figures pending Finance Director validation.

OUR FISCAL CONTRIBUTION

Germantown's largest taxpayer.

Day one.

$75–79M
new taxable value — the largest single taxpayer in the Village, roughly 1.7–1.8% of the entire tax base

$443/yr → $1.0–1.1M/yr
property taxes from these two parcels, across all jurisdictions

$0 public assistance
No TIF district. No Village borrowing. No incentives.

What 256 homes deliver to the Village's bottom line

~$2.24M
Impact fees at permitting — water, sewer, police, fire, library and parks, paid in cash — plus $542,665 in permit, plan-review and inspection fees (2027 rates)

$345–363K/yr
Recurring Village share of the tax levy — with schools ~$514–541K, county ~$108–113K, and MATC ~$58–62K each year

~$222–234K/yr
Permanent levy-limit headroom: under Wis. Stat. §66.0602 the operating levy grows only with net new construction — Heyday adds ~1.7–1.8%

+$3.75–3.95M
New statutory G.O. borrowing capacity created for Village priorities — while Heyday itself requires none of it

New revenue. No new burden.

Heyday is designed so every tax dollar arrives without a matching service cost.

About the students the District already planned for

The District's MDRoffers study assumed 26 single-family and 100 multi-family units in Attendance Area #47 — 27 students. At the Village's 0.11 rate for new multi-family homes, Heyday's 256 homes yield ~28 and Carillon's 36 about 4 — and, as staff notes, 27 of those 32 (85%) are already inside the District's projections. The District receives ~$514–541K/yr.

Zero DPW obligation

All interior roads are private — built, plowed, and maintained by Heyday. No new lane-miles on the Village's street budget.

Stormwater held on site

100-year storm stored on site with controlled release — the standard the DPW Director cited on 8/17 as why new development is not the flooding problem.

3% of Old Farm capacity

DPW Director analysis, on the record 8/17: 24 gpm base flow; even at conservative peak the project moves lift-station use from 65% to 68% — against a planned upgrade adding 30% headroom.

WHY NEW RATEPAYERS MATTER

Water Utility –$1.05M

loss, ~15 days of cash on hand — even after ~88% cumulative rate increases since 2022

Sewer Utility –$0.77M

operating loss (Baker Tilly, presented 8/17/26)

HEYDAY'S ANSWER: RATEPAYERS

256 new water/sewer accounts — on infrastructure funded entirely by Heyday

$1.64M in water & sewer connection fees — into two utilities that ran operating losses in 2025

More accounts spread fixed costs — rate relief for existing residents.

Sources: Village of Germantown 2025 ACFR; DPW Director analysis presented 8/17/26; MDRoffers enrollment study (June 2025) and Village staff report, 9/14/26 (0.11 students per new multi-family unit); Wis. Admin. Code stormwater standards. Utility figures are Baker Tilly's.

NEARLY 22 YEARS OF THE VILLAGE'S IMPACT-FEE BUDGET — IN ONE CHECK

At permitting, Heyday pays $2,242,158 in impact fees in cash — before a single resident demands a service.

Heyday impact fees at permitting (256 homes)

$2,242,158

The Village's entire 2026 impact-fee budget — all funds

$102,750

≈ 22× One check equals nearly twenty-two years of the Village's annual impact-fee budget.

IMPACT-FEE FUND	VILLAGE 2026 BUDGET	HEYDAY
Water & sewer connection	—	**$1,642,862**
Parks & recreation	$33,000	**$335,616**
Library	$13,650	**$182,016**
Fire protection	$36,600	**$43,776**
Police protection	$19,500	**$37,888**
TOTAL	**$102,750**	**$2,242,158**

Park impact fees alone — $335,616 — are ten times the Village's 2026 parks impact-fee budget. Add $542,665 in permit and fee revenue: $2.78M one-time, all before anyone moves in.

Sources: Village of Germantown 2026 Operating Budget (Impact Fee funds, GGF Committee 9/15/25); Heyday Fee Calculations v3 — impact and permit fees reviewed and corrected by Village Community Development & Inspection Services, Sept. 2 and 4, 2026. Sewer connection at the Village's 2027 rate; permit fees at 2027 (CPI-U +3.4%).

MEANWHILE, TODAY

$443 a year

is what the Roskopf and Barnes parcels generate in property taxes today — combined.

Undeveloped, that is the site's entire contribution to the Village, the schools, and the county.

ZERO DOLLARS FROM THE VILLAGE. SIGNIFICANT GIVE-BACK.

We fund and maintain everything inside the project. The Village takes on no cost and no long-term obligation.

WE BUILD IT AND MAINTAIN IT — FOREVER

- All interior streets private — built, plowed, maintained
- Private on-site lift station & force main, discharging to the Village gravity sewer
- Private water and sewer mains
- The stormwater basin and storm sewer system
- Trails, pavilion, and green-space landscaping

WHAT THE VILLAGE RECEIVES

- ~$2.24M impact fees + $542,665 permits & fees
- $1.0–1.1M/yr in new property taxes
- 256 utility ratepayers + $1.64M water & sewer connection fees
- A capitalized, maintained stormwater system
- Public green space, trails & a pavilion

All internal infrastructure privately financed, owned, and maintained by Heyday under a development agreement. $0 TIF, $0 Village borrowing, $0 subsidy.

WEIGHING THE DECISION

These benefits come as a package — the plan is what delivers them.

Public green space

Two thirds of the site kept green, a 1.44-mile public trail, a pavilion and lookout — built and maintained by Heyday.

A stormwater solution

Runoff that sheets west uncontrolled today is captured, held, and released slowly — in an area that has flooded.

A fiscal contribution

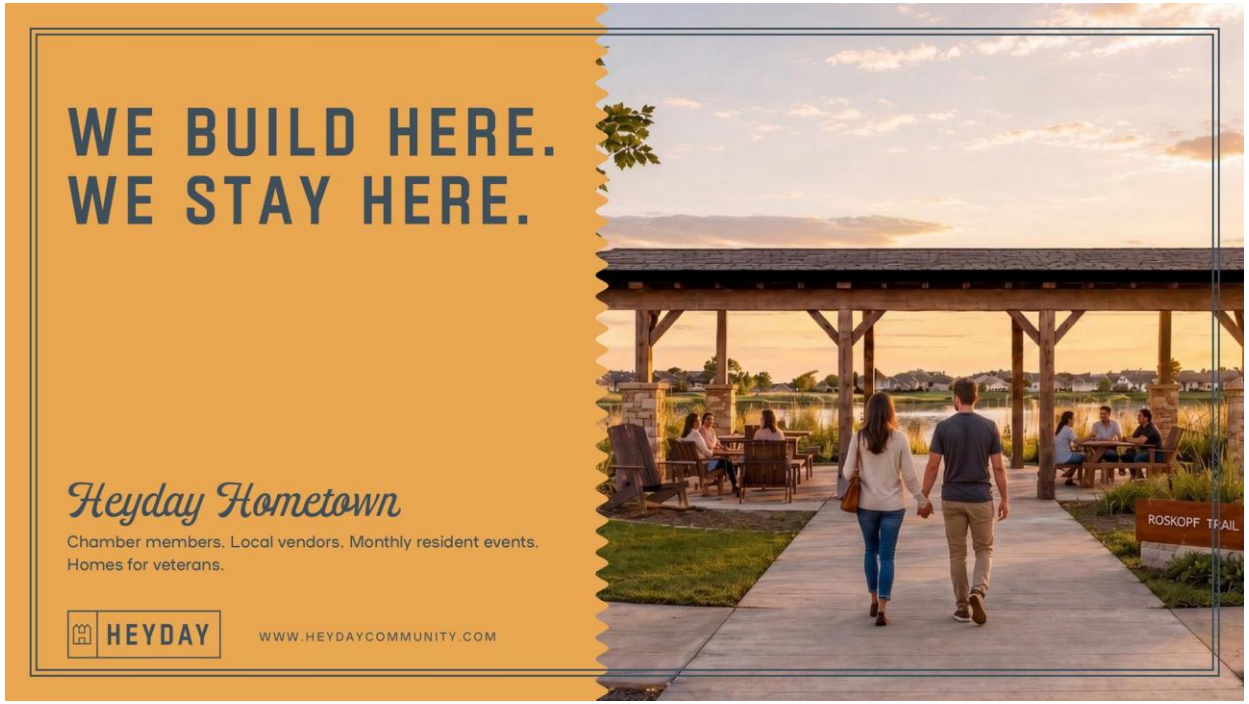
New tax base, impact fees, and 256 utility ratepayers for the Village — with no TIF, no borrowing, and no subsidy.

We believe the benefits clearly outweigh the concerns — and we have spent a year making sure the plan reflects what Germantown told us and what the Comp Plan desires.

Left as it is, the site remains a farm field that contributes $443 a year. We think Germantown can do better with it — together.

ONE LAST QUESTION WE HEARD

At the public meeting, a resident listened to the housing, the trail, the park dedication, the stormwater — and then asked the better question.



> *I get all that. But what else do you do to be part of the community?*
> — a Germantown resident, June 2026 public meeting

WHAT HEYDAY HOMETOWN MEANS IN PRACTICE

Our answer to that question — in every Heyday community, every year. We don't build and leave; we become part of the community.

We join the Chamber and show up

Members and active supporters — ribbon cuttings, mixers, events. Heyday Sun Prairie was voted Best Apartment Rentals in "Best of Sun Prairie 2025 & 2026."

We spend locally, on purpose

Resident events built around local businesses — athletic club, food trucks, brewery, coffee shop, restaurants — and every resident gift sourced locally.

We host seasonal resident events

A resident event every month, sourced from or hosted at local vendors — Fourth of July, Halloween, a holiday toy drive for local children in need.

We give back

Supporting the high-school fundraiser, community food drives, and the causes our neighbors care about.

Heyday Homefront — for veterans

Registering as a VA-approved housing partner and working with the VFW and American Legion to house local veterans.

We don't just talk about becoming part of your community. We walk the walk — Heyday Hometown is how, and each year we track and share what we contribute.

THANK YOU

A neighborhood of 256 rental homes — two thirds of the site kept green, with a 1.44-mile public trail and pavilion the Village never funds.

A stormwater solution for an area that floods, built and maintained by Heyday.

The Village's largest taxpayer — and nearly 22 years of its impact-fee budget in one check, at $0 public cost.

We are long-term holders. We want to be part of Germantown.

Ryan Swingruber · Josh Wohlreich · CR Devco, L.L.C. (Heyday) ·
rns@heydayco.com

UNIT MATRIX					
			# OF BLDGS	TOTAL # OF UNITS	% OF UNIT MIX
4 UNIT	BLDG A4	WISCONSIN	1	4	1.6%
	BLDG B-ALT	ELKHART	3	12	4.7%
	BLDG C4	MENONA	2	8	3.1%
	BLDG D4	GENEVA	5	20	7.8%
	BLDG F4	MENDOTA	4	16	6.3%
6 UNIT	BLDG A6	WISCONSIN	2	12	4.7%
	BLDG B-ALT	ELKHART	2	12	4.7%
	BLDG C6	MENONA	4	24	9.4%
	BLDG D6	GENEVA	3	18	7.0%
	BLDG F6	MENDOTA	6	36	14.1%
8 UNIT	BLDG A8	WISCONSIN	1	8	3.1%
	BLDG B-ALT	ELKHART	1	8	3.1%
	BLDG C8	MENONA	0	0	0.0%
	BLDG D8	GENEVA	5	40	15.6%
	BLDG F8	MENDOTA	1	8	3.1%
	BLDG TH-C 6	SARATOGA	5	30	11.7%
TOTAL UNITS				256	100%

UNIT MATRIX		
SINGLE STORY HOMES	# OF UNITS	% OF UNIT MIX
WISCONSIN (A)	24	9.4%
ELKHART (B)	32	12.5%
MENONA (C)	32	12.5%
GENEVA (D)	78	30.5%
MENDOTA (F)	60	23.4%
2 STORY TOWNHOMES		
LA BELLE (TH-C)	30	11.7%
TOTAL UNITS	256	100%

SITE AREA	71.34 ACRES
DENSITY	3.59 DU/AU

0 40' 80' 160' 240'

General Development Plan Notes

The building and road layout, the trail, the pavilion, and related park features are conceptual, and final locations are determined at site plan approval in cooperation with the Parks Commission.

GENERAL
DEVELOPMENT PLAN

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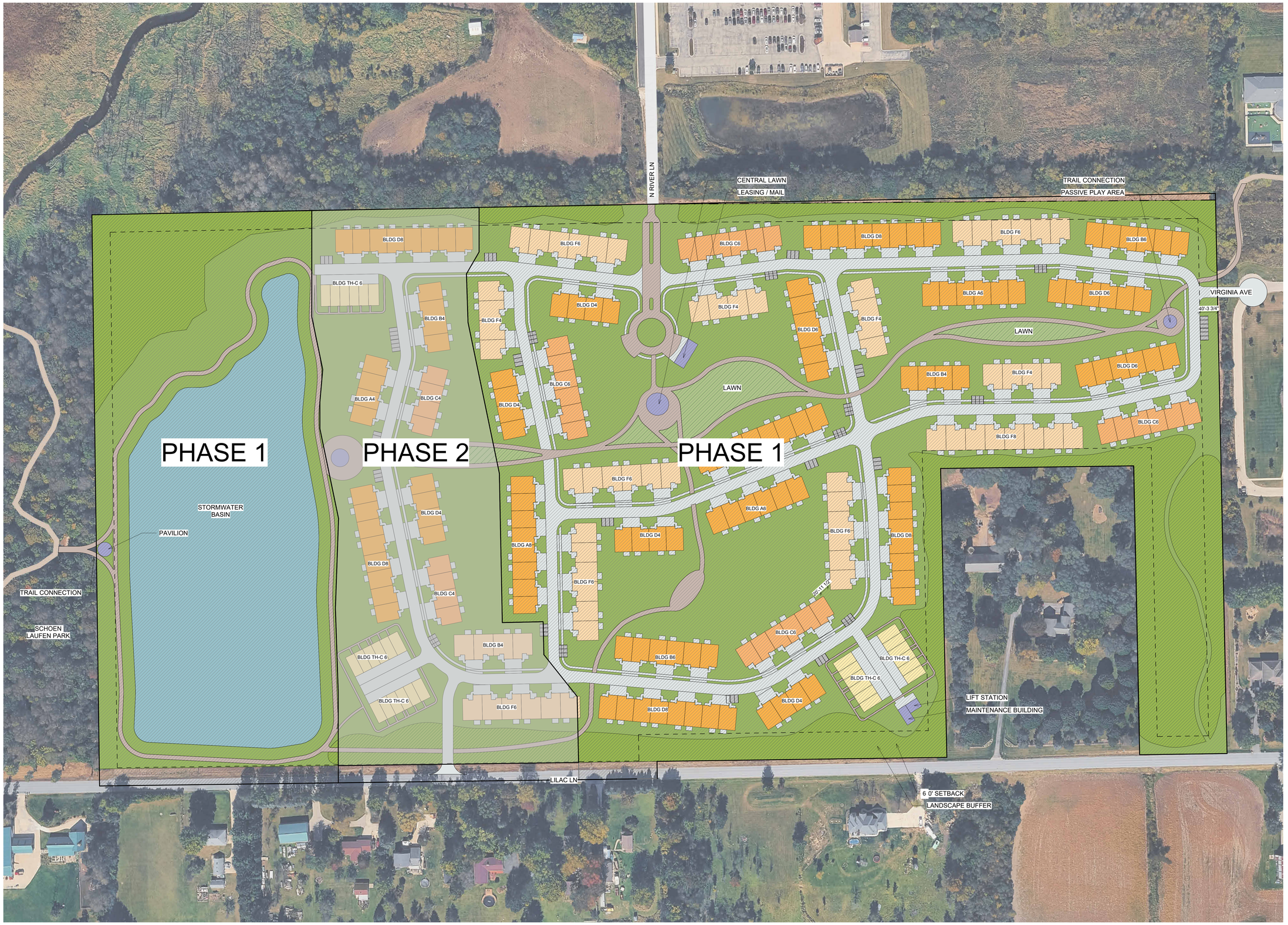
A1-01
GENERAL DEVELOPMENT PLAN

HEYDAY GERMANTOWN
PROJECT #: 26021 | 08/25/26



1 CONCEPTUAL PHASING
1" = 80'-0"

General Development Plan Notes

The building and road layout, the trail, the pavilion, and related park features are conceptual, and final locations are determined at site plan approval in cooperation with the Parks Commission.

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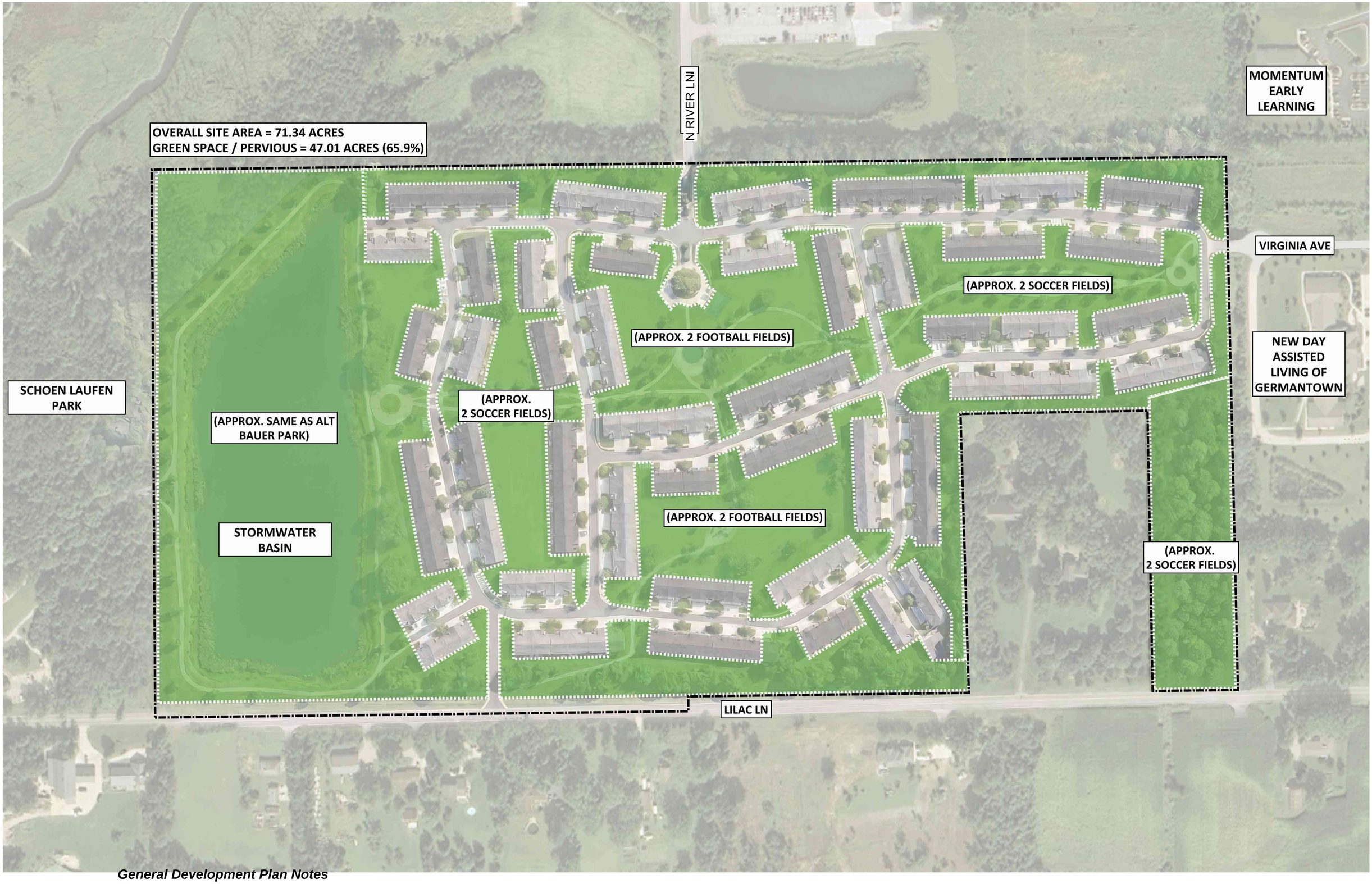
A1-02
CONCEPTUAL PHASING
HEYDAY GERMANTOWN
PROJECT #: 26021 | 08/25/26



General Development Plan Notes

The building and road layout, the trail, the pavilion, and related park features are conceptual, and final locations are determined at site plan approval in cooperation with the Parks Commission.

GREEN SPACE DIAGRAM
1" = 60'-0"

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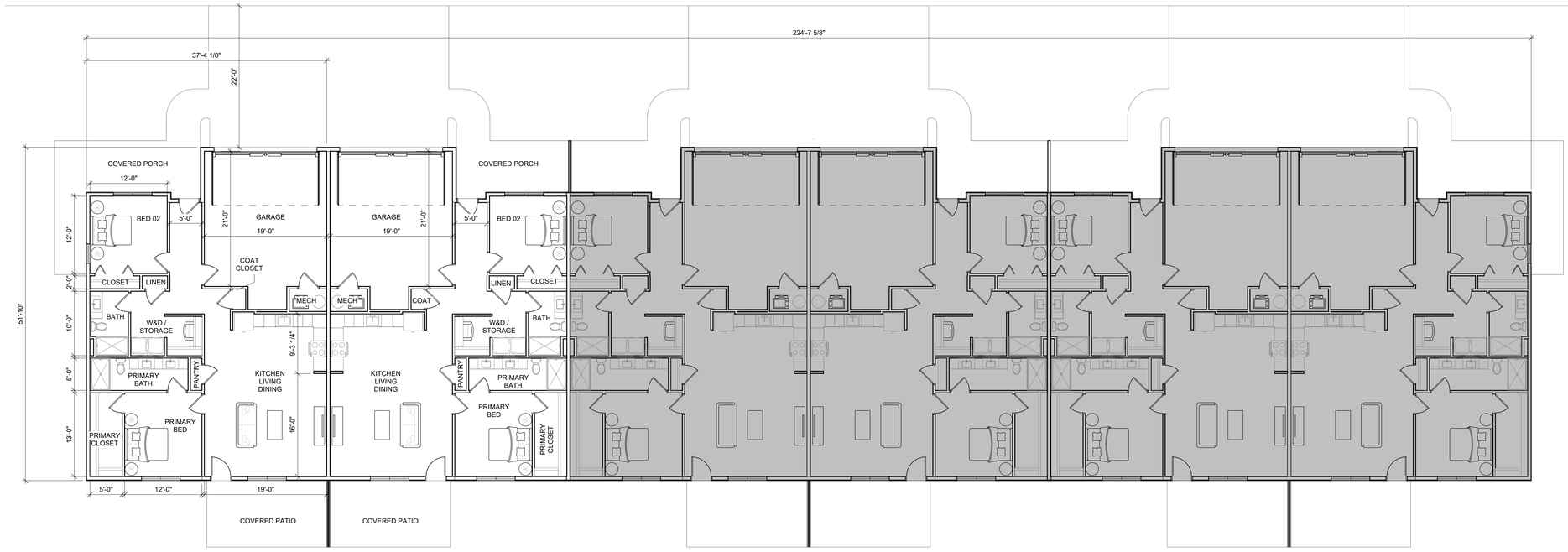
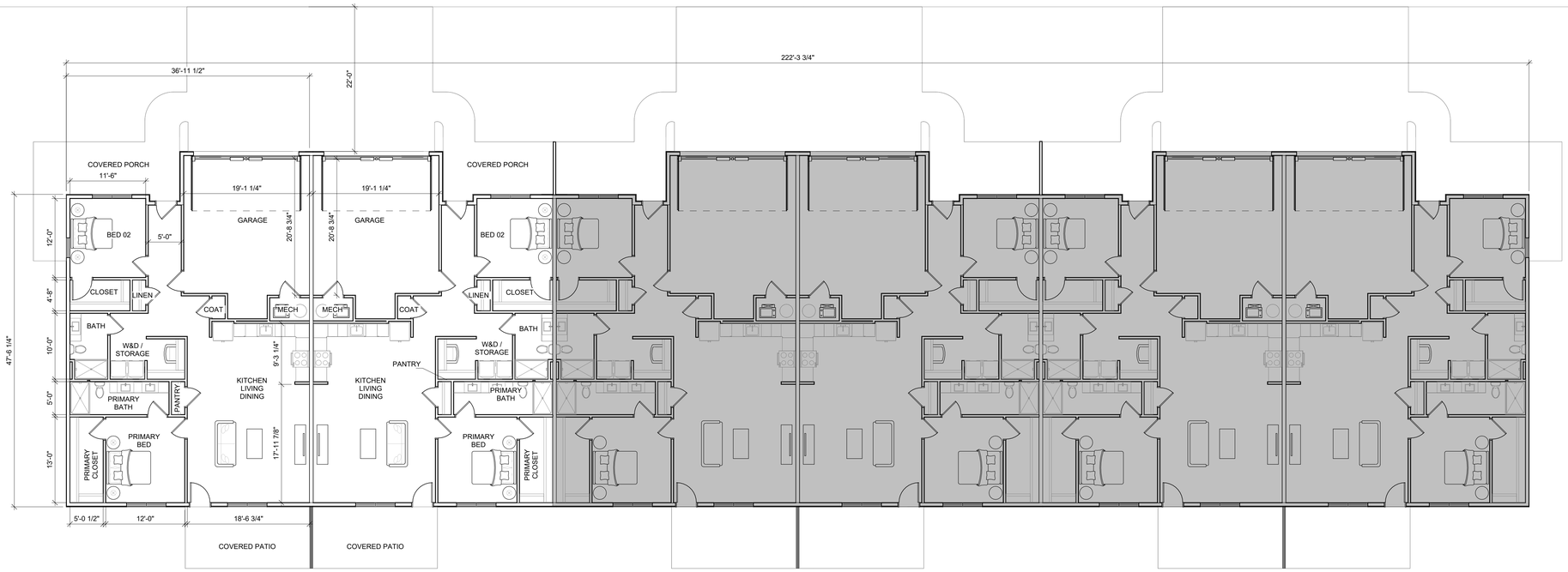


1 MONONA 6-UNIT BUILDING PLAN
1/8" = 1'-0"



2 GENEVA 6-UNIT BUILDING PLAN
1/8" = 1'-0"

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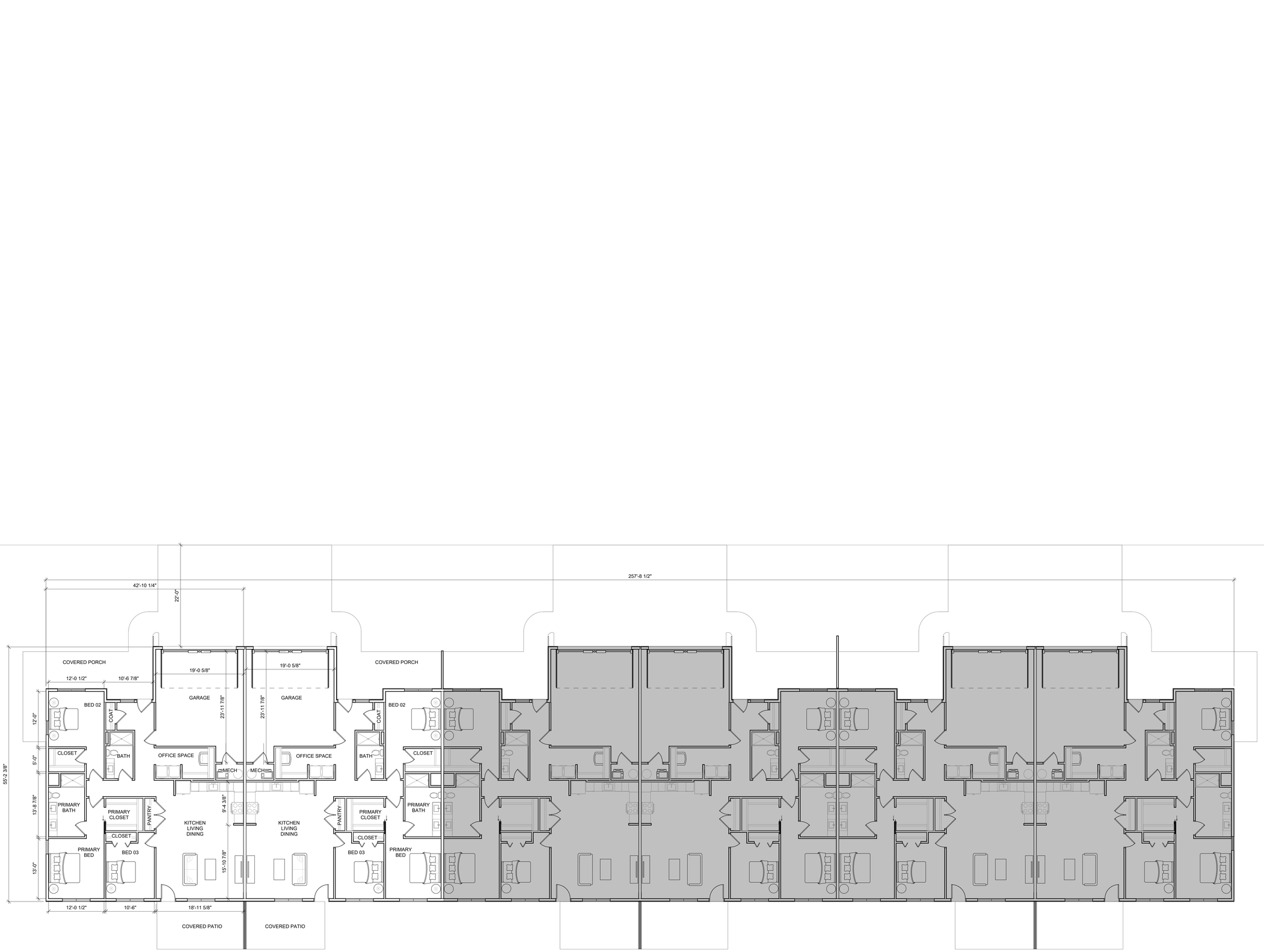
A1-04

MONONA & GENEVA 6-UNIT BUILDING PLAN

HEYDAY GERMANTOWN
PROJECT #: 26021 | 08/25/26



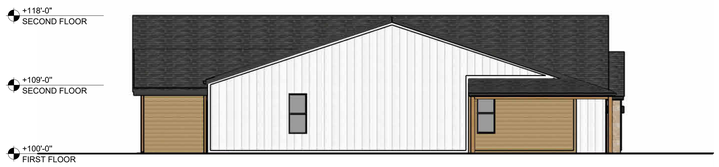
1 MENDOTA - 6 UNIT BUILDING PLAN
1/8" = 1'-0"

©2026 RINKA+

A1-06
MENDOTA 6-UNIT BUILDING PLAN

MATERIAL PALETTE:

- VERTICAL BOARD AND BATTEN
  COLOR: FOREST
- VERTICAL BOARD AND BATTEN
  COLOR: MIDNIGHT BLUE
- VERTICAL BOARD AND BATTEN
  COLOR: SANDSTONE BEIGE
- HORIZONTAL WOODLOOK VINYL SIDING
  COLOR: NATURAL BLEND
- HORIZONTAL VINYL SIDING
  COLOR: SMOKY GREY
- HORIZONTAL VINYL SIDING
  COLOR: SANDSTONE BEIGE
- HORIZONTAL STONE VENEER
  COLOR: AVONDALE
- ASPHALT ROOF SHINGLES
  COLOR: DARK GREY
- FRONT AND DOOR TRIM
  COLOR: BLACK



4 WEST ELEVATION
1/8" = 1'-0"

3 EAST ELEVATION
1/8" = 1'-0"

2 SOUTH ELEVATION
1/8" = 1'-0"

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

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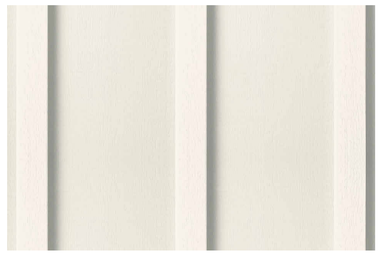
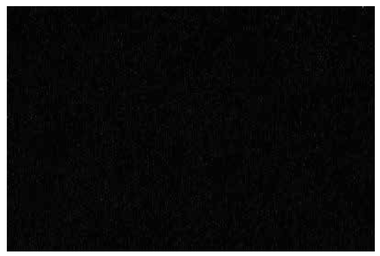
A1-06
ELEVATIONS

HEYDAY GERMANTOWN
PROJECT #: 26096 | 08/25/26





STREETSCAPE

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A1-08

RENDER 1_MAIN FRONT

HEYDAY GERMANTOWN
PROJECT #: 26098 | 08/25/26

FRONT PORCH

©2026 RINKA+

A1-09

RENDER 2_PORCH

HEYDAY GERMANTOWN

PROJECT #: 26096 | 08/25/26

PEDESTRIAN ORIENTED STREETSCAPE

©2026 RINKA+

BACK YARDS AND FLEXIBLE GREEN SPACE

©2026 RINKA+

Heyday Germantown

Project Narrative

2050 Comprehensive Plan Amendment and Planned Development District Rezoning

Village of Germantown, Washington County, Wisconsin

Introduction

Heyday proposes to develop approximately 71.34 acres north of Lilac Lane, immediately east of Schoen Laufen Park, as a low-density rental neighborhood of attached single-family homes. This narrative accompanies two related applications: a 2050 Comprehensive Plan Amendment for the Roskopf parcel and a Planned Development District rezoning covering both parcels in the project.

The site is made up of two adjoining parcels that are today vacant and zoned A-1 Agricultural:

- **Roskopf parcel** (Washington County GTNV_282999), approximately 39.21 acres.
- **Barnes parcel** (Washington County GTNV_281978), approximately 32.13 acres.

Schoen Laufen Park and the Menomonee River corridor lie along the western edge of the site. The property has frontage on Lilac Lane to the south and access from existing roadways, which is what makes a compact, conservation-minded development workable here without extending services into open countryside.

What We Propose

The neighborhood is 256 attached single-family rental homes in 45 buildings: 226 single-story homes in 40 buildings (four, six, and eight unit groupings) plus 30 two-story townhomes in 5 buildings, laid out along walkable streets with front porches and yards, giving the community the feel and scale of a detached-home neighborhood. The great majority of the homes are single-story, with a smaller number of two-story townhomes. Every home has its own two-car attached garage with direct entry and a driveway apron deep enough to park in. Two small support buildings serve the community: a leasing office with the cluster mailbox near the central lawn at the north entry, and a maintenance building near the southeast corner of the site adjacent to the lift station.

The defining number is how little of the land the buildings actually occupy. At 256 homes across 71.34 acres the gross density is 3.59 homes per acre, and approximately 65.9% of the site, 47.01 acres, stays in green space. That green space is not leftover ground between buildings. It is organized into a central landscaped greenway, distributed lawns and gathering areas, preserved natural land along the river side of the property, and a trail network that loops the western green space and runs east-west through the community out to Schoen Laufen Park. Beyond the western green space and stormwater area, the plan distributes additional green areas and several large, open lawns through the interior of the community, intended as flexible space for recreation and gathering.

Location	North of Lilac Lane, east of Schoen Laufen Park
Site area	Roskopf 39.21 ac + Barnes 32.13 ac = 71.34 ac
Homes	256 attached single-family rental homes (226 single-story in 40 buildings + 30 townhomes in 5 buildings)
Gross density	3.59 homes per acre (RM-1 allows up to 6.0)
Green space	Approximately 65.9% of the site (47.01 acres) held as green space
Parking	Two-car attached garage plus driveway apron at every home, with 70 distributed guest stalls
Public financing	None. The project carries no TIF, abatement, or public subsidy.

Site Plan

The concept site plan is provided below. It shows the building groupings, the internal private street network, the central greenway and trail, the connection to Schoen Laufen Park, the site access points at N River Lane, Virginia Avenue, and Lilac Lane, and the location of the stormwater basin and green space areas. The Lilac Lane access shown on this sheet is the additional access evaluated in the supplemental traffic memorandum prepared by Traffic Analysis and Design, Inc.

The Homes and the Architecture

The homes are designed to live like detached houses. There is no one above or below you, the entry is at grade, and the main living spaces open to a covered porch and the green space beyond. The single-story plans follow universal-design principles throughout — no-step entries, wider doorways, and accessible layouts — which is the same feature set that makes the product work for older residents who want to stay in Germantown without keeping up a large house. Exterior materials combine board-and-batten and lap siding with stone accents, in the spirit of a modern cottage rather than a typical rental building. The conceptual renderings prepared for the project show the intended character: pitched-roof, porch-fronted homes set behind landscaped front yards along walkable streets, with rear porches and patios opening onto the shared greenspace.

The community totals 256 homes. The single-story homes are arranged in four-, six-, and eight-unit buildings, with the townhomes in their own two-story buildings. The unit and bedroom mix is summarized below.

Heyday Germantown Rental Homes Project								
Home Type	Beds	Baths	Qty	Garage Sq. Ft.	Garage Spaces	Driveway Spaces	Unit Living Space	% of Unit Mix
Single-story Homes								
Wisconsin (A) 2.0	1	1	24	452	48	48	998	*9.38%*
Elkhart (B-ALT) 2.0	2	1	32	458	64	64	1,166	*12.50%*
Menona (C) 2.0	2	2	32	456	64	64	1,369	*12.50%*
Geneva (D) 2.0	2	2	78	456	156	156	1,480	*30.47%*
Mendota (F) 2.0	3	2	60	456	120	120	1,730	*23.44%*
			226		452	452	1,435	88.28%
2-Story Townhomes								
La Belle (TH-C)	3	2.5	30	469	60	60	1,597	11.72%
			30		60	60	1,597	11.72%
Total Units			**256**		**512**	**512**	**1,454**	**100.00%**

The Comprehensive Plan Amendment

Why this site

The Comprehensive Plan points to this location for the kind of development proposed, and it treats the two halves of the site differently by design. The eastern parcel sits in the Lannon–Mequon Road Corridor, where the Future Land Use table rates every residential category — single-family, two-to-four family, and multi-family — as allowable at densities up to 10 du/ac. Residential is already an appropriate use there, and at about 3.59 du/ac the project uses the land far more lightly than the corridor permits.

The western parcel sits in the Schoen Laufen–Menomonee River District, where the Plan's priority is open space, because this is where the Menomonee River and its environmental corridor run. The district's Future Land Use table rates Open Space and Recreational as its single desirable use and residential as undesirable. The plan honors that priority: it preserves the most environmentally sensitive, river-adjacent acreage as open space and locates its largest open areas and trail system there. The ground the Plan most wants protected is the ground the development keeps green and open to the public.

Across the full site, about 65.9% (47.01 acres) remains green space, building and patio footprints occupy approximately 18% of the land, and a public trail system creates a pedestrian connection from Schoen Laufen Park toward the adjacent assisted-living, nursing, and early-learning uses that does not exist today. The project is best understood as a transitional neighborhood at the seam of these two areas: residential where the corridor invites it, and open space and public recreation where the district prioritizes it.

The amendment request

The Plan anticipates its own evolution, stating that periodic amendments are appropriate and that district and corridor boundaries "may shift over time" (p. 40). Heyday requests a Comprehensive Plan amendment aligning the western (Roskopf) parcel with the adjacent Lannon–Mequon Road Corridor.

This is a clean, whole-parcel amendment that follows the existing property line — the current boundary between the two areas — rather than drawing a new line through the middle of a parcel. It costs the Plan nothing in conformance: Open Space and Recreational is itself an allowable use within the Lannon–Mequon Corridor, so the river-adjacent open space remains fully consistent with the parcel's designation. The amendment does not undermine the Plan's environmental intent; it formalizes the transition the site already represents by:

- Permanently preserving approximately 65.9% of the site, 47.01 acres, as green space, consistent with the Schoen Laufen District's conservation purpose;
- Concentrating development on the infrastructure-adjacent, corridor-facing portion of the site;
- Delivering housing types the Plan explicitly identifies as needed — missing-middle, universally designed, rental; and
- Dedicating permanent public trails, greenway, and recreational amenities that enhance the Schoen Laufen Park experience.

Critically, the green space is not a site-plan promise. It is dedicated and locked through the Planned Development District, a binding zoning instrument — protection that is stronger and more enforceable than a Future Land Use designation, which is itself aspirational and subject to amendment.

Alignment with the Comprehensive Plan

The Plan establishes three guiding principles (p. 29). The project responds to each.

Guiding Principle (Plan p. 29)	How Heyday Germantown Responds
Preserve and enhance the environment	About 65.9% of the site (47.01 acres) is preserved as green space. The clustered plan keeps development outside the primary environmental corridor, protects the Menomonee River corridor and adjacent wetlands through setbacks and bio-retention, and maintains natural drainage.
Invest in people, neighborhoods, and communities	Accessible, universally designed single-story homes let residents of all ages and mobility levels remain in Germantown, and a public trail connects to Schoen Laufen Park.
Build a strong economic base	Activates a well-located infill site with no public assistance and adds new tax base. Active adults who move in free up existing entry- and middle-level homes for the next generation of buyers.

Housing goal and objectives

The Plan's Housing Goal (p. 190) calls for nurturing existing neighborhoods and adding a variety of accessible new housing types. The project introduces single-family attached rental homes, a type underrepresented in Germantown — attached single-family is roughly 10% of the housing stock today (Table 7.2, p. 147). It advances these Housing Objectives:

Obj.	Housing Objective (Plan p. 191)	How Heyday Germantown Responds
H-1	Ensure compatibility of residential infill with the scale and character of surrounding landscapes.	Low density (about 3.59 du/ac), low building coverage, single-story massing, and cottage-style architecture fit the surrounding residential character, with landscape buffering toward adjacent parkland.
H-3	Pursue a range of housing types, including smaller lots and walkable neighborhoods, so homes are more affordable and natural-resource land is conserved.	Delivers missing-middle housing in four-, six-, and eight-unit buildings at house scale, with a 1-, 2-, and 3-bedroom mix at multiple price points, while conserving about 65.9% of the site (47.01 acres) as green space.
H-4	Encourage or require conservation subdivisions to preserve agricultural land and natural resources.	The clustered design concentrates footprints on roughly one fifth of the site and holds approximately 65.9% (47.01 acres) as green space, trails, and stormwater amenities, the conservation-subdivision pattern the Plan calls for.
H-5	Ensure adequate access, drainage, open space, layout, and amenities by requiring developers to master plan residential developments.	A comprehensive master plan addresses access (N River Lane, Virginia Avenue, and Lilac Lane), integrated stormwater, green space distribution, and amenities including the trail connection to Schoen Laufen Park.

The Implementation Plan's Land Use section (p. 201) supports the proposal as well. Land Use Objective 3 calls for appropriate transitions between existing and new land uses, and the project is precisely that transition — a low-density, conservation-oriented neighborhood mediating between the open-space character of the Schoen Laufen District and the more intensively developed Lannon–Mequon Corridor. Land Use Objective 2 directs the Village to implement the Plan through measures including conservation-subdivision regulations, which this clustered design fits. Land Use Objective 5 calls for detailed land-use plans for each neighborhood, district, and corridor, and this master plan can serve as a catalyst for that work.

In all, the request supports Housing Objectives H-1, H-3, H-4, and H-5 and Land Use Objectives 2, 3, and 5.

The PDD: the Plan's prescribed tool for this site

The Planned Development District is not a departure from the Comprehensive Plan. It is the instrument the Plan itself prescribes to achieve its vision on sites like this one. The Village's PDD ordinance (Section 17.27) exists to permit creative, coordinated site design that promotes efficient use of land while providing a harmonious variety of housing choices, a higher level of amenities, and the preservation of open space. The 2050 Plan

reinforces this, identifying planned development districts as the Village's tool to create conservation subdivisions that meet residential demand while preserving environmental features and open space. Every purpose the ordinance and the Plan assign to the PDD is satisfied here:

- Preservation of open space. The Plan defines a conservation subdivision as one preserving 30 to 60 percent of the site as common open space. Heyday holds 65.9 percent of the site, 47.01 acres, as green space, clustering the homes and keeping the river-adjacent ground undeveloped. This is the conservation-subdivision pattern, delivered through the exact mechanism the Plan identifies.
- A harmonious variety of housing. The homes are the missing-middle, single-story, universally designed rental product the Plan identifies as a gap, at roughly one third of the corridor's permitted density.
- Efficient use, at no public cost. The project is entirely privately financed, with zero Village financial assistance, and makes efficient use of infrastructure already serving the corridor.
- A higher level of amenities. Beyond preserving green space, the project dedicates for public use a walking and jogging trail, a greenway corridor, a public pavilion, a lookout over the western green space, and a passive play area — all privately financed and maintained at Heyday's expense and open to the public at no cost to the Village. The Schoen Laufen District's single desirable use is not open space alone, but Open Space and Recreational; the PDD delivers both halves of that designation, in substance and in perpetuity, on the river-adjacent ground the Plan most wanted protected.

The Village has already applied this framework nearby. In adopting the Carillon at Germantown PDD (Ordinance 03-2026), the Plan Commission and Village Board found a planned development district consistent with both the 2050 Comprehensive Plan and Section 17.27, on a site in the same Lannon–Mequon Road Corridor. Heyday Germantown asks the Village to apply that same principled framework here, on a larger site and at a much lower density. ***See exhibit A for further illustration.***

The PDD Rezoning and RM-1 Bulk Standards

Both parcels are proposed for rezoning from A-1 Agricultural to a Planned Development District, the Heyday Germantown No. 1 PDD. The underlying district for the PDD is RM-1, the Multiple-Family Residential district, which caps density at 6.0 homes per acre. At 3.59 homes per acre the project is well under that ceiling, and it meets RM-1 on the other quantitative measures as well. The reason a PDD is needed at all is the attached, clustered building form: it does not fit the conventional setback geometry that RM-1 assumes for free-standing buildings, and a PDD is the tool the Village uses to allow that form in exchange for the green space and design quality the layout provides. The 2050 Plan points to the PDD for exactly this purpose, identifying planned development districts as the Village's mechanism for creating conservation subdivisions that meet housing demand while preserving open space. The Plan defines a conservation subdivision as one that keeps 30 to 60 percent of the site in common open space; at 65.9 percent green space, this project delivers above the top of that range.

The General Development Plan will spell out, item by item, every standard the project asks to modify or waive against RM-1, along with the private street section. All roadways within the development are private and built to the Village's private roadway design standards, with the exception of the public extension of N River Lane to the property line shown on the civil plan set. The internal streets are 24 feet face-to-face; the northern boulevard

entrance is configured as a divided drive, with an 18-foot one-way lane on each side leading into the site and around the entry circle. The table below summarizes where the project meets RM-1 as drawn and where a deviation is expected; the GDP carries the full, engineer-verified schedule.

Standard	RM-1 Requirement	Proposed	Status
Gross density	Max 6.0 du/ac	3.59 du/ac	Meets
Lot coverage	Max 20%	18.0% (building and patio)	Meets
Min. floor area by bedroom	1 BR 650 / 2 BR 800 / 3 BR 1,000 SF	Exceeds minimums	Meets
Parking	Per 17.45	2-car garage + apron per home	Meets
Principal bldg. setbacks	Front 35 / Side 25 / Rear 35 ft	Perimeter: 40 ft (N/E/W). Lilac Lane: 60 ft setback with landscaped buffer. Internal setbacks per PDD layout	Deviation requested
Building height	Max 35 ft / 2.5 stories	1–2 stories	Meets

Stormwater

Stormwater is handled within the site as part of the landscape, with detention features sized to the layout shown on the concept plan. The intent is that the type, number, and extent of those features, and the lot and road layout around them, hold steady from here into detailed design. The signed and sealed stormwater management report follows with the Round 2 CSM and Site Plan submittal.

Wetland Delineation

The wetlands on the site have been delineated. The delineated wetland areas and their setbacks are shown on the civil plan set (Snyder & Associates Sheet C300, revised July 28, 2026), one along the west side of the site near the stormwater basin and one at the southeast corner. Per Village direction, the delineation report is provided with the Round 2 CSM and Site Plan submittal and is not part of the Round 1 filing.

Market Context

The product responds to two of the fastest-growing renter groups in the country: older households looking to downsize out of a single-family home without leaving their community, and younger households who are renting longer, whether by preference or because for-sale inventory is tight and expensive. Germantown today offers very little in between the detached single-family house and the conventional apartment, and almost nothing that is both single-level and accessible. This neighborhood fills that gap with a maintenance-free, ground-level home that lives like a house.

Accessibility is a particular point. A small share of the existing housing stock provides the combination of a no-step entry, single-floor living, and wider doorways that aging residents increasingly need. The single-story homes

here are built around exactly that combination, which lets residents stay in the Village as their needs change rather than leaving to find suitable housing elsewhere.

Economic Impact, Market Feasibility, and Community Engagement

Section 17.27(3)(c) asks for economic impact and market feasibility information, and we are providing it as a separate part of this submittal rather than folding the numbers into this narrative. That package also includes the Community and Stakeholder Engagement Summary and the underlying engagement log. We undertook that outreach over the past several months on our own initiative; it was not required by the Village, and we are putting it on the public record so that the information we have shared is available to everyone considering this project, all in the same place. As part of that effort, we hosted a neighborhood meeting on June 23, 2026, to present the proposal and hear directly from nearby residents, and we will continue to take neighbors' input into account as the design advances through review.

In broad terms, the project is privately financed in full and converts two parcels that generate almost no tax revenue today into a durable, long-term contributor to the Village’s tax base, with no public assistance of any kind. The validated figures are in the economic impact materials.

In Closing

Heyday Germantown takes a well-located, infrastructure-served piece of land and turns it into a low-density neighborhood that keeps approximately 65.9% of the site, 47.01 acres, in green space, builds and maintains a public trail to Schoen Laufen Park, and adds a kind of housing — accessible, single-level, attached rental homes — that Germantown does not currently offer. It does all of this without public financing. We look forward to working through the review with staff and moving the project forward. It will be a great addition to the Germantown community.

Heyday — CR Devco, L.L.C.

HEYDAY GERMANTOWN

Why This Site: Alignment with the Village of Germantown 2050 Comprehensive Plan

The 2050 Plan designates the east parcel for residential and the west parcel for open space. Heyday's plan delivers both.

WHAT THE 2050 PLAN CALLS FOR

N. River Lane (north)

Schoen Laufen Park

WEST: ROSKOPF (~39.21 ac)
Schoen Laufen–Menomonee River District

Open Space = DESIRABLE
Residential = Undesirable

Open space, basin, and trail sit here

EAST: BARNES (~32.13 ac)
Lannon–Mequon Rd Corridor

Residential = ALLOWABLE
up to 10 du/ac (multifamily)

Heyday builds here, low density (3.59 du/ac, ~1/3 of permitted)

Virginia Ave

property line = current district boundary

Lilac Lane (south)

Requested: amend the west parcel into the corridor. Open space stays allowable, locked open via the PDD.

WHAT HEYDAY DELIVERS

The west green space, stormwater basin, and public trail sit in the Schoen Laufen District, the Plan's one preferred use. The trail is built and maintained by Heyday and connects to Schoen Laufen Park. Homes fill the corridor side at 3.59 du/ac.

65.9%	**3.59 du/ac**	**Active Trails**	**$0**
of the site stays green space (47.01 acres)	about 1/3 of the corridor's permitted max	built & maintained by Heyday	Village financial assistance

Future Land Use alignment, parcel by parcel

	ROSKOPF (West parcel)	BARNES (East parcel)
Comp Plan area	Schoen Laufen–Menomonee River District	Lannon–Mequon Road Corridor
Residential rating (FLU)	Undesirable	Allowable, all housing types
Open Space & Rec rating	**Desirable**, the only Desirable use in the district	Allowable
Max residential density	None assigned	MF 10 / 2-4F 6 / SF 2.9 du/ac
Comp Plan amendment	Yes. Align the parcel with the Lannon–Mequon Corridor, where open space remains an Allowable use	No. FLU already supports residential

Sources: RINKA site plan and green space exhibit (August 25, 2026); Village of Germantown 2050 Comprehensive Plan, Schoen Laufen District (p.109), Lannon–Mequon Road Corridor (p.111).
Green space acreage per Snyder & Associates Sheet C300, revised July 28, 2026. Concept exhibit, for discussion.

HEYDAY

Village of Germantown
...Willkommen

FEES MUST BE PAID AT TIME OF APPLICATION

- ☐ $350 Plan Commission Consultation
- ☐ $1,250 Rezoning – General
- ☐ $2,620 Rezoning – Floodplain
- ☐ $2,620 Rezoning - Wetland
- ☐ $1,430 PDD < 5 acres
- ☐ $2,410 PDD 5-20 acre site
- ☒ $3,980 PDD > 20 acre site

Paid On: 6/26/26 Check/CC 108

REZONING & PDD APPLICATION

Pursuant to Section 17.51 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1

APPLICANT OR AGENT

CR Devco, LLC
44 S Vail Ave., Ste 102
Arlington Heights, IL 60005

Phone [redacted]
E-Mail [redacted]

PROPERTY OWNER

DANIEL R ROSKOPF, DOUGLAS K ROSKOPF ET AL
D&S WEYER NO II LLC, BARNES JOHN+MARY ANN
ROSKOPF - 8314 GATEWAY CT, GREENDALE, WI 53129
BARNES - 5966 EAGLE POINT RD, HARTFORD, WI 53027

Phone ( )
[redacted]

PLEASE NOTE: Applicant contact information has been redacted for security purposes.

2

PROPERTY ADDRESS OR GENERAL LOCATION	TAX KEY NUMBER
North of Lilac Lane, just east of Schoen Laufen Park, Washington County, Wisconsin	GTNV_282999 & 281978

3

REZONING REQUEST

FROM	TO
Agricultural	PDD

4

METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY – REQUIRED

Please submit a separate WORD Document with this information.

See separate legal description attached.

RECEIVED
JUN 26 RECD
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

5 PURPOSE OF REZONING REQUEST

Briefly describe why the applicant is rezoning the property. Include a description of the proposed use, including any new construction and number of employees, if applicable.

The applicant requests rezoning of the subject 69.92 acre property (Tax Keys GTNV-282999 and GTNV-281978) from A-1 Agricultural to a Planned Development District (PDD), "Heyday Germantown No. 1 PDD," together with a Comprehensive Plan Amendment for the Roskopf parcel.

The proposed use is a 256-unit residential community comprising 226 single-story attached rental homes and 30 two-story townhomes across 45 buildings in 4-, 6-, and 8-unit configurations. The development emphasizes universal design, with the single-story product featuring no-step entries, wider doorways, and accessible units, targeting downsizers, active seniors, and mobility-impaired renters. The two-story townhomes broaden the unit mix, serving renters who want additional space and a traditional two-level layout. Slab-on-grade construction is required throughout due to pervasive shallow bedrock. More than half the site is preserved as open space, with a pedestrian corridor connecting to Schoen Laufen Park.

The PDD is requested to enable the attached single-story format central to the project's accessibility objectives, which requires dimensional flexibility — particularly with respect to principal-building setbacks — that conventional district standards do not provide for an attached, clustered product. The project otherwise substantially conforms to the RM-1 Residential District standards that serve as the underlying dimensional benchmark for the PDD: density of 3.66 du/ac (RM-1 maximum 6.0), lot coverage of 18.4% (maximum 20%), lot area per unit and parking both exceeding RM-1 minimums, and all unit types meeting RM-1 minimum floor area requirements. The project requires no public financial assistance.

6 SUPPORTING DOCUMENTATION:

☐ Plat of Survey (1:100)

☒ Site Plan and elevations for new construction (can be conceptual)

7 READ AND INITIAL THE FOLLOWING:

ADR I understand that the Village is under no obligation to rezone property and that density and lot coverages provided in the Zoning Code are maximums. Actual build out will depend on myriad factors including topography and other natural conditions, surrounding neighborhood context and the detailed design of a project.

ADR I understand that Village Staff, Plan Commission and/or Village Board may request additional information to properly evaluate this request and failure to provide such information may in itself by sufficient cause to deny the petition.

ADR I am aware that this rezoning shall go into effect immediately upon the final approval of the Village Board and its execution of the rezoning ordinance

ADR I understand that Village Staff is required to post one or more signs along the street frontage of and/or on the property subject of this application that indicate to nearby property owners and the general public that a public hearing of my application will be held before the Village Plan Commission and/or Village Board prior to action taken on this application; I hereby grant Village Staff permission to enter onto the property for the expressed purpose of installing said sign(s) provided Village Staff is responsible for installing, maintaining and removing said signs in a reasonable manner and time frame.

8 SIGNATURES – ALL APPLICATIONS MUST BE SIGNED BY OWNER!

A.D.R. 6/16/2026

Applicant Date

Anthony D. Rodriguez
Authorized Signatory

Daniel Roskopf Douglas Roskopf Todd Roskopf

Owner Date 6/16/26

DANIEL R ROSKOPF, DOUGLAS K ROSKOPF ET AL

Susan Weyer Todd P. Weyer
Donald Weyer

Owner Date

D&S WEYER NO II LLC, BARNES, JOHN+MARY ANN

Revised 12/5/25

Docusign Envelope ID: CD37A23F-7F42-8EF6-828D-3774F19BD256

Village of Germantown
...Willkommen

Fee Must Accompany Application

☒ $1,340 Paid On: 6/26/26 Check/CC 108

☐ $350 PC Consultation Only

Paid On: _____ Check/CC_____

2050 COMPREHENSIVE PLAN AMENDMENT APPLICATION

Please read and complete this application carefully. All applications must be signed and dated. Attach additional sheets and/or include supplemental information in support of your application.

APPLICANT OR AGENT:
CR Devco, LLC

Address: 44 S Vail Ave., Ste 102
Arlington Heights, IL 60005

Phone: [redacted]

E-Mail: [redacted]

PROPERTY OWNER(S):
DANIEL R ROSKOPF, DOUGLAS K ROSKOPF ET AL

Address: 8314 GATEWAY CT, GREENDALE, WI 53129

Phone:

E-Mail: [redacted]

PLEASE NOTE: Applicant contact information has been redacted for security purposes.

☒ REQUEST TO AMEND THE LAND USE MAP

Current Map Designation(s): Schoen Laufen–Menomonee River District

Proposed Map Designation(s): Lannon–Mequon Road Corridor

Address of Property, Parcel ID Number(s) or General Location (¼ section ¼ section):

Parcel #: GTNV_282999 (per Washington County GIS)

Legal Description of Property or Area (metes and bounds description):

Please submit a separate WORD Document with this information.

RECEIVED
JUN 26 REC'D
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

☐ REQUEST TO LAND USE TABLE OR OTHER PLAN TEXT

Section(s) of Comprehensive Plan to be Amended:

Village of Germantown 2050 Comprehensive Plan — Future Land Use Map (2050 FLU Map). The amendment refines the boundary between the Schoen Laufen–Menomonee River District and the Lannon–Mequon Road Corridor as applied to Parcel GTNV_282999 (the Roskopf parcel, ~40 acres).

Proposed Text Amendment:

No text amendment is proposed. This is a Land Use Map amendment only. The request reclassifies the subject parcel from the Schoen Laufen–Menomonee River District (Rural/Open Space) to the Lannon–Mequon Road Corridor designation, consistent with the parcel's transitional character and its frontage on existing infrastructure along Lilac Lane.

Detailed Explanation and Justification for Proposed Amendment(s):

The parcel sits at the transition between two designations. The Schoen Laufen District is intended for open-space preservation; the adjacent Lannon–Mequon Corridor permits all residential types up to 10 du/ac. The proposed development concentrates building footprints on the corridor-adjacent, infrastructure-served portion of the site while preserving the environmentally sensitive acreage toward the Menomonee River as open space.

The amendment advances the Plan's intent by preserving the majority of the site as open space, delivering needed missing-middle and universally designed rental housing, and adding a publicly accessible trail to Schoen Laufen Park at the applicant's expense. It supports Housing Objectives 3 and 4 and Land Use Objectives 2, 3, and 5. The 2050 Plan itself acknowledges that district and corridor boundaries "may shift over time" (p. 40), making this refinement consistent with the Plan's own framework.

This request is further explained in the accompanying Project Narrative document submitted with this application.

APPLICATION SUBMITTAL REQUIREMENTS (to be submitted at time of application):

All Amendment Applications:

- ❑ Complete Application Form (Affidavit of Understanding and signatures required)
- ❑ Application Fee
- ❑ Additional Sheet(s) with a detailed explanation of and justification for the proposed amendment(s)

Land Use Map Amendment Only:

- ❑ Legal Description of the land subject of map amendment in electronic/digital file format (e.g. Microsoft Word)
- ❑ Detailed Plat of Survey or Site Plan of the land subject to the map amendment at a scale of 1" = 50' or other suitable scale necessary to accurately present:
  - Exterior boundary of the land subject of the map amendment
  - Concept plan showing general size, shape and relative location of existing and future roads, lots, structures, wetlands, floodplain or other natural features, environmental etc. as may be necessary to further explain and/or support the proposed map amendment.

AFFIDAVIT OF UNDERSTANDING

Please read and indicate that you understand and agree to the following (initials in box):

ADR I understand that Village Staff, the Plan Commission and/or the Village Board may request additional information to properly evaluate this application and failure to provide such information may be sufficient justification to deny this application;

ADR I understand that, regardless of the justification and/or information provided in support of my application, the Village is under no obligation to approve my application nor amend the Comprehensive Plan as requested;

ADR I am aware that the approval of an application to amend the Land Use Map only amends the Land Use Map and does not otherwise revise or change the zoning of the land affected by the Map amendment, and, if I am applying for a Map amendment in order to pursue actual development of the land affected by the amendment, I may be required to obtain separate permits and/or approvals (e.g. rezoning, land division, site plan, etc.) from the Village or other agencies as a prerequisite to the development of such land.

ADR I understand that the Village will decide when and if my application will be considered and does not have a prescribed or mandatory schedule for processing 2050 Plan amendment applications; Unless I am advised by Village staff to the contrary, the Village typically only considers proposed amendments once per year as part of an annual evaluation of the overall 2050 Plan and the implementation actions set forth therein.

ADR I understand that Village Staff is required to post one or more signs along the street frontage of and/or on the property of this application that indicate to nearby property owners and the general public that a public hearing of my application will be held before the Village Plan Commission and/or Village Board prior to action being taken on this application; I hereby grant Village Staff permission to enter onto the property for the expressed purpose of installing said sign(s) provided Village Staff is responsible for installing, maintaining and removing said signs in a reasonable manner and timeframe.

ALL APPLICATIONS MUST BE SIGNED BY THE APPLICANT/AGENT AND PROPERTY OWNER(S)

A.D.R. 6/16/2026
Applicant/Agent Date
Anthony D. Rodriguez
Authorized Signatory

Dan Roskopf Douglas Roskopf Todd Roskopf 6/16/2026
Property Owner Date
DANIEL R ROSKOPF, DOUGLAS K ROSKOPF ET AL

Village of

Germantown

Village of Germantown
Clerk Treasurer
N112W17001 MEQUON ROAD
Germantown, WI 53022
(262)250-4700
Welcome

06/26/2026 09:00AM PRAVINA P
001138-0019
Payment effective date 06/24/2026

MISCELLANEOUS
PLAN COMMISSION REVIEW
FEES (GENPLN)
2026 GENPLN
1 @ $5320.00 $5,320.00

$5,320.00

Subtotal	**$5,320.00**
Total	**$5,320.00**

Tenders
CHECK $5,320.00
Check Number108

Change due **$0.00**

Thank you for your payment

CUSTOMER COPY

HEYDAY GERMANTOWN

Why Not Single-Family?

The for-sale alternative on the 71.34-acre Lilac Lane site — what it would cost, why it cannot be built in phases, and why no homebuilder would take it on

THE SHORT ANSWER

Two things stand in the way, and only one of them is about the market. This site cannot carry the cost of a for-sale subdivision: site infrastructure alone runs about **$90,000 per lot** — roughly two-thirds of what a finished lot in this market is worth, before any land, soft costs, impact fees, carrying cost, or builder margin. And the households Heyday is built for are largely Germantown residents leaving a for-sale home, not competing for one.

A 160-lot for-sale program on these 71.34 acres was underwritten in April 2026 using Tim O'Brien Homes' own comparable lot pricing and the site's engineered cost basis. It does not work — and not because of the land price. Almost all of the site cost has to be spent before the first lot can be sold, against a build-out that the builder itself puts at six to eight years. And we did not reach that conclusion alone: two separate for-sale builders looked at these parcels and reached it independently. And the version the Village would inherit is the heavier one: a for-sale subdivision here means roughly a mile and a half of new public street and a public lift station. Heyday dedicates 260 feet of street and keeps its lift station private.

1 The site answer: three constraints that are priced, not theoretical

Every cost below comes from the project's own engineering record — 33 test pits excavated on this site, a civil engineer's opinion of probable cost, and a site contractor's quantities. None of it is an estimate made for argument's sake.

Shallow dolomite bedrock across the entire site

- 33 test pits (R.G. Huston Co., February 17, 2026) hit hard bedrock at a median depth of **4.0 feet** below grade. Eighteen of the 33 refused at or above 4.0 feet; 23 of 33 at or above 5.0 feet.
- The shallowest pits found rock at **1.4 feet, 10 inches, and 4 inches** below grade, with visible rock outcrops at the surface in two locations. There is no bedrock-free area of the site.
- Detached for-sale homes in this market are sold with basements. The site already carries a priced **$1,000,000 blasting program** — but that figure covers blasting only to four-foot frost-wall depth, which is what a slab-on-grade product needs. Reaching full basement depth means blasting deeper across essentially the whole subdivision, on top of that million, and the incremental cost has not been quantified. Even at the blasting cost already priced, the program exceeds what for-sale lot values here will carry; basements only widen the gap. **Heyday's homes are slab-on-grade and single-story; they are designed for this site rather than in spite of it.**

A sanitary lift station is required — gravity service is not available

- Topography and bedrock preclude a gravity-only connection. The project builds a **$650,000** lift station plus **3,200 linear feet** of forcemain to the Village gravity sewer at Virginia Avenue.
- Under Heyday, that station is **private** — built, operated, and maintained by a single owner in perpetuity, at no cost to the Village. Under a for-sale subdivision it would be **dedicated to the Village**, which would then own the pumps, controls, generator, and annual O&M for the life of the neighborhood.

N. River Lane must be extended as a public road

- Site access requires extending N. River Lane roughly **260 feet** at an estimated **$384,430** — developer-funded, built to Village standard, and dedicated to the Village. Heyday builds and dedicates the only public street the project creates.

WHAT THAT ADDS UP TO, PER LOT

On a 160-lot program, the engineered site cost — mass grading and blasting, roads, storm, sanitary, water, erosion control — works out to about **$90,000 per lot**. Add the River Lane extension and Village impact fees and the figure is roughly **$101,000 per lot** of hard cost and fees. Total basis including land and soft costs lands near **$127,000–$141,000 per lot**.

Finished lots in the Germantown market, per Tim O'Brien Homes' own comparable sales, support an average of about **$134,000**. The dirt work alone consumes two-thirds of that — before land, soft costs, carrying cost, or builder margin. The constraint is the rock, not the price of the ground.

WHY A BUILDER CANNOT PHASE OUT OF THE PROBLEM

The fair question is why a homebuilder would not simply phase 71.34 acres — build a first increment, sell it, and fund the next out of the proceeds. That is how for-sale subdivisions are normally financed. This site does not allow it.

Almost every major cost here is indivisible. The land is a single acquisition of two parcels. The lift station and its 3,200 feet of forcemain serve the whole site and cannot be built in pieces. The stormwater pond is one basin, sized and excavated for full build-out. N. River Lane has to be extended before any lot has legal access. And the blasting for the storm, sanitary, and water mains runs the length of the site — once a blasting contractor is mobilized and opening trenches, coming back years later to shoot rock between finished houses costs more than doing it at once. What can genuinely be phased is minor: lateral utility stubs and the excavation under each individual house.

Duration is the other half. Tim O'Brien Homes — selling finished lots in a Germantown community immediately north of this site — estimated that a program of this size would take **six to eight years** to build through, and said that duration alone materially increases exposure to financing and carrying cost, market-cycle risk, and phasing complexity. Their own Germantown absorption is the reference point: 0.58 sales per month in 2023, 0.83 in 2024, and 1.5 last year as the community's exclusive builder in its final and most desirable phase.

So a builder would carry nearly the full cost of the site from year one, for most of a decade, on lots the market prices below what the dirt work costs. That is not a thin margin declined; it is a structure no builder would underwrite.

2 The market answer: Heyday frees up for-sale homes rather than competing with them

- Heyday's core households are active adults and empty nesters — people ready to leave the cost and upkeep of a house but not ready for assisted or independent living. When they move, **the home they leave re-enters the Germantown market** for the next family. The single-story, no-step, no-shared-floor product they will accept does not exist in the Village today.
- This is not Heyday's theory. The Germantown School District's own commissioned study says it:

  > *"Local housing choices attractive to seniors and empty-nesters — such as single-family condominiums, townhomes, and senior housing — may help support the turnover of larger single-family homes from older generations to younger generations."* — MDRoffers, GSD Community Growth & Projections Report, June 2, 2025

- The demographics point the same direction. Between 2010 and 2020 the District's population age 65+ grew by **1,397** while its school-age population fell by about **500**. Germantown's housing stock is already **63% single-unit detached and 77% owner-occupied**. The gap in the Village's housing lifecycle is not another detached subdivision.
- **Another for-sale builder already reached this conclusion.** The developer who held the 32-acre parcel under contract last year **walked from the site over bedrock conditions** — its product required basements, the rock made them cost-prohibitive, and the added sanitary lift station left the land and improvement costs well above what achievable lot values would carry. That developer communicated its reasoning directly to Village staff. It is the first of two independent for-sale builders to reach that conclusion; the second reviewed our full engineering record and put its answer in writing.

3 We asked a homebuilder selling lots next door. They said no, in writing.

In March 2026 Heyday sent the complete site record — the 33 geotechnical test pit logs, the engineered infrastructure estimates, and the full 160-lot feasibility analysis — to Tim O'Brien Homes, which at the time was selling finished single-family lots in a Germantown community immediately north of this property. We asked one question: would you develop these 71.34 acres for sale, and if not, why. Their written assessment came back on April 10, 2026.

THEIR CONCLUSION, IN THEIR WORDS

"The combination of pervasive shallow bedrock, the requirement for a private lift station, and a developer funded off site public road extension creates a cost structure that materially exceeds what the single family lot market can sustainably support at this location."

- **On the cost basis.** They reviewed the same per-lot figures carried in this document — roughly $90,000 per lot before soft costs, about $140,000 fully loaded — and called them "well beyond what we consider supportable for single family development in this submarket." They were explicit that the numbers are **not the product of conservative assumptions**,

but real, site-specific constraints atypical for conventional single-family subdivisions, producing "a structural mismatch between development cost and end market value that is difficult to solve through pricing alone."

- **On basements.** They confirmed the current pricing covers blasting for frost walls only, not full basement depth, and that their lot values assume a basement-capable product because that is what buyers in this segment expect. Dropping basements to save cost **does not close the gap** — it "would materially reduce lot value and buyer appeal," reducing revenue faster than it reduces cost. They have never built a single-family home without a basement, and note that almost none of their competition has.
- **On lot size and market fit.** Making the density work here requires lots of roughly **9,000 square feet**. Their Germantown community up the road sells on lots averaging **16,500 square feet**, and they were clear that the Village's premium pricing follows the larger lots that support larger homes and three-car garages — not the smaller profile this site forces. The lot size that makes the density work is the lot size that caps the pricing.
- **On land value.** They would require a significantly lower land basis and a stronger margin than this site can produce, and said the land price would need to be reduced to a level that is not realistic under current market conditions. Even then, the long build-out and the ongoing ownership and disclosure obligations that come with a **private lift station** add buyer resistance and risk of their own.

WHY THIS ANSWERS THE QUESTION

Tim O'Brien Homes had every commercial reason to want this site to work. They were already building in Germantown, they have an existing development partnership with Heyday elsewhere in Wisconsin, and Heyday approached them about buying finished lots here. They reviewed the actual test pit logs and the actual cost estimates, not a summary. They concluded that the site "faces fundamental feasibility challenges that are not solvable through normal market adjustments," that the required infrastructure "materially outpaces what single family lot pricing in Germantown can support," and that "alternative residential formats that can better absorb upfront infrastructure costs appear more appropriate for this property."

Two independent for-sale builders, working from the same rock, reached the same answer — one of them walked away from the parcel and told Village staff why. Whether this site could be single-family has already been tested in the market.

Bottom line. The choice on this site is not between Heyday and a single-family neighborhood. It is between Heyday and the status quo — 71.34 acres that shallow bedrock and offsite sanitary costs have kept undeveloped for decades, generating $443 a year in real estate taxes. Heyday is the product this site can actually carry, and the one that gives Germantown's own longtime homeowners a reason to stay in the Village while opening up the houses they leave behind.

Heyday Germantown | CR Devco, L.L.C. | Ryan Swingruber, Principal | rns@heydayco.com | heydayco.com
Prepared for the Village of Germantown Plan Commission — September 2026

Legal Descriptions

Property 1 – Tax Parcel ID: 281978

Owner: D&S Weyer No II LLC; John P & Mary Ann Barnes

Location: Section 28, Township 9 North, Range 20 East

Acres: 32.13

Legal Description:

LOT 2 - CSM 3635 V1485 P107 + V1786 P93 + DOC 1311618 SEC 28-9-20 32.13 AC

Property 2 – Tax Parcel ID: 282999

Owner: Daniel R Roskopf; Douglas K Roskopf; Todd R Roskopf

Location: SE-NW, Section 28, Township 9 North, Range 20 East

Acres: 39.21

Legal Description:

SE NW DOC 974989 + 1584783

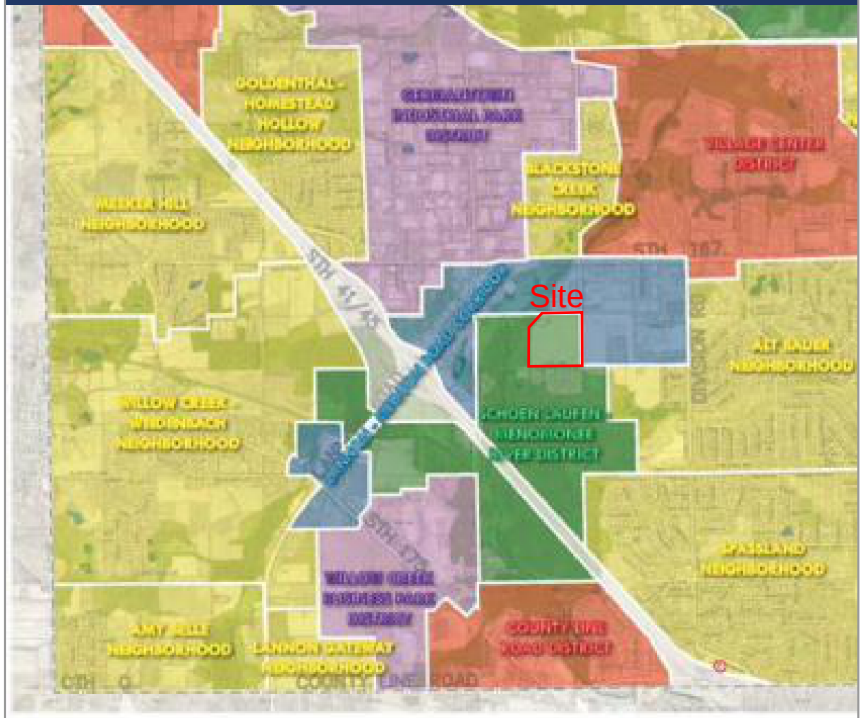
FUTURE LAND USE: CURRENT vs. PROPOSED

2050 FUTURE LAND USE MAP (MAP 5.2)

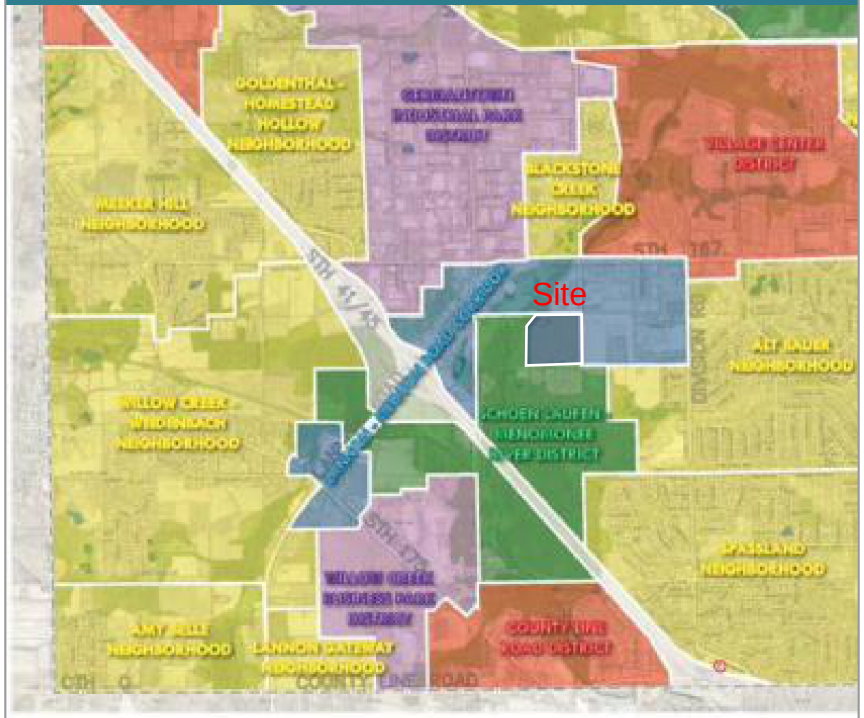
Comprehensive Plan Amendment — Roskopf parcel (GTNV_282999), ~39.21 ac

The amendment reclassifies the Roskopf (west) parcel from the Schoen Laufen–Menomonee River District to the Lannon–Mequon Road Corridor.

CURRENT — Roskopf in Schoen Laufen District



PROPOSED — Roskopf reclassified to Corridor



What changes

- ✓ **Current designation** Roskopf (~39.21 ac) sits within the Schoen Laufen–Menomonee River District, where residential is rated Undesirable and Open Space & Recreation i
- ✓ **Proposed designation:** Reclassify Roskopf into the Lannon–Mequon Road Corridor, where all residential types are Allowable (up to 10 du/ac for multifamily).
- ✓ **Barnes parcel:** No change — the Barnes (east) parcel already lies in the Lannon–Mequon Road Corridor and supports residential under the current FLU.
- ✓ **Open space:** The amendment is paired with permanent open-space preservation on the balance of the site, consistent with the Schoen Laufen District's conservation purpose.

Base: Village of Germantown 2050 Comprehensive Plan, Map 5.2 — 2050 Future Land Use Map Overview (p. 40). District boundary and parcel extent shown for illustration; refer to the Comprehensive Plan Map and Future Land Use Table for the controlling designations. Concept exhibit — for discussion.

HEYDAY

6/9/2026

Dear Neighbors,

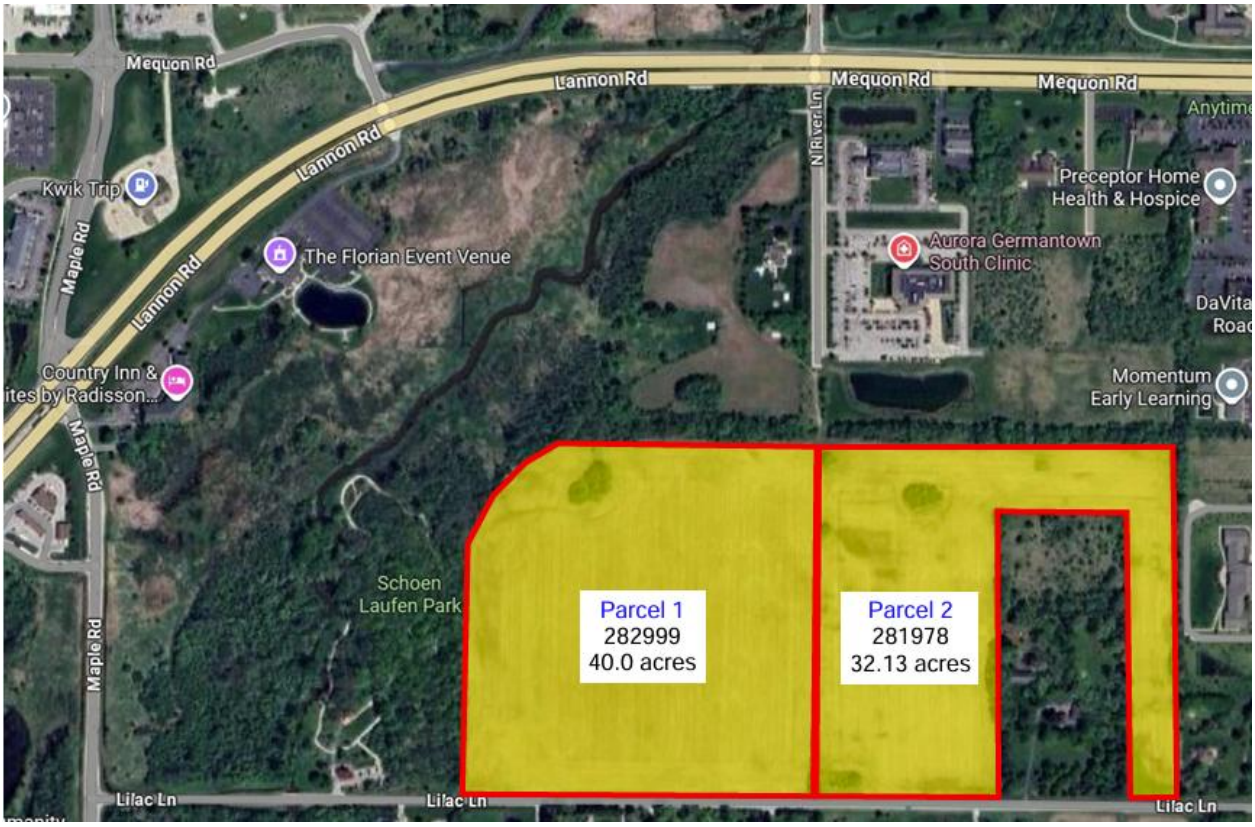
We're excited to share our vision for a new neighborhood taking shape east of Maple Road and north of Lilac Lane in Germantown — and just as important, we want to hear from you. CR Devco, LLC (doing business as "Heyday") is proposing a thoughtfully planned neighborhood that blends single-story attached rental homes with two-story townhomes. Our goal from the start has been simple: create a cohesive, low-density neighborhood that complements the surrounding area, preserves its natural features, and provides new housing options for residents of all ages — whether that's a young family putting down roots or a longtime neighbor looking to downsize without leaving the community they love.

We've designed a place that belongs here. More than half the site stays open: central greens, walking paths, sidewalks, and gathering areas that give neighbors places to meet, walk, and enjoy being outside together.

The proposed neighborhood sits on roughly 72 acres east of Maple Road and north of Lilac Lane, made up of the two parcels shown below. Today the land is largely open farmland, and our plan is to keep much of that open character intact as the neighborhood takes shape.

Property Addresses:

- Parcel 1 – Parcel # 282999– 40.0 Acres
- Parcel 2 – Parcel # 281978 – 32.13 Acres



HEYDAY

We believe the best neighborhoods are built with the people nearby, not just for them. Prior to appearing before the Plan Commission in August, we'd like to host a neighborhood meeting to share the full master plan, answer your questions, and discuss the concept in an informal setting. Your voice will help shape this into a place we're all proud to call home.

MEETING DATE: Tuesday, June 23, 2026, 5:30pm-7:00pm

MEETING LOCATION: Germantown Community Library N112 W16957 Mequon Rd, Germantown, WI 53022

Should you have any questions, please feel free to reach out to us at anthony@heydayco.com. We look forward to meeting with you and discussing our project!

Best,

Josh and Ryan

CR Devco, LLC

HEYDAY GERMANTOWN

Community & Stakeholder Engagement Summary

Prepared for Village of Germantown | June 2026

INTRODUCTION

Heyday respectfully submits this engagement summary to the Village of Germantown to document the outreach we have conducted since our initial concept plan review at the Plan Commission on November 10, 2025. Our goal from the outset has been to meet individually with every trustee, candidate, and community stakeholder willing to engage — listen to their concerns, answer their questions, and incorporate their feedback into our plans before filing a formal application.

We believe this level of pre-application engagement is consistent with the Village's expressed desire for a more transparent, community-involved development process. It is our understanding that the Village is considering formalizing pre-application neighborhood meetings as part of future development review, and we welcome the opportunity to participate in that process as our application moves forward.

ENGAGEMENT OVERVIEW

Since November 2025, the Heyday Germantown development team has conducted the following outreach:

- Individual meetings with the Village President and multiple Village Board trustees
- Individual meetings with Village Board candidates in contested districts
- Meeting with the Village Finance Director to validate fiscal impact projections
- Meeting with the Germantown School Board President and Superintendent of Schools regarding school enrollment impact
- Meetings with Economic Development Commission members
- Property tours at Heyday Oak Creek for interested stakeholders
- Ongoing coordination with Village Engineering staff on utilities, stormwater, and site design
- Engagement with local homebuilder (Tim O'Brien Homes) regarding single-family feasibility on the site
- Attendance at the March 11, 2026 Candidate Forum and March 16, 2026 GGF Committee meeting as observers
- On June 23, 2026 Heyday held an open-to-the-public community meeting at the village of Germantown library to present the project, answer questions, and solicit feedback from neighboring property owners and residents before filing a formal application.

STAKEHOLDER ENGAGEMENT LOG

The following table summarizes our outreach, the concerns and priorities communicated to us, and how we have responded to each.

Stakeholder	Engagement	Concerns & Priorities Communicated	Heyday Response
Village President Bob Soderberg	In-person meeting	Village fiscal health. Need for development that generates revenue without public subsidy. Importance of transparent, community-engaged development process.	Fiscal impact analysis validated by Finance Director. $0 public financial assistance. Pre-application outreach to all trustees and stakeholders. Offered to participate in neighborhood meeting pilot.
Trustee Robert Warren (D3)	In-person meeting	Supportive of responsible residential development. Fiscal sustainability. Introduced Heyday to Economic Development Commission members for broader input.	Fiscal one-pager provided. Engaged with EDC members per his recommendation.
Trustee Scott Hefle (D1)	In-person meeting, property tour, candidate forum, GGF	Village fiscal position and debt burden. Tax revenue generation outside of TIDs. Transparency in Village finances. Wants development that turns on property taxes quickly.	Fiscal one-pager provided. Rent memo provided. Toured Heyday Oak Creek to see product firsthand. Demonstrated $1.0M–$1.1M annual property tax with $0 public assistance from a site generating $443/year.
Trustee Jim Stout (D2)	In-person meeting, property tour, stormwater analysis provided	Stormwater management and flooding impact on neighboring properties. Conservation and environmental stewardship. Desire for developers to engage directly with stakeholders before applications.	Two-page stormwater fact sheet prepared by civil engineer (Snyder & Associates). Three regulatory layers documented (NR 151, Village Code, MMSD Ch. 13). Volume matching for 2-yr and 100-yr storms. 65.9% green space (47.01 acres). Naturalized stormwater basins. Offered in-person walk-through.
Trustee Meg Cutts (D2)	Video conference	Fiscal impact of new development on police, fire, and EMS services. Infrastructure obligations and long-term maintenance. Development Agreement terms.	Fiscal one-pager provided. Detailed private infrastructure commitment (roads, lift station, stormwater, sidewalks). Invited input on Development Agreement terms. School impact data provided (MDRoffers, commissioned by GSD).
Trustee Jolene Pieper (D3)	In-person meeting	Concerns regarding rental housing in areas not designated for multifamily in the Comprehensive Plan. Preference for development consistent with existing land use designations.	Comprehensive Plan Amendment justification prepared, documenting alignment with H-1, H-3, H-4, H-5 housing goals and LU-2, LU-3, LU-5 land use objectives. Site constraints analysis demonstrating why single-family development is not feasible.
Former Trustee Kristen Borst (D4)	Outreach sent	Trustee Borst indicated she prefers to evaluate the project in a public forum setting.	Respectfully acknowledged. We will present comprehensive materials at the public hearing.
Trustee Jan Miller (D4)	In-person meetings and Heyday Oak Creek property tour	Fiscal impact and Village debt position. Preference for single-family development if the site can support it. Importance of a transparent, community-engaged process. Desire for the team to take time, listen, and demonstrate that feedback has been incorporated before formal application.	Conducted a joint Heyday Oak Creek property tour with Trustee Kaiser to see the built product firsthand. Engaged Tim O'Brien Homes for an independent single-family feasibility assessment in response to her for-sale preference. Fiscal one-pager provided. Committed to a transparent process, including an open public neighborhood meeting before filing formal applications.
Trustee Patrick Kaiser (D4)	In-person meeting and Heyday Oak Creek property tour	Stormwater impact on neighboring properties. Construction blasting impact and notification protocols. Traffic on Lilac Lane. Park connectivity and any impact on Schoen Laufen Park. Visual impact and setback from Lilac Lane.	Reviewed site plan including 60-foot setback from Lilac Lane and covered porches added to townhome buildings facing Lilac. Discussed the Lilac Lane force main precedent: the Village pre-blasted that road to 12-foot depth over a full summer with minimal resident complaints (confirmed by DPW Director). Snyder & Associates engaged to evaluate post-development stormwater conditions versus existing conditions for Lilac Lane neighbors. Park connectivity to remain a Village Parks Department decision. Committed to ongoing

			engagement and to hosting an open public neighborhood meeting before filing formal applications.
Former Trustee David Baum (D1)	In-person meeting and Heyday Oak Creek property tour	Architectural quality and building character. Wanted greater fenestration, varied roof designs, and visual differentiation between buildings. Specific recommendations: vary garage fenestration to articulate the facades, move the front porch closer to the street, and vary roof design across building types.	Toured Heyday Oak Creek on February 19, 2026. Baum's recommendations were taken to project architect Vocon the same evening, and Vocon returned initial revised renderings the following day. Subsequently engaged Rinka, a Milwaukee-based firm, as a second architecture firm to study additional elevation and porch strategies. Varied roof designs, deeper garages adding facade fenestration, mixed materials, and covered porches on the townhome buildings facing Lilac Lane. All revisions directly responsive to Baum's feedback.
Former Trustee Dennis Myers	In-person meeting, ongoing communication	Architectural quality. Desire to see elevation improvements responsive to Plan Commission feedback.	Engaged two architecture firms (Vocon and RINKA, a Milwaukee-based firm) to study revised elevations. Added covered porches to townhome buildings facing Lilac Lane. Varied roof designs, deeper garages, mixed materials. Updated renderings shared.
Matthew Uselding, Village Finance Director	In-person meeting	Requested a review of the accuracy of fiscal projections. Proper methodology for property tax estimates. Village-specific mill rates and assessment practices.	Finance Director validated Heyday's annual property tax projection at $1.0M–$1.1M across all jurisdictions ($360K–$390K Village portion). Simplified materials per his recommendation.
Russell Ewert, School Board President & Christopher Reuter, Superintendent of Schools	Video conference	School enrollment impact. Capacity at County Line Elementary. Student generation rates for rental housing.	MDRoffers study (June 2025, commissioned by GSD) projecting 16–29 students from Heyday. County Line has 76 seats of excess capacity and is projected to lose 26 students by 2040. District has 1,088 excess seats system-wide.
Melanie Smythe, EDC Member	In-person meeting, property tour	Village fiscal clarity and budget transparency. Whether single-family homes would generate more tax revenue. Interest in a mixed rental/homeownership concept. Infrastructure maintenance burden on Village.	Fiscal one-pager, rent memo, and Heyday vs. SF tax comparison provided. Toured Heyday Oak Creek. Engaged Tim O'Brien Homes for independent SF feasibility assessment. Private infrastructure commitment documented (roads, lift station, stormwater, sidewalks — all developer-maintained).
Kevin Driscoll, Village Engineer	Ongoing coordination	Utility capacity. Sanitary sewer alternatives. Stormwater management. Site access and road design.	Civil engineer (Snyder & Associates) coordinating directly with Village Engineering on utility design, sanitary sewer alternatives (including lift station), and stormwater compliance. Geotechnical investigation completed (33 test pits by CGC, Inc.).
Danny Lowery, Tim O'Brien Homes	Email correspondence, site plan review	SFH feasibility given site constraints (bedrock, lift station, land pricing). Potential for mixed-product concept with for-sale homes on a portion of the site.	Shared site plan, geotechnical data, and infrastructure cost estimates. TOB confirmed they purchase finished lots from master developers and have never built without basements in this market. A Waunakee-model partnership for a for-sale component was explored and Tim O'Brien Homes declined, citing bedrock and offsite improvement costs.
Timothy K. Zimmerman, Director of Public Works	Video conference	Continuity of the sanitary sewer engineering following the departure of the Village Engineer and prior DPW Director. Lift station ownership and long-term Village maintenance exposure. Downstream sanitary capacity. Blasting protocols under §12.181.	Consolidated sanitary sewer engineering history provided (seven months of analysis, five options evaluated). Virginia Avenue private lift station and 3,200 LF forcemain selected. Snyder confirmed the 8-inch Virginia Avenue gravity sewer at 67% capacity with I&I, below the 75% adequacy threshold. 100% private, owned and maintained by Heyday in perpetuity, backed by a Development Agreement escrow and lender-required capital reserves at zero Village cost. Blasting addressed under

			§12.181, with Special Provisions set at the preconstruction meeting.
Gil Standridge, Parks Recreation Director	Email correspondence	Parks Department budget and maintenance constraints. Preference to avoid a parkland dedication. Trail connectivity to Schoen Laufen Park and public access to the proposed open space.	No parkland dedication requested of the Village. Roskopf Trail running along the stormwater area and connecting to the park, built and maintained by Heyday at no Village cost. Publicly accessible pavilion and a greenway corridor linking the adjacent assisted living and early learning facilities to Lilac Lane, privately owned and maintained. Germantown Historical Society engaged on heritage-inspired design and naming.
Fire Chief John Delain	Email correspondence	Fire apparatus access on private streets. Turning radii and street width adequacy. On-street parking obstructing emergency access. Number of site access points.	Vehicle tracking exhibit prepared by Snyder & Associates showing the E-ONE HP95 mid-mount ladder truck (47.75 ft) clearing three intersection types. Private streets at 24 ft face-to-face with 26 ft face-of-curb turning radii, consistent with the International Fire Code. No on-street parking by design; all parking in private garages and driveways (4:1 per home) plus guest spaces. Two points of access at N. River Lane and Virginia Avenue, with a third under discussion if required for life safety.
Open-to-the-public community meeting (Approximately 60 Germantown residents)	In-person meeting	Stormwater and flooding: concentrated release from the basin versus dispersed sheet flow today, and skepticism of state, county, and MMSD standards given recent flooding at Willock/Maple and Lilac/Maple. Downstream sanitary capacity and basement backups south of Virginia Avenue. Traffic on Lilac Lane and Virginia Avenue, construction truck traffic, and road damage. Density and loss of farmland and green space. Impact on adjacent property values. Long-term ownership if Heyday sells. Parking and emergency access. Blasting effects on private wells.	Stormwater basin reduces the peak discharge rate by roughly 85–90% across storm sizes versus existing conditions and is designed to handle a 500-year event, with all release controlled and within the property; Snyder is analyzing the sanitary system to Division Street. Virginia Avenue sewer confirmed at 67% capacity, served by a private lift station with no public connection. Traffic study underway; construction traffic routed to N. River Lane; road repair secured by performance bond and Development Agreement. 65.9% green space (47.01 acres) with a publicly accessible 1.44-mile trail, pavilion, lookout, and passive play area built and maintained by Heyday. 60 ft setback, 6 ft berm, and landscaping along Lilac Lane. No on-street parking, with fire apparatus access confirmed. Presentation, recording, and individual written responses committed to attendees.
Joletta Kerpan, Executive Director Germantown Area Chamber of Commerce	Email correspondence	Introductory outreach via referral from Dennis Myers. No substantive response received to date.	Project overview provided: a 256-home rental community of 226 single-story homes and 30 townhomes on 71.34 acres for Baby Boomers, 55+ downsizers, and active seniors; 65.9% of the site (47.01 acres) preserved as green space with a publicly accessible greenway and 1.44-mile trail connection to Schoen Laufen Park; pedestrian connections to the adjacent early learning and assisted living facilities; approximately $75M–$80M in private investment with no public subsidy.

MATERIALS PROVIDED TO STAKEHOLDERS

The following documents have been prepared and shared with stakeholders during this outreach process:

Document	Description
Fiscal Impact Summary (One-Pager)	Annual property tax ($1.0M–$1.1M), impact fees ($2.24M), permit, plan review & zoning fee revenue ($492K), assessed value ($75M–$80M), village budget context. Validated by Village Finance Director.
Rent Memo	Projected rents by floor plan, cost-of-ownership comparison, resident demographic segments, housing supply analysis. Portfolio blended average: $2,752/month.
Stormwater Fact Sheet (2 pages)	Prepared by Snyder & Associates, P.E. Practical overview + regulatory detail covering NR 151, Village Code, and MMSD Chapter 13 requirements. Volume matching, peak discharge caps, infiltration standards.
Heyday vs. SF Tax Comparison	Side-by-side analysis: Heyday (256 homes) vs. hypothetical 160-lot SF subdivision vs. no development. Revenue, ongoing cost to Village, school impact, site feasibility. SF data sourced from Tim O'Brien Homes and MDRoffers.
Updated Architectural Elevations	Revised by Vocon and studied by Rinka (Milwaukee). Varied roof designs, deeper garages, mixed materials, covered porches on townhome buildings facing Lilac Lane.
Site Concept Plan Narrative	256 homes on 71.34 acres. 3.59 du/ac. 65.9% green space (47.01 acres). All private roads, lift station, stormwater, and sidewalks. Comprehensive Plan alignment analysis.

KEY THEMES FROM STAKEHOLDER FEEDBACK

The following themes emerged consistently from our outreach. We have addressed each in our plans and materials:

1. Fiscal Impact & Village Financial Health. Stakeholders want to understand what this project generates for the Village and whether it adds to or alleviates fiscal pressure. Our response: $1.0M–$1.1M annual property tax from a site generating $443/year, $2.24M one-time impact fees, $0 public financial assistance, all infrastructure privately funded and maintained.

2. Why Not Single-Family Homes? Several stakeholders asked whether this site could support single-family development. Our response: three site constraints (shallow bedrock requiring blasting, a new lift station, and fixed land pricing) make SF economics unworkable. A prior developer had a portion of the site under contract for SF and walked away. Tim O'Brien Homes, one of the most active homebuilders in Germantown, independently confirmed they purchase finished lots from master developers, have never built without basements, and described the Germantown market as having thin margins.

3. Stormwater & Environmental Protection. Stakeholders expressed concern about flooding impacts on neighboring properties. Our response: stormwater fact sheet documenting compliance with three regulatory layers, volume matching for 2-year and 100-year storms, 65.9% green space (47.01 acres), naturalized basins, and Menomonee River corridor buffers. Following the June 23 open house, where stormwater was the dominant concern, we prepared a plain-language stormwater summary for attendees, attached here and submitted to the public record. Its findings: the detention pond lowers the peak rate of runoff leaving the site by roughly 85–90% across all storm sizes, dropping a 100-year storm from 284 to about 33 cfs and a 500-year storm (the size of the August 2025 event) from 426 to about 45 cfs, while holding roughly 12 million gallons at peak with more than 1.5 feet of freeboard below the top of the banks. Because the field today sheets runoff west uncontrolled, controlling our outflow can only improve conditions downstream, never worsen it. The summary also distinguishes stormwater from the separate sanitary sewer backups some neighbors raised, which Heyday funds and maintains through a private lift station at no cost to the Village.

4. Architectural Quality. Feedback from the Plan Commission and individual trustees indicated a desire for greater architectural variety and character. Our response: engaged two architecture firms (Vocon and RINKA) to revise elevations with varied roof designs, deeper garages, mixed materials, stone accents, and covered porches on Lilac Lane-facing buildings.

5. School Impact. Stakeholders asked about the impact on Germantown schools. Our response: MDRoffers study (June 2025, commissioned by GSD) projects 16–29 students. County Line Elementary has excess capacity and is projected to lose enrollment through 2040. The district has 1,088 excess seats system-wide.

6. Infrastructure Ownership & Maintenance. Stakeholders want assurance that this project does not add to the Village's infrastructure maintenance burden. Our response: all roads, lift station, stormwater infrastructure, and sidewalks are private — built and maintained by the developer at no cost to the Village. This will be memorialized in a Development Agreement.

7. Mixed-Product Concept. Community stakeholders expressed interest in a development that includes both rental and for-sale housing. Our response: we actively explored a partnership with Tim O'Brien Homes for a single-family for-sale component on a

portion of the site, similar to our joint development at Heyday Waunakee, however due to the bedrock and offsite improvement costs Tim O'Brien Homes passed.

8. Community Engagement Process. Multiple stakeholders emphasized the importance of engaging residents before formal applications are filed. Our response: we support the Village's interest in pre-application neighborhood meetings and thereby held an open community meeting on June 23, 2026 before appearing before the Plan Commission.

PROPOSED NEXT STEPS

Heyday proposes the following path forward:

1. Formal Application Filing. Following the neighborhood meeting and incorporating any additional feedback, file formal applications for Comprehensive Plan Amendment, PDD Rezoning, Certified Survey Map, and Site Plan approval.

2. Plan Commission Public Hearing. Present the project at a regularly scheduled Plan Commission meeting for public hearing and recommendation.

3. Village Board Action. Present the project to the Village Board for final action.

We look forward to working with Village staff to determine the appropriate schedule for these steps and to continue the open dialogue that has defined our approach to this project from the beginning.

HEYDAY

TO:	Village of Germantown
FROM:	CR Devco, LLC. DBA Heyday
RE:	Projected Rent Levels & Housing Market Context, Heyday Germantown
DATE:	June 25, 2026 (revised August 26, 2026)

In response to your inquiry regarding projected rent levels at the proposed Heyday Germantown community, we are pleased to provide the following analysis. The answer to your question about price points is straightforward and presented in Section IV. However, the context surrounding those numbers is important for anyone evaluating this project, because the correct frame of reference for Heyday's rents is not the conventional apartment market. It is the for-sale housing market.

SECTION I. WHAT THIS IS: MISSING MIDDLE HOUSING, NOT APARTMENTS

Heyday Germantown is a **missing middle housing** community, a category of housing recognized by planners and housing policy researchers nationwide as the product type that fills the gap between conventional apartments and single-family homeownership. It is the most underbuilt housing category in American suburbs and is entirely absent from Germantown's current housing inventory at a Class A, new-construction quality level.

The distinction between Heyday and a conventional apartment complex is not semantic. It is fundamental to how this project should be evaluated. Every home includes features standard in for-sale housing but absent from virtually all apartment communities in this submarket:

Feature	Heyday Rental Home	Typical Apartment
Parking	Private attached 2-car garage + driveway (4:1 ratio)	Surface lot or shared garage (1.5:1 typical)
Entry	Private front door, no shared lobbies, corridors, or stairwells	Shared hallway and common entrance
Unit Size	1,034 to 1,730 SF (1 to 3 BR single-story); 1,597 SF (3 BR townhome)	800 to 1,100 SF (1 to 2 BR typical)
Housing Type	Attached single-family homes and attached townhomes at 3.59 du/ac gross	Multifamily (~15+ dwelling units/acre)
Laundry	In-unit full-size washer and dryer (standard)	In-unit or shared laundry room
Living Configuration	88% single-story, 12% two-story townhome, no one living above or below	Stacked units with neighbors above and below

SECTION II. WHO WILL LIVE HERE: A STEPPINGSTONE TO HOMEOWNERSHIP

One of the most common misconceptions about a community like Heyday is that it serves a single type of renter. It does not. Missing middle rental home communities attract four distinct household types, each making a different housing decision:

Resident Segment	Profile
Renters Seeking More Space	Individuals or couples currently in a conventional apartment who want more space, a garage, and a private entrance, but are not yet ready or choosing to buy. They are comparing a large 2-bedroom and 3-bedroom apartment to a Heyday rental home,

Resident Segment	Profile
	choosing to upgrade in lifestyle, privacy, and square footage due to higher median incomes.
Early Family Formation	Couples with toddlers or planning to start families who are actively deciding between buying their first home and renting. They need space beyond traditional apartment living options but have not yet accumulated sufficient down payment. Heyday lets them live in Germantown at a price point that allows them to save toward homeownership.
Relocating Employees	Professionals transferred into the greater Milwaukee metro area who want to experience a community before committing to a purchase. Traditional apartments are not an acceptable option for someone accustomed to homeownership-quality housing.
Active Adult Retirees & Empty Nesters	Former homeowners considering selling their house but who would not move into a traditional apartment. It is simply not an acceptable alternative. Heyday's single-story homes preserve the space, garage, and privacy they are accustomed to, with the flexibility and maintenance-free living of a rental, and no one living above or below. Without a product like this, these households stay in their current home, keeping that for-sale housing unit off the market.

National BTR portfolio data shows average resident stays averaging three years, and Heyday's own stabilized Wisconsin communities confirm this: **Sun Prairie, WI (170 homes, 95% occupancy)** and **Oak Creek, WI (130 homes, 99% occupancy)** both demonstrate strong retention with a predominantly working-age adult demographic and minimal school enrollment impact.

The Point: Heyday is not just housing future Germantown homebuyers. It also allows current Germantown homeowners to stay in the community. Active adults and empty nesters who no longer desire the maintenance and cost burden of homeownership need an alternative that matches their lifestyle. Heyday's single-story rental homes are uniquely suited to this demographic: single-floor living, a no-step entry, a private front door, and no one living above or below. Without this product, these households either remain in a home they no longer want, keeping that single-family inventory off the market, or leave the community entirely. **Heyday gives them a reason to stay, which opens up existing single-family home stock for the next generation of buyers.** This housing type is a missing link in the community's housing lifecycle.

SECTION III. WHAT IT COSTS TO BUY A HOME IN GERMANTOWN

To properly evaluate Heyday's rents, they must be compared against the true all-in monthly cost of purchasing a home in the same market. This analysis uses publicly available data and the Village's own market conditions.

Why 10% Down Payment: According to the National Association of Realtors' 2025 Profile of Home Buyers and Sellers, first-time home buyers put down a median of 10%, the highest since 1989 and a figure that reflects how difficult it has become to enter the housing market, not how little buyers want to invest. Buyers aged 26 to 34 put down a median of 10%; buyers aged 35 to 44 put down 14%. The median age of a first-time buyer has risen to a record 40 years old, and first-time buyer market share has fallen to a historic low of 21%, driven by limited inventory and difficulty saving for a down payment. Personal savings fund 59% of first-time buyer down payments, with 32% reporting that saving for a down payment was the most challenging part of the entire homebuying process. Our analysis uses this 10% down payment figure because it reflects the actual behavior of today's first-time buyers, the demographic for whom Heyday provides a more affordable substitute to homeownership. Any buyer putting down less than 20% is required to carry mortgage insurance (MIP), which adds materially to the true monthly cost of ownership. A 20% down sensitivity is provided in Conclusion 2.

Cost Component	Monthly	Annual
Median Home Price, Germantown, WI (trailing 12 mo.)	$435,000	

Cost Component	Monthly	Annual
Down Payment (10%)	$43,500	
Principal & Interest (6.625% 30-yr fixed, Rocket Mortgage WI, Mar 2026)	$2,507	$30,082
Mortgage Insurance (MIP), required below 20% down	$356	$4,267
Property Taxes (1.54% effective, Washington County)	$558	$6,699
Homeowner's Insurance (0.40%, WI state avg.)	$145	$1,740
Repairs & Maintenance (~1.4% of value annually)	$500	$6,000
TOTAL MONTHLY COST OF HOMEOWNERSHIP	**$4,066**	**$48,788**

A homeowner pays each of these costs separately. A Heyday resident pays one monthly rent check that covers property taxes, insurance, all repairs and maintenance, snow removal, and landscaping. The resident's only additional cost is utilities.

How Heyday Compares, 10% Down Payment

Heyday Home	Monthly Rent	Cost to Own	Monthly Savings
Wisconsin (Lowest Rent), 1 BR / 1 BA	$2,169	$4,066	$1,897/mo saved
Elkhart (Entry-Level 2 BR), 2 BR / 1 BA, 1,166 SF	$2,354	$4,066	$1,712/mo saved
Portfolio Blended Average, all 256 homes	$2,752	$4,066	$1,314/mo saved
Mendota (Highest Rent), 3 BR / 2 BA, 1,730 SF	$3,138	$4,066	$928/mo saved

Key Finding: Renting at Heyday saves between $928 and $1,897 per month compared to buying, which is **$11,100 to $22,800 per year** that residents can direct toward saving for a future down payment on a home in Germantown. This analysis uses the actual first-time buyer median down payment of 10%, as reported by the National Association of Realtors. These are not expensive rents. They are dramatically less than the cost of buying.

SECTION IV. PROJECTED YEAR 1 RENTS BY FLOOR PLAN

Rents were derived from comparable rental properties in the greater Milwaukee suburban corridor, adjusted for new construction quality, unit size, and the private-garage rental home product type. The range of floor plans, from single-story attached homes to two-story townhomes, serves households at different income levels and life stages.

Floor Plan	Config.	Beds/Baths	Gar.	Liv. SF	Mo. Rent	Rent/SF	Units	% Mix
Wisconsin (A)	Ranch	1 BR / 1 BA	2-car	1,034	$2,169	$2.10	24	9.4%
Elkhart (B-ALT)	Ranch	2 BR / 1 BA	2-car	1,166	$2,354	$2.02	32	12.5%
Menona (C)	Ranch	2 BR / 2 BA	2-car	1,369	$2,631	$1.92	32	12.5%
Geneva (D)	Ranch	2 BR / 2 BA	2-car	1,480	$2,769	$1.87	78	30.5%
Mendota (F)	Ranch	3 BR / 2 BA	2-car	1,730	$3,138	$1.81	60	23.4%
La Belle (TH-C)	Townhome	3 BR / 2.5 BA	2-car	1,597	$2,954	$1.85	30	11.7%
PORTFOLIO AVG				**1,457**	**$2,752**	**$1.89**	**256**	**100%**

At full occupancy, the projected portfolio generates an estimated gross annual rent of approximately **$8.45 million**. That income supports an assessed value base projected to generate $1.0M to $1.1M in annual property taxes across all taxing jurisdictions.

Heyday Germantown is requesting $0 in Village financial assistance. No TIF, no tax abatement, no grants, no public financing of any kind. This is uncommon for rental communities, and we want to be explicit about it.

- **$1.0M to $1.1M** in annual property tax revenue, from a site generating $443/year today.
- **$2,242,158** in one-time impact fees, equal to 22 years of the Village's entire annual impact fee budget, collected before a single resident moves in.
- **$492,820** in one-time permit, plan review and zoning fee revenue.

This project adds to the tax base without adding to the budget.

What the Rent Includes

A Heyday resident's monthly rent is all-inclusive: property taxes (paid by the property owner), all repairs and maintenance, snow removal, landscaping, and exterior upkeep are covered. The resident's only additional cost is utilities. There are no surprise repair bills, no property tax escrow shortfalls, and no deferred maintenance decisions. One check, one number. There is no homeowners association and no individual lot ownership. The community is a single plat held by a single owner, managed by a third-party accredited property management firm providing onsite staff and 24-hour maintenance.

SECTION V. HOUSING SUPPLY, AFFORDABILITY & CONCLUSIONS

The relationship between housing supply and affordability is well-established: **housing becomes more affordable when supply increases.** When communities restrict new development, they constrain supply, demand outpaces it, and prices rise for everyone, harming the moderate-income households these restrictions are often intended to protect. Markets that have expanded supply over recent years, seen primarily in Sunbelt markets like Austin, Nashville, and Dallas, are seeing landlords offer two to three months of concessions as new inventory comes online, directly reducing effective rents for residents at every price point. That is the market working as predicted.

Heyday Germantown proposes 256 homes of new missing middle housing: 226 single-story attached rental homes and 30 two-story townhomes. This addition absorbs demand that would otherwise compete for existing homes,

provides a housing option that does not currently exist in the submarket, and gives current homeowners, particularly active adults, an alternative that frees up single-family inventory for the next generation of buyers. The project contributes to assessed value while drawing a working-age demographic that places minimal demand on schools and municipal services.

Conclusions

1. **This is missing middle housing, not an apartment.** Private 2-car garages, individual entrances, 1,034 to 1,730 SF single-story homes and 1,597 SF townhomes, in-unit laundry. 88% of homes are single-story with 12% two-story townhomes, with no one living above or below. The comparison is to the for-sale market, not apartments.
2. **Renting at Heyday is dramatically cheaper than buying.** At the actual first-time buyer median down payment of 10%, our entry-level two-bedroom home saves $1,712 per month versus the cost of homeownership, or $20,500 per year. The blended portfolio average saves $1,314 per month, or $15,800 per year. Even at 20% down with no mortgage insurance, the portfolio average still saves $679 per month.
3. **Rent is all-inclusive.** One monthly check covers taxes, repairs, maintenance, landscaping, and snow removal. Only utilities are additional.
4. **Four distinct household types are served:** apartment upgraders, first-time homebuyer savers, relocating professionals, and active adult retirees. These are not transient renters. Heyday's stabilized Wisconsin communities show 3+ year average stays and 95% to 99% occupancy.
5. **This product fills a gap and frees up existing inventory.** No competing missing middle product exists locally. Active adults who downsize into Heyday open their current home for the next buyer. Restricting supply does the opposite. It locks up inventory and drives prices higher.
6. **256 homes generating $8.45M in gross annual rents,** contributing to assessed value with a demographic that places minimal incremental demand on schools and municipal services.

HEYDAY GERMANTOWN

Fiscal Impact Summary

256 homes • 71.34 acres • $0 Village financial assistance • Private financing only

ANNUAL PROPERTY TAX	ONE-TIME IMPACT FEES	NEW ASSESSED VALUE	CURRENT SITE TAX REVENUE	VILLAGE FINANCIAL ASSISTANCE
$1.0M–$1.1M	**$2,242,158**	**$75M–$79M**	**$443 / yr**	**$0**
Village portion: $345K–$363K	*police, fire, library, parks — at permitting*	*added to Village tax base*	*71.34 acres generating almost nothing*	***no TIF, no public financing***
total across all taxing jurisdictions				

Heyday Germantown is estimated to generate $1.0M–$1.1M in total annual property taxes across all jurisdictions — with $345K–$363K flowing directly to the Village. The site currently produces $443/year. No TIF, no abatement, no strings attached.

VILLAGE PROPERTY TAX — IN BUDGET CONTEXT

2026 General Fund Revenue	$22,841,423
Property Tax Share of Revenue	57.4%
2026 Property Tax Levy	$13,101,043
Heyday total annual taxes (all jurisdictions)	**$1,000,000–$1,100,000**
→ *Village of Germantown portion*	*$345,000–$363,000*
Current site annual tax revenue	$443 / yr

LEVY CAPACITY EXPANSION

Under Wisconsin's levy limit, the Village can only increase its levy in proportion to net new construction. Heyday's $75M–$79M in new assessed value expands the Village's levy capacity while lowering the effective tax rate for all existing Germantown residents.

IMPACT FEES — HEYDAY vs. VILLAGE ANNUAL BUDGET

Impact Fee Fund	2026 Budget	Heyday*
Water & Sewer Impact	—	$1,642,862
Police Impact	$19,500	$37,888
Fire Impact	$36,600	$43,776
Library Impact	$13,650	$182,016
Parks & Rec Impact	$33,000	$335,616
TOTAL IMPACT FEES	**$102,750**	**$2,242,158**

ADDITIONAL ONE-TIME PERMIT & FEE REVENUE — 2027 RATES

Building Permit	**$223,012**
Electrical, Plumbing & HVAC Permits	**$152,054**
Plan Review, Inspection, Occupancy & Records	**$130,020**
Site Erosion Control & Improvement Review	**$13,249**
Zoning / Entitlement Application Fees	**$24,330**
TOTAL PERMIT & FEE REVENUE	**$542,665**

** Village portion computed from the Village of Germantown 2025 tax rate table (Washington County mill rate summary; per-jurisdiction detail provided by the Village Finance Director, March 2026), and supersedes the statewide-average apportionment shown previously. Assessed value is Heyday's estimate; the actual assessment is the Assessor's determination under §70.32 and phases in each January 1 on percent complete. Permit and inspection fees are shown at 2027 rates: Village building permit fees rise 3.4% (CPI-U) on January 1, 2027 and no permit will be pulled before then. Sewer connection fee carried at the Village's 2027 rate of $5,414.43/unit. All fee figures reviewed and corrected by Village Community Development and Inspection Services, September 2 and 4, 2026.*

Heyday's $2,242,158 in impact fees = nearly 22 years of the Village's entire annual impact fee budget — plus $542,665 in permit & fee revenue — all collected before any resident demands a service.

** Per-fund breakdown subject to Village fee schedule at permitting. The 2024 Baker Tilly audit confirmed developer contributions in aid of construction flow directly into Village capital accounts.*

Sources: Village of Germantown 2026 Operating Budget (General Fund & Impact Fees), GGF Committee Sept. 15, 2025 | Baker Tilly 2024 Audit | Village of Germantown 2025 tax rate table; mill rates and per-jurisdiction detail provided by Village Finance Director Matthew Uselding, March 2026 | Village of Germantown 2026 Fee Schedule; fee corrections from Village Inspection Services, Sept. 2 and 4, 2026

Heyday Germantown Development Team | September 2026

TIA TECHNICAL MEMORANDUM

DATE: June 25, 2026

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

SUBJECT: **Heyday Residential Development Traffic Impact Analysis**
Village of Germantown, WI

INTRODUCTION & PROPOSED DEVELOPMENT

The Heyday Company is proposing to construct a 256-unit residential development (mix of single-story rental homes and townhomes) over 72 acres north of Lilac Lane in the Village of Germantown, Wisconsin. Access to the site is proposed through an extension of N. River Lane on the north side of the site and through an extension of Virginia Avenue on the east side of the site. The conceptual site plan for the Heyday development in Germantown is on Exhibit 1.

This study was prepared to evaluate peak hour traffic impacts to intersections on Mequon Road (STH 167), Division Road, and Lilac Lane with additional traffic from the proposed Heyday residential development and two off-site developments approved from previous studies. These off-site developments include The Carillon at Germantown 35-unit residential development on Division Road and the 4,400-square foot Culver's restaurant in the northwest corner of Mequon Road (STH 167) and Division Road. The location of the proposed on-site and off-site developments with respect to the surrounding roadway system are on Exhibit 2.

STUDY AREA

Exhibit 2 also shows the study intersections evaluated in this TIA report (listed below).

- Mequon Road (STH 167) & River Lane
- Mequon Road (STH 167) & Division Road
- Virginia Avenue/Ava Circle & Division Road
- Lilac Lane/Hawthorne Drive & Division Road
- Lilac Lane & Maple Road

The existing geometrics, traffic control, posted speed limits, daily traffic volumes, and intersection spacing is on Exhibit 3. The study area roadways are described as follows:

Mequon Road (also designated as STH 167) is a four-lane divided east/west principal arterial highway with a posted speed limit of 45 miles per hour (mph) west of Stonewood Drive and 35

mph east of Stonewood Drive. Mequon Road is part of the state trunk highway network as a connecting highway under the jurisdiction of the Village of Germantown. Mequon Road (STH 167) has a Wisconsin Department of Transportation (WisDOT) average annual daily traffic volume (AADT) of 21,200 (2026) west of Maple Road, 17,000 (2026) east of Maple Road, and 16,600 (2023) east of Division Road. Sidewalks are provided along both sides of STH 167 east of River Lane.

Division Road is a two-lane undivided north/south minor arterial to the south of Mequon Road (STH 167) and a two-lane undivided local street to the north. The posted speed limit on Division Road is 35 mph to the south of Mequon Road (STH 167) and 25 mph to the north. Division Road has a WisDOT AADT of 4,200 (2023) south of Mequon Road (STH 167). A multi-use trail runs along the east side of Division Road between Mequon Road (STH 167) and Lilac Lane.

River Lane is a two-lane undivided north/south collector roadway with a 40-mph speed limit north of Mequon Road (STH 167). Sidewalk runs along the east side of the roadway south of Mequon Road (STH 167).

Maple Road is a two-lane undivided north/south minor arterial with a 40-mph speed limit. There are no sidewalks or multi-use trails on either side of the roadway.

Lilac Lane is a two-lane undivided east/west collector roadway with a 40-mph speed limit. There are no sidewalks or multi-use trails on either side of the roadway.

Virginia Avenue, Ava Circle, and Hawthorne Drive are two-lane east/west local roadways with 25-mph speed limits. These roadways provide access for residential developments on these roadways. Sidewalk runs for a partial span along the south side of Virginia Avenue and along the north side of Ava Circle.

PEAK HOUR TRAFFIC VOLUMES

Data Collection/Background Traffic Volumes

Turning movement traffic counts were collected at the Mequon Road (STH 167)/Division Road intersection for previous studies in July 2025. Traffic counts were collected for the remaining study intersections in June 2026. The common peak hours for all study intersections were determined to be from 7:45-8:45 a.m. (AM peak hour) and from 4:30-5:30 p.m. (PM peak hour). Traffic volumes were compiled for these peak hours and are shown as the "unbalanced" existing traffic volumes on Exhibit 4A.

Note that segments of STH 145 and CTH G to the north were fully closed during the June 2026 traffic counts. Detours routed traffic through the study section of Mequon Road (STH 167), resulting in higher traffic volumes at the Mequon Road (STH 167)/River Lane intersection (count collected in June 2026) compared to the Mequon Road (STH 167)/Division Road intersection (count collected in July 2025).

The May 2026 WisDOT coverage count on Mequon Road (STH 167) just west of River Lane was reviewed to determine current (2026), pre-detour traffic volume levels on Mequon Road (STH 167). Eastbound and westbound peak hour volumes were interpolated from the hourly volume coverage count and used to balance eastbound and westbound Mequon Road (STH 167) through traffic at the River Lane and Division Road intersections. Minor adjustments were made to turning movements at other study intersections to balance intersection traffic along Division Road and Lilac Lane. The "balanced" existing traffic volumes are on Exhibit 4B.

All intersection turning movement count data and WisDOT coverage count data on Mequon Road is in Appendix A.

Trip Generation & Traffic Assignment

Trip rates and fitted curve equations (FCE) from the ITE *Trip Generation Manual, 12th Edition* were used to estimate trips for the proposed site and off-site developments. For The Carillon and Heyday residential developments, trips were generated using the "single-family-attached" land use, which applies to residential types with shared walls but not shared floors. Trips for the Culver's restaurant were generated using the "fast-food restaurant" land use.

Off-Site Development Trip Generation & Traffic Assignment

The Carillon and Culver's off-site development trip generation and trip distribution tables are on Exhibit 5. Based on ITE, the Carillon development generates 230 trips on a typical weekday, with five trips in the AM peak hour and 10 trips in the PM peak hour. The Carillon development will have two access driveways to Division Road. The Culver's restaurant generates 1,480 new and 490 pass-by trips on a typical weekday, with 105 new and 40 pass-by trips in the AM peak hour and 100 new and 40 pass-by trips in the PM peak hour. The Culver's restaurant will have access to both Mequon Road (STH 167) and Division Road.

The off-site development new trips were assigned to the study intersections based on trip distribution percentages used in their respective TIA reports. These reports are:

- October 8, 2025 Carillon at Germantown TIA
- October 8, 2025 Black Stone Creek Redevelopment TIA

The off-site development new and pass-by traffic assignments are on the following exhibits:

- Exhibit 6 – Carillon at Germantown New Trips
- Exhibit 7 – Culver's Restaurant New Trips
- Exhibit 8 – Culver's Restaurant Pass-by Trips
- Exhibit 9 – Carillon at Germantown & Culver's Restaurant Driveway Trips

On-Site Development Trip Generation & Traffic Assignment

The Heyday residential on-site development trip generation and trip distribution tables are on Exhibit 10. Based on ITE, the Heyday development generates 1,680 trips on a typical weekday, with 135 trips in the AM peak hour and 140 trips in the PM peak hour. Site trips were distributed to the study area roadways based on existing traffic patterns at the study intersections, plus adjustments for major routes, population centers, commercial shopping centers, and interchange access. The trip distribution for the Heyday development is listed below and also shown graphically on Exhibit 10.

- 40% to/from the west on Mequon Road (STH 167)
- 25% to/from the east on Mequon Road (STH 167)
- 5% to/from the north on Maple Road
- 5% to/from the north on River Lane
- 15% to/from the south on Maple Road
- 10% to/from the south on Division Road

The Heyday residential development new trips were assigned to the site access locations based on the above trip distribution. The peak hour new trips are shown on Exhibit 11.

Background & Build Traffic Volumes

This study evaluates "Background" and "Build" traffic conditions at the study intersections. Background traffic adds approved off-site development traffic to the existing traffic volumes, and Build traffic adds Heyday residential development traffic to the Background traffic volumes. The Background traffic volumes evaluated in this study are on Exhibit 12 and the Build traffic volumes are on Exhibit 13.

PEAK HOUR TRAFFIC OPERATIONS

The study intersections were analyzed using the Synchro 12 traffic analysis model (outputs based on the *Highway Capacity Manual, 7th 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. WisDOT and the Village of Germantown accept LOS D as the typical minimum standard for operations and improvement recommendations at area intersections. The LOS definitions for signalized and unsignalized intersections are in Appendix B.

The Background and Build traffic analysis models utilize the existing geometrics and traffic control at the study intersections, existing peak hour factors and heavy vehicle percentages, plus WisDOT saturation flow rate values and right-turn on red factors at the signalized intersections. The existing signal timings and WisDOT saturation flow worksheets are in Appendix B.

The Background and Build traffic peak hour delays, corresponding level of service, and 95th percentile queues for all approach lane groups at the study intersections are in tables on Exhibit 14 and Exhibit 15, respectively. As shown, all movements at the study intersections operate at acceptable LOS D or better during the AM and PM peak hours. Very low delay and queue increases are reported with the additional traffic from the proposed Heyday residential development. The Synchro analysis files are in Appendix C for the Background traffic and Appendix D for the Build traffic.

RECOMMENDATIONS & CONCLUSIONS

Modifications are for jurisdictional consideration and are not legally binding. The Village of Germantown reserves the right to determine alternative solutions.

The additional traffic from the proposed Germantown Heyday residential development between Mequon Road (STH 167) and Lilac Lane does not significantly increase traffic delays or queues at the study intersections evaluated in this TIA. With full buildout of the Carillon at Germantown residential development, Culver's restaurant, and the Heyday residential development, all movements at the study intersections operate at acceptable LOS D or better during the AM and PM peak hours. Therefore, no geometric or traffic control changes are recommended at the study intersections to accommodate additional traffic from the proposed Heyday residential development.

MASTERPLAN CONCEPT

vocon. 250420.00 | HEYDAY GERMANTOWN, WI

MAY 5, 2026

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EXHIBIT 1
CONCEPTUAL SITE PLAN

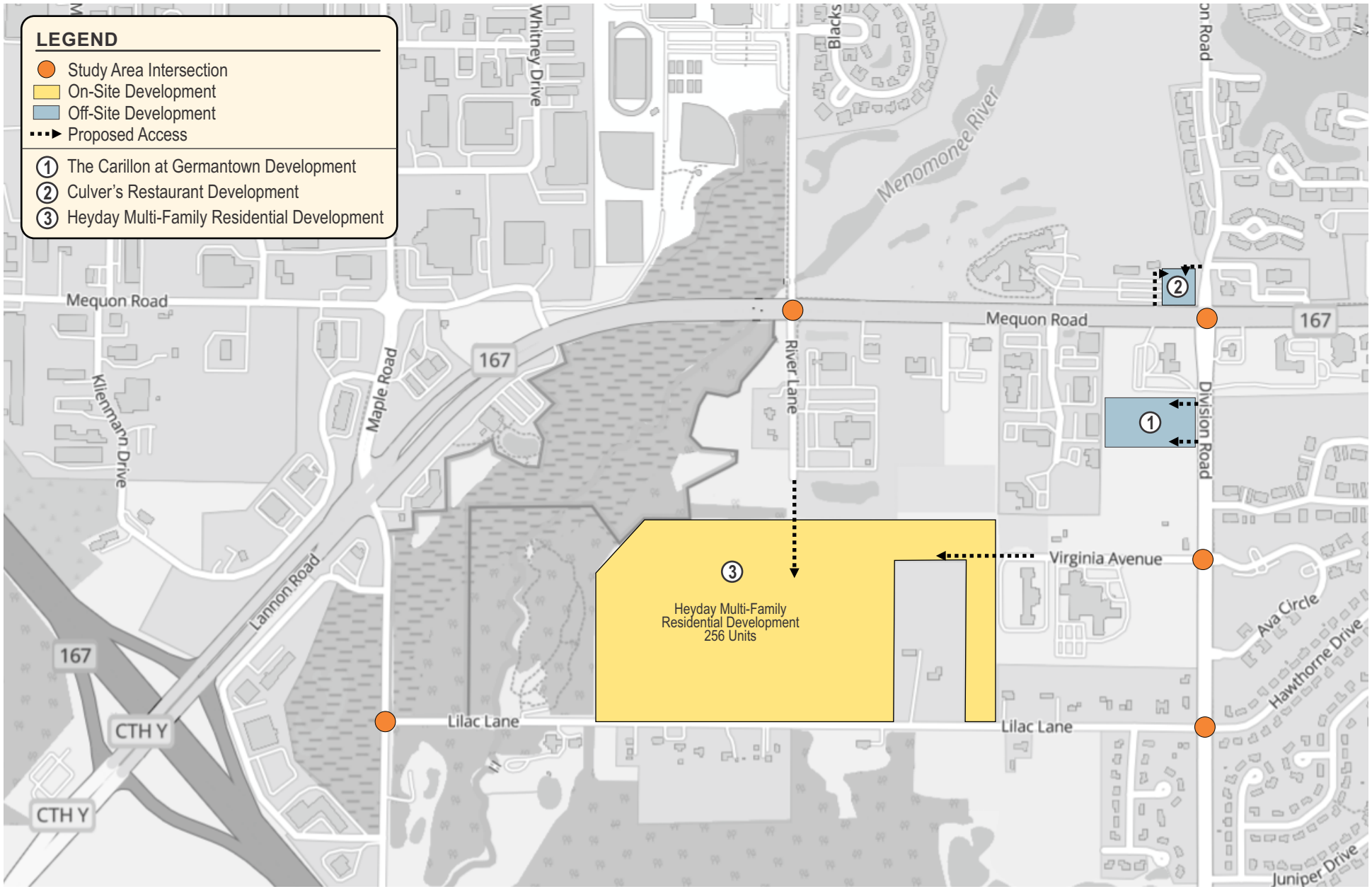

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EXHIBIT 2
PROJECT LOCATION MAP

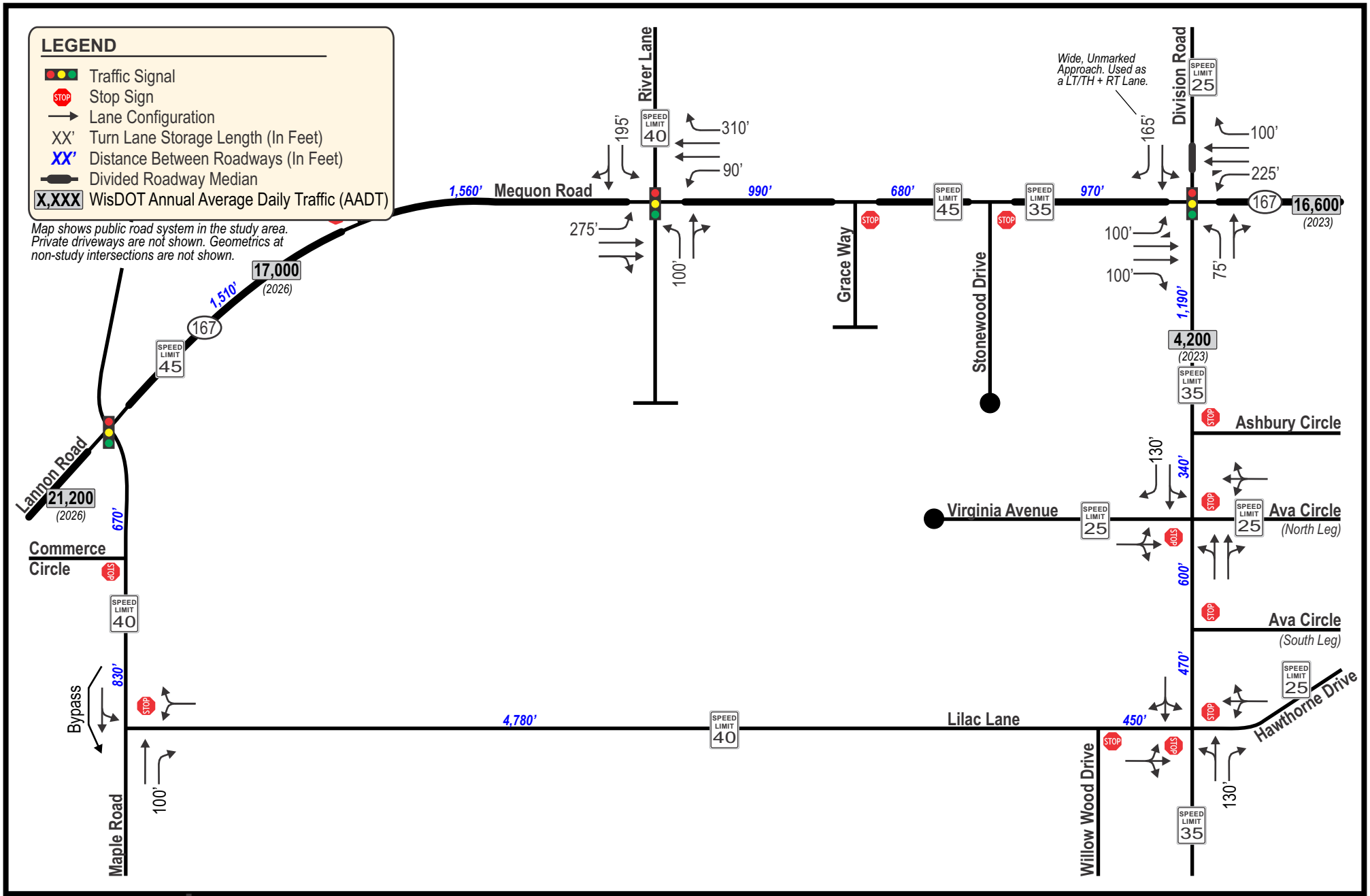

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EXHIBIT 3
EXISTING TRANSPORTATION SYSTEM

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

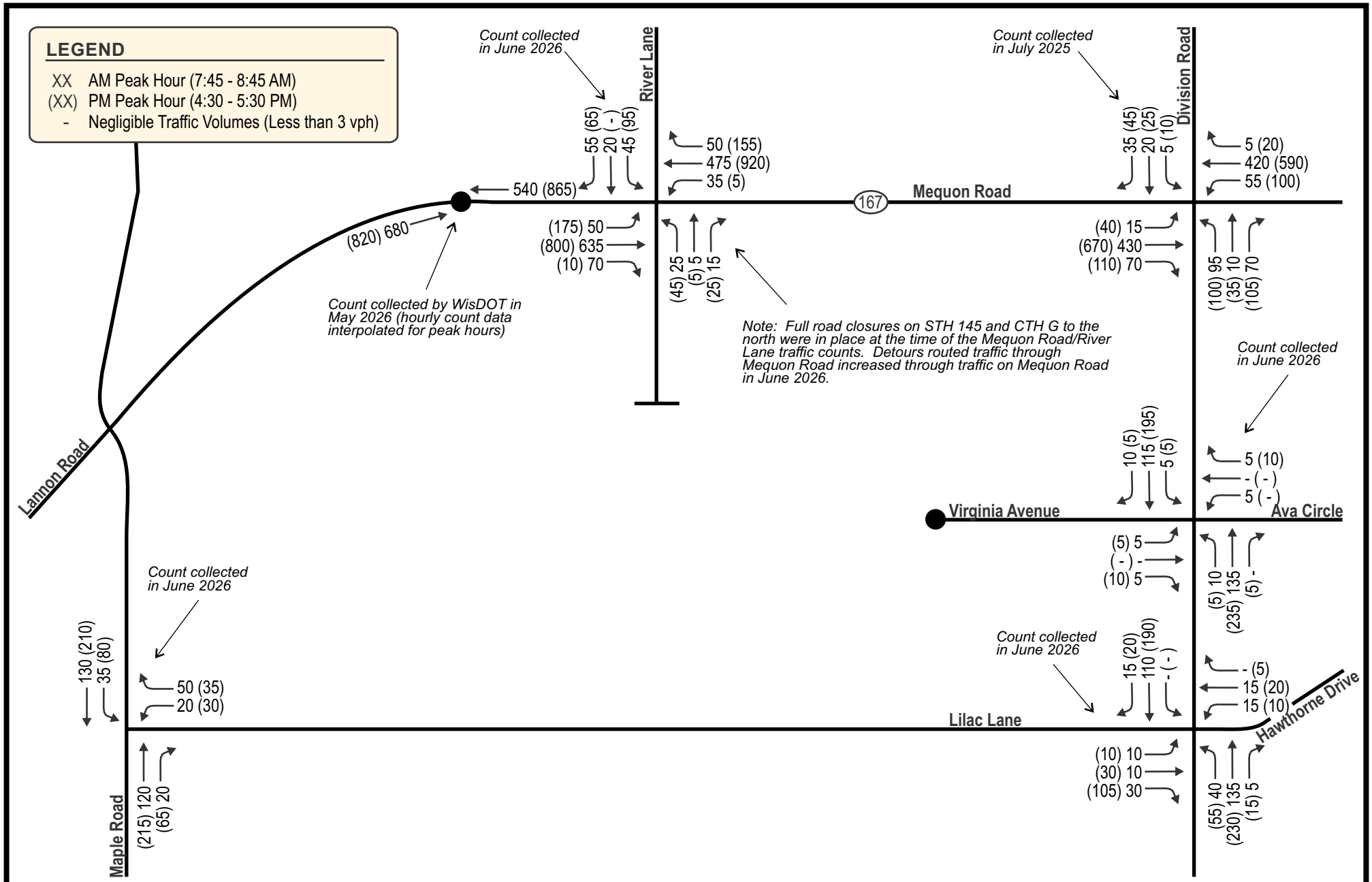

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EXHIBIT 4A
YEAR 2026 EXISTING TRAFFIC VOLUMES
UNBALANCED VOLUMES

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

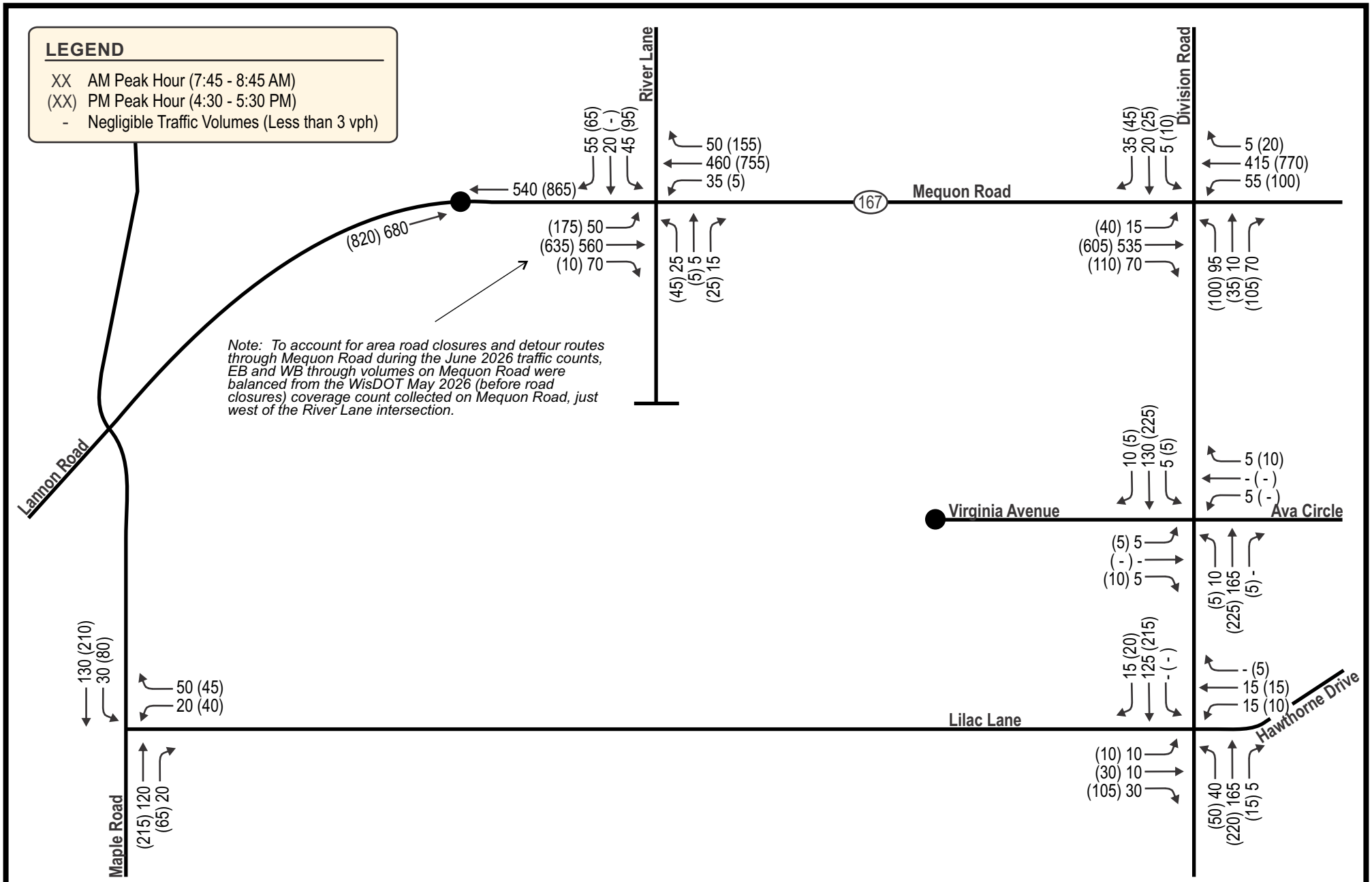

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EXHIBIT 4B
YEAR 2026 EXISTING TRAFFIC VOLUMES
BALANCED VOLUMES

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

Off-Site Carillon Residential Development Trip Generation Table[1]

Land Use	ITE Code	Independent Variable/Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Single-Family Attached Housing	215	35 Units	230 (6.57)	0 (25%)	5 (75%)	5 FCE	5 (57%)	5 (43%)	10 FCE
Total New Trips			**230**	**0**	**5**	**5**	**5**	**5**	**10**

[1] *Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 12th Edition (updated from the 11th Edition data used in the 10/8/25 Carillon at Germantown TIA).*

TRIP DISTRIBUTION (New Trips)[2]

W. on Mequon Road	43%	0	5	5	5
E. on Mequon Road	42%	0	0	0	0
N. on Division Road	3%	0	0	0	0
S. on Division Road	12%	0	0	0	0
	100%	***0***	***5***	***5***	***5***

[2] *Trip distribution from the 10/8/25 Carillon at Germantown TIA.*

Culver's Restaurant Trip Generation Table[1]

Land Use	ITE Code	Independent Variable/Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Fast-Food Restaurant with Drive-Through Window	934	4,400 SF	1,970 (448.12)	75 (51%)	70 (49%)	145 (33.24)	75 (52%)	65 (48%)	140 (31.60)
Total Driveway Trips			**1,970**	**75**	**70**	**145**	**75**	**65**	**140**
Pass-by Trips	*(934)*	*25%*	*-490*	*-20*	*-20*	*-40*	*-20*	*-20*	*-40*
Total New Trips			**1,480**	**55**	**50**	**105**	**55**	**45**	**100**

[1] *Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 12th Edition (updated from the 11th Edition data used in the 10/8/25 Black Stone Creek Redevelopment TIA).*

TRIP DISTRIBUTION (New Trips)[2]

W. on Mequon Road	43%	25	25	25	20
E. on Mequon Road	42%	25	20	25	20
N. on Division Road	3%	0	0	0	0
S. on Division Road	12%	5	5	5	5
	100%	***55***	***50***	***55***	***45***

[2] *Trip distribution from the 10/8/25 Black Stone Creek Redevelopment TIA.*

TRIP DISTRIBUTION (Pass-by Trips)[3]

Westbound on Mequon Road	52% (47%)	10	10	10	10
Eastbound on Mequon Road	48% (53%)	10	10	10	10
	AM (PM)	***20***	***20***	***20***	***20***

[3] *Trip distribution from the 10/8/25 Black Stone Creek Redevelopment TIA.*

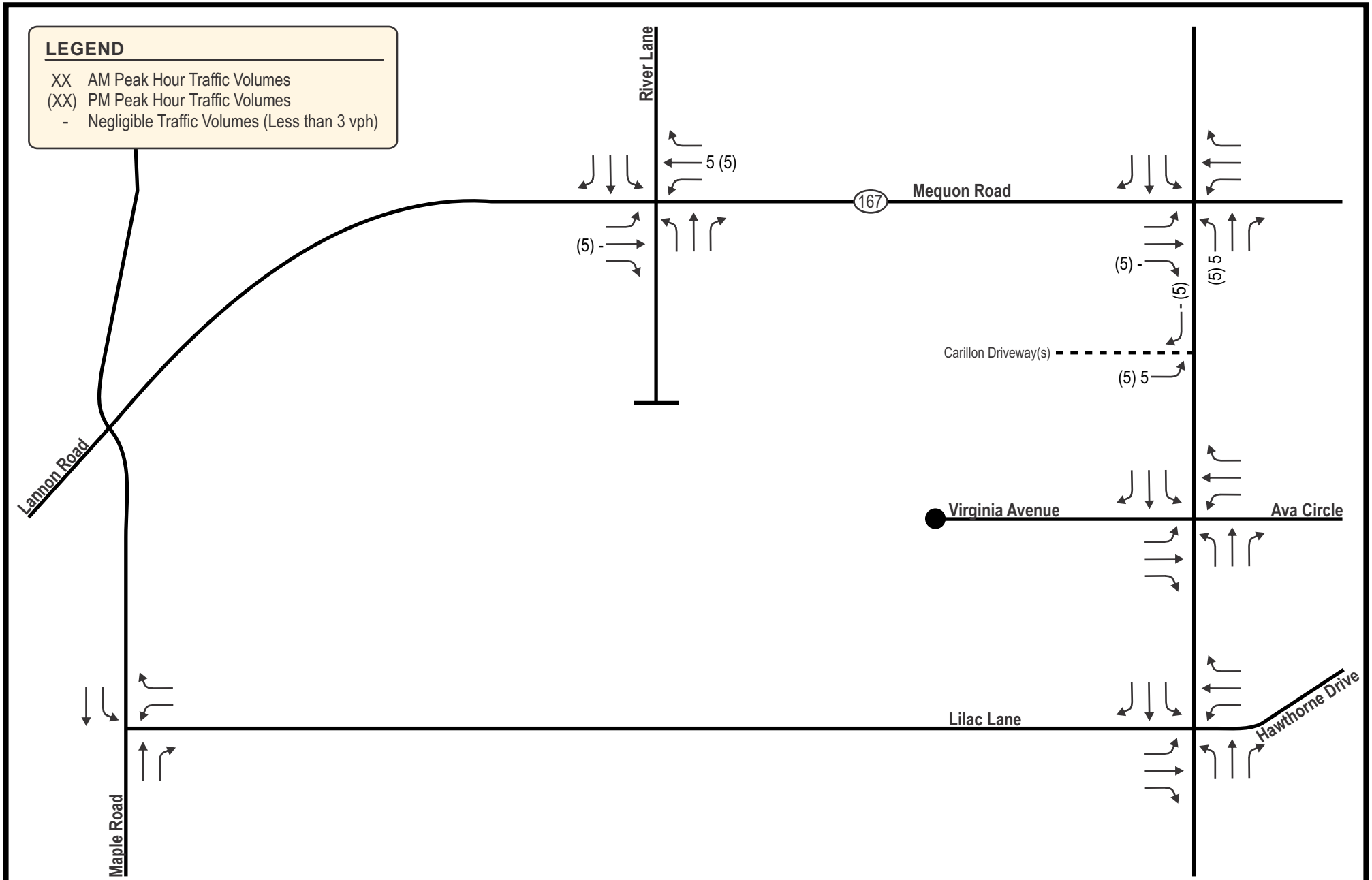

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EXHIBIT 6
OFF-SITE DEVELOPMENT NEW TRIPS
CARILLON AT GERMANTOWN RESIDENTIAL DEVELOPMENT

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

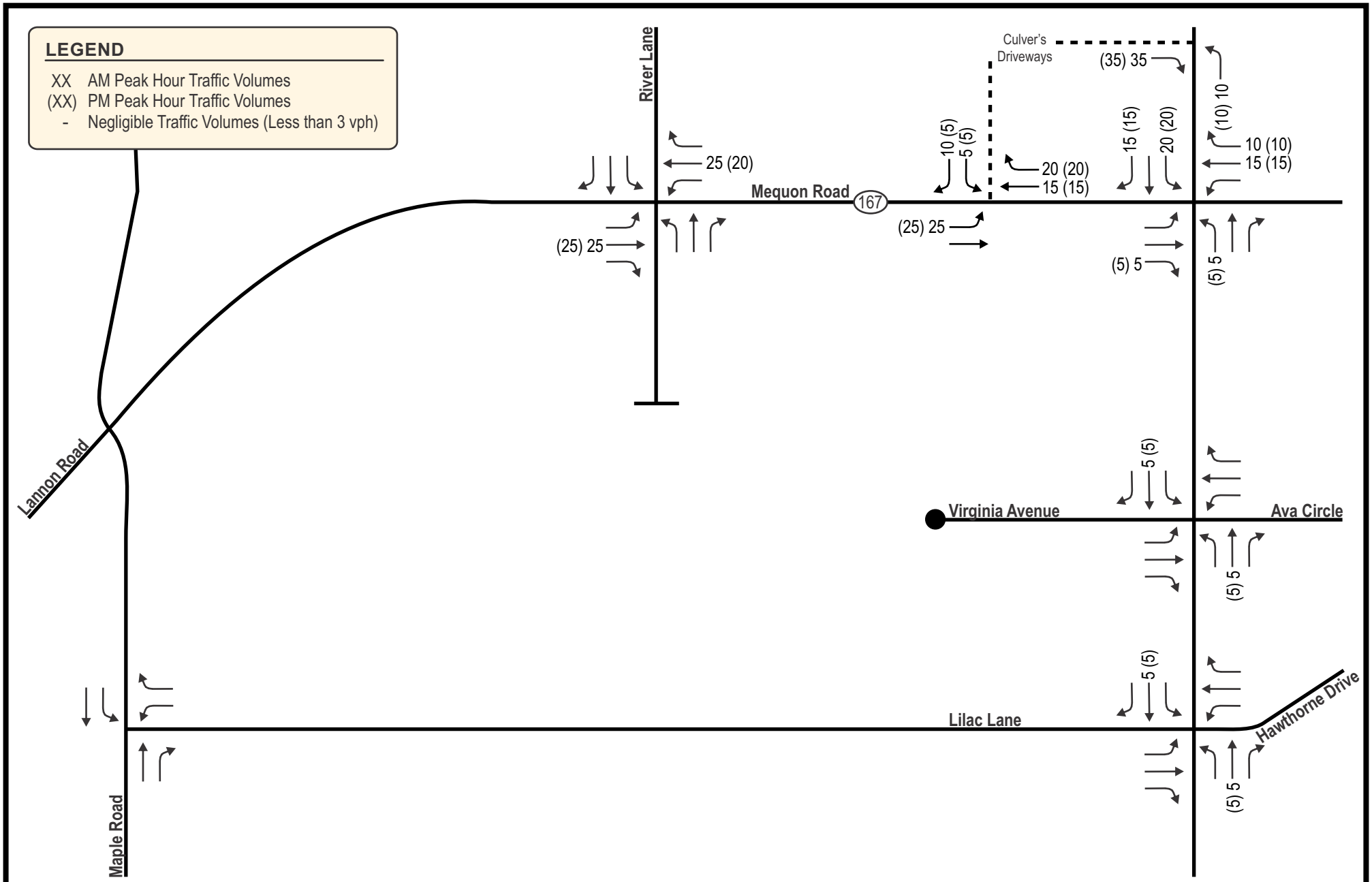

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EXHIBIT 7
OFF-SITE DEVELOPMENT NEW TRIPS
CULVER'S RESTAURANT DEVELOPMENT

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

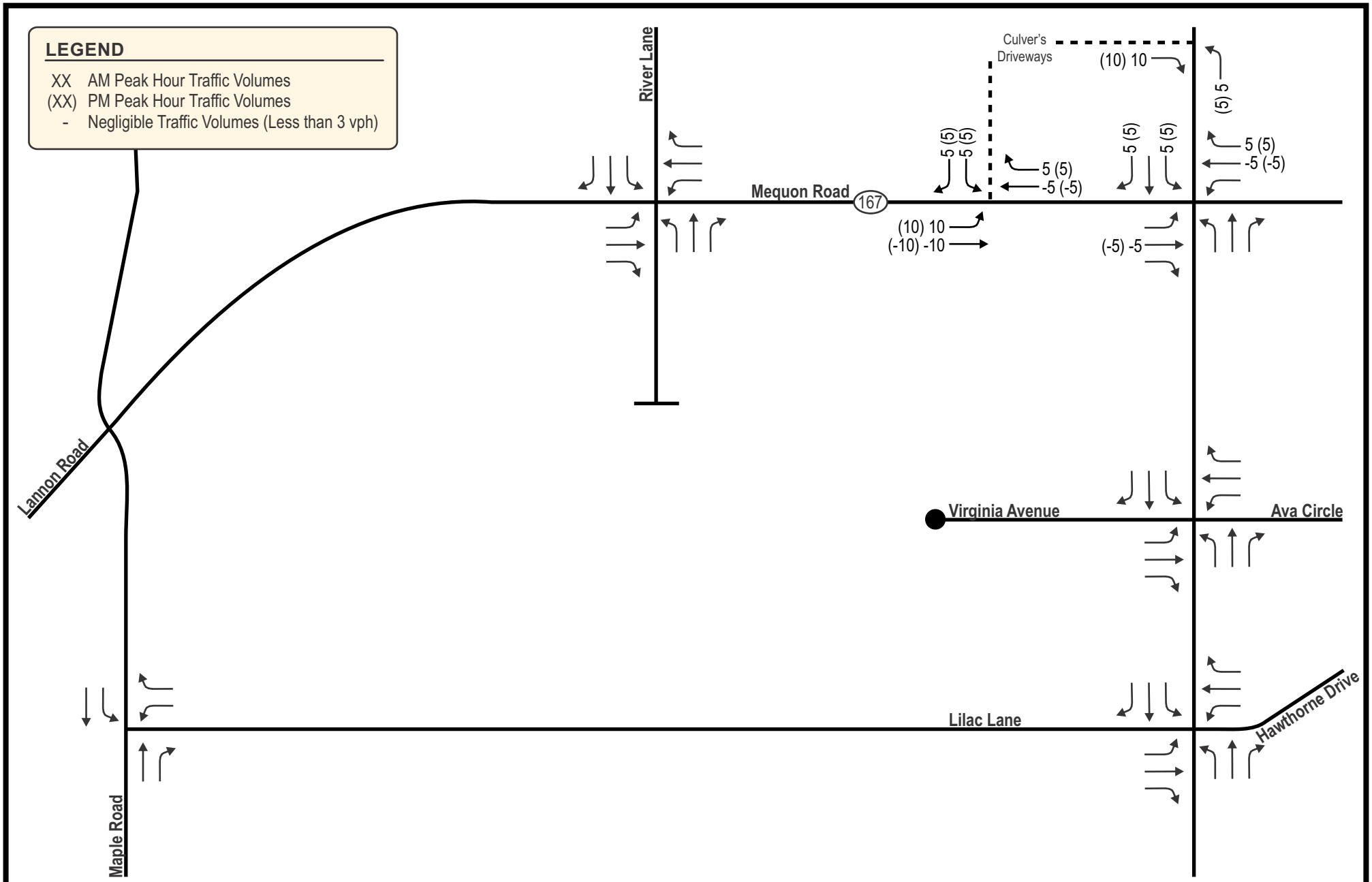

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EXHIBIT 8
OFF-SITE DEVELOPMENT PASS-BY TRIPS
CULVER'S RESTAURANT DEVELOPMENT

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

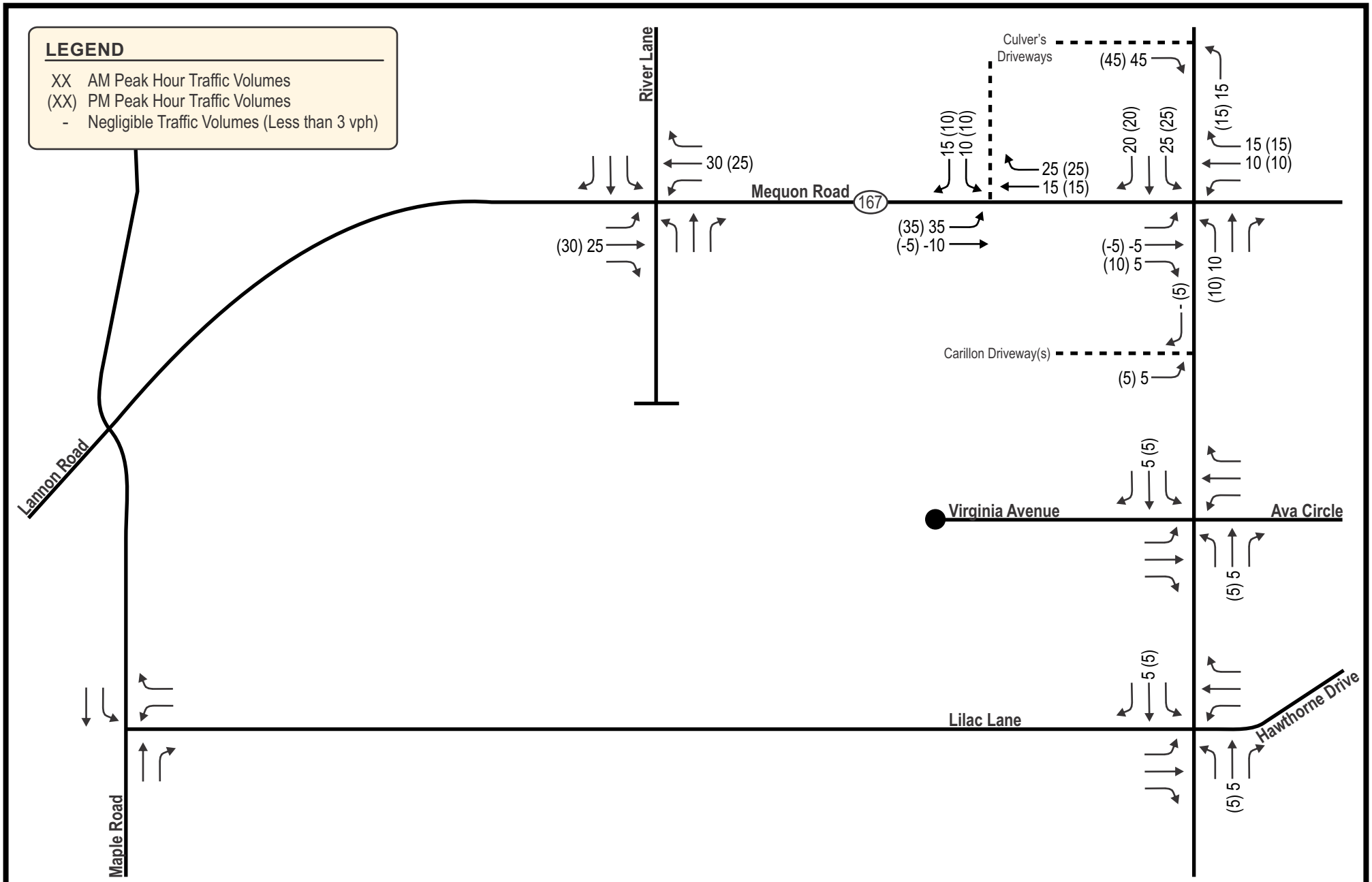

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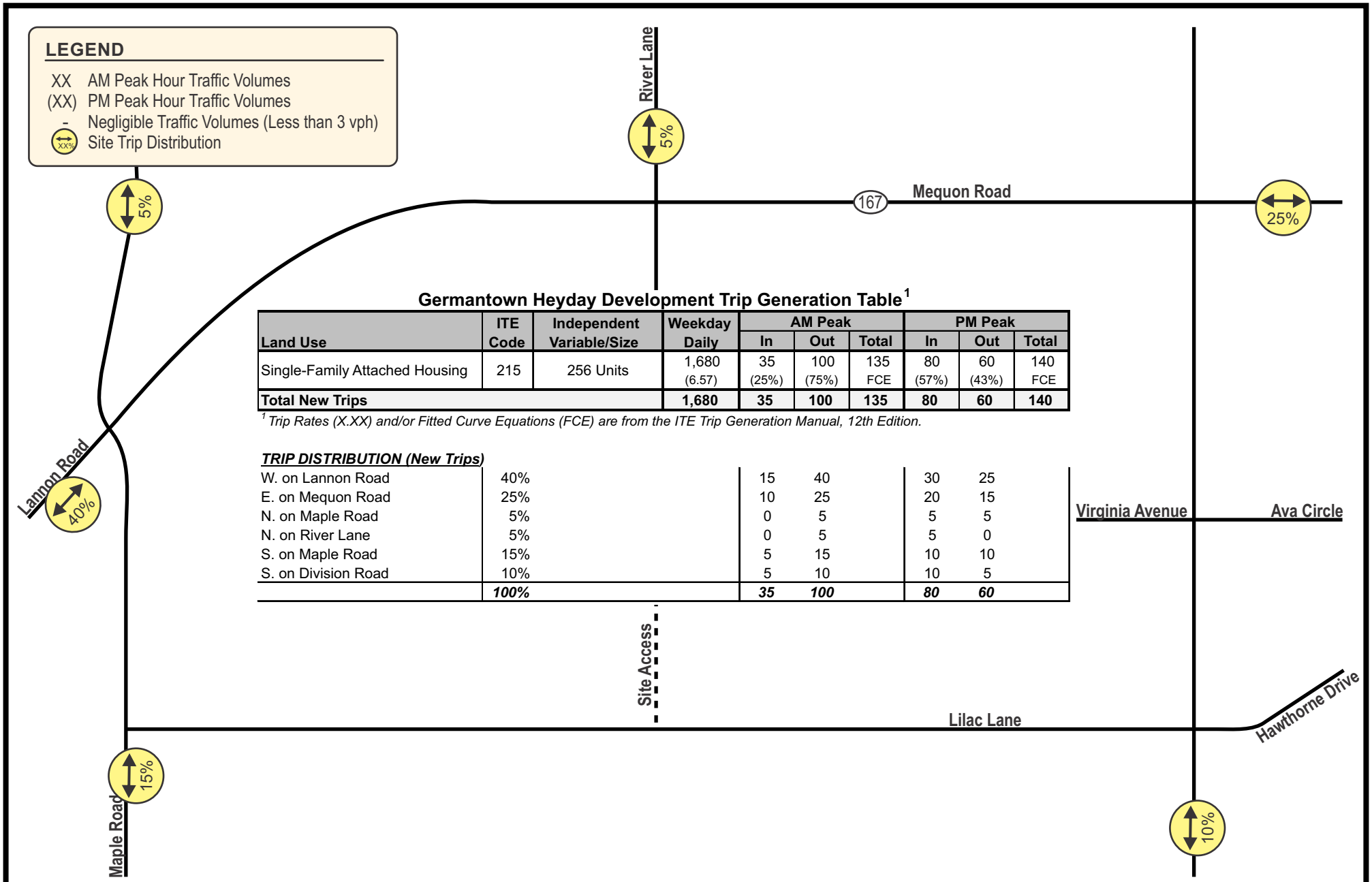
EXHIBIT 9
OFF-SITE DEVELOPMENT DRIVEWAY TRIPS
CARILLON AT GERMANTOWN RESIDENTIAL & CULVER'S RESTAURANT DEVELOPMENTS

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN



Germantown Heyday Development Trip Generation Table[1]

Land Use	ITE Code	Independent Variable/Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Single-Family Attached Housing	215	256 Units	1,680 (6.57)	35 (25%)	100 (75%)	135 FCE	80 (57%)	60 (43%)	140 FCE
Total New Trips			**1,680**	**35**	**100**	**135**	**80**	**60**	**140**

[1] *Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 12th Edition.*

TRIP DISTRIBUTION (New Trips)						
W. on Lannon Road	40%	15	40	30	25	
E. on Mequon Road	25%	10	25	20	15	
N. on Maple Road	5%	0	5	5	5	
N. on River Lane	5%	0	5	5	0	
S. on Maple Road	15%	5	15	10	10	
S. on Division Road	10%	5	10	10	5	
	100%	***35***	***100***	***80***	***60***	

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EXHIBIT 10
HEYDAY DEVELOPMENT TRIP GENERATION & TRAFFIC ASSIGNMENT

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

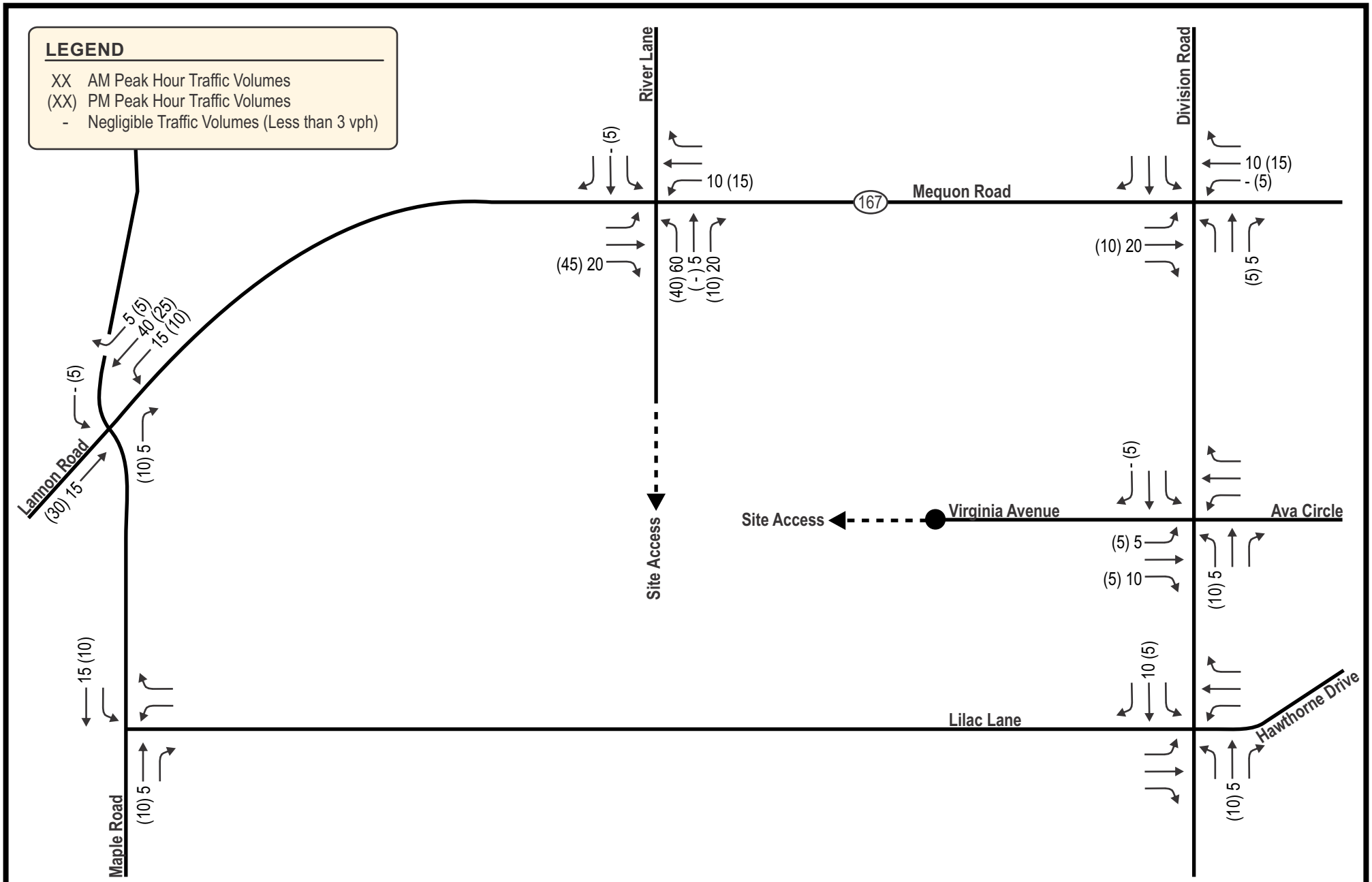

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EXHIBIT 11
ON-SITE DEVELOPMENT NEW TRIPS
HEYDAY MULTI-FAMILY RESIDENTIAL DEVELOPMENT

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

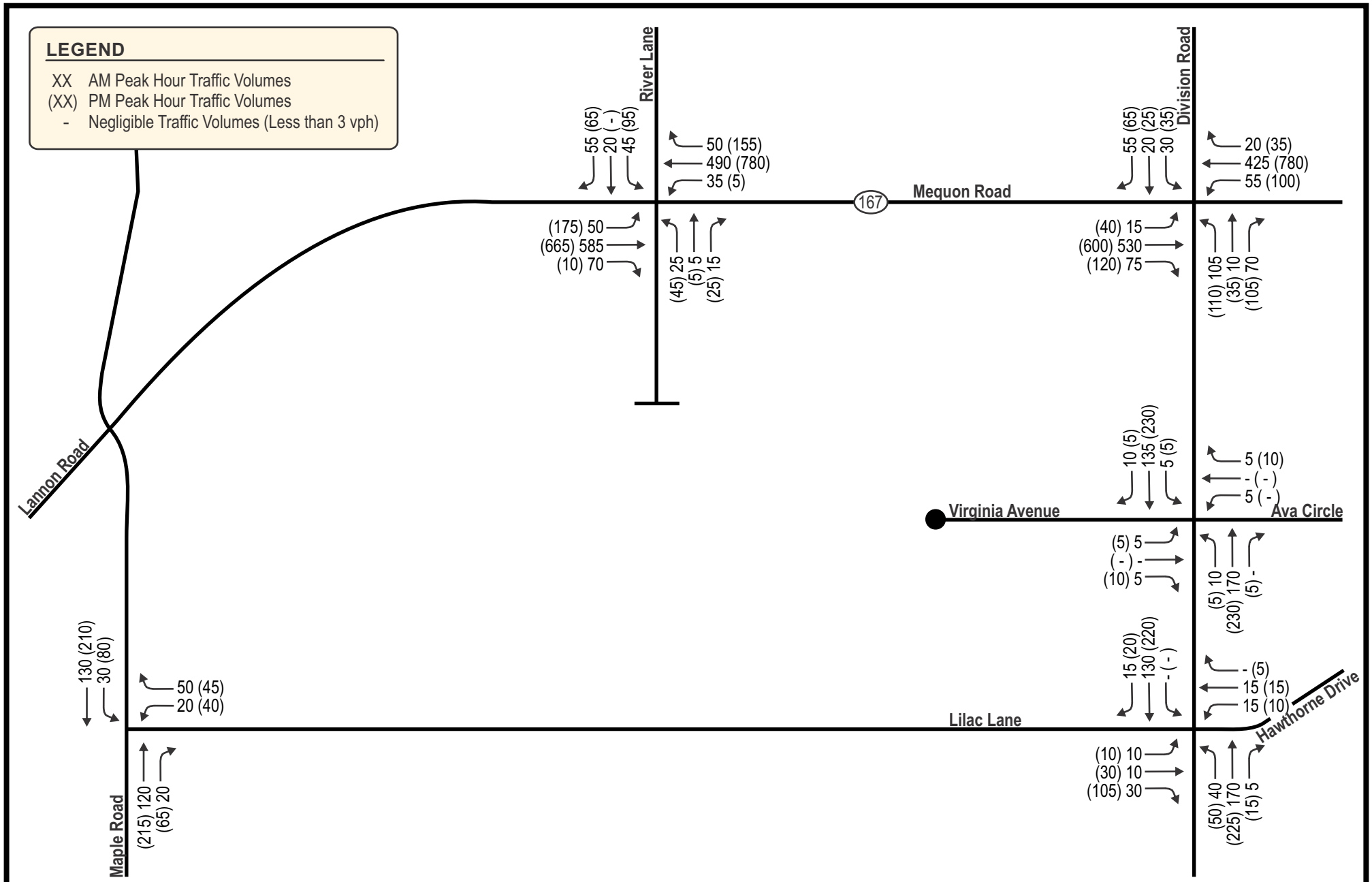

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EXHIBIT 12
BACKGROUND TRAFFIC VOLUMES

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

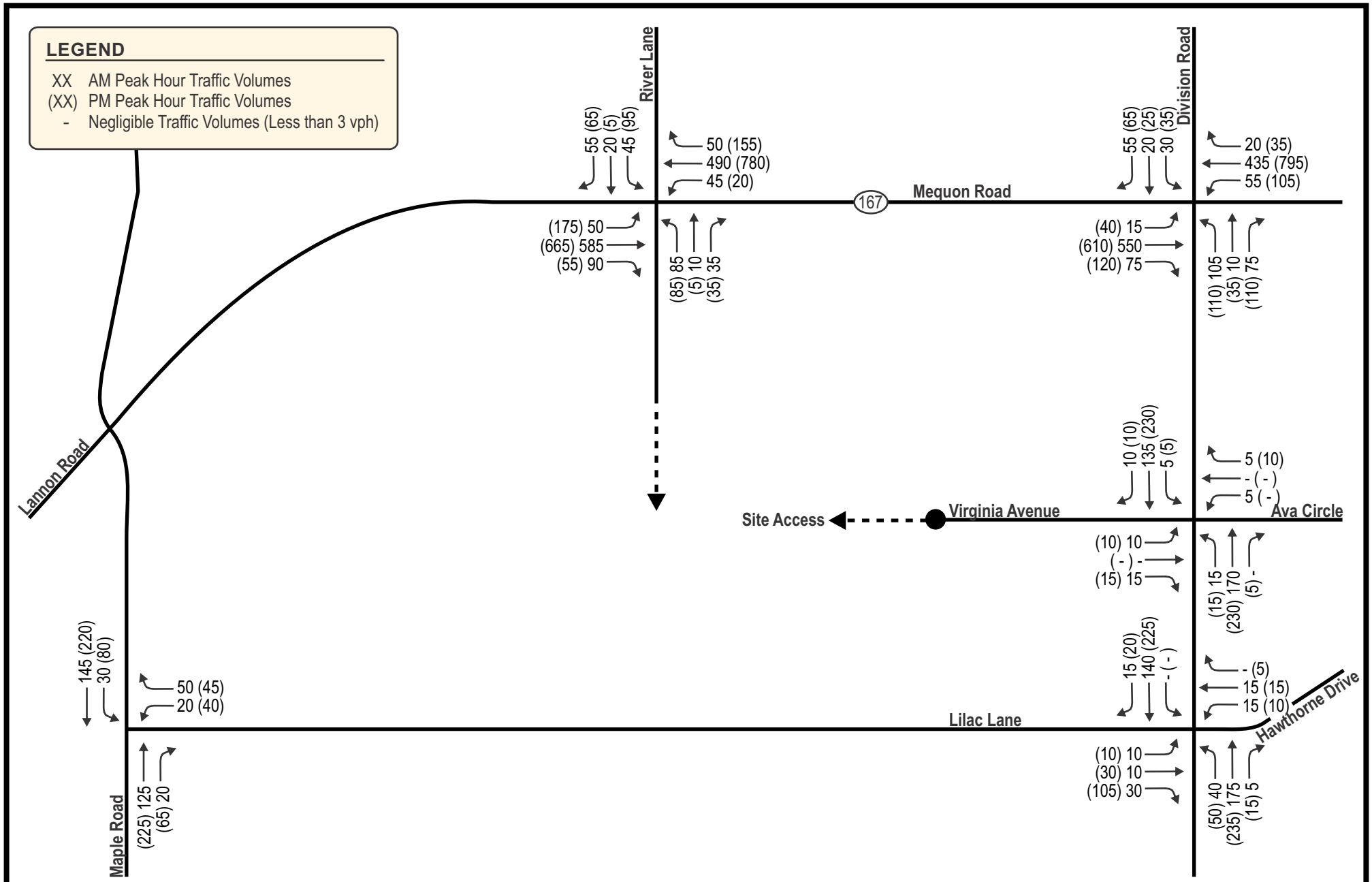

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EXHIBIT 13
BUILD TRAFFIC VOLUMES

HEYDAY DEVELOPMENT TRAFFIC IMPACT STUDY - GERMANTOWN, WISCONSIN

Background Traffic Peak Hour Operating Conditions

Existing Transportation System

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
		Lanes->	*1*	*2>*		*1*	*2*	*1*	*1*	*1>*		*1*	*1>*		
Mequon Road & River Lane *Traffic Signal Control*	AM	LOS	A	A		A	A	A	D	D		D	D		A
		Delay	4.5	4.1		4.9	3.6	3.0	40.4	36.2		38.0	38.2		7.9
		Queue	20'	85'		15'	55'	15'	40'	30'		60'	90'		
	PM	LOS	B	A		A	A	A	D	D		D	D		A
		Delay	10.2	4.4		4.9	4.3	3.5	40.3	35.9		40.1	37.3		9.0
		Queue	100'	110'		5'	75'	25'	55'	40'		105'	75'		
		Lanes->	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1>*		*<1*		*1*	
Mequon Road & Division Road *Traffic Signal Control*	AM	LOS	A	A	A	A	A	A	D	C		C		C	B
		Delay	7.9	7.0	5.7	9.9	6.6	5.4	39.1	31.2		31.6		29.9	12.4
		Queue	10'	120'	20'	30'	75'	10'	105'	80'		55'		40'	
	PM	LOS	B	A	A	B	A	A	D	C		C		C	B
		Delay	10.9	7.3	6.2	10.9	7.9	5.8	39.5	31.3		31.5		29.0	12.4
		Queue	30'	145'	40'	45'	135'	10'	115'	135'		70'		50'	
		Lanes->	*<1>*			*<1>*			*<2>*			*<1*		*1*	
Virginia Avenue/Ava Circle & Division Road *Stop Sign Control (EB/WB)*	AM	LOS	B			B			A			A		*	A
		Delay	10.3			10.7			7.6			0.0		*	1.0
		Queue	5'			5'			0'			0'		*	
	PM	LOS	B			A			A			A		*	A
		Delay	10.5			9.7			7.8			7.8		*	0.7
		Queue	5'			5'			0'			0'		*	
		Lanes->	*<1>*			*<1>*			*<1*		*1*	*<1>*			
Lilac Lane/Hawthorne Drive & Division Road *Stop Sign Control (EB/WB)*	AM	LOS	B			B			A		*	A			A
		Delay	11.5			13.9			7.7		*	7.7			3.0
		Queue	10'			10'			5'		*	0'			
	PM	LOS	B			C			A		*	A			A
		Delay	13.6			16.0			7.9		*	7.8			4.0
		Queue	30'			10'			5'		*	0'			
		Lanes->	-			*<1>*			-	*1*	*1*	*1*	*1*	-	
Lilac Lane & Maple Road *Stop Sign Control (WB)*	AM	LOS	-			B			-	*	*	A	*	-	A
		Delay	-			10.0			-	*	*	7.7	*	-	2.5
		Queue	-			10'			-	*	*	5'	*	-	
	PM	LOS	-			B			-	*	*	A	*	-	A
		Delay	-			13.4			-	*	*	8.2	*	-	2.7
		Queue	-			20'			-	*	*	5'	*	-	

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

Build Traffic Peak Hour Operating Conditions

Existing Transportation System

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Mequon Road & River Lane *Traffic Signal Control*		*Lanes->*	*1*	*2>*		*1*	*2*	*1*	*1*	*1>*		*1*	*1>*		
	AM	LOS	A	A		A	A	A	D	C		D	D		B
		Delay	5.4	4.9		6.1	4.3	3.6	40.6	34.9		37.2	35.9		10.0
		Queue	20'	105'		15'	55'	15'	90'	55'		55'	85'		
	PM	LOS	B	A		A	A	A	D	C		D	D		B
		Delay	11.6	5.1		6.1	4.9	4.0	40.4	34.7		38.9	35.7		10.1
		Queue	100'	120'		10'	75'	25'	95'	50'		105'	80'		
Mequon Road & Division Road *Traffic Signal Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1>*		*<1*		*1*	
	AM	LOS	A	A	A	B	A	A	D	C		C		C	B
		Delay	8.1	7.2	5.8	10.3	6.8	5.5	39.1	31.0		31.5		29.6	12.4
		Queue	5'	125'	15'	30'	80'	10'	105'	85'		55'		40'	
	PM	LOS	B	A	A	B	A	A	D	C		C		C	B
		Delay	11.2	7.4	6.3	11.4	8.1	5.9	39.5	31.2		31.4		28.8	12.5
		Queue	30'	150'	35'	50'	140'	10'	115'	140'		70'		50'	
Virginia Avenue/Ava Circle & Division Road *Stop Sign Control (EB/WB)*		*Lanes->*	*<1>*			*<1>*			*<2>*			*<1*		*1*	
	AM	LOS	B			B			A			A		*	A
		Delay	10.2			10.8			7.6			7.7		*	1.5
		Queue	5'			5'			0'			0'		*	
	PM	LOS	B			A			A			A		*	A
		Delay	10.8			9.8			7.8			7.8		*	1.1
		Queue	5'			5'			0'			0'		*	
Lilac Lane/Hawthorne Drive & Division Road *Stop Sign Control (EB/WB)*		*Lanes->*	*<1>*			*<1>*			*<1*		*1*	*<1>*			
	AM	LOS	B			B			A		*	A			A
		Delay	11.6			14.2			7.7		*	7.7			2.9
		Queue	10'			10'			5'		*	0'			
	PM	LOS	B			C			A		*	A			A
		Delay	13.7			16.4			8.0		*	7.8			4.0
		Queue	30'			10'			5'		*	0'			
Lilac Lane & Maple Road *Stop Sign Control (WB)*		*Lanes->*	-			*<1>*			-	*1*	*1*	*1*	*1*	-	
	AM	LOS	-			B			-	*	*	A	*	-	A
		Delay	-			10.1			-	*	*	7.7	*	-	2.4
		Queue	-			10'			-	*	*	5'	*	-	
	PM	LOS	-			B			-	*	*	A	*	-	A
		Delay	-			13.7			-	*	*	8.2	*	-	2.7
		Queue	-			20'			-	*	*	5'	*	-	

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

APPENDIX A

TRAFFIC COUNT DATA

3669 Germantown
Peak Hour Calculations

Weekday AM Peak Hour

Time	Division Rd Lilac Lane	Division Rd Virginia Ave	Mequon Rd River Lane	Maple Rd Lilac Lane	Mequon Rd Division Rd	Sums
	6/12/2026	6/12/2026	6/12/2026	6/16/2026	7/30/2025	
6:00 AM	28	19	153	25	108	
6:15 AM	50	38	192	39	132	
6:30 AM	39	26	256	35	140	
6:45 AM	72	52	258	65	220	1947
7:00 AM	57	43	264	66	230	2274
7:15 AM	71	47	325	90	252	2608
7:30 AM	89	63	336	75	300	2975
7:45 AM	123	89	381	108	392	3401
8:00 AM	93	65	346	101	280	3626
8:15 AM	84	69	373	88	264	3719
8:30 AM	82	65	377	73	291	3744
8:45 AM	95	65	373	95	289	3568

Weekday PM Peak Hour

Time	Division Rd Lilac Lane	Division Rd Virginia Ave	Mequon Rd River Lane	Maple Rd Lilac Lane	Mequon Rd Division Rd	Sums
	6/15/2026	6/15/2026	6/15/2026	6/16/2026	7/29/2025	
3:00 PM	144	104	468	123	383	
3:15 PM	119	88	468	133	347	
3:30 PM	151	116	498	146	375	
3:45 PM	122	88	446	140	389	4848
4:00 PM	163	108	473	135	454	4959
4:15 PM	142	98	496	143	433	5116
4:30 PM	162	122	624	183	470	5391
4:45 PM	197	126	558	176	477	5740
5:00 PM	170	120	569	159	493	5918
5:15 PM	158	108	542	114	405	5933
5:30 PM	147	103	454	116	359	5551
5:45 PM	129	79	423	120	298	5066

Wisconsin DOT

Short-term Hourly Traffic Volume for 05/12/2026 through 05/14/2026

Site names:	660492	Seasonal Factor Grp:	1
County:	Washington	Daily Factor Grp:	1
Funct Class:	Urban Principal Arterial - Other	Axle Factor Grp:	1
Location:	STH 167 BTWN MEQUON RD & RIVER LN	Growth Factor Grp:	1

	Sun, May 10, 2026			Mon, May 11, 2026			Tue, May 12, 2026			Wed, May 13, 2026			Thu, May 14, 2026			Fri, May 15, 2026			Sat, May 16, 2026		
	Road	W	E	Road	W	E	Road	W	E	Road	W	E	Road	W	E	Road	W	E	Road	W	E
00:00										40	20	20	57	39	18						
01:00										26	11	15	50	24	26						
02:00										27	12	15	29	17	12						
03:00										51	26	25	54	25	29						
04:00										138	73	65	119	62	57						
05:00										382	198	184	355	166	189						
06:00										905	441	464	875	431	444						
07:00										1,261	590	671	1,339	593	746						
08:00										1,168	497	671	1,216	546	670						
09:00										1,030	479	551	1,064	525	539						
10:00										1,035	507	528	994	554	440						
11:00										1,235	653	582	1,174	606	568						
12:00										1,211	619	592	1,237	609	628						
13:00							1,128	588	540	1,171	582	589									
14:00							1,396	735	661	1,398	740	658									
15:00							1,687	855	832	1,548	793	755									
16:00							1,777	895	882	1,747	892	855									
17:00							1,667	852	815	1,542	824	718									
18:00							1,171	639	532	998	486	512									
19:00							808	466	342	725	390	335									
20:00							588	312	276	542	283	259									
21:00							290	141	149	449	264	185									
22:00							160	80	80	164	81	83									
23:00							98	65	33	113	65	48									
Total							10,770	5,628	5,142	18,906	9,526	9,380	8,563	4,197	4,366						
AM Peak Vol										1,261	653	689	1,339	622	756						
AM Peak Fct										.961	.966	.936	.985	.874	.892						
AM Peak Hr										7: 00	11: 00	7: 30	7: 00	6: 45	7: 15						
PM Peak Vol										1,772	943	864									
PM Peak Fct										.888	.867	.952									
PM Peak Hr										16: 15	16: 30	15: 45	:	:	:						
Seasonal Fct							.949	.949	.949	.949	.949	.949	.949	.949	.949						
Daily Fct							.948	.948	.948	.935	.935	.935	.923	.923	.923						
Axle Fct							.500	.500	.500	.500	.500	.500	.500	.500	.500						
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						

Created 06/24/2026 12:47 PM ROAD AADT 16,987 W AADT 8,598 E AADT 8,389 DV03S: Page 1 of 1

Intersection Traffic Volume Report

Count Basics	Version 2026.03		Page 1 of 13
Start Date:	Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Major St: **STH 167 - Mequon Road**
Minor St: **River Lane**
Intersection of: ***STH 167 - Mequon Road & River Lane***

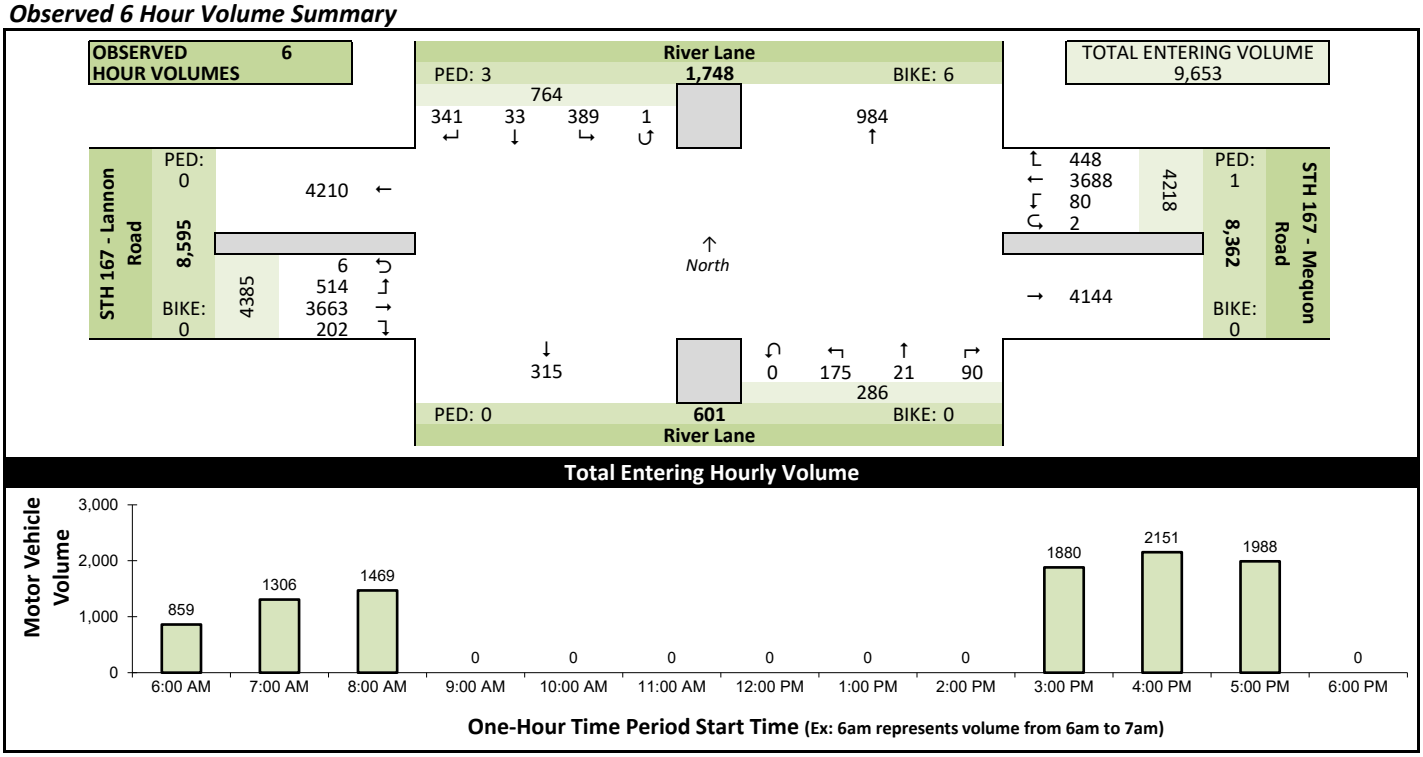
Site Information

Municipality	Village of Germantown		
County	66 - Washington	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names		North Direction	↑
North Leg	River Lane		
East Leg	STH 167 - Mequon Road		
South Leg	River Lane		
West Leg	STH 167 - Lannon Road		
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		

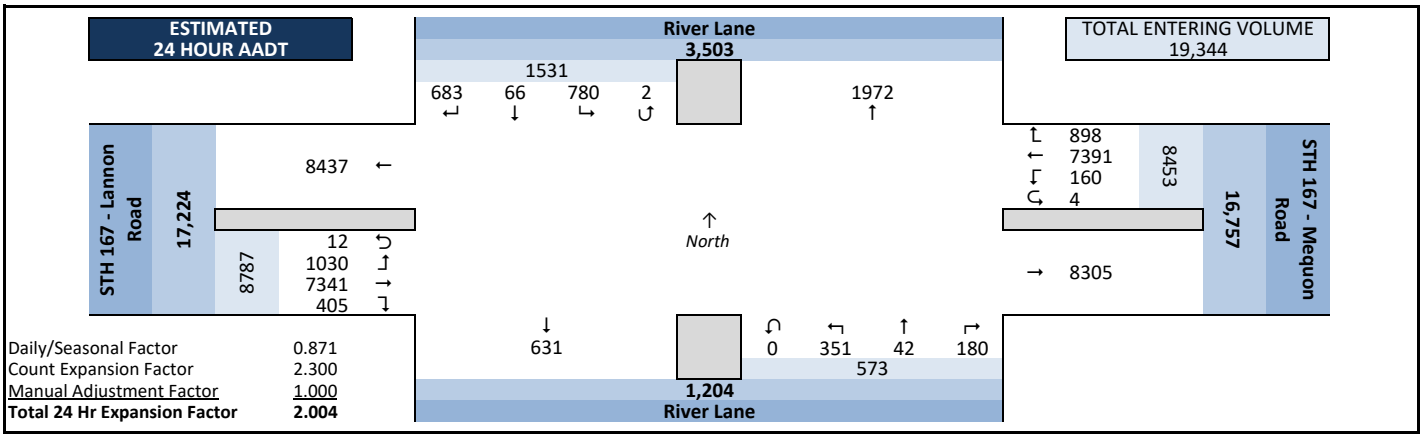
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-06:00 PM				
1st Day of Count	Friday, June 12, 2026			Weather	
AM Peak Period	Friday, June 12, 2026			Clear and Dry	
Midday Peak Period	Friday, June 12, 2026			Clear and Dry	
PM Peak Period	Monday, June 15, 2026			Clear and Dry	
Calculated Peak Hours					
AM	7:45-8:45am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:45-8:45am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(1) Non-Interstate Low Truck %				
Count Expansion Group	(1) Non-Interstate Low Truck %				
Daily/Seasonal Adjustment Factor	0.871	Count Expansion Factor	2.300		
Company Name	TADI			Manual Adj.	1.000
Observers: AM Peak Period	Amy Scheuerlein				
Observers: Midday Peak Period	None				
Observers: PM Peak Period	Amy Scheuerlein				
Comments	Wis DOT Daily & Seasonal Factors are final for 2012 through 2025, and 2026 reports use 2025 final factors.				

Observed 6 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

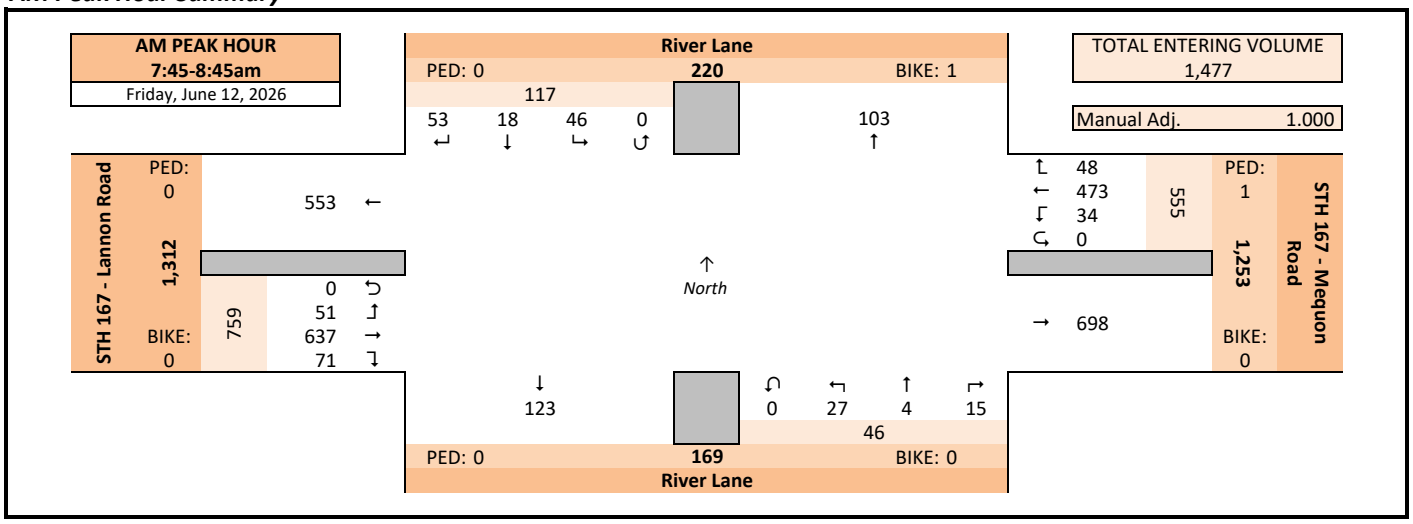
Peak Hour Volume Graphical Summary

STH 167 - Mequon Road & River Lane

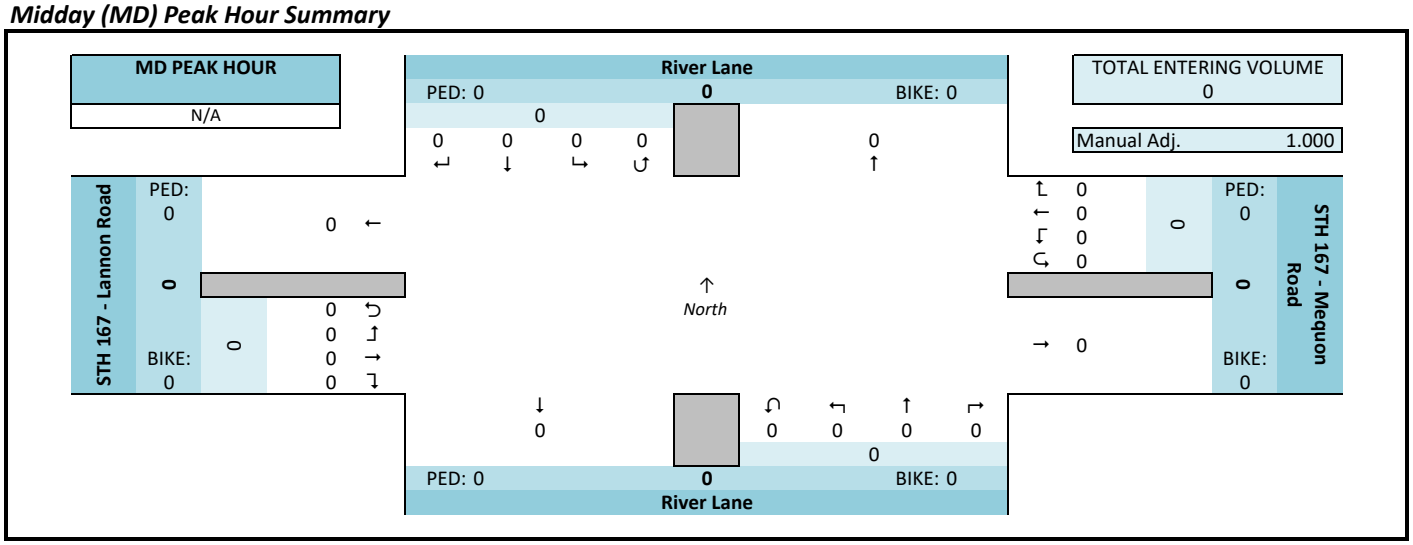
Count Basics			*Page 2 of 13*
Start Date:	Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

All Motor Vehicles

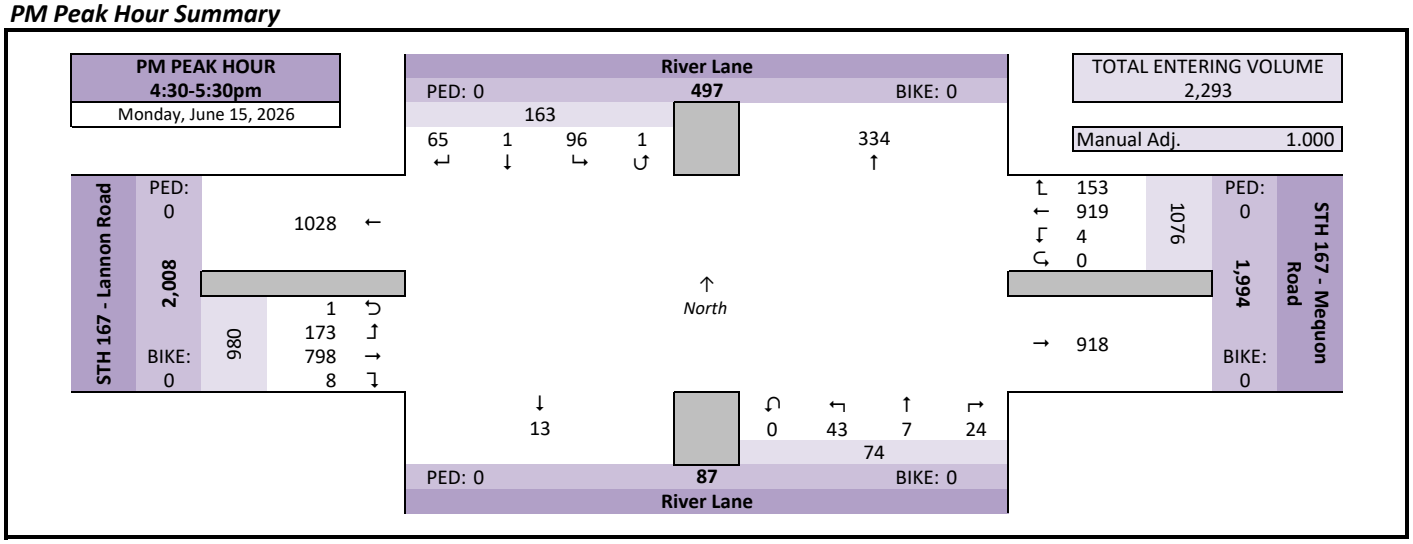
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

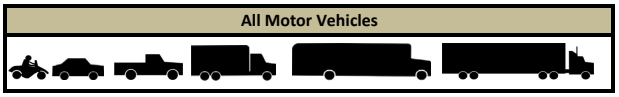


Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Summary

STH 167 - Mequon Road & River Lane



Peak Hour Volumes, Truck Percentages, and PHFs

Friday, June 12, 2026		From North					From East					From South					From West					
	AM Peak Hour	River Lane					STH 167 - Mequon Road					River Lane					STH 167 - Lannon Road					
	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	7:45 AM	9	5	19	0	33	18	108	10	0	136	4	1	4	0	9	17	173	13	0	203	381
	8:00 AM	12	5	7	0	24	10	107	10	0	127	2	1	6	0	9	20	151	15	0	186	346
	8:15 AM	21	4	10	0	35	10	126	12	0	148	3	0	5	0	8	17	156	9	0	182	373
	8:30 AM	11	4	10	0	25	10	132	2	0	144	6	2	12	0	20	17	157	14	0	188	377
	Peak Hour Volume	53	18	46	0	117	48	473	34	0	555	15	4	27	0	46	71	637	51	0	759	1477
	Rounded Hourly Volume	55	20	45	0	120	50	475	35	0	560	15	5	25	0	45	70	635	50	0	755	1480
	% Single Unit Trucks	7.5	0.0	2.2	0.0	4.3	2.1	8.5	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	6.3	9.8	0.0	5.9	6.2
	% Heavy Trucks	3.8	0.0	0.0	0.0	1.7	0.0	1.7	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.9	0.0	1.3	1.4
	% Trucks (Total)	11.3	0.0	2.2	0.0	6.0	2.1	10.1	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	7.4	15.7	0.0	7.2	7.5
	Peak Hour Factor (PHF)	0.63	0.90	0.61	0.00	0.84	0.67	0.90	0.71	0.00	0.94	0.62	0.50	0.56	0.00	0.57	0.89	0.92	0.85	0.00	0.93	0.97

N/A		From North					From East					From South					From West					
	MD Peak Hour	River Lane					STH 167 - Mequon Road					River Lane					STH 167 - Lannon Road					
	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

Monday, June 15, 2026		From North					From East					From South					From West					
	PM Peak Hour	River Lane					STH 167 - Mequon Road					River Lane					STH 167 - Lannon Road					
	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	21	0	22	0	43	44	234	0	0	278	9	3	23	0	35	3	209	56	0	268	624
	4:45 PM	9	0	24	0	33	47	208	2	0	257	3	1	9	0	13	0	211	44	0	255	558
	5:00 PM	19	0	28	0	47	29	242	2	0	273	10	2	6	0	18	3	189	38	1	231	569
	5:15 PM	16	1	22	1	40	33	235	0	0	268	2	1	5	0	8	2	189	35	0	226	542
	Peak Hour Volume	65	1	96	1	163	153	919	4	0	1076	24	7	43	0	74	8	798	173	1	980	2293
	Rounded Hourly Volume	65	0	95	0	160	155	920	5	0	1080	25	5	45	0	75	10	800	175	0	985	2300
	% Single Unit Trucks	1.5	0.0	4.2	0.0	3.1	0.7	1.7	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.9	0.0	2.6	2.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.2	0.0	0.9	0.7
	% Trucks (Total)	1.5	0.0	4.2	0.0	3.1	1.3	2.4	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	3.4	4.0	0.0	3.5	2.7
	Peak Hour Factor (PHF)	0.77	0.25	0.86	0.25	0.87	0.81	0.95	0.50	0.00	0.97	0.60	0.58	0.47	0.00	0.53	0.67	0.95	0.77	0.25	0.91	0.92

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
		River Lane			STH 167 - Mequon Road			River Lane			STH 167 - Lannon Road			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	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
	8:30 AM	0	1	1	1	0	1	0	0	0	0	0	0	2
	Total	0	1	1	1	0	1	0	0	0	0	0	0	2
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

15-Minute Motor Vehicle Data

STH 167 - Mequon Road & River Lane

Count Basics		*Page 5 of 13*
Start Date: Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

All Motor Vehicles

15-Minute Motor Vehicle Data

15-Minute Time Period		From North (↓)					From East (←)					From South (↑)					From West (→)					15-Min	Hourly	
		River Lane					STH 167 - Mequon Road					River Lane					STH 167 - Lannon Road					Totals	Sum	PHF
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	6	0	1	0	7	7	58	1	0	66	0	0	0	0	0	4	65	11	0	80	153	859	0.83
	6:15 AM	4	0	7	0	11	7	81	3	0	91	0	1	2	0	3	9	68	10	0	87	192	970	0.92
	6:30 AM	10	1	7	0	18	11	107	2	0	120	0	0	1	0	1	11	86	19	1	117	256	1103	0.85
	6:45 AM	7	2	3	0	12	10	98	2	0	110	0	0	3	0	3	11	105	17	0	133	258	1183	0.88
	7:00 AM	12	0	14	0	26	14	84	3	1	102	1	0	2	0	3	6	112	15	0	133	264	1306	0.86
	7:15 AM	8	3	15	0	26	9	114	4	0	127	1	0	2	0	3	24	137	8	0	169	325	1388	0.91
	7:30 AM	10	4	11	0	25	10	120	5	0	135	0	0	3	0	3	19	132	22	0	173	336	1436	0.94
	7:45 AM	9	5	19	0	33	18	108	10	0	136	4	1	4	0	9	17	173	13	0	203	381	1477	0.97
	8:00 AM	12	5	7	0	24	10	107	10	0	127	2	1	6	0	9	20	151	15	0	186	346	1469	0.97
	8:15 AM	21	4	10	0	35	10	126	12	0	148	3	0	5	0	8	17	156	9	0	182	373		
	8:30 AM	11	4	10	0	25	10	132	2	0	144	6	2	12	0	20	17	157	14	0	188	377		
	8:45 AM	5	0	11	0	16	17	133	6	0	156	7	1	11	0	19	15	153	14	0	182	373		
	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	26	1	25	0	52	19	183	1	0	203	3	1	15	0	19	6	171	16	1	194	468	1880	0.94
	3:15 PM	19	0	19	0	38	18	228	5	0	251	5	2	13	0	20	3	145	11	0	159	468	1885	0.95
	3:30 PM	14	1	27	0	42	18	169	2	0	189	7	2	17	0	26	8	219	14	0	241	498	1913	0.96
	3:45 PM	15	1	15	0	31	18	180	3	0	201	10	0	7	0	17	2	183	12	0	197	446	2039	0.82
	4:00 PM	18	0	19	0	37	16	217	0	0	233	9	3	10	0	22	2	165	14	0	181	473	2151	0.86
	4:15 PM	15	0	21	0	36	20	214	1	0	235	7	0	13	0	20	2	163	38	2	205	496	2247	0.90
	4:30 PM	21	0	22	0	43	44	234	0	0	278	9	3	23	0	35	3	209	56	0	268	624	2293	0.92
	4:45 PM	9	0	24	0	33	47	208	2	0	257	3	1	9	0	13	0	211	44	0	255	558	2123	0.93
	5:00 PM	19	0	28	0	47	29	242	2	0	273	10	2	6	0	18	3	189	38	1	231	569	1988	0.87
	5:15 PM	16	1	22	1	40	33	235	0	0	268	2	1	5	0	8	2	189	35	0	226	542		
	5:30 PM	29	1	24	0	54	29	155	1	0	185	0	0	3	0	3	1	171	39	1	212	454		
	5:45 PM	25	0	28	0	53	24	155	3	1	183	1	0	3	0	4	0	153	30	0	183	423		
	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		341	33	389	1	764	448	3688	80	2	4218	90	21	175	0	286	202	3663	514	6	4385	9653		

Peak Hour All Vehicle Volume Summary

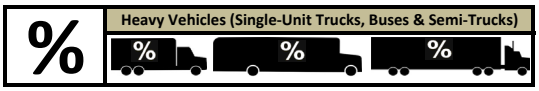
Hourly Time Period		From North (↓)					From East (←)					From South (↑)					From West (→)					Total Hourly	
		River Lane					STH 167 - Mequon Road					River Lane					STH 167 - Lannon Road					Volume	PHF
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM	7:45 AM	53	18	46	0	117	48	473	34	0	555	15	4	27	0	46	71	637	51	0	759	1477	0.97
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	65	1	96	1	163	153	919	4	0	1076	24	7	43	0	74	8	798	173	1	980	2293	0.92

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Percentages

STH 167 - Mequon Road & River Lane

Count Basics		*Page 10 of 13*
Start Date: Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events



15-Minute Heavy Vehicle Percentages

15-Minute Time Period		From North (↓) River Lane					From East (←) STH 167 - Mequon Road					From South (↑) River Lane					From West (→) STH 167 - Lannon Road					Total Heavy Vehicle	Hourly Heavy Vehicle
	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	Percent	Percent
AM Peak Period	6:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	25.0	12.3	27.3	0.0	15.0	8.5	9.1
	6:15 AM	0.0	0.0	14.3	0.0	9.1	0.0	2.5	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	11.8	30.0	0.0	12.6	7.3	9.5
	6:30 AM	50.0	0.0	14.3	0.0	33.3	9.1	7.5	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	12.8	10.5	0.0	11.1	10.9	9.4
	6:45 AM	57.1	0.0	0.0	0.0	33.3	10.0	4.1	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	9.1	11.4	5.9	0.0	10.5	8.9	8.4
	7:00 AM	8.3	0.0	7.1	0.0	7.7	7.1	4.8	0.0	0.0	4.9	100.0	0.0	50.0	0.0	66.7	0.0	14.3	13.3	0.0	13.5	10.2	7.5
	7:15 AM	0.0	0.0	6.7	0.0	3.8	22.2	4.4	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	11.7	25.0	0.0	10.7	8.0	7.4
	7:30 AM	20.0	0.0	27.3	0.0	20.0	0.0	5.0	20.0	0.0	5.2	0.0	0.0	33.3	0.0	33.3	0.0	6.1	9.1	0.0	5.8	6.8	7.3
	7:45 AM	0.0	0.0	0.0	0.0	0.0	5.6	6.5	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	7.5	7.7	0.0	6.9	5.8	7.5
	8:00 AM	16.7	0.0	0.0	0.0	8.3	0.0	13.1	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	20.0	0.0	8.6	9.2	7.9
	8:15 AM	14.3	0.0	0.0	0.0	8.6	0.0	9.5	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	6.4	33.3	0.0	7.1	7.5	
	8:30 AM	9.1	0.0	10.0	0.0	8.0	0.0	11.4	0.0	0.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.1	0.0	6.4	7.7	
	8:45 AM	20.0	0.0	0.0	0.0	6.3	0.0	8.3	16.7	0.0	7.7	0.0	0.0	9.1	0.0	5.3	0.0	7.2	14.3	0.0	7.1	7.2	
	9:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	3:00 PM	3.8	0.0	0.0	0.0	1.9	0.0	7.1	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	8.2	18.8	0.0	8.8	6.6	6.3
	3:15 PM	5.3	0.0	0.0	0.0	2.6	0.0	7.5	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	8.3	9.1	0.0	8.2	6.6	6.2
	3:30 PM	7.1	0.0	0.0	0.0	2.4	16.7	5.9	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5.0	7.1	0.0	5.0	5.2	6.1
	3:45 PM	13.3	0.0	0.0	0.0	6.5	11.1	7.2	33.3	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	16.7	0.0	6.6	7.0	5.2
	4:00 PM	16.7	0.0	0.0	0.0	8.1	0.0	7.4	0.0	0.0	6.9	0.0	0.0	10.0	0.0	4.5	0.0	4.2	7.1	0.0	4.4	5.9	4.2
	4:15 PM	6.7	0.0	0.0	0.0	2.8	5.0	6.5	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	5.5	15.8	0.0	7.3	6.3	3.2
	4:30 PM	4.8	0.0	0.0	0.0	2.3	4.5	1.3	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	4.3	1.8	0.0	3.7	2.6	2.7
	4:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	3.3	6.8	0.0	3.9	2.9	2.8
	5:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	3.2	2.6	0.0	3.0	1.8	2.5
	5:15 PM	0.0	0.0	18.2	0.0	10.0	0.0	4.3	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	2.6	5.7	0.0	3.1	3.9	
	5:30 PM	0.0	0.0	4.2	0.0	1.9	0.0	5.2	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	1.9	2.9	
	5:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	3.3	0.0	1.1	1.4	
	6:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Totals		8.5	0.0	3.3	0.0	5.5	3.1	5.6	3.8	0.0	5.3	1.1	0.0	2.3	0.0	1.7	1.0	6.4	9.1	0.0	6.4	5.7	

Semi Truck Percentage: 1.27%

Peak Hour Heavy Vehicle Percentages Summary

Hourly Time Period		From North (↓) River Lane					From East (←) STH 167 - Mequon Road					From South (↑) River Lane					From West (→) STH 167 - Lannon Road					Hourly Heavy Vehicle
	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	Percent
AM	7:45 AM	11.3	0.0	2.2	0.0	6.0	2.1	10.1	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	7.4	15.7	0.0	7.2	7.5
MD	12:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	4:30 PM	1.5	0.0	4.2	0.0	3.1	1.3	2.4	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	3.4	4.0	0.0	3.5	2.7

Intersection Traffic Volume Report

Count Basics	Version 2025.03		Page 1 of 13
Start Date:	Tuesday, July 29, 2025	Weekday	Schools Not in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Major St: **STH 167 - Mequon Road**
Minor St: **Division Road**
Intersection of: ***STH 167 - Mequon Road & Division Road***

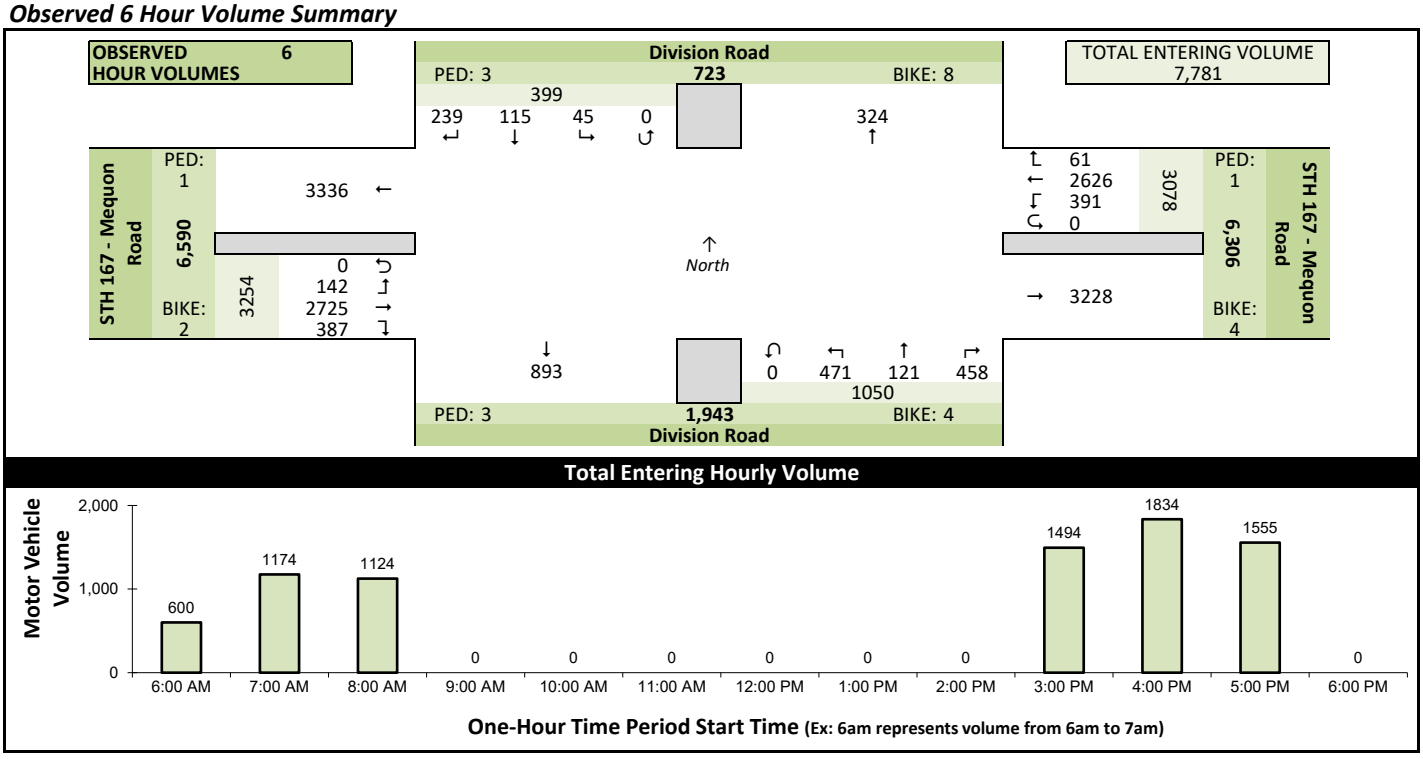
Site Information

Municipality	Village of Germantown		
County	66 - Washington	WisDOT Region	SE
Traffic Control	Traffic Signal		
Roadway Names		North Direction	↑
North Leg	Division Road		
East Leg	STH 167 - Mequon Road		
South Leg	Division Road		
West Leg	STH 167 - Mequon Road		
Special Considerations			
Schools	Not 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		

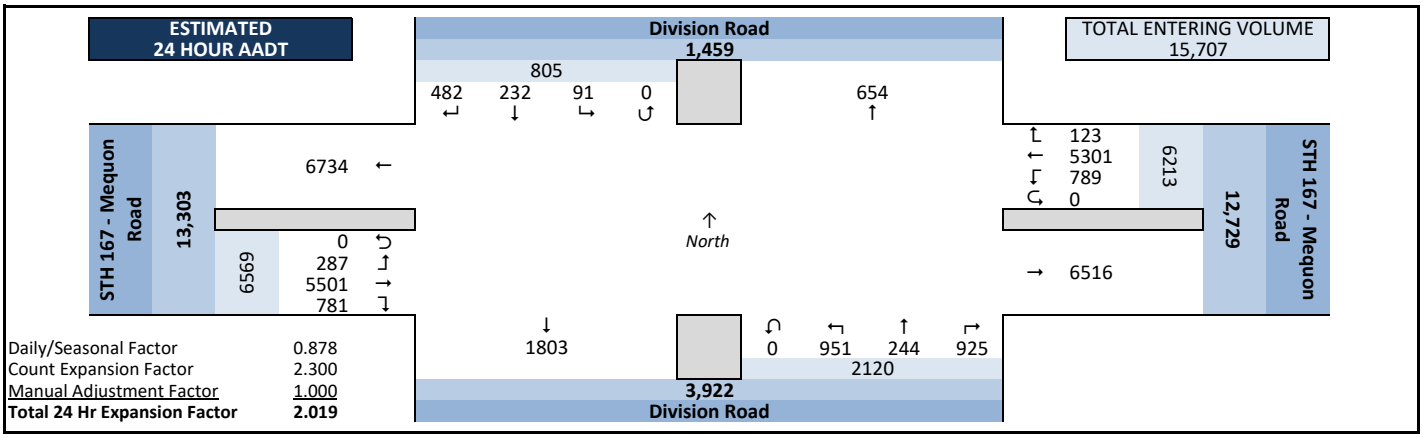
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-06:00 PM				
1st Day of Count	Tuesday, July 29, 2025			Weather	
AM Peak Period	Wednesday, July 30, 2025			Clear and Dry	
Midday Peak Period	Wednesday, July 30, 2025			Clear and Dry	
PM Peak Period	Tuesday, July 29, 2025			Clear and Dry	
Calculated Peak Hours					
AM	7:30-8:30am	MD		PM	4:15-5:15pm
Peak Hours Selected for Analysis					
AM	7:45-8:45am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(1) Non-Interstate Low Truck %				
Count Expansion Group	(1) Non-Interstate Low Truck %				
Daily/Seasonal Adjustment Factor	0.878	Count Expansion Factor	2.300		
Company Name	TADI			Manual Adj.	1.000
Observers	AM Peak Period	Lee Oestreich			
	Midday Peak Period	None			
	PM Peak Period	Wendy Picard			
Comments	Wis DOT Daily & Seasonal Factors are final for 2012 through 2024, and 2025 uses 2024 final factors.				

Observed 6 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

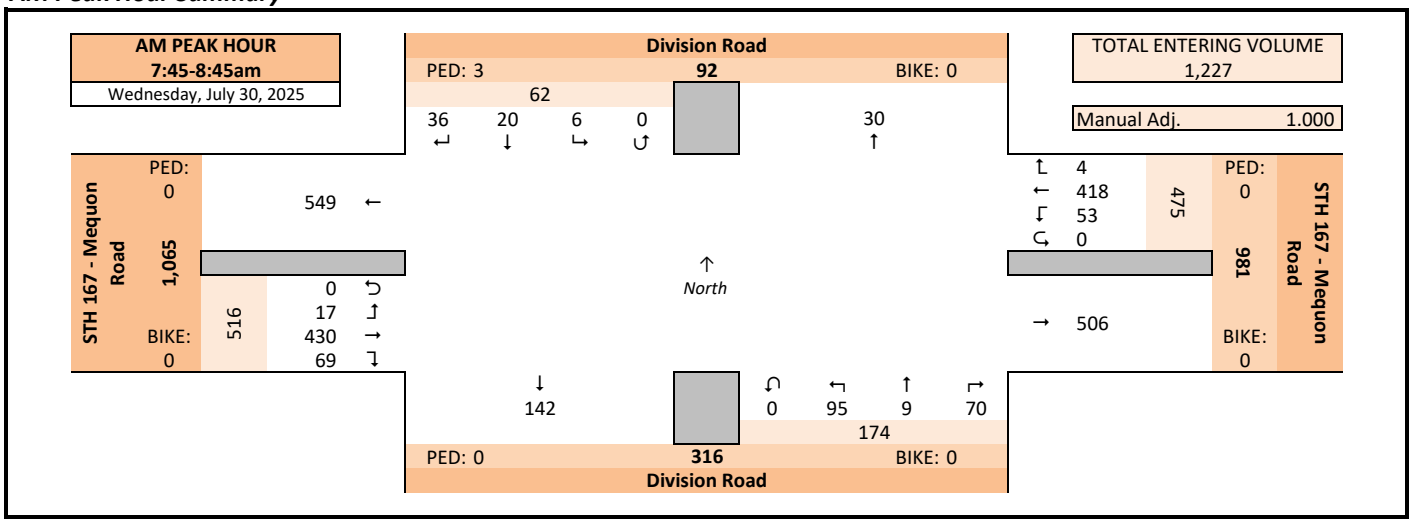
Peak Hour Volume Graphical Summary

Count Basics			*Page 2 of 13*
Start Date:	Tuesday, July 29, 2025	Weekday	Schools Not in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

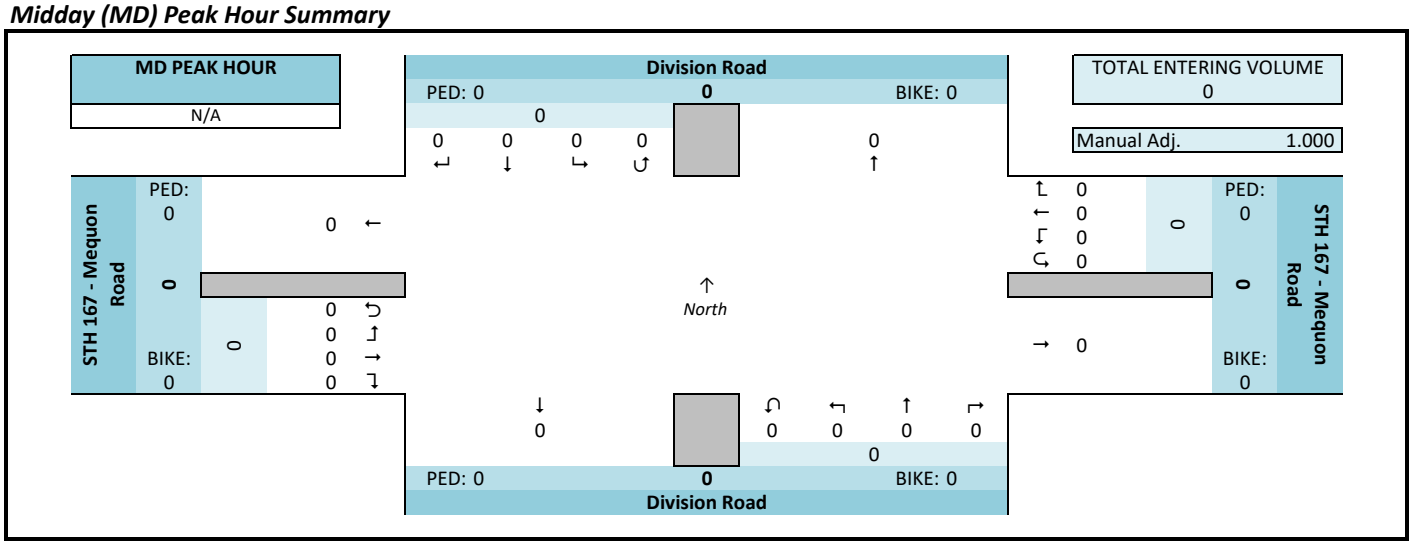
All Motor Vehicles

STH 167 - Mequon Road & Division Road

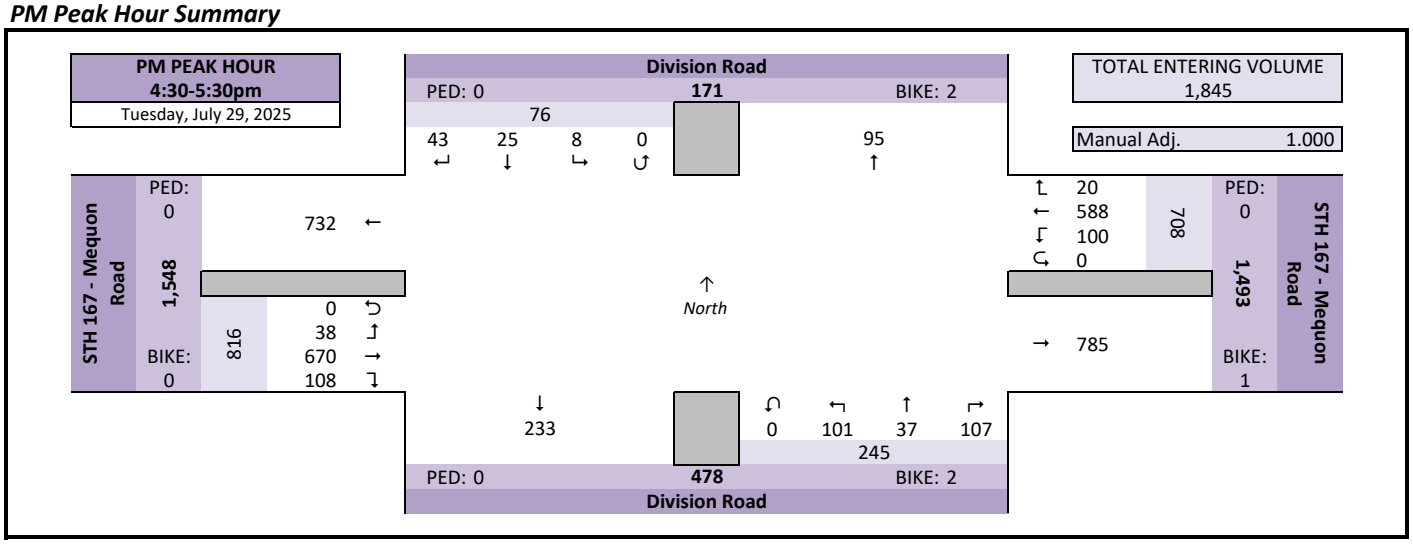
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

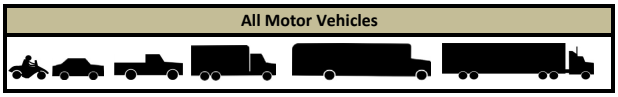


Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Tuesday, July 29, 2025	Weekday	Schools Not in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Summary

STH 167 - Mequon Road & Division Road



Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, July 30, 2025		From North					From East					From South					From West					
	AM Peak Hour	Division Road					STH 167 - Mequon Road					Division Road					STH 167 - Mequon Road					
	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	7:45 AM	10	4	2	0	16	0	131	14	0	145	23	2	44	0	69	17	135	10	0	162	392
	8:00 AM	7	4	0	0	11	1	104	16	0	121	12	5	18	0	35	18	93	2	0	113	280
	8:15 AM	4	5	2	0	11	1	92	7	0	100	14	1	18	0	33	19	99	2	0	120	264
	8:30 AM	15	7	2	0	24	2	91	16	0	109	21	1	15	0	37	15	103	3	0	121	291
	Peak Hour Volume	36	20	6	0	62	4	418	53	0	475	70	9	95	0	174	69	430	17	0	516	1227
	Rounded Hourly Volume	35	20	5	0	60	5	420	55	0	480	70	10	95	0	175	70	430	15	0	515	1230
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	4.6	1.4	11.1	1.1	0.0	1.7	0.0	4.9	5.9	0.0	4.3	3.8
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.1	0.0	11.1	0.0	0.0	0.6	0.0	0.7	0.0	0.0	0.6	0.7
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0	5.7	1.4	22.2	1.1	0.0	2.3	0.0	5.6	5.9	0.0	4.8	4.6
	Peak Hour Factor (PHF)	0.60	0.71	0.75	0.00	0.65	0.50	0.80	0.83	0.00	0.82	0.76	0.45	0.54	0.00	0.63	0.91	0.80	0.42	0.00	0.80	0.78

N/A		From North					From East					From South					From West					
	MD Peak Hour	Division Road					STH 167 - Mequon Road					Division Road					STH 167 - Mequon Road					
	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, July 29, 2025		From North					From East					From South					From West					
	PM Peak Hour	Division Road					STH 167 - Mequon Road					Division Road					STH 167 - Mequon Road					
	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	11	9	4	0	24	3	132	19	0	154	27	6	28	0	61	24	193	14	0	231	470
	4:45 PM	11	5	0	0	16	4	168	24	0	196	31	9	26	0	66	28	166	5	0	199	477
	5:00 PM	12	6	3	0	21	5	160	31	0	196	26	14	25	0	65	32	167	12	0	211	493
	5:15 PM	9	5	1	0	15	8	128	26	0	162	23	8	22	0	53	24	144	7	0	175	405
	Peak Hour Volume	43	25	8	0	76	20	588	100	0	708	107	37	101	0	245	108	670	38	0	816	1845
	Rounded Hourly Volume	45	25	10	0	80	20	590	100	0	710	105	35	100	0	240	110	670	40	0	820	1850
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	1.8	1.9	0.0	2.0	0.0	1.6	0.9	3.1	0.0	0.0	2.7	2.1
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.7	0.4
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	2.1	1.9	0.0	2.0	0.0	1.6	0.9	4.0	0.0	0.0	3.4	2.5
	Peak Hour Factor (PHF)	0.90	0.69	0.50	0.00	0.79	0.62	0.87	0.81	0.00	0.90	0.86	0.66	0.90	0.00	0.93	0.84	0.87	0.68	0.00	0.88	0.94

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike
		Division Road			STH 167 - Mequon Road			Division Road			STH 167 - Mequon Road			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	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
	8:30 AM	3	0	3	0	0	0	0	0	0	0	0	0	3
	Total	3	0	3	0	0	0	0	0	0	0	0	0	3
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	1	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	1	1	0	0	0	1
	5:15 PM	0	1	1	0	1	1	0	1	1	0	0	0	3
	Total	0	2	2	0	1	1	0	2	2	0	0	0	5

Intersection Traffic Volume Report

Count Basics		Page 5 of 13
Start Date: Tuesday, July 29, 2025	Weekday	Schools Not in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

STH 167 - Mequon Road & Division Road

All Motor Vehicles

15-Minute Motor Vehicle Data

	15-Minute Time Period	From North (↓) Division Road					From East (←) STH 167 - Mequon Road					From South (↑) Division Road					From West (→) STH 167 - Mequon Road					15-Min Totals	Hourly Sum	PHF
	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	11	3	2	0	16	0	41	3	0	44	1	1	4	0	6	1	40	1	0	42	108	600	0.68
	6:15 AM	7	1	0	0	8	0	63	1	0	64	6	1	12	0	19	2	39	0	0	41	132	722	0.78
	6:30 AM	8	2	2	0	12	0	66	2	0	68	5	0	7	0	12	3	45	0	0	48	140	842	0.84
	6:45 AM	15	5	1	0	21	0	91	8	0	99	6	1	19	0	26	12	61	1	0	74	220	1002	0.84
	7:00 AM	5	4	4	0	13	0	81	6	0	87	9	4	18	0	31	14	83	2	0	99	230	1174	0.75
	7:15 AM	13	6	1	0	20	1	89	7	0	97	17	2	21	0	40	5	88	2	0	95	252	1224	0.78
	7:30 AM	14	6	2	0	22	2	99	15	0	116	17	1	30	0	48	10	100	4	0	114	300	1236	0.79
	7:45 AM	10	4	2	0	16	0	131	14	0	145	23	2	44	0	69	17	135	10	0	162	392	1227	0.78
	8:00 AM	7	4	0	0	11	1	104	16	0	121	12	5	18	0	35	18	93	2	0	113	280	1124	0.97
	8:15 AM	4	5	2	0	11	1	92	7	0	100	14	1	18	0	33	19	99	2	0	120	264		
	8:30 AM	15	7	2	0	24	2	91	16	0	109	21	1	15	0	37	15	103	3	0	121	291		
	8:45 AM	7	6	1	0	14	2	86	13	0	101	16	1	17	0	34	22	112	6	0	140	289		
	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	11	4	3	0	18	4	132	22	0	158	19	3	11	0	33	19	144	11	0	174	383	1494	0.96
	3:15 PM	10	2	1	0	13	3	120	20	0	143	23	7	16	0	46	10	125	10	0	145	347	1565	0.86
	3:30 PM	7	2	2	0	11	2	135	24	0	161	30	7	11	0	48	13	129	13	0	155	375	1651	0.91
	3:45 PM	14	5	0	0	19	6	130	21	0	157	23	11	24	0	58	15	134	6	0	155	389	1746	0.93
	4:00 PM	10	4	5	0	19	4	155	24	0	183	30	5	31	0	66	27	148	11	0	186	454	1834	0.96
	4:15 PM	8	8	4	0	20	4	136	22	0	162	34	11	25	0	70	25	148	8	0	181	433	1873	0.95
	4:30 PM	11	9	4	0	24	3	132	19	0	154	27	6	28	0	61	24	193	14	0	231	470	1845	0.94
	4:45 PM	11	5	0	0	16	4	168	24	0	196	31	9	26	0	66	28	166	5	0	199	477	1734	0.88
	5:00 PM	12	6	3	0	21	5	160	31	0	196	26	14	25	0	65	32	167	12	0	211	493	1555	0.79
	5:15 PM	9	5	1	0	15	8	128	26	0	162	23	8	22	0	53	24	144	7	0	175	405		
	5:30 PM	9	9	1	0	19	6	107	32	0	145	20	10	16	0	46	23	121	5	0	149	359		
	5:45 PM	11	3	2	0	16	3	89	18	0	110	25	10	13	0	48	9	108	7	0	124	298		
	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		239	115	45	0	399	61	2626	391	0	3078	458	121	471	0	1050	387	2725	142	0	3254	7781		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period	From North (↓) Division Road					From East (←) STH 167 - Mequon Road					From South (↑) Division Road					From West (→) STH 167 - Mequon Road					Total Hourly Volume	PHF
	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	7:45 AM	36	20	6	0	62	4	418	53	0	475	70	9	95	0	174	69	430	17	0	516	1227	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	43	25	8	0	76	20	588	100	0	708	107	37	101	0	245	108	670	38	0	816	1845	0.94

Intersection Traffic Volume Report

Count Basics		*Page 9 of 13*
Start Date: Tuesday, July 29, 2025	Weekday	Schools Not in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

STH 167 - Mequon Road & Division Road

Heavy Vehicles (Single-Unit Trucks, Buses & Semi-Trucks)

15-Minute Heavy Vehicle Data

	15-Minute Time Period	From North (↓) Division Road					From East (←) STH 167 - Mequon Road					From South (↑) Division Road					From West (→) STH 167 - Mequon Road					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	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3	31
	6:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9	40
	6:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	3	0	0	4	8	44
	6:45 AM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	2	4	0	0	6	11	46
	7:00 AM	1	0	1	0	2	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	12	49
	7:15 AM	0	0	0	0	0	0	6	0	0	6	1	0	1	0	2	1	4	0	0	5	13	59
	7:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	1	0	1	0	4	0	0	4	10	57
	7:45 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	10	0	0	10	14	56
	8:00 AM	0	0	0	0	0	0	13	0	0	13	1	2	0	0	3	0	6	0	0	6	22	63
	8:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6	1	0	7	11	
	8:30 AM	0	0	0	0	0	0	6	0	0	6	0	0	1	0	1	0	2	0	0	2	9	
	8:45 AM	0	1	1	0	2	1	10	0	0	11	0	0	1	0	1	0	6	1	0	7	21	
	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	2	0	2	1	11	0	0	12	21	61
	3:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	1	4	0	0	5	10	54
	3:30 PM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	2	7	0	0	9	15	56
	3:45 PM	1	0	0	0	1	0	8	0	0	8	0	0	1	0	1	0	5	0	0	5	15	52
	4:00 PM	0	0	0	0	0	0	6	1	0	7	1	0	2	0	3	0	4	0	0	4	14	50
	4:15 PM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	2	4	0	0	6	12	46
	4:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	0	7	0	0	7	11	47
	4:45 PM	0	0	0	0	0	0	6	0	0	6	2	0	0	0	2	1	4	0	0	5	13	45
	5:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	1	0	1	0	4	0	0	4	10	42
	5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	12	0	0	12	13	
	5:30 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	2	2	0	0	4	9	
	5:45 PM	1	0	0	0	1	0	6	0	0	6	0	0	2	0	2	0	1	0	0	1	10	
	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	1	2	0	7	1	128	2	0	131	7	2	15	0	24	13	119	2	0	134	296	
Total Truck %age:		1.7%	0.9%	4.4%	0.0%	1.8%	1.6%	4.9%	0.5%	0.0%	4.3%	1.5%	1.7%	3.2%	0.0%	2.3%	3.4%	4.4%	1.4%	0.0%	4.1%	3.8%	

Peak Hour Heavy Vehicle Volume Summary

	Hourly Time Period	From North (↓) Division Road					From East (←) STH 167 - Mequon Road					From South (↑) Division Road					From West (→) STH 167 - Mequon Road					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
AM	7:45 AM	0	0	0	0	0	0	27	0	0	27	1	2	1	0	4	0	24	1	0	25	56
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	15	0	0	15	2	0	2	0	4	1	27	0	0	28	47

Intersection Traffic Volume Report

Count Basics		Version 2026.03	Page 1 of 13
Start Date:	Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 5.75		Non-Holiday	No Special Events

Base Information, Observed (5.75) Hour and Estimated (24) Hour Volume Summaries

Major St: **Division Road**
Minor St: **Virginia Avenue**
Intersection of: ***Division Road & Virginia Avenue***

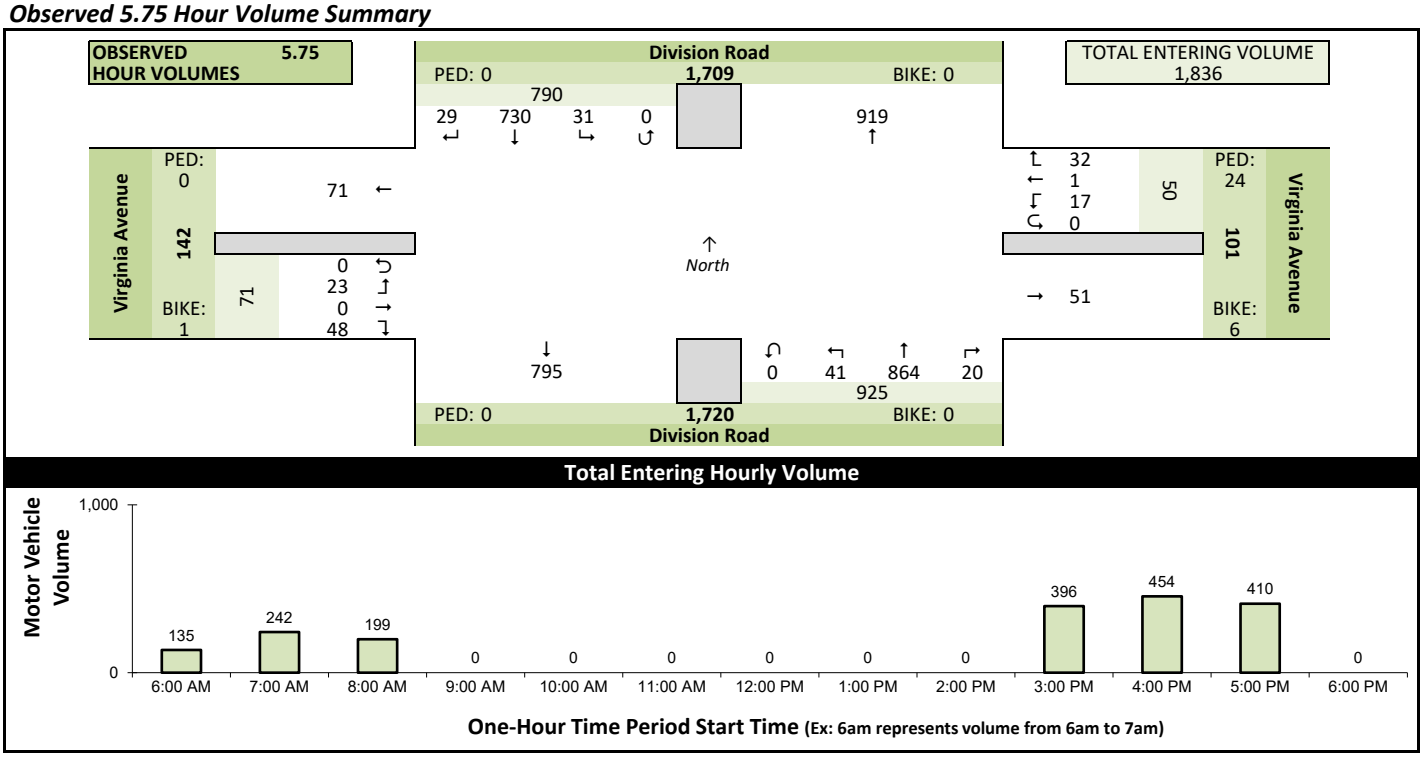
Site Information

Municipality	Village of Germantown		
County	66 - Washington	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	Division Road		
East Leg	Virginia Avenue		
South Leg	Division Road		
West Leg	Virginia Avenue		
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		

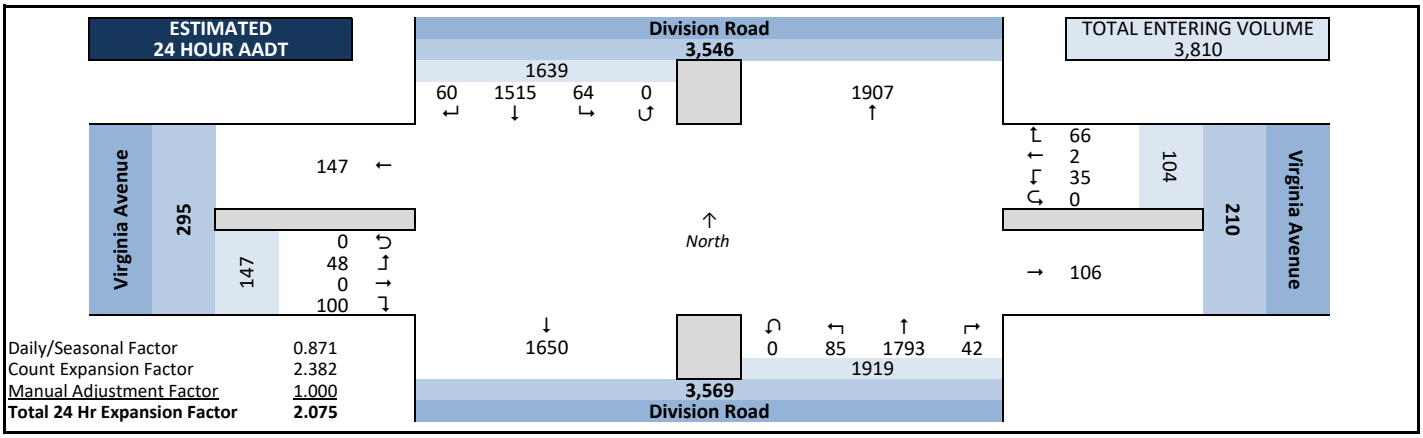
Count Information

Hrs Counted:	06:00 AM-08:45 AM and 03:00 PM-06:00 PM				
1st Day of Count	Friday, June 12, 2026			Weather	
AM Peak Period	Friday, June 12, 2026			Clear and Dry	
Midday Peak Period	Friday, June 12, 2026			Clear and Dry	
PM Peak Period	Monday, June 15, 2026			Clear and Dry	
Calculated Peak Hours					
AM	7:45-8:45am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:45-8:45am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(1) Non-Interstate Low Truck %				
Count Expansion Group	(1) Non-Interstate Low Truck %				
Daily/Seasonal Adjustment Factor	0.871	Count Expansion Factor	2.382		
Company Name	TADI			Manual Adj.	1.000
Observers	AM Peak Period	Jane Fait			
	Midday Peak Period	None			
	PM Peak Period	Jane Fait			
Comments	Wis DOT Daily & Seasonal Factors are final for 2012 through 2025, and 2026 reports use 2025 final factors.				

Observed 5.75 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

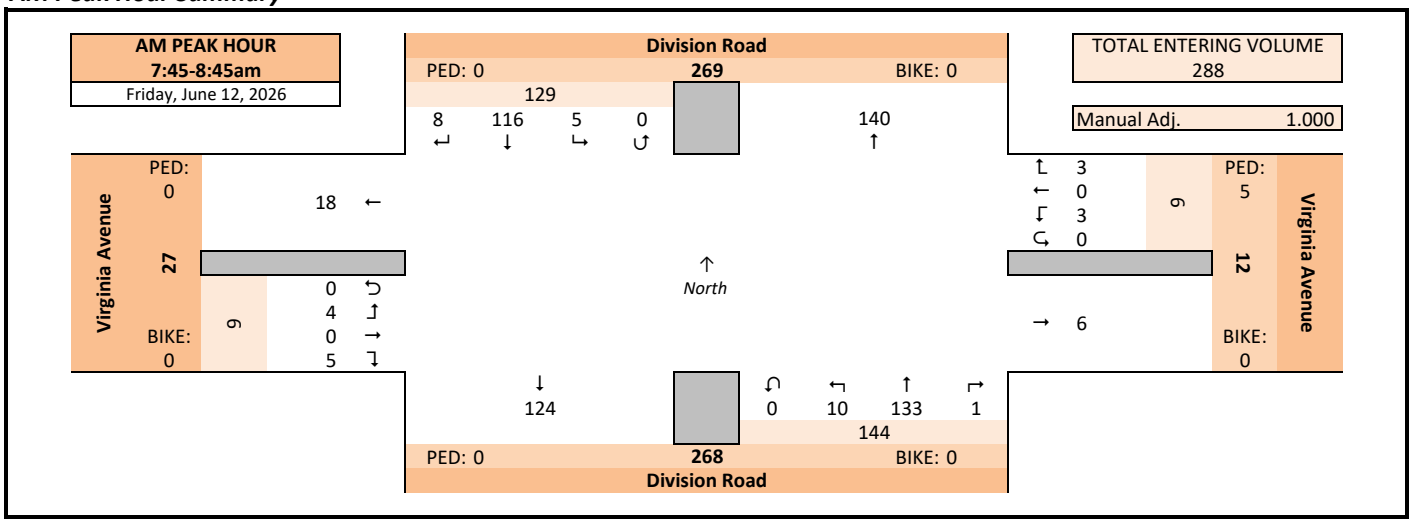
Peak Hour Volume Graphical Summary

Count Basics			*Page 2 of 13*
Start Date:	Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 5.75		Non-Holiday	No Special Events

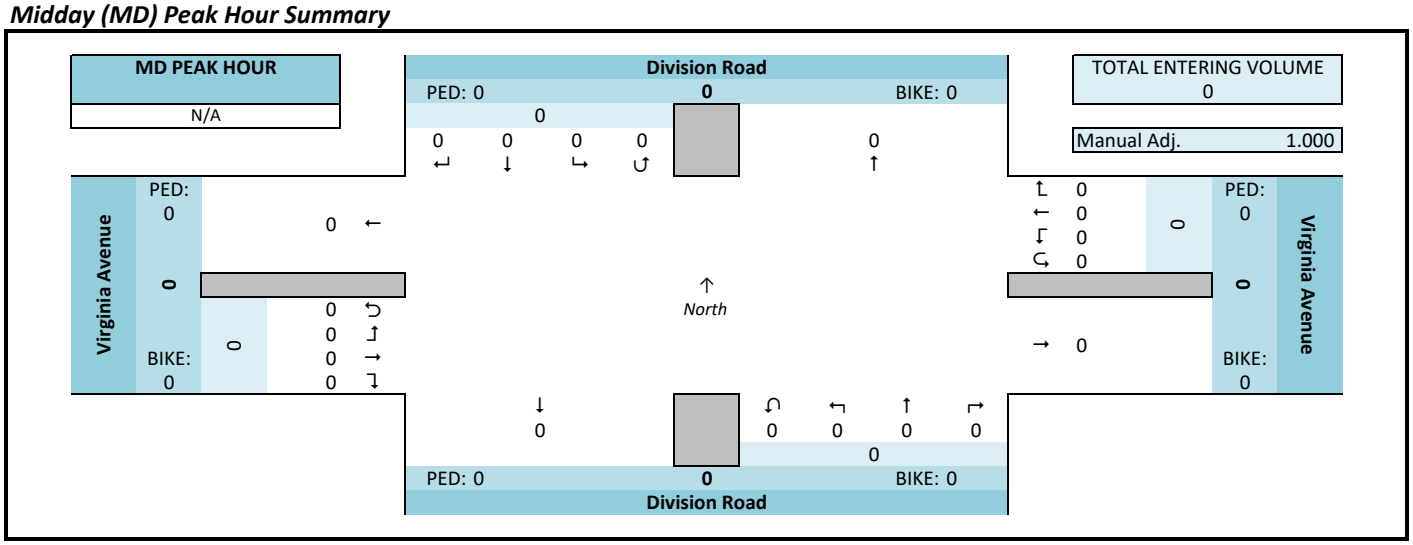
Division Road & Virginia Avenue

All Motor Vehicles

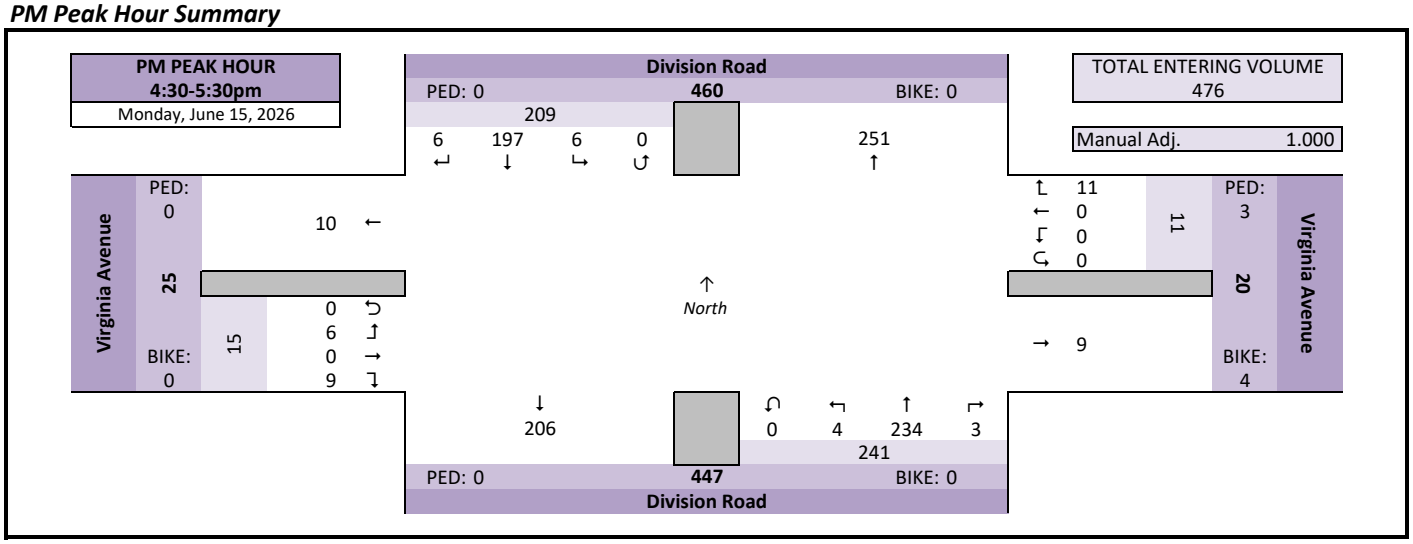
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

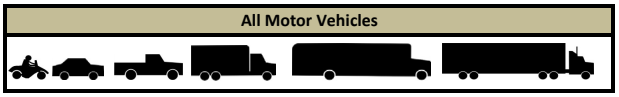


Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 5.75		Non-Holiday	No Special Events

Peak Hour Volume Summary

Division Road & Virginia Avenue



Peak Hour Volumes, Truck Percentages, and PHFs

Friday, June 12, 2026		From North					From East					From South					From West					
	AM Peak Hour	Division Road					Virginia Avenue					Division Road					Virginia Avenue					
	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	7:45 AM	5	36	1	0	42	0	0	1	0	1	0	38	5	0	43	0	0	3	0	3	89
	8:00 AM	1	23	1	0	25	1	0	0	0	1	0	34	2	0	36	3	0	0	0	3	65
	8:15 AM	1	33	0	0	34	1	0	1	0	2	1	28	2	0	31	1	0	1	0	2	69
	8:30 AM	1	24	3	0	28	1	0	1	0	2	0	33	1	0	34	1	0	0	0	1	65
	Peak Hour Volume	8	116	5	0	129	3	0	3	0	6	1	133	10	0	144	5	0	4	0	9	288
	Rounded Hourly Volume	10	115	5	0	130	5	0	5	0	10	0	135	10	0	145	5	0	5	0	10	295
	% Single Unit Trucks	25.0	1.7	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	2.1	0.0	0.0	50.0	0.0	22.2	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)	25.0	1.7	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	2.1	0.0	0.0	50.0	0.0	22.2	3.1
	Peak Hour Factor (PHF)	0.40	0.81	0.42	0.00	0.77	0.75	0.00	0.75	0.00	0.75	0.25	0.87	0.50	0.00	0.84	0.42	0.00	0.33	0.00	0.75	0.81

N/A		From North					From East					From South					From West					
	MD Peak Hour	Division Road					Virginia Avenue					Division Road					Virginia Avenue					
	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

Monday, June 15, 2026		From North					From East					From South					From West					
	PM Peak Hour	Division Road					Virginia Avenue					Division Road					Virginia Avenue					
	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	2	45	3	0	50	5	0	0	0	5	0	59	2	0	61	3	0	3	0	6	122
	4:45 PM	3	51	1	0	55	3	0	0	0	3	0	66	0	0	66	0	0	2	0	2	126
	5:00 PM	0	58	1	0	59	3	0	0	0	3	2	50	2	0	54	4	0	0	0	4	120
	5:15 PM	1	43	1	0	45	0	0	0	0	0	1	59	0	0	60	2	0	1	0	3	108
	Peak Hour Volume	6	197	6	0	209	11	0	0	0	11	3	234	4	0	241	9	0	6	0	15	476
	Rounded Hourly Volume	5	195	5	0	205	10	0	0	0	10	5	235	5	0	245	10	0	5	0	15	475
	% Single Unit Trucks	0.0	2.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	1.7
	% 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	2.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	1.7
	Peak Hour Factor (PHF)	0.50	0.85	0.50	0.00	0.89	0.55	0.00	0.00	0.00	0.55	0.37	0.89	0.50	0.00	0.91	0.56	0.00	0.50	0.00	0.62	0.94

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
		Division Road			Virginia Avenue			Division Road			Virginia Avenue			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:45 AM	0	0	0	1	0	1	0	0	0	0	0	0	1
	8:00 AM	0	0	0	3	0	3	0	0	0	0	0	0	3
	8:15 AM	0	0	0	1	0	1	0	0	0	0	0	0	1
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	5	0	5	0	0	0	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	0	2	2	0	0	0	0	0	0	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	1	1	2	0	0	0	0	0	0	2
	5:15 PM	0	0	0	2	1	3	0	0	0	0	0	0	3
	Total	0	0	0	3	4	7	0	0	0	0	0	0	7

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

Division Road & Virginia Avenue

Count Basics		*Page 5 of 13*
Start Date: Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 5.75	Non-Holiday	No Special Events

All Motor Vehicles

15-Minute Motor Vehicle Data

	15-Minute Time Period Start Time	From North (↓) Division Road					From East (←) Virginia Avenue					From South (↑) Division Road					From West (→) Virginia Avenue					15-Min Totals	Hourly Sum	PHF
		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	8	1	0	9	0	0	0	0	0	2	6	0	0	8	1	0	1	0	2	19	135	0.65
	6:15 AM	1	16	1	0	18	0	0	3	0	3	2	13	1	0	16	1	0	0	0	1	38	159	0.76
	6:30 AM	0	9	0	0	9	1	0	0	0	1	0	14	1	0	15	1	0	0	0	1	26	168	0.81
	6:45 AM	0	13	2	0	15	0	0	1	0	1	2	21	9	0	32	3	0	1	0	4	52	205	0.81
	7:00 AM	2	18	0	0	20	0	0	1	0	1	1	18	2	0	21	1	0	0	0	1	43	242	0.68
	7:15 AM	1	20	1	0	22	0	0	1	0	1	0	21	2	0	23	1	0	0	0	1	47	264	0.74
	7:30 AM	2	22	2	0	26	0	0	1	0	1	2	30	1	0	33	1	0	2	0	3	63	286	0.80
	7:45 AM	5	36	1	0	42	0	0	1	0	1	0	38	5	0	43	0	0	3	0	3	89	288	0.81
	8:00 AM	1	23	1	0	25	1	0	0	0	1	0	34	2	0	36	3	0	0	0	3	65		
	8:15 AM	1	33	0	0	34	1	0	1	0	2	1	28	2	0	31	1	0	1	0	2	69		
	8:30 AM	1	24	3	0	28	1	0	1	0	2	0	33	1	0	34	1	0	0	0	1	65		
	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	38	3	0	42	3	0	0	0	3	2	52	0	0	54	4	0	1	0	5	104	396	0.85
	3:15 PM	3	23	4	0	30	4	0	2	0	6	0	45	2	0	47	4	0	1	0	5	88	400	0.86
	3:30 PM	0	43	3	0	46	5	0	2	0	7	1	50	4	0	55	5	0	3	0	8	116	410	0.88
	3:45 PM	1	34	0	0	35	0	0	0	0	0	1	42	2	0	45	6	0	2	0	8	88	416	0.85
	4:00 PM	0	39	1	0	40	2	1	0	0	3	1	60	1	0	62	2	0	1	0	3	108	454	0.90
	4:15 PM	1	44	2	0	47	1	0	1	0	2	2	44	1	0	47	1	0	1	0	2	98	466	0.92
	4:30 PM	2	45	3	0	50	5	0	0	0	5	0	59	2	0	61	3	0	3	0	6	122	476	0.94
	4:45 PM	3	51	1	0	55	3	0	0	0	3	0	66	0	0	66	0	0	2	0	2	126	457	0.91
	5:00 PM	0	58	1	0	59	3	0	0	0	3	2	50	2	0	54	4	0	0	0	4	120	410	0.85
	5:15 PM	1	43	1	0	45	0	0	0	0	0	1	59	0	0	60	2	0	1	0	3	108		
	5:30 PM	2	56	0	0	58	2	0	0	0	2	0	42	1	0	43	0	0	0	0	0	103		
	5:45 PM	1	34	0	0	35	0	0	2	0	2	0	39	0	0	39	3	0	0	0	3	79		
	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		29	730	31	0	790	32	1	17	0	50	20	864	41	0	925	48	0	23	0	71	1836		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period Start Time	From North (↓) Division Road					From East (←) Virginia Avenue					From South (↑) Division Road					From West (→) Virginia Avenue					Total Hourly Volume	PHF
		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	7:45 AM	8	116	5	0	129	3	0	3	0	6	1	133	10	0	144	5	0	4	0	9	288	0.81
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	6	197	6	0	209	11	0	0	0	11	3	234	4	0	241	9	0	6	0	15	476	0.94

Intersection Traffic Volume Report

Count Basics		*Page 9 of 13*
Start Date: Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 5.75	Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

Division Road & Virginia Avenue

15-Minute Heavy Vehicle Data

	15-Minute Time Period	From North (↓) Division Road					From East (←) Virginia Avenue					From South (↑) Division Road					From West (→) Virginia Avenue					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	5
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	5
	6:30 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3	6
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	5
	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	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	8
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	9
	7:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	9
	8:00 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	
	8:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	
	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	3	0	0	3	1	0	0	0	1	4	18
	3:15 PM	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3	14
	3:30 PM	0	1	0	0	1	0	0	0	0	0	0	7	0	0	7	0	0	1	0	1	9	12
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	6
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	8
	4:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	6
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	5:15 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	5:45 PM	0	1	0	0	1	0	0	0	0	0	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		3	12	0	0	15	0	0	0	0	0	0	28	0	0	28	1	0	3	0	4	47	
Total Truck %age:		10.3%	1.6%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	0.0%	0.0%	3.0%	2.1%	0.0%	13.0%	0.0%	5.6%	2.6%	

Peak Hour Heavy Vehicle Volume Summary

	Hourly Time Period	From North (↓) Division Road					From East (←) Virginia Avenue					From South (↑) Division Road					From West (→) Virginia Avenue					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
AM	7:45 AM	2	2	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	9
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	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	8

Intersection Traffic Volume Report

Count Basics		Version 2026.03	Page 1 of 13
Start Date:	Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Major St: **Division Road**
Minor St: **Lilac Lane**
Intersection of: ***Division Road & Lilac Lane***

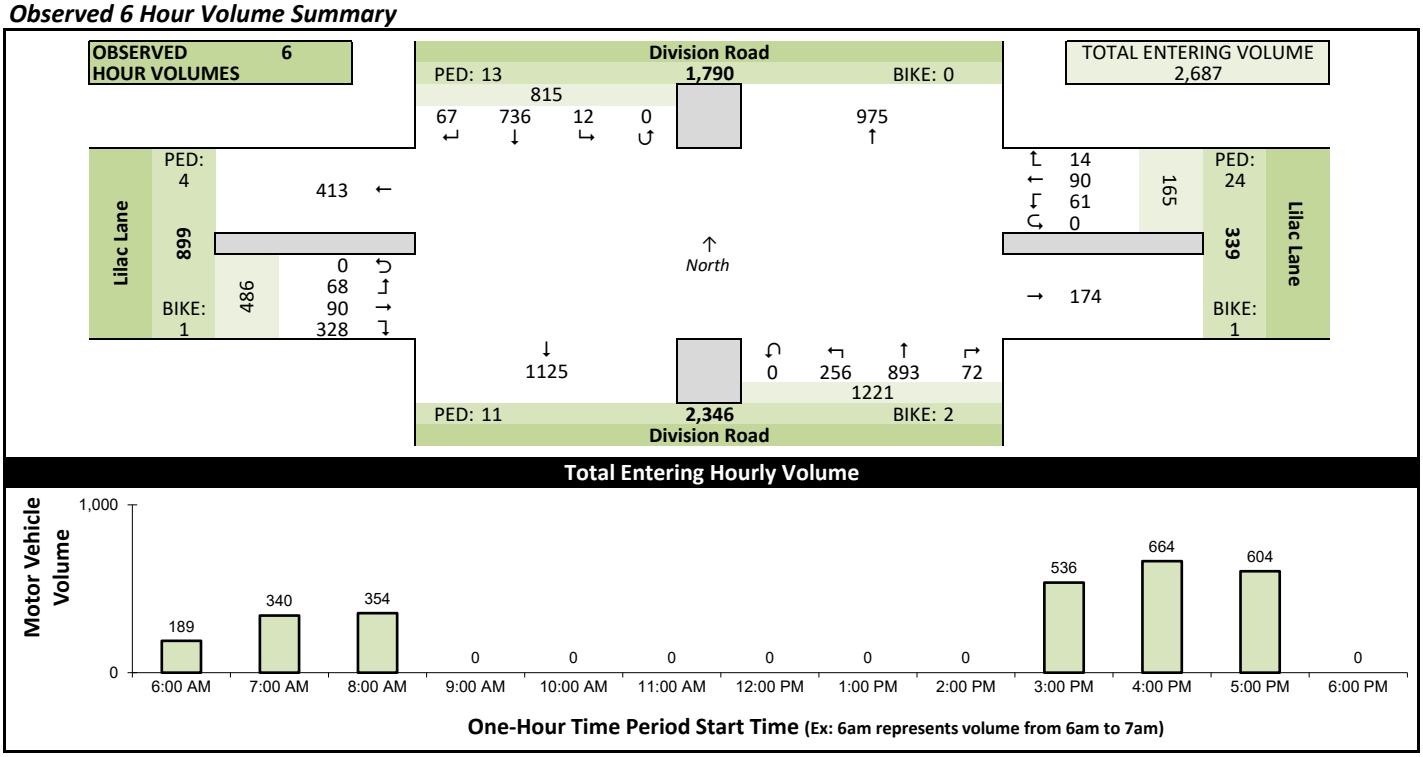
Site Information

Municipality	Village of Germantown		
County	66 - Washington	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	Division Road		
East Leg	Lilac Lane		
South Leg	Division Road		
West Leg	Lilac Lane		
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		

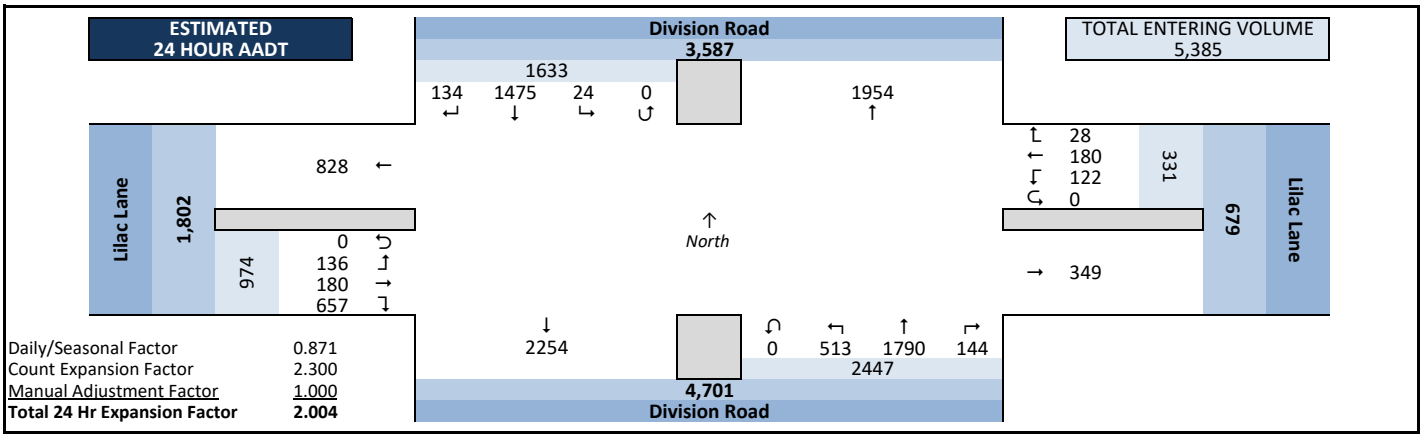
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-06:00 PM				
1st Day of Count	Friday, June 12, 2026			Weather	
AM Peak Period	Friday, June 12, 2026			Clear and Dry	
Midday Peak Period	Friday, June 12, 2026			Clear and Dry	
PM Peak Period	Monday, June 15, 2026			Clear and Dry	
Calculated Peak Hours					
AM	7:30-8:30am	MD		PM	4:30-5:30pm
Peak Hours Selected for Analysis					
AM	7:45-8:45am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(1) Non-Interstate Low Truck %				
Count Expansion Group	(1) Non-Interstate Low Truck %				
Daily/Seasonal Adjustment Factor	0.871	Count Expansion Factor	2.300		
Company Name	TADI			Manual Adj.	1.000
Observers	AM Peak Period	Bill Moldenhauer			
	Midday Peak Period	None			
	PM Peak Period	Bill Moldenhauer			
Comments	Wis DOT Daily & Seasonal Factors are final for 2012 through 2025, and 2026 reports use 2025 final factors.				

Observed 6 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

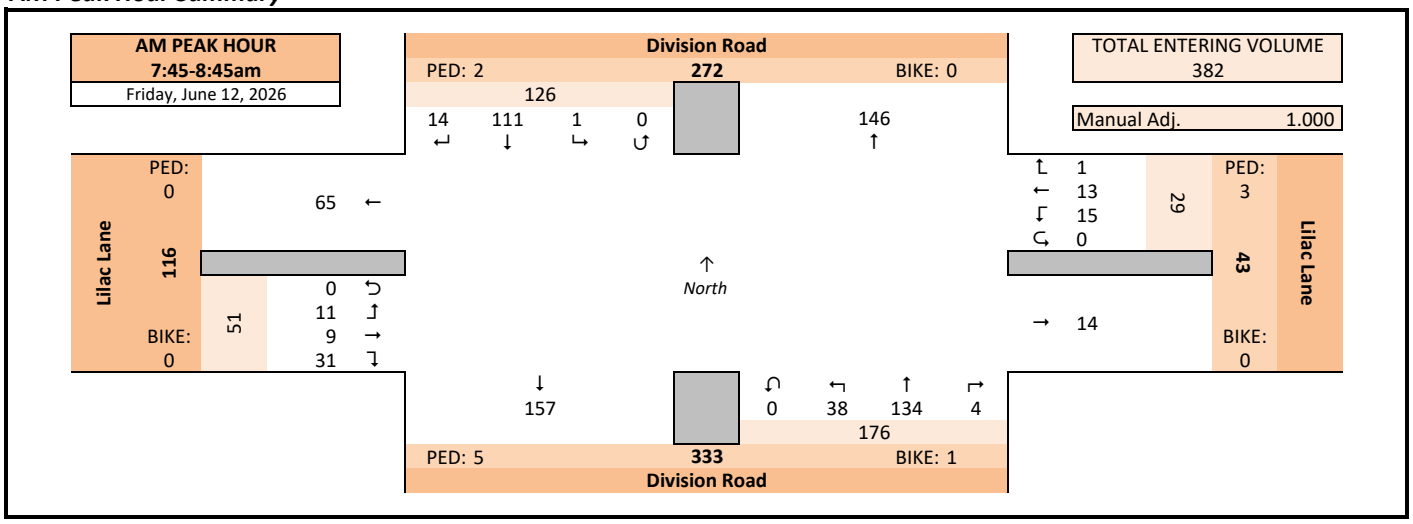
Peak Hour Volume Graphical Summary

Division Road & Lilac Lane

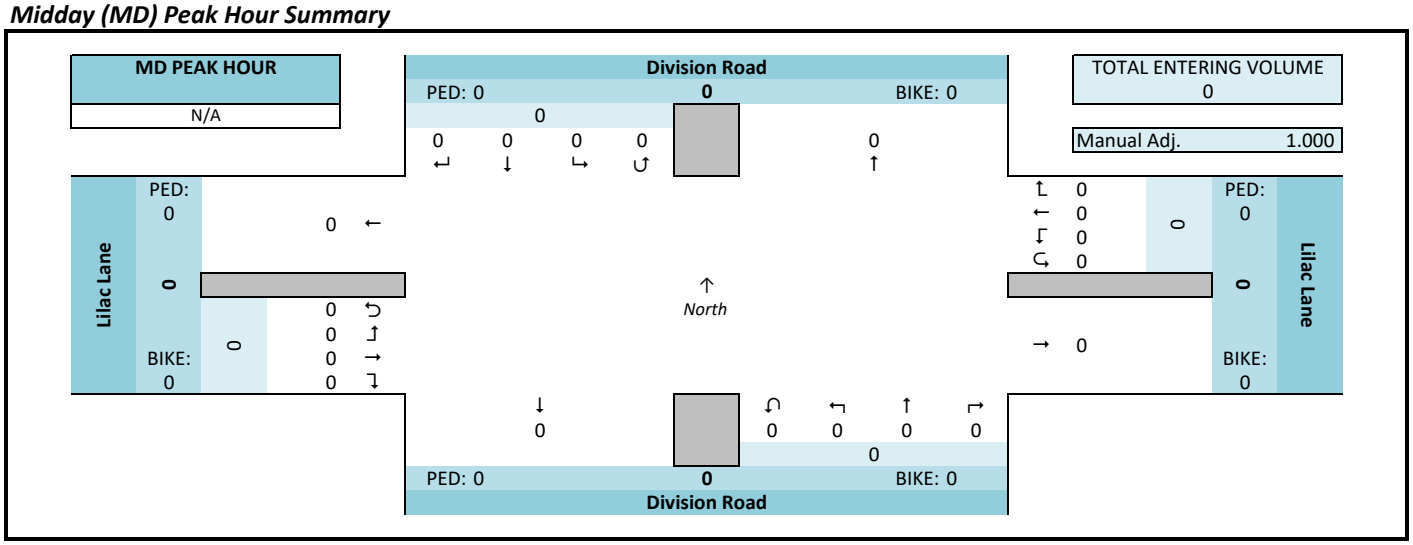
Count Basics			*Page 2 of 13*
Start Date:	Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

All Motor Vehicles

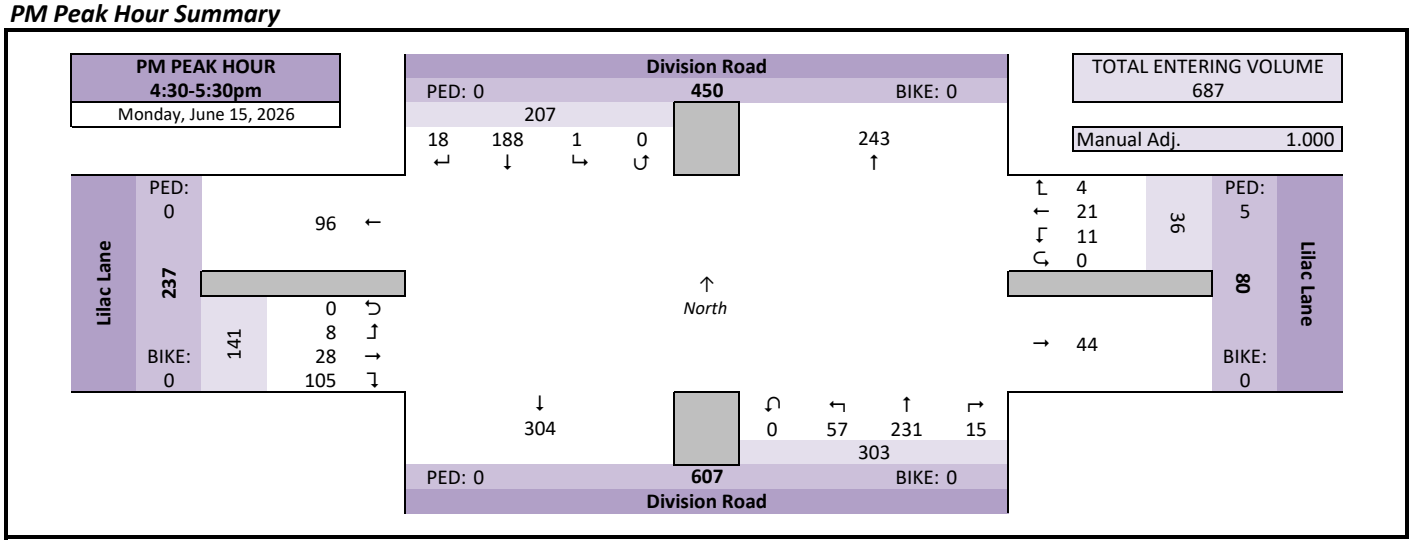
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

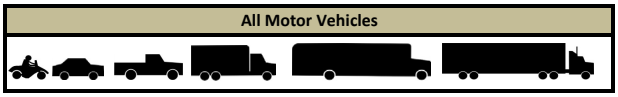


Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Summary

Division Road & Lilac Lane



Peak Hour Volumes, Truck Percentages, and PHFs

Friday, June 12, 2026		From North					From East					From South					From West					
	AM Peak Hour	Division Road					Lilac Lane					Division Road					Lilac Lane					
	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	7:45 AM	2	34	1	0	37	0	4	7	0	11	2	45	13	0	60	12	2	1	0	15	123
	8:00 AM	5	22	0	0	27	0	3	4	0	7	1	34	10	0	45	10	3	1	0	14	93
	8:15 AM	3	33	0	0	36	1	3	2	0	6	0	28	6	0	34	3	3	2	0	8	84
	8:30 AM	4	22	0	0	26	0	3	2	0	5	1	27	9	0	37	6	1	7	0	14	82
	Peak Hour Volume	14	111	1	0	126	1	13	15	0	29	4	134	38	0	176	31	9	11	0	51	382
	Rounded Hourly Volume	15	110	0	0	125	0	15	15	0	30	5	135	40	0	180	30	10	10	0	50	385
	% Single Unit Trucks	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.6	0.0	1.1	6.5	0.0	0.0	0.0	3.9	1.3
	% 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	0.9	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.6	0.0	1.1	6.5	0.0	0.0	0.0	3.9	1.3
	Peak Hour Factor (PHF)	0.70	0.82	0.25	0.00	0.85	0.25	0.81	0.54	0.00	0.66	0.50	0.74	0.73	0.00	0.73	0.65	0.75	0.39	0.00	0.85	0.78

N/A		From North					From East					From South					From West					
	MD Peak Hour	Division Road					Lilac Lane					Division Road					Lilac Lane					
	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

Monday, June 15, 2026		From North					From East					From South					From West					
	PM Peak Hour	Division Road					Lilac Lane					Division Road					Lilac Lane					
	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	2	47	0	0	49	0	7	2	0	9	1	60	12	0	73	20	9	2	0	31	162
	4:45 PM	6	46	1	0	53	2	6	3	0	11	6	66	20	0	92	32	8	1	0	41	197
	5:00 PM	7	54	0	0	61	1	3	3	0	7	3	50	11	0	64	28	8	2	0	38	170
	5:15 PM	3	41	0	0	44	1	5	3	0	9	5	55	14	0	74	25	3	3	0	31	158
	Peak Hour Volume	18	188	1	0	207	4	21	11	0	36	15	231	57	0	303	105	28	8	0	141	687
	Rounded Hourly Volume	20	190	0	0	210	5	20	10	0	35	15	230	55	0	300	105	30	10	0	145	690
	% Single Unit Trucks	5.6	2.1	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	6.7	2.2	3.5	0.0	2.6	2.9	0.0	0.0	0.0	2.1	2.3
	% 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)	5.6	2.1	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	6.7	2.2	3.5	0.0	2.6	2.9	0.0	0.0	0.0	2.1	2.3
	Peak Hour Factor (PHF)	0.64	0.87	0.25	0.00	0.85	0.50	0.75	0.92	0.00	0.82	0.62	0.87	0.71	0.00	0.82	0.82	0.78	0.67	0.00	0.86	0.87

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
		Division Road			Lilac Lane			Division Road			Lilac Lane			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:45 AM	1	0	1	3	0	3	0	0	0	0	0	0	4
	8:00 AM	0	0	0	0	0	0	3	0	3	0	0	0	3
	8:15 AM	0	0	0	0	0	0	2	1	3	0	0	0	3
	8:30 AM	1	0	1	0	0	0	0	0	0	0	0	0	1
	Total	2	0	2	3	0	3	5	1	6	0	0	0	11
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	2	0	2	0	0	0	0	0	0	2
	5:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	1
	5:15 PM	0	0	0	2	0	2	0	0	0	0	0	0	2
	Total	0	0	0	5	0	5	0	0	0	0	0	0	5

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

Division Road & Lilac Lane

Count Basics		*Page 5 of 13*
Start Date: Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

All Motor Vehicles

15-Minute Motor Vehicle Data

	15-Minute Time Period	From North (↓) Division Road					From East (←) Lilac Lane					From South (↑) Division Road					From West (→) Lilac Lane					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	1	8	0	0	9	0	1	3	0	4	1	6	5	0	12	2	1	0	0	3	28	189	0.66
	6:15 AM	0	19	1	0	20	1	1	1	0	3	1	15	5	0	21	5	0	1	0	6	50	218	0.76
	6:30 AM	1	9	0	0	10	2	0	2	0	4	2	13	5	0	20	3	0	2	0	5	39	239	0.83
	6:45 AM	2	14	0	0	16	1	4	3	0	8	0	26	10	0	36	4	3	5	0	12	72	289	0.81
	7:00 AM	0	20	0	0	20	1	1	0	0	2	0	20	7	0	27	8	0	0	0	8	57	340	0.69
	7:15 AM	1	20	0	0	21	0	5	3	0	8	2	21	10	0	33	4	4	1	0	9	71	376	0.76
	7:30 AM	2	22	0	0	24	2	8	4	0	14	2	28	10	0	40	9	0	2	0	11	89	389	0.79
	7:45 AM	2	34	1	0	37	0	4	7	0	11	2	45	13	0	60	12	2	1	0	15	123	382	0.78
	8:00 AM	5	22	0	0	27	0	3	4	0	7	1	34	10	0	45	10	3	1	0	14	93	354	0.93
	8:15 AM	3	33	0	0	36	1	3	2	0	6	0	28	6	0	34	3	3	2	0	8	84		
	8:30 AM	4	22	0	0	26	0	3	2	0	5	1	27	9	0	37	6	1	7	0	14	82		
	8:45 AM	3	18	0	0	21	1	5	0	0	6	5	32	11	0	48	11	4	5	0	20	95		
	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	5	34	2	0	41	0	3	5	0	8	5	51	11	0	67	18	3	7	0	28	144	536	0.89
	3:15 PM	1	26	1	0	28	0	2	3	0	5	4	42	15	0	61	19	4	2	0	25	119	555	0.85
	3:30 PM	3	48	0	0	51	0	5	2	0	7	3	52	12	0	67	15	8	3	0	26	151	578	0.89
	3:45 PM	4	33	1	0	38	0	3	1	0	4	5	44	8	0	57	11	6	6	0	23	122	589	0.90
	4:00 PM	3	36	2	0	41	1	8	3	0	12	5	57	15	0	77	21	7	5	0	33	163	664	0.84
	4:15 PM	5	40	1	0	46	0	3	1	0	4	5	45	11	0	61	22	5	4	0	31	142	671	0.85
	4:30 PM	2	47	0	0	49	0	7	2	0	9	1	60	12	0	73	20	9	2	0	31	162	687	0.87
	4:45 PM	6	46	1	0	53	2	6	3	0	11	6	66	20	0	92	32	8	1	0	41	197	672	0.85
	5:00 PM	7	54	0	0	61	1	3	3	0	7	3	50	11	0	64	28	8	2	0	38	170	604	0.89
	5:15 PM	3	41	0	0	44	1	5	3	0	9	5	55	14	0	74	25	3	3	0	31	158		
	5:30 PM	3	52	1	0	56	0	6	0	0	6	7	40	15	0	62	19	1	3	0	23	147		
	5:45 PM	1	38	1	0	40	0	1	4	0	5	6	36	11	0	53	21	7	3	0	31	129		
	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		67	736	12	0	815	14	90	61	0	165	72	893	256	0	1221	328	90	68	0	486	2687		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period	From North (↓) Division Road					From East (←) Lilac Lane					From South (↑) Division Road					From West (→) Lilac Lane					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	7:45 AM	14	111	1	0	126	1	13	15	0	29	4	134	38	0	176	31	9	11	0	51	382	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	18	188	1	0	207	4	21	11	0	36	15	231	57	0	303	105	28	8	0	141	687	0.87

Intersection Traffic Volume Report

Count Basics		*Page 9 of 13*
Start Date: Friday, June 12, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

Division Road & Lilac Lane

15-Minute Heavy Vehicle Data

	15-Minute Time Period	From North (↓) Division Road					From East (←) Lilac Lane					From South (↑) Division Road					From West (→) Lilac Lane					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	5
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	7
	6:30 AM	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3	8
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	8
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	2	8
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2	8
	7:30 AM	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	3	8
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	5
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	2	6
	8:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	2	
	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	1	0	0	1	0	1	3	0	4	2	4	0	0	6	1	0	0	0	1	12	28
	3:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2	20
	3:30 PM	1	0	0	0	1	0	0	0	0	0	0	7	2	0	9	0	0	0	0	0	10	20
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	4	15
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	1	0	0	0	1	4	16
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	14
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	5	16
	4:45 PM	1	1	0	0	2	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	5	14
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	2	12
	5:15 PM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	4	
	5:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3	
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	3	
	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		2	11	0	0	13	1	2	3	0	6	5	26	12	0	43	10	2	1	0	13	75	
Total Truck %age:		3.0%	1.5%	0.0%	0.0%	1.6%	7.1%	2.2%	4.9%	0.0%	3.6%	6.9%	2.9%	4.7%	0.0%	3.5%	3.0%	2.2%	1.5%	0.0%	2.7%	2.8%	

Peak Hour Heavy Vehicle Volume Summary

	Hourly Time Period	From North (↓) Division Road					From East (←) Lilac Lane					From South (↑) Division Road					From West (→) Lilac Lane					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
AM	7:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	2	0	0	0	2	5
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	4	0	0	5	0	0	0	0	0	1	5	2	0	8	3	0	0	0	3	16

Intersection Traffic Volume Report

Count Basics		Version 2026.03	Page 1 of 13
Start Date:	Tuesday, June 16, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Major St: **Maple Road**
Minor St: **Lilac Lane**
Intersection of: ***Maple Road & Lilac Lane***

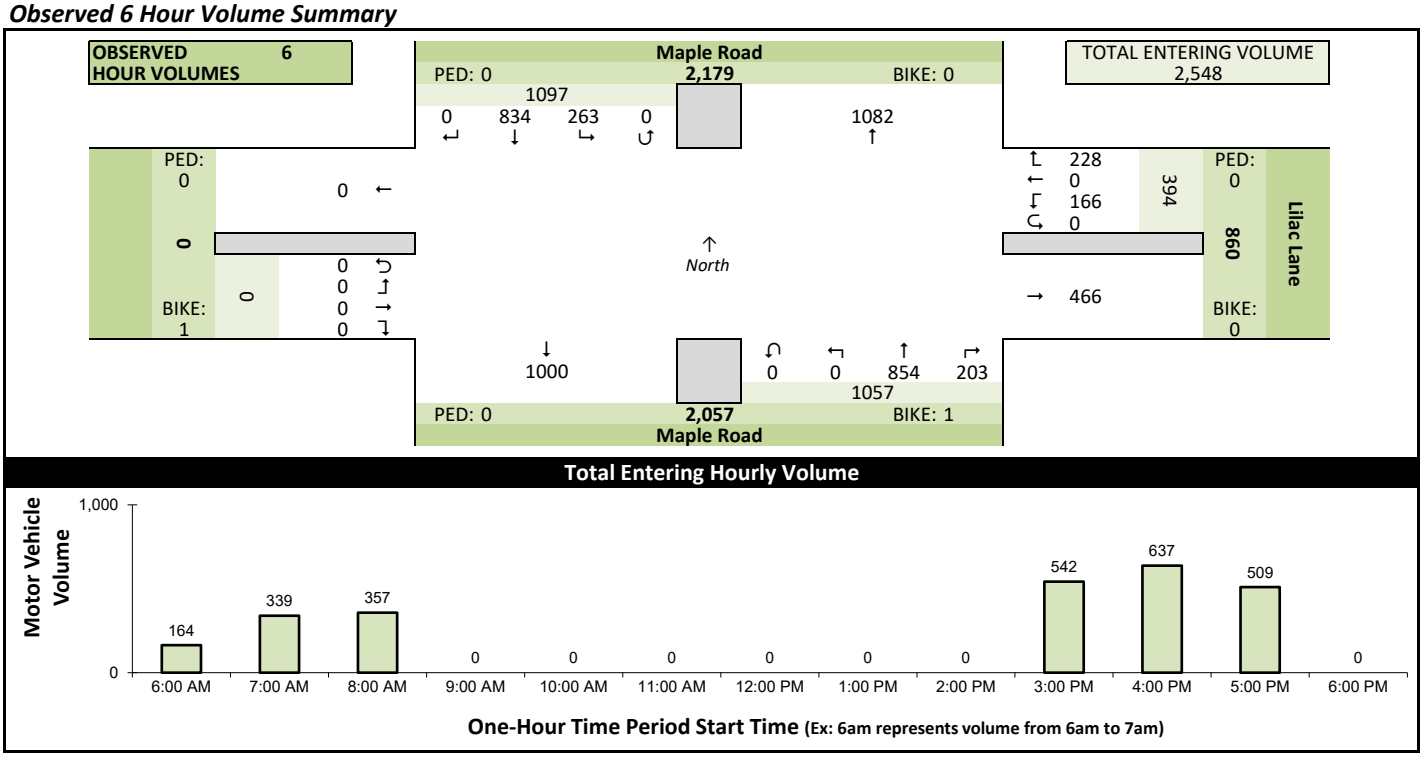
Site Information

Municipality	Village of Germantown		
County	66 - Washington	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	Maple Road		
East Leg	Lilac Lane		
South Leg	Maple Road		
West Leg			
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		

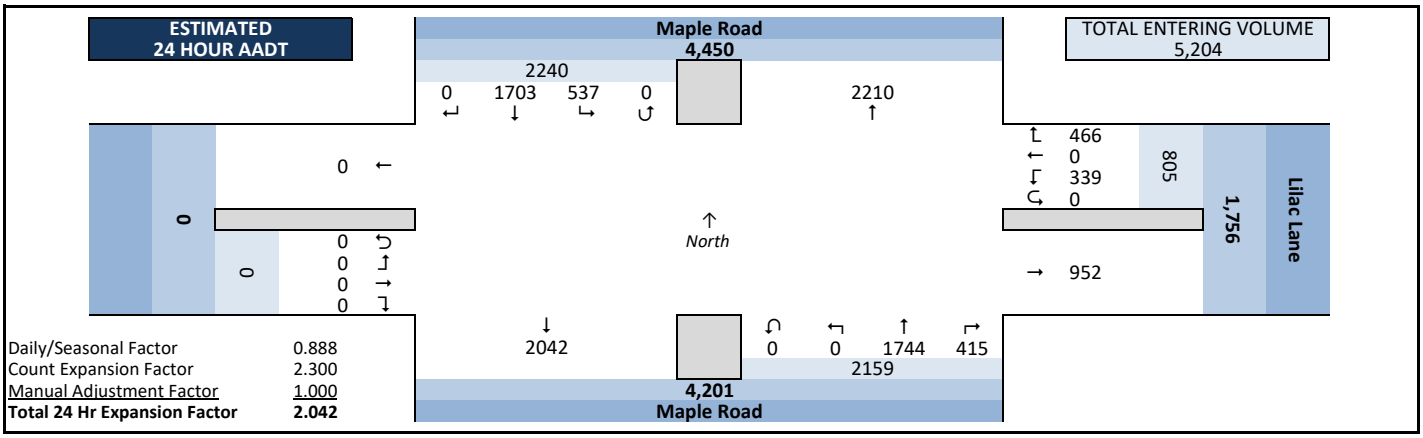
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-06:00 PM				
1st Day of Count	Tuesday, June 16, 2026			Weather	
AM Peak Period	Tuesday, June 16, 2026			Clear and Dry	
Midday Peak Period	Tuesday, June 16, 2026			Clear and Dry	
PM Peak Period	Tuesday, June 16, 2026			Clear and Dry	
Calculated Peak Hours					
AM	7:15-8:15am	MD		PM	4:15-5:15pm
Peak Hours Selected for Analysis					
AM	7:45-8:45am	MD		PM	4:30-5:30pm
Daily/Seasonal Adjustment Group	(1) Non-Interstate Low Truck %				
Count Expansion Group	(1) Non-Interstate Low Truck %				
Daily/Seasonal Adjustment Factor	0.888	Count Expansion Factor	2.300		
Company Name	TADI			Manual Adj.	1.000
Observers	AM Peak Period	Amy Scheuerlein			
	Midday Peak Period	None			
	PM Peak Period	Jane Fait			
Comments	Wis DOT Daily & Seasonal Factors are final for 2012 through 2025, and 2026 reports use 2025 final factors.				

Observed 6 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

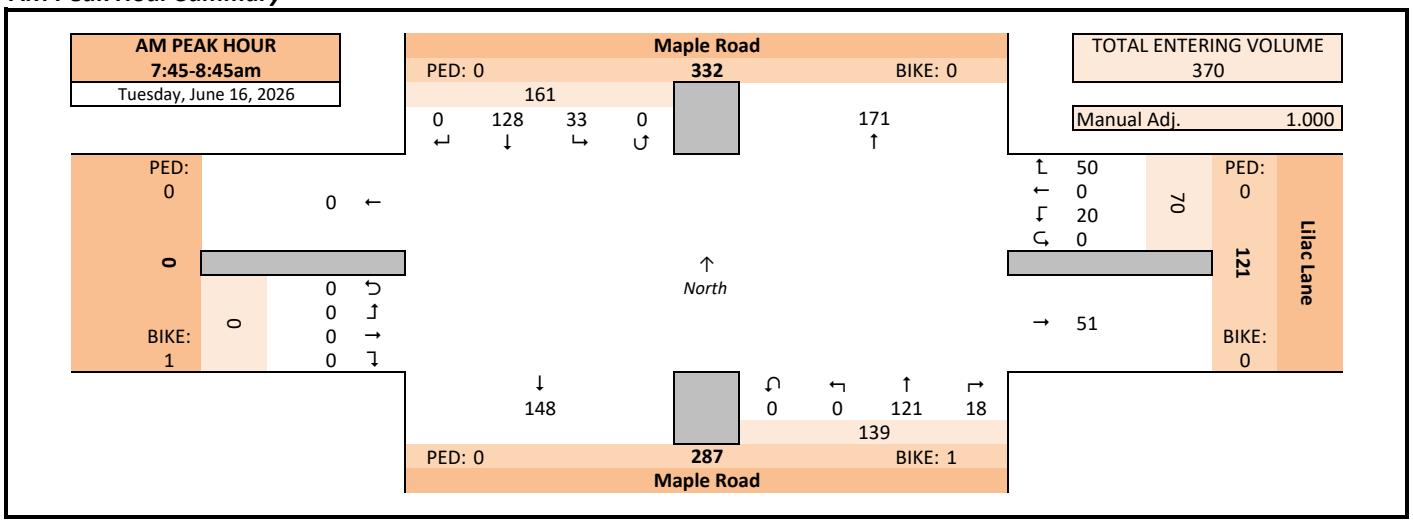
Peak Hour Volume Graphical Summary

Maple Road & Lilac Lane

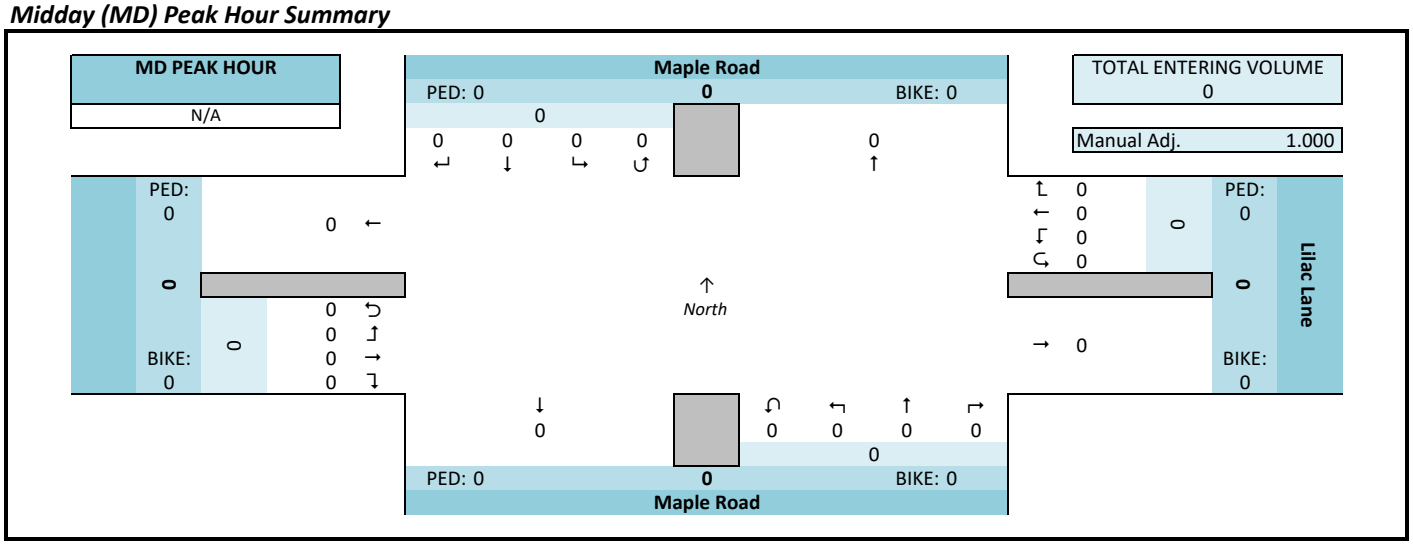
Count Basics			*Page 2 of 13*
Start Date:	Tuesday, June 16, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

All Motor Vehicles

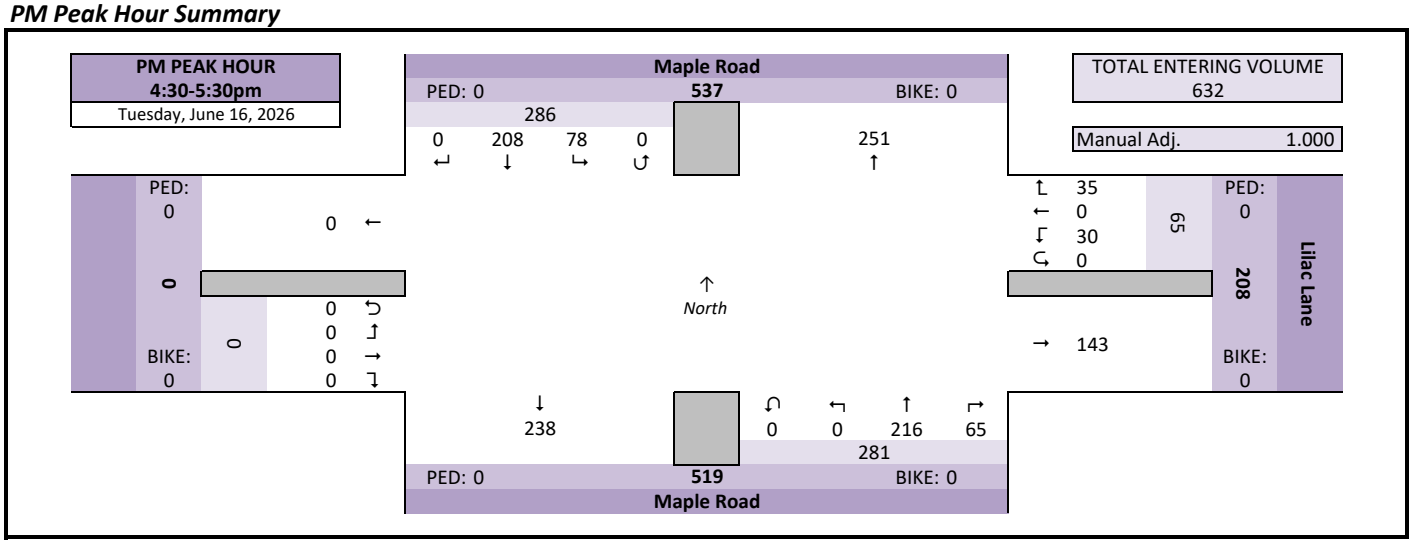
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

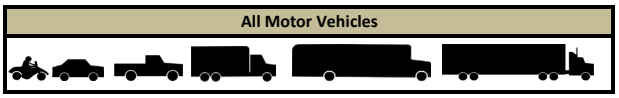


Intersection Traffic Volume Report

Count Basics			*Page 3 of 13*
Start Date:	Tuesday, June 16, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Summary

Maple Road & Lilac Lane



Peak Hour Volumes, Truck Percentages, and PHFs

Tuesday, June 16, 2026		From North					From East					From South					From West					
	AM Peak Hour	Maple Road					Lilac Lane					Maple Road										
	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	7:45 AM	0	40	10	0	50	19	0	7	0	26	4	28	0	0	32	0	0	0	0	0	108
	8:00 AM	0	33	12	0	45	12	0	7	0	19	7	30	0	0	37	0	0	0	0	0	101
	8:15 AM	0	30	7	0	37	14	0	3	0	17	3	31	0	0	34	0	0	0	0	0	88
	8:30 AM	0	25	4	0	29	5	0	3	0	8	4	32	0	0	36	0	0	0	0	0	73
	Peak Hour Volume	0	128	33	0	161	50	0	20	0	70	18	121	0	0	139	0	0	0	0	0	370
	Rounded Hourly Volume	0	130	35	0	165	50	0	20	0	70	20	120	0	0	140	0	0	0	0	0	375
	% Single Unit Trucks	0.0	5.5	6.1	0.0	5.6	4.0	0.0	0.0	0.0	2.9	0.0	5.8	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	4.9
	% 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	5.5	6.1	0.0	5.6	4.0	0.0	0.0	0.0	2.9	0.0	5.8	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	4.9
	Peak Hour Factor (PHF)	0.00	0.80	0.69	0.00	0.80	0.66	0.00	0.71	0.00	0.67	0.64	0.95	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	0.86

N/A		From North					From East					From South					From West					
	MD Peak Hour	Maple Road					Lilac Lane					Maple Road										
	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, June 16, 2026		From North					From East					From South					From West					
	PM Peak Hour	Maple Road					Lilac Lane					Maple Road										
	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	69	24	0	93	12	0	9	0	21	15	54	0	0	69	0	0	0	0	0	183
	4:45 PM	0	50	25	0	75	10	0	14	0	24	20	57	0	0	77	0	0	0	0	0	176
	5:00 PM	0	52	15	0	67	8	0	4	0	12	9	71	0	0	80	0	0	0	0	0	159
	5:15 PM	0	37	14	0	51	5	0	3	0	8	21	34	0	0	55	0	0	0	0	0	114
	Peak Hour Volume	0	208	78	0	286	35	0	30	0	65	65	216	0	0	281	0	0	0	0	0	632
	Rounded Hourly Volume	0	210	80	0	290	35	0	30	0	65	65	215	0	0	280	0	0	0	0	0	635
	% Single Unit Trucks	0.0	0.5	1.3	0.0	0.7	0.0	0.0	0.0	0.0	0.0	1.5	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.9
	% 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	0.5	1.3	0.0	0.7	0.0	0.0	0.0	0.0	0.0	1.5	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.9
	Peak Hour Factor (PHF)	0.00	0.75	0.78	0.00	0.77	0.73	0.00	0.54	0.00	0.68	0.77	0.76	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.00	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
		Maple Road			Lilac Lane			Maple Road						
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	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	1	1	0	1	1	2
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	1	1	0	1	1	2
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, June 16, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

15-Minute Motor Vehicle Data

Maple Road & Lilac Lane

All Motor Vehicles

15-Minute Motor Vehicle Data

15-Minute Time Period		From North (↓) Maple Road					From East (←) Lilac Lane					From South (↑) Maple Road					From West (→)					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	7	2	0	9	4	0	2	0	6	0	10	0	0	10	0	0	0	0	0	25	164	0.63
	6:15 AM	0	15	1	0	16	4	0	0	0	4	0	19	0	0	19	0	0	0	0	0	39	205	0.78
	6:30 AM	0	12	2	0	14	1	0	2	0	3	2	16	0	0	18	0	0	0	0	0	35	256	0.71
	6:45 AM	0	18	4	0	22	12	0	5	0	17	4	22	0	0	26	0	0	0	0	0	65	296	0.82
	7:00 AM	0	22	7	0	29	10	0	6	0	16	2	19	0	0	21	0	0	0	0	0	66	339	0.78
	7:15 AM	0	38	5	0	43	14	0	0	0	14	2	31	0	0	33	0	0	0	0	0	90	374	0.87
	7:30 AM	0	18	8	0	26	14	0	7	0	21	2	26	0	0	28	0	0	0	0	0	75	372	0.86
	7:45 AM	0	40	10	0	50	19	0	7	0	26	4	28	0	0	32	0	0	0	0	0	108	370	0.86
	8:00 AM	0	33	12	0	45	12	0	7	0	19	7	30	0	0	37	0	0	0	0	0	101	357	0.88
	8:15 AM	0	30	7	0	37	14	0	3	0	17	3	31	0	0	34	0	0	0	0	0	88		
	8:30 AM	0	25	4	0	29	5	0	3	0	8	4	32	0	0	36	0	0	0	0	0	73		
	8:45 AM	0	30	10	0	40	9	0	12	0	21	4	30	0	0	34	0	0	0	0	0	95		
	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	44	10	0	54	8	0	10	0	18	10	41	0	0	51	0	0	0	0	0	123	542	0.93
	3:15 PM	0	36	17	0	53	9	0	16	0	25	16	39	0	0	55	0	0	0	0	0	133	554	0.95
	3:30 PM	0	48	20	0	68	10	0	10	0	20	15	43	0	0	58	0	0	0	0	0	146	564	0.97
	3:45 PM	0	42	11	0	53	13	0	14	0	27	12	48	0	0	60	0	0	0	0	0	140	601	0.82
	4:00 PM	0	44	13	0	57	10	0	11	0	21	12	45	0	0	57	0	0	0	0	0	135	637	0.87
	4:15 PM	0	52	13	0	65	8	0	8	0	16	15	47	0	0	62	0	0	0	0	0	143	661	0.90
	4:30 PM	0	69	24	0	93	12	0	9	0	21	15	54	0	0	69	0	0	0	0	0	183	632	0.86
	4:45 PM	0	50	25	0	75	10	0	14	0	24	20	57	0	0	77	0	0	0	0	0	176	565	0.80
	5:00 PM	0	52	15	0	67	8	0	4	0	12	9	71	0	0	80	0	0	0	0	0	159	509	0.80
	5:15 PM	0	37	14	0	51	5	0	3	0	8	21	34	0	0	55	0	0	0	0	0	114		
	5:30 PM	0	43	11	0	54	11	0	6	0	17	10	35	0	0	45	0	0	0	0	0	116		
	5:45 PM	0	29	18	0	47	6	0	7	0	13	14	46	0	0	60	0	0	0	0	0	120		
	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	834	263	0	1097	228	0	166	0	394	203	854	0	0	1057	0	0	0	0	0	2548		

Peak Hour All Vehicle Volume Summary

Hourly Time Period		From North (↓) Maple Road					From East (←) Lilac Lane					From South (↑) Maple Road					From West (→)					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	7:45 AM	0	128	33	0	161	50	0	20	0	70	18	121	0	0	139	0	0	0	0	0	370	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	0	208	78	0	286	35	0	30	0	65	65	216	0	0	281	0	0	0	0	0	632	0.86

Intersection Traffic Volume Report

Count Basics		*Page 9 of 13*
Start Date: Tuesday, June 16, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

Maple Road & Lilac Lane

15-Minute Heavy Vehicle Data

	15-Minute Time Period	From North (↓) Maple Road					From East (←) Lilac Lane					From South (↑) Maple Road					From West (→)					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	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
	6:45 AM	0	1	0	0	1	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	4	17
	7:00 AM	0	1	0	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3	22
	7:15 AM	0	1	2	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6	20
	7:30 AM	0	1	2	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4	20
	7:45 AM	0	5	1	0	6	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	9	18
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	14
	8:15 AM	0	2	1	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	
	8:45 AM	0	1	1	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5	
	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	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	12
	3:15 PM	0	1	3	0	4	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	6	12
	3:30 PM	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	5	8
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	8
	4:30 PM	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	6
	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2	4
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	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	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	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	19	11	0	30	7	0	2	0	9	2	23	0	0	25	0	0	0	0	0	64	
Total Truck %age:		0.0%	2.3%	4.2%	0.0%	2.7%	3.1%	0.0%	1.2%	0.0%	2.3%	1.0%	2.7%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	

Peak Hour Heavy Vehicle Volume Summary

	Hourly Time Period	From North (↓) Maple Road					From East (←) Lilac Lane					From South (↑) Maple Road					From West (→)					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	
AM	7:45 AM	0	7	2	0	9	2	0	0	0	2	0	7	0	0	7	0	0	0	0	0	18	
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	1	1	0	2	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	6	

APPENDIX B

LOS DEFINITIONS
SATURATION FLOW RATE WORKSHEET
EXISTING SIGNAL TIMINGS

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

Date: June 23, 2026

BASE SATURATION FLOW RATE CALCULATIONS

Intersection Name
Mequon Road & Division Road

Urbanized Area/Cluster Population
1,376,476

Exit Ramp:	No
Speed Limit:	25

Sat. Flow Rate (pc/h/ln)				
1900			1900	

N

			# of Lanes	1			1			
			Lane Type	R	T-R	T	L-T	L		
Exit Ramp:	Sat. Flow (pc/h/ln)	1891 *	# of Lanes	1	L				R	1
No			Lane Type		L-T				T-R	
Speed Limit:		1891 *		2	T	Traffic Signal			T	2
					T-R				L-T	
35		1900		1	R				L	1
				L	L-T	T	T-R	R	Lane Type	
				1			1		# of Lanes	
				Lane Type						
				# of Lanes						

										Exit Ramp:
										No
										Speed Limit:
										35

Date: June 23, 2026

BASE SATURATION FLOW RATE CALCULATIONS

Intersection Name
Mequon Road & River Lane

Urbanized Area/Cluster Population
1,376,476

Exit Ramp:	No
Speed Limit:	40

Sat. Flow Rate (pc/h/ln)				
	1870			1870
	*			*

**Consider using 1900 pc/h/ln*

N

	# of Lanes / Lane Type				
		1			1
	R	T-R	T	L-T	L

Exit Ramp:	Sat. Flow (pc/h/ln)	# of Lanes / Lane Type		
No	1951	1	L	R 1
Speed Limit:			L-T	T-R
45	1951	1	T	T 2
	1951	1	T-R	L-T
			R	L 1

Traffic Signal

Lane Type / # of Lanes	Sat. Flow (pc/h/ln)	Exit Ramp:
R 1	1900	No
T-R		Speed Limit:
T 2	1972	45
L-T		
L 1	1972	

	L	L-T	T	T-R	R
	1			1	
	Lane Type / # of Lanes				

**Consider using 1900 pc/h/ln*

*			*	
1760			1760	
Sat. Flow Rate (pc/h/ln)				

Speed Limit:	25
Exit Ramp:	No

Bureau of Traffic Operations
Last Updated: **4/7/2022**

Traffic Signal Preventive Maintenance Checklist

Date: 12/15/25 **Municipality:** Germantown

Technician: Tim **Intersection:** Mequon & River

Yes	No	N/A	CONTROL CABINET STATUS	
✓			Voltage, current, loadswitch and loop measurements obtained (enclosed Sheet)	
✓			Conflict monitor test completed (print out)	
✓			Conflict monitor harness test completed (enclosed sheet)	
✓			Controller timings uploaded to TAPCO database (hard copy enclosed)	
✓			Maintenance panel and police door switches functional	
✓			Air filter replaced	
✓			Fan and thermostat operational	**Thermostat Setting:** 90
✓			Heater and thermostat operational	**Thermostat Setting:** 5
✓			Cabinet lamp and GFI outlet operational	
✓			Locks and hinges lubricated	
✓			Cabinet prints present and in good condition	
✓			Cabinet vacuumed	

Yes	No	N/A	FIELD COMPONENT STATUS
✓			Signal and loop wires properly terminated
✓			Unused signal cable conductors grounded
✓			All used and accessible terminal screws in cabinet tight
✓			Signal heads and mounting brackets intact
✓			Signal poles and bases intact
✓			All signal lamps or LEDs operational
	✓		Pedestrian push buttons operational
✓			Pedestrian push button signs present
		✓	Street lighting photo eye and luminaires operational
		✓	Emergency Vehicle Preemption system operational

REMARKS

Cabinet and loop amplifiers are approximately 28 years old and are beyond their normal useful life expectancy of 20 years. Recommend budgeting for replacement
Radio interconnect to master controller not working
NE corner push button to cross River not working
W-bnd near right signal pole base access door not secured. Currently held shut with tape.

Traffic Signal Preventive Maintenance Checklist

CONFLICT MONITOR HARNESS TEST				
Channel	Red	Yellow	Green	Walk
1	✓			
2	✓	✓	✓	
3	✓			
4	✓	✓	✓	
5	✓			
6	✓	✓	✓	✓
7	✓			
8	✓			✓
9	✓			
10	✓			
11	✓			
12	✓			
13				
14				
15				
16				

Traffic Signal Preventive Maintenance Checklist

	Type	Serial Number	Date Code
Controller	Siemens M52	142935	J14
	Type	Serial Number	
Conflict Monitor	SSM-12LEC	E1857332	

Line Voltage	min	121.3 V	max	121.6 V
Ground to Hot Voltage		121.3 V		
Ground to Neutral Voltage		0 V		
Hot Current	min	2.92 A	max	3.27 A
Neutral Current	min	2.88 A	max	3.22 A
Ground Current	min	.18 A	max	.23 A

Load Switches	Function	Conflict flash output
LS1		
LS2	E-bnd Mequon	R
LS3		
LS4	N & S-bnd River	R
LS5		
LS6	W-bnd Mequon	R
LS7		
LS8		
LS9		
LS10		
LS11	P6 Ped north crosswalk	
LS12	P8 Ped east crosswalk	
LS13		
LS14		
LS15		
LS16		

Traffic Signal Preventive Maintenance Checklist

Loops	Function	Series Resistance(Ω)	Leakage (MΩ)	Inductance (μh)
L1				
L2				
L3	P2 21	3.6	11	1628
L4				
L5	P4 41/42	2.4/2.4	>500/3	456/458
L6				
L7	P4 43/44	2.4/2.4	>500/>500	452/450
L8				
L9	P5 51	2.1	>500	248
L10				
L11	P6 61	3	>500	578
L12				
L13				
L14				
L15	P8 81/82	1.1/1.1	>500/>500	185/180
L16				
L17				
L18				
L19				
L20				
L21				
L22				
L23				
L24				
L25				
L26				
L27				
L28				
L29				
L30				
L31				
L32				

Date/Time : 15 Dec 2025, 12:29
Agency : TAPCO
Tested By : TSF
Location : Mequon & River

MONITOR INFORMATION
Manufacturer : EDI
Model : SSM-12LEC
Type : 12 Channel
Serial Number : E1857332

TESTER INFORMATION
Model : PCMT-8000
Serial Number : 8000-9005
Firmware Version : 4.4
Software : PCMT-8000 Test Manager 3.8

Interlock Sensing Test	:Pass
Power Failure Ignore Test	:Pass
Power Failure Detect Test	:Pass
Initial Flash Test	:Pass
Start Delay Test	:Pass
DC1 Failure Detect Test	:Pass
DC1 Failure Auto Reset Test	:Pass
DC2 Failure Detect Test	:Pass
DC2 Failure Auto Reset Test	:Pass
DC Monitor Inhibit Test	:Pass
CVM Failure Detect Test	:Pass
CVM Failure Auto Reset Test	:Pass
Conflict Ignore Timing Test	:Pass
Conflict Detect Timing Test	:Pass
Conflict Latching Test	:Pass
Redfail Ignore Timing Test	:Pass
Redfail Detect Timing Test	:Pass
Redfail Latching Test	:Pass
RED 70Vrms Sine Wave Recognition Test	:Pass
RED 50Vrms Sine Wave Recognition Test	:Pass
GRN 25Vrms Sine Wave Recognition Test	:Pass
YEL 25Vrms Sine Wave Recognition Test	:Pass
WLK 25Vrms Sine Wave Recognition Test	:Pass
GRN 25Vrms Positive Rectified Recognition Test	:Pass
YEL 25Vrms Positive Rectified Recognition Test	:Pass
WLK 25Vrms Positive Rectified Recognition Test	:Pass
GRN 25Vrms Negative Rectified Recognition Test	:Pass
YEL 25Vrms Negative Rectified Recognition Test	:Pass
WLK 25Vrms Negative Rectified Recognition Test	:Pass
GRN 15Vrms Sine Wave Recognition Test	:Pass
YEL 15Vrms Sine Wave Recognition Test	:Pass
WLK 15Vrms Sine Wave Recognition Test	:Pass
GRN 15Vrms Positive Rectified Recognition Test	:Pass
YEL 15Vrms Positive Rectified Recognition Test	:Pass
WLK 15Vrms Positive Rectified Recognition Test	:Pass
GRN 15Vrms Negative Rectified Recognition Test	:Pass
YEL 15Vrms Negative Rectified Recognition Test	:Pass
WLK 15Vrms Negative Rectified Recognition Test	:Pass
GRN 1500pF Test	:Pass
YEL 1500pF Test	:Pass
WLK 1500pF Test	:Pass
GRN/GRN Permissive (Non-Programmed Card) Test	:Pass
GRN/YEL Permissive (Non-Programmed Card) Test	:Pass
GRN/WLK Permissive (Non-Programmed Card) Test	:Pass
YEL/GRN Permissive (Non-Programmed Card) Test	:Pass
YEL/YEL Permissive (Non-Programmed Card) Test	:Pass
YEL/WLK Permissive (Non-Programmed Card) Test	:Pass
WLK/GRN Permissive (Non-Programmed Card) Test	:Pass
WLK/YEL Permissive (Non-Programmed Card) Test	:Pass
WLK/WLK Permissive (Non-Programmed Card) Test	:Pass
RED/WLK/GRN/YEL Single Channel Test	:Pass
YEL Plus RED Interval Test	:Pass
GRN/YEL Dual Display Test	:Pass
RED/GRN Dual Display Test	:Pass
YEL/RED Dual Display Test	:Pass
LGND / EGND Isolation Test	:Pass
Power and RED Channel Indicators Test	:Pass
Power, Conflict, and GRN Channel Indicators Test	:Pass
Power, Conflict, and YEL Channel Indicators Test	:Pass
Dual Display Indicator Test	:Pass
RED Fail Indicator Test	:Pass
Short YEL Indicator Test	:Pass
DC1 (24V1) Fail Indicator Test	:Pass
DC2 (24V2) Fail Indicator Test	:Pass
Manual Reset Button Test	:Pass

Lap 1 of 1 complete 15 Dec 2025, 13:13
Monitor Serial Number: E1857332
All tests were passed.

SEPAC ECOM All Data

Intersection Name: **Mequon & River Ln** Intersection Alias: **Meqri**

Access Data

1 :**1200 Baud**
3 :**1200 Baud**

Access Code: **9999** Channel: 1 Address: **1**
Revision: **3.34h** IP Address: **1**

Phase Initialization Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initial	0-None	4-Grn	0-None	1-Inact	0-None	4-Grn	0-None	1-Inact	0-None	0-None	0-None	0-None	0-None	0-None	0-None	0-None

PHASE DATA

Vehical Basic Timings							Misc Timings						Pedestrian Timings						
Phase	Min Green	Passage	Max1	Max2	Yellow	All Red	Green Delay	Yellow Delay	Walk Offset Time	Walk Offset Mode	Bike Green	Bike Psg	Walk	Ped Clr	Alt Walk	Alt Ped Clr	Flash Walk	Ext Ped Clr	Actuated Rest in Walk
1	0	0.0	0	20	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
2	15	5.0	40	45	4.5	1.7	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
3	0	0.0	0	20	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
4	10	2.0	30	25	3.9	3.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
5	0	0.0	0	20	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
6	15	5.0	40	45	4.5	1.7	0.0	0.0	0	0-Advance	0.0	0.0	5	18	0	0	No	0	No
7	0	0.0	0	20	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
8	10	2.0	30	25	3.9	3.0	0.0	0.0	0	0-Advance	0.0	0.0	8	34	0	0	No	0	No
9	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
10	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
11	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
12	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
13	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
14	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
15	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
16	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No

Vehicle Density Timings							General Control				Miscellaneous					Special Sequence		
Ph.	Added Initial	Max Initial	Time B4 Redu	Car B4 Redu	Time To Redu	Min Gap	Non-Act Response	Veh Recall	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Car Pass	Condit Service	No Simu Gap Out	Omit	Minus Yel	Omit Call
1	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
2	1.5	34	25	0	15	2.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
3	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
4	0.0	0	0	0	0	2.0	None	None	None	0	Yes	Yes	No	No	No	0	0	0
5	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
6	1.5	34	25	0	15	2.0	None	Min	None	0	No	Yes	No	No	No	0	0	0
7	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
8	0.0	0	0	0	0	2.0	None	None	None	0	Yes	Yes	No	No	No	0	0	0
9	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
10	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

11	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
12	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
13	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
14	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
15	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
16	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

Vehical Detector Phase Assignment

Assign Phase	Mode	Switch Phase	Extend	Delay

Default Data

Pedestrian Detector

Assign Phase	Mode	Switch Phase	Extend	Delay

Default Data

Special Detector Phase Assignment

Assign Phase	Mode	Switch Phase	Extend	Delay

:

Default Data

Unit Data

General Control

Startup Time: 7 sec
Startup State: All Red
Red Revert: 2.0 sec
Auto Ped Clr: No
Stop T Reset: No
Alt Sequence: 0
Special Seq: 0-Standard

Ring	Input Respons	Output Selection
1	Ring 1	Ring 1
2	Ring 2	Ring 2
3	None	None
4	None	Ring 2

I/O Modes:

ABC Input(Entry) Modes: 0
D Input(Entry) Modes: 0
ABC Output(O/STS) Modes: 0
D Output(O/STS) Modes: 0

Remote Flash

Test A = Flash No

Phase	Entry	Exit
2		Yes
6		Yes

Default Data - No Flash

Overlaps

Overlaps

Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

Start Green

Overlaps

Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

Ring

Phase	Ring	Next Phase
2	1	3
4	1	1
6	2	7
8	2	5

Concurrent Phases

Phase(s)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	2	3	4	1	1	3	3								
	5	5	7	7	2	2	4	4								
	6	6	8	8	5	6	7	8								

Alternate Sequences

	Ph. Pair 1	Ph. Pair 2	Ph. Pair 3	Ph. Pair 4
Alt. Seq. 1	**1/2**			
Alt. Seq. 2	**3/4**			
Alt. Seq. 3	**1/2**	**3/4**		
Alt. Seq. 4	**5/6**			
Alt. Seq. 5	**1/2**	**5/6**		
Alt. Seq. 6	**3/4**	**5/6**		
Alt. Seq. 7	**1/2**	**3/4**	**5/6**	
Alt. Seq. 8	**7/8**			
Alt. Seq. 9	**1/2**	**7/8**		
Alt. Seq. 1	**3/4**	**7/8**		
Alt. Seq. 1	**1/2**	**3/4**	**7/8**	
Alt. Seq. 1	**5/6**	**7/8**		
Alt. Seq. 1	**1/2**	**5/6**	**7/8**	
Alt. Seq. 1	**3/4**	**5/6**	**7/8**	
Alt. Seq. 1	**1/2**	**3/4**	**5/6**	**7/8**

Port 1 Data

BIU Addr	Port Status	Basic Det	Message 40

Default Data

Signal Driver Ouput

Channel	Control	Hardware Pins
1	1 - Veh Phase 1	1 - Phase 1 RYG
2	2 - Veh Phase 2	2 - Phase 2 RYG
3	3 - Veh Phase 3	3 - Phase 3 RYG
4	4 - Veh Phase 4	4 - Phase 4 RYG
5	5 - Veh Phase 5	5 - Phase 5 RYG
6	6 - Veh Phase 6	6 - Phase 6 RYG
7	7 - Veh Phase 7	7 - Phase 7 RYG
8	8 - Veh Phase 8	8 - Phase 8 RYG
9	18 - Ped Phase 2	10 - Phase 2 DPW
10	20 - Ped Phase 4	12 - Phase 4 DPW
11	22 - Ped Phase 6	14 - Phase 6 DPW
12	24 - Ped Phase 8	16 - Phase 8 DPW
13	33 - Overlap A	17 - Overlap A RYG
14	34 - Overlap B	18 - Overlap B RYG
15	35 - Overlap C	19 - Overlap C RYG
16	36 - Overlap D	20 - Overlap D RYG
17	17 - Ped Phase 1	9 - Phase 1 DPW
18	19 - Ped Phase 3	11 - Phase 3 DPW
19	21 - Ped Phase 5	13 - Phase 5 DPW
20	23 - Ped Phase 7	15 - Phase 7 DPW
21	37 - Overlap E	21 - Phase 1 ONC
22	38 - Overlap F	22 - Phase 2 ONC
23	39 - Overlap G	23 - Phase 3 ONC
24	40 - Overlap H	24 - Phase 4 ONC

Coordination Data

General Coordination Dat

Operation Mode: 1=Auto
Coordination Mode: 0=Permissive
Maximun Mode: 0=Inhibit
Correction Mode: 3=Short Way Plus

Offset Mode: 0=Beg Grn
Force Mode: 0=Plan
Max Dwell Time: 15
Yield Period: 0

Manual Dial: 1
Manual Split: 1
Manual Offset: 1

Dial/Split	Cycle
1/1	90
2/1	90
2/2	90
3/1	90

Split Times and Phase Modes

Dial 1 / **Split** 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	57	1=Coordinate	4	33	0=Actuated	6	57	1=Coordinate	8	33	0=Actuated

Dial 2 / **Split** 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	60	1=Coordinate	4	30	0=Actuated	6	60	1=Coordinate	8	30	0=Actuated

Dial 2 / **Split** 2

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	40	1=Coordinate	4	50	0=Actuated	6	40	1=Coordinate	8	50	0=Actuated

Dial 3 / **Split** 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	58	1=Coordinate	4	32	0=Actuated	6	58	1=Coordinate	8	32	0=Actuated

Traffic Plan Data

Plan: 1/1/1	Offset Time: 24	Alternat Sequence: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No		
Plan: 2/1/1	Offset Time: 68	Alternat Sequence: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No		
Plan: 2/2/1	Offset Time: 55	Alternat Sequence: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No		
Plan: 3/1/1	Offset Time: 55	Alternat Sequence: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No		

Local TBC Data

Start of Daylight Saving Month: 3 Week: 2 Cycle Zero Reference Hours: 24 Min: 0

End of Daylight Saving Month: 11 Week: 1

Source Day	Equate Days 1	2	3	4	5	6	7
1	7	0	0	0	0	0	0
2	3	4	5	6	0	0	0

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	0:1	0/0/4																	
2	1	7:0	2/1/1																	
3	1	19:0	0/0/4																	
4	2	0:1	0/0/4																	
5	2	6:30	1/1/1																	
6	2	8:0	2/1/1																	
7	2	14:15	2/2/1																	
8	2	15:0	2/1/1																	
9	2	15:30	3/1/1																	
10	2	17:45	2/1/1																	
11	2	20:0	0/0/4																	

AUX. Events

Event	Program Day	Hour	Min.	Aux Ouputs 1	2	3	Det. Diag. D1	Det. Rpt. D2	Det. Mult100 D3	Dimming	Special Function Outputs 1	2	3	4	5	6	7	8

Default Data - No Special Day(s) or Week(s) Programmed

Special Functions

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8	SF9	SF10	SF11	SF12	SF13	SF14	SF15	SF16
Special Function 1	X															
Special Function 2		X														
Special Function 3			X													
Special Function 4				X												
Special Function 5					X											
Special Function 6						X										
Special Function 7							X									
Special Function 8								X								

Phase Function

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Phase Omit

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Ped Omit

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Coord ReSvc

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Function Phase Recall

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Phase Min Recall

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Ped Recall

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Bike Recall

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Vehicle Function

Veh Det Switch Omit

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Switch Now

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Veh Det Switch Also

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Overlap Function

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Dimming Data

Default Data - No Dimming Programmed

Lane Defination

Lanes	Name	Green Inbound	Yellow Inbound	Red Inbound	Green Outbound	Yellow Outbound

Default Data - Lane Defination

program_day	program_hour	program_minute	LanePhFun

Preemption Data

General Preemption Data

Preempt > Flash	Preempt 2 > Preempt 3	Preempt 4 > Preempt 5
Preempt 1 > Preempt 2	Preempt 3 > Preempt 4	Preempt 5 > Preempt 6

Preempt Timers

Preempt	NLock	Link to Pmpt	Del	Ext	Dur	Max Call	Lock-Out	De Bounce	Gate Ext	Min G | W	Select Ped Clear	Select Yel	Select Red	Track Grn	Track Ped	Track Yel	Track Red	Dwell Green	Return Ped Clear	Return Yel	Return Red	Sel Ret Mode
1	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
2	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
3	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
4	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
5	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
6	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut

Preempt 1

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 2

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 3

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 4

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 5

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 6

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Priority Timers

Priority	Non-Locking	Del ay	Ext end	Free Dial	Free Split	Min Green	No Lock out	Lock out A	Lock out B	Max Green	Pre-Green	Recall	Excl-co Phase Svc.	Transit Overlap Signal Type	Transit Overlap Blankout

Priority Detector Channels

Priority

Detector

Priority Fixed Phases

Priority

Legend: 0 1
CO-PHASE FALSE TRUE
QJ-PHASE

Priority

Priority Bank : Level

Partial Priority	Full Priority	Recovery
Alt Seq	Freq. Override	Method
Alt Seq Enabled	Ped skip	Return
Min Walk	Force full Priority	PedWait
	Frequency	PedOverride
	Freq. Level	

Codes: 0 FALSE X TRUE

Priority : **Priority Bank :** Queue Phase Detector Time **Default data**	**Priority :** **Priority Bank :** Queue Phase Detector Time **Default data**	**Priority :** **Priority Bank :** Queue Phase Detector Time **Default data**
Priority : **Priority Bank :** Queue Phase Detector Time **Default data**	**Priority :** **Priority Bank :** Queue Phase Detector Time **Default data**	**Priority :** **Priority Bank :** Queue Phase Detector Time **Default data**

Priority : **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**	**Priority :** **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**
Priority : **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**	**Priority :** **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**
Priority : **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**	**Priority :** **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**

Preempt 1

Vehical Phases

Ph.	Track	Dwell	Cycle

Pedestrian Phases

Ph	Track	Dwell	Cycle

Overlaps

Ovlp	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 2

Vehical Phases

Ph.	Track	Dwell	Cycle

Pedestrian Phases

Ph.	Track	Dwell	Cycle

Overlaps

Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 3

Vehical Phases

Ph.	Track	Dwell	Cycle

Pedestrian Phases

Ph.	Track	Dwell	Cycle

Overlaps

Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 4

Vehical Phases

Ph.	Track	Dwell	Cycle

Pedestrian Phases

Ph.	Track	Dwell	Cycle

Overlaps

Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 5

Vehical Phases

Ph.	Track	Dwell	Cycle

Pedestrian Phases

Ph.	Track	Dwell	Cycle

Overlaps

Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 6

Vehical Phases

Ph.	Track	Dwell	Cycle

Pedestrian Phases

Ph.	Track	Dwell	Cycle

Overlaps

Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

System/Detectors Data

Local Critical Alarms

Revert to Backup: 15

1st Phone:

2nd Phone:

Local Free: No Cycle Failure: No Coord Failure: No Conflict Flash: No Remote Flash: No

Local Fash: No Cycle Fault: No Coord Fault: No Premption: No Voltage Monitor: No

Special Status 1: No Special Status 2: No Special Status 3: No Special Status 4: No Special Status 5: No Special Status 6: No

Traffic Responsive

System Detector	Detector Channel	Name	Veh/ Hr	Average Time(mins)	Occupancy Correction/10	Min Volume %	Queue 1 Detectors	System Detectors	Weight Factor	Queue 2 Detectors	System Detectors	Weight Factor

Default Data

Sample Interval: 0

Default Data

Queue: 1 Input Selection: 0=Average

Detector Failed Level : 0

Queue: 2 Input Selection: 0=Average

Detector Failed Level : 0

Default Data

Queue:

Level	Enter	Leave	Dial / Split / Offset
			/ /

Default Data

Vehical Detector

Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - Diag 0 Values

Vehical Detector

Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 1 Values

Special Detector

Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Valu

Pedestrian Detector

Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Pedestrian Detector

Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Special Detector

Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Values

Speed Trap Data

Speed Trap:

Measurement:

Detector 1 Detector_2 Distance :

Default Data

Volume Detector Data

Report Interval 0

Volume Detector Number | Controller Detector Channel

Default Data

Default Data - No Diag 1 Values

Dial/Split/Offset

//

Default Data

Default Data - No Diag 1 Values

Speed Trap Low Treshold | Speed Trap High Treshold

Traffic Signal Preventive Maintenance Checklist

Date: 12/13/24 **Municipality:** Germantown

Technician: Tim **Intersection:** Mequon & Division

Yes	No	N/A	CONTROL CABINET STATUS	
✓			Voltage, current, loadswitch and loop measurements obtained (enclosed Sheet)	
✓			Conflict monitor test completed (print out)	
✓			Conflict monitor harness test completed (enclosed sheet)	
✓			Controller timings uploaded to TAPCO database (hard copy enclosed)	
✓			Maintenance panel and police door switches functional	
✓			Air filter replaced	
✓			Fan and thermostat operational	**Thermostat Setting:** 90
✓			Heater and thermostat operational	**Thermostat Setting:** 5
✓			Cabinet lamp and GFI outlet operational	
✓			Locks and hinges lubricated	
✓			Cabinet prints present and in good condition	
✓			Cabinet vacuumed	

Yes	No	N/A	FIELD COMPONENT STATUS
✓			Signal and loop wires properly terminated
✓			Unused signal cable conductors grounded
✓			All used and accessible terminal screws in cabinet tight
✓			Signal heads and mounting brackets intact
✓			Signal poles and bases intact
✓			All signal lamps or LEDs operational
	✓		Pedestrian push buttons operational
✓			Pedestrian push button signs present
		✓	Street lighting photo eye and luminaires operational
		✓	Emergency Vehicle Preemption system operational

REMARKS

Cabinet and equipment are approximately 27 years old and are beyond their normal useful life expectancy of 20 years. Recommend budgeting for replacement
SE corner push button to cross Mequon not working
S-bnd near right yellow signal visor damaged

Traffic Signal Preventive Maintenance Checklist

CONFLICT MONITOR HARNESS TEST				
Channel	Red	Yellow	Green	Walk
1	☑	☐	☐	☐
2	☑	☑	☑	☑
3	☑	☐	☐	☐
4	☑	☑	☑	☑
5	☑	☐	☐	☐
6	☑	☑	☑	☑
7	☑	☐	☐	☐
8	☑	☑	☑	☑
9	☑	☐	☐	☐
10	☑	☐	☐	☐
11	☑	☐	☐	☐
12	☑	☐	☐	☐
13	☐	☐	☐	☐
14	☐	☐	☐	☐
15	☐	☐	☐	☐
16	☐	☐	☐	☐

Traffic Signal Preventive Maintenance Checklist

	Type	Serial Number	Date Code
Controller	Siemens M10	44952	H97
Conflict Monitor	SSM-12LEC	091110478	

Line Voltage	min	120.9 V	max	121.1 V
Ground to Hot Voltage		121.4 V		
Ground to Neutral Voltage		0 V		
Hot Current	min	3.30 A	max	3.77 A
Neutral Current	min	3.32 A	max	3.78 A
Ground Current	min	.12 A	max	.15 A

Load Switches	Function	Conflict flash output
LS1		
LS2	E-bnd Mequon	R
LS3		
LS4	S-bnd Division	R
LS5		
LS6	W-bnd Mequon	R
LS7		
LS8	N-bnd Division	R
LS9	P2 Ped south crosswalk	
LS10	P4 Ped west crosswalk	
LS11	P6 Ped north crosswalk	
LS12	P8 Ped east crosswalk	
LS13		
LS14		
LS15		
LS16		

Traffic Signal Preventive Maintenance Checklist

Loops	Function	Series Resistance(Ω)	Leakage (MΩ)	Inductance (µh)
L1	P1 11	Open		
L2	SP 1	2.1	136	188
L3	P2 22	3.2	>500	445
L4				
L5	P4 41	2.9	>500	303
L6				
L7	P4 42	2.8	>500	259
L8	P4GE 43	3.3	4	362
L9	P8 81	1.4	>500	75
L10				
L11	P6 61	3.5	>500	921
L12				
L13	P8 82	1.5	>500	76
L14	P8 83	1.4	>500	72
L15	P8 84	1.4	>500	74
L16	P8GE 85	2	>500	148
L17				
L18				
L19				
L20				
L21				
L22				
L23				
L24				
L25				
L26				
L27				
L28				
L29				
L30				
L31				
L32				

Date/Time : 13 Dec 2024, 12:25
Agency : TAPCO
Tested By : TSF
Location : Mequon & Division

MONITOR INFORMATION
Manufacturer : EDI
Model : SSM-12LEC
Type : 12 Channel
Serial Number : 091110478

TESTER INFORMATION
Model : PCMT-8000
Serial Number : 8000-9005
Firmware Version : 4.4
Software : PCMT-8000 Test Manager 3.5

Interlock Sensing Test	:Pass
Power Failure Ignore Test	:Pass
Power Failure Detect Test	:Pass
Initial Flash Test	:Pass
Start Delay Test	:Pass
DC1 Failure Detect Test	:Pass
DC1 Failure Auto Reset Test	:Pass
DC2 Failure Detect Test	:Pass
DC2 Failure Auto Reset Test	:Pass
DC Monitor Inhibit Test	:Pass
CVM Failure Detect Test	:Pass
CVM Failure Auto Reset Test	:Pass
Conflict Ignore Timing Test	:Pass
Conflict Detect Timing Test	:Pass
Conflict Latching Test	:Pass
Redfail Ignore Timing Test	:Pass
Redfail Detect Timing Test	:Pass
Redfail Latching Test	:Pass
RED 70Vrms Sine Wave Recognition Test	:Pass
RED 50Vrms Sine Wave Recognition Test	:Pass
GRN 25Vrms Sine Wave Recognition Test	:Pass
YEL 25Vrms Sine Wave Recognition Test	:Pass
WLK 25Vrms Sine Wave Recognition Test	:Pass
GRN 25Vrms Positive Rectified Recognition Test	:Pass
YEL 25Vrms Positive Rectified Recognition Test	:Pass
WLK 25Vrms Positive Rectified Recognition Test	:Pass
GRN 25Vrms Negative Rectified Recognition Test	:Pass
YEL 25Vrms Negative Rectified Recognition Test	:Pass
WLK 25Vrms Negative Rectified Recognition Test	:Pass
GRN 15Vrms Sine Wave Recognition Test	:Pass
YEL 15Vrms Sine Wave Recognition Test	:Pass
WLK 15Vrms Sine Wave Recognition Test	:Pass
GRN 15Vrms Positive Rectified Recognition Test	:Pass
YEL 15Vrms Positive Rectified Recognition Test	:Pass
WLK 15Vrms Positive Rectified Recognition Test	:Pass
GRN 15Vrms Negative Rectified Recognition Test	:Pass
YEL 15Vrms Negative Rectified Recognition Test	:Pass
WLK 15Vrms Negative Rectified Recognition Test	:Pass
GRN 1500pF Test	:Pass
YEL 1500pF Test	:Pass
WLK 1500pF Test	:Pass
GRN/GRN Permissive (Non-Programmed Card) Test	:Pass
GRN/YEL Permissive (Non-Programmed Card) Test	:Pass
GRN/WLK Permissive (Non-Programmed Card) Test	:Pass
YEL/GRN Permissive (Non-Programmed Card) Test	:Pass
YEL/YEL Permissive (Non-Programmed Card) Test	:Pass
YEL/WLK Permissive (Non-Programmed Card) Test	:Pass
WLK/GRN Permissive (Non-Programmed Card) Test	:Pass
WLK/YEL Permissive (Non-Programmed Card) Test	:Pass
WLK/WLK Permissive (Non-Programmed Card) Test	:Pass
RED/WLK/GRN/YEL Single Channel Test	:Pass
YEL Plus RED Interval Test	:Pass
GRN/YEL Dual Display Test	:Pass
RED/GRN Dual Display Test	:Pass
YEL/RED Dual Display Test	:Pass
LGND / EGND Isolation Test	:Pass
Power and RED Channel Indicators Test	:Pass
Power, Conflict, and GRN Channel Indicators Test	:Pass
Power, Conflict, and YEL Channel Indicators Test	:Pass
Dual Display Indicator Test	:Pass
RED Fail Indicator Test	:Pass
Short YEL Indicator Test	:Pass
DC1 (24V1) Fail Indicator Test	:Pass
DC2 (24V2) Fail Indicator Test	:Pass
Manual Reset Button Test	:Pass

Lap 1 of 1 complete 13 Dec 2024, 13:10
Monitor Serial Number: 091110478
All tests were passed.

SEPAC ECOM All Data

12/18/2024
9:37:01AM

Intersection Name: **Mequon & Division** Intersection Alias: **meqdiv**

Access Data

1 :**1200 Baud**
3 :**1200 Baud**

Access Code: **9999** Channel: 1 Address: **2**

Revision: **2.34s** IP Address: **2**

Phase Initialization Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initial	0-None	4-Grn	0-None	1-Inact	0-None	4-Grn	0-None	1-Inact	0-None	0-None	0-None	0-None	0-None	0-None	0-None	0-None

PHASE DATA

	Vehical Basic Timings						Misc Timings						Pedestrian Timings						
Phase	Min Green	Passage	Max1	Max2	Yellow	All Red	Green Delay	Yellow Delay	Walk Offset Time	Walk Offset Mode	Bike Green	Bike Psg	Walk	Ped Clr	Alt Walk	Alt Ped Clr	Flash Walk	Ext Ped Clr	Actuated Rest in Walk
1	0	0.0	0	20	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
2	15	5.0	40	45	3.6	2.5	0.0	0.0	0	0-Advance	0.0	0.0	4	23	0	0	No	0	No
3	0	0.0	0	20	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
4	10	2.0	30	32	4.1	3.0	0.0	0.0	0	0-Advance	0.0	0.0	8	30	0	0	No	0	No
5	0	0.0	0	20	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
6	15	5.0	40	45	3.6	2.5	0.0	0.0	0	0-Advance	0.0	0.0	4	28	0	0	No	0	No
7	0	0.0	0	20	3.5	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
8	10	2.0	30	32	4.1	3.0	0.0	0.0	0	0-Advance	0.0	0.0	8	29	0	0	No	0	No
9	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
10	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
11	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
12	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
13	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
14	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
15	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No
16	0	0.0	0	0	3.0	0.0	0.0	0.0	0	0-Advance	0.0	0.0	0	0	0	0	No	0	No

	Vehicle Density Timings						General Control				Miscellaneous					Special Sequence		
Ph.	Added Initial	Max Initial	Time B4 Redu	Car B4 Redu	Time To Redu	Min Gap	Non-Act Response	Veh Recall	Ped Recall	Recall Delay	Non Lock	Dual Entry	Last Car Pass	Condit Service	No Simu Gap Out	Omit	Minus Yel	Omit Call
1	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
2	1.5	27	25	0	15	2.0	None	Min	Ped	0	No	Yes	No	No	No	0	0	0
3	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
4	0.0	0	0	0	0	2.0	None	None	None	0	Yes	Yes	No	No	No	0	0	0
5	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
6	1.5	27	25	0	15	2.0	None	Min	Ped	0	No	Yes	No	No	No	0	0	0
7	0.0	0	0	0	0	0.0	None	None	None	0	Yes	No	No	No	No	0	0	0
8	0.0	0	0	0	0	2.0	None	None	None	0	Yes	Yes	No	No	No	0	0	0
9	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
10	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

11	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
12	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
13	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
14	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
15	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0
16	0.0	0	0	0	0	0.0	None	None	None	0	No	No	No	No	No	0	0	0

Vehical Detector Phase Assignment

Assign Phase	Mode	Switch Phase	Extend	Delay
Default Data				

Pedestrian Detector

Assign Phase	Mode	Switch Phase	Extend	Delay
Default Data				

Special Detector Phase Assignment

Assign Phase	Mode	Switch Phase	Extend	Delay
:				
Default Data				

Unit Data

General Control

Startup Time: 7 sec
Startup State: All Red
Red Revert: 2.0 sec
Auto Ped Clr: No
Stop T Reset: No
Alt Sequence: 0
Special Seq: 0-Standard

Ring	Input Respons	Output Selection
1	Ring 1	Ring 1
2	Ring 2	Ring 2
3	None	None
4	None	Ring 2

I/O Modes:

ABC Input(Entry) Modes: 0
D Input(Entry) Modes: 0
ABC Output(O/STS) Modes: 0
D Output(O/STS) Modes: 0

Remote Flash

Test A = Flash No

Phase	Entry	Exit
2		Yes
6		Yes

Default Data - No Flash

Overlaps

Overlaps

Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

Start Green

Overlaps

Phase(s)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

Ring

Phase	Ring	Next Phase
2	1	3
4	1	1
6	2	7
8	2	5

Phase(s)

Concurrent Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	2	3	4	1	1	3	3								
	5	5	7	7	2	2	4	4								
	6	6	8	8	5	6	7	8								

Alternate Sequences

	Ph. Pair 1	Ph. Pair 2	Ph. Pair 3	Ph. Pair 4
Alt. Seq. 1	**1/2**			
Alt. Seq. 2	**3/4**			
Alt. Seq. 3	**1/2**	**3/4**		
Alt. Seq. 4	**5/6**			
Alt. Seq. 5	**1/2**	**5/6**		
Alt. Seq. 6	**3/4**	**5/6**		
Alt. Seq. 7	**1/2**	**3/4**	**5/6**	
Alt. Seq. 8	**7/8**			
Alt. Seq. 9	**1/2**	**7/8**		
Alt. Seq. 10	**3/4**	**7/8**		
Alt. Seq. 11	**1/2**	**3/4**	**7/8**	
Alt. Seq. 12	**5/6**	**7/8**		
Alt. Seq. 13	**1/2**	**5/6**	**7/8**	
Alt. Seq. 14	**3/4**	**5/6**	**7/8**	
Alt. Seq. 15	**1/2**	**3/4**	**5/6**	**7/8**

Port 1 Data

BIU Addr	Port Status	Basic Det	Message 40

Default Data

Signal Driver Ouput

Channel	Control	Hardware Pins
1	1 - Veh Phase 1	1 - Phase 1 RYG
2	2 - Veh Phase 2	2 - Phase 2 RYG
3	3 - Veh Phase 3	3 - Phase 3 RYG
4	4 - Veh Phase 4	4 - Phase 4 RYG
5	5 - Veh Phase 5	5 - Phase 5 RYG
6	6 - Veh Phase 6	6 - Phase 6 RYG
7	7 - Veh Phase 7	7 - Phase 7 RYG
8	8 - Veh Phase 8	8 - Phase 8 RYG
9	18 - Ped Phase 2	10 - Phase 2 DPW
10	20 - Ped Phase 4	12 - Phase 4 DPW
11	22 - Ped Phase 6	14 - Phase 6 DPW
12	24 - Ped Phase 8	16 - Phase 8 DPW
13	33 - Overlap A	17 - Overlap A RYG
14	34 - Overlap B	18 - Overlap B RYG
15	35 - Overlap C	19 - Overlap C RYG
16	36 - Overlap D	20 - Overlap D RYG
17	17 - Ped Phase 1	9 - Phase 1 DPW
18	19 - Ped Phase 3	11 - Phase 3 DPW
19	21 - Ped Phase 5	13 - Phase 5 DPW
20	23 - Ped Phase 7	15 - Phase 7 DPW
21	37 - Overlap E	21 - Phase 1 ONC
22	38 - Overlap F	22 - Phase 2 ONC
23	39 - Overlap G	23 - Phase 3 ONC
24	40 - Overlap H	24 - Phase 4 ONC

Coordination Data

General Coordination Data

Operation Mode: 1=Auto
Coordination Mode: 0=Permissive
Maximun Mode: 0=Inhibit
Correction Mode: 3=Short Way Plus

Offset Mode: 0=Beg Grn
Force Mode: 0=Plan
Max Dwell Time: 15
Yield Period: 0

Manual Dial: 1
Manual Split: 1
Manual Offset: 1

Dial/Split	Cycle
1/1	90
2/1	90
3/1	90

Split Times and Phase Modes

Dial 1 / **Split** 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	57	1=Coordinate	4	33	0=Actuated	6	57	1=Coordinate	8	33	0=Actuated

Dial 2 / **Split** 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	60	1=Coordinate	4	30	0=Actuated	6	60	1=Coordinate	8	30	0=Actuated

Dial 3 / **Split** 1

Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode	Ph.	Splits	Ph. Mode
2	57	1=Coordinate	4	33	0=Actuated	6	57	1=Coordinate	8	33	0=Actuated

Traffic Plan Data

Plan: 1/1/1	Offset Time: 70	Alternat Sequence: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No		
Plan: 2/1/1	Offset Time: 23	Alternat Sequence: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No		
Plan: 3/1/1	Offset Time: 19	Alternat Sequence: 0	Rg 2 Lag Time: 0	Rg 3 Lag Time: 0	Rg 4 Lag Time: 0
	Mode: 0=Normal	Special Function: 0	Correction Mode: 0=No		

Local TBC Data

Start of Daylight Saving Month: 3 Week: 2 Cycle Zero Reference Hours: 24 Min: 0

End of Daylight Saving Month: 11 Week: 1

Source Day	Equate Days 1	2	3	4	5	6	7
1	7	0	0	0	0	0	0
2	3	4	5	6	0	0	0

Traffic Data

Event	Day	Time	D/S/O	flash	PHASE FUNCTION 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	0:1	0/0/4																	
2	1	7:0	2/1/1																	
3	1	19:0	0/0/4																	
4	2	0:1	0/0/4																	
5	2	6:30	1/1/1																	
6	2	8:0	2/1/1																	
7	2	15:30	3/1/1																	
8	2	17:45	2/1/1																	
9	2	20:0	0/0/4																	

AUX. Events

Event	Program Day	Hour	Min.	Aux Ouputs 1	2	3	Det. Diag. D1	Det. Rpt. D2	Det. Mult100 D3	Dimming	Special Function Outputs 1	2	3	4	5	6	7	8

Default Data - No Special Day(s) or Week(s) Programmed

Special Functions

Function	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8	SF9	SF10	SF11	SF12	SF13	SF14	SF15	SF16
Special Function 1	X															
Special Function 2		X														
Special Function 3			X													
Special Function 4				X												
Special Function 5					X											
Special Function 6						X										
Special Function 7							X									
Special Function 8								X								

Phase Function

PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16

	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12	PF13	PF14	PF15	PF16
Phase Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ped Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Veh Det Coord ReSvc	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Function Phase Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Phase Min Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Veh Det Ped Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Veh Det Bike Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vehicle Function Veh Det Switch Omit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Veh Det Switch Now	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Veh Det Switch Also	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Overlap Function	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Dimming Data

Default Data - No Dimming Programmed

Lane Defination

Lanes	Name	Green Inbound	Yellow Inbound	Red Inbound	Green Outbound	Yellow Outbound

Default Data - Lane Defination

program_day	program_hour	program_minute	LanePhFun

Preemption Data

General Preemption Data

Preempt > Flash
Preempt 1 > Preempt 2
Preempt 2 > Preempt 3
Preempt 3 > Preempt 4
Preempt 4 > Preempt 5
Preempt 5 > Preempt 6

Preempt Timers

Preempt	NLock	Link to Pmpt	Del	Ext	Dur	Max Call	Lock-Out	De Bounce	Gate Ext	Min G | W	Select Ped Clear	Select Yel	Select Red	Track Grn	Track Ped	Track Yel	Track Red	Dwell Green	Return Ped Clear	Return Yel	Return Red	Sel Ret Mode
1	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
2	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
3	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
4	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
5	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut
6	N	0	0	0	0	0	0	0.0	0	0 | 0	8	4.0	2.0	10	8	4.0	2.0	10	8	4.0	2.0	F Aut

Preempt 1

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 2

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 3

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 4

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 5

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Preempt 6

Phase	Exit Phase	Exit Calls
1	No	Yes
2	Yes	Yes
3	No	Yes
4	No	Yes
5	No	Yes
6	Yes	Yes
7	No	Yes
8	No	Yes

Priority Timers

Priority	Non-Locking	Del ay	Ext end	Free Dial	Free Split	Min Green	No Lock out	Lock out A	Lock out B	Max Green	Pre-Green	Recall	Excl-co Phase Svc.	Transit Overlap Signal Type	Transit Overlap Blankout

Priority Detector Channels

Priority

Detector

Priority Fixed Phases

Priority

Legend:
CO-PHASE
QJ-PHASE

0 FALSE
1 TRUE

Priority

Priority Bank : Level

Partial Priority	Full Priority	Recovery
Alt Seq	Freq. Override	Method
Alt Seq Enabled	Ped skip	Return
Min Walk	Force full Priority	PedWait
	Frequency	PedOverride
	Freq. Level	

Codes: 0 FALSE X TRUE

Priority : **Priority Bank :** Queue Phase Detector Time **Default data**	**Priority :** **Priority Bank :** Queue Phase Detector Time **Default data**	**Priority :** **Priority Bank :** Queue Phase Detector Time **Default data**
Priority : **Priority Bank :** Queue Phase Detector Time **Default data**	**Priority :** **Priority Bank :** Queue Phase Detector Time **Default data**	**Priority :** **Priority Bank :** Queue Phase Detector Time **Default data**

Priority : **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**	**Priority :** **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**
Priority : **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**	**Priority :** **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**
Priority : **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**	**Priority :** **Bank** Detector PE 1A 2A 3A 4A 5A 6A B **Default Data**

Preempt 1

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph	Track	Dwell	Cycle	Ovlp	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 2

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 3

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 4

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 5

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

Preempt 6

Vehical Phases				Pedestrian Phases				Overlaps				
Ph.	Track	Dwell	Cycle	Ph.	Track	Dwell	Cycle	Ovlp.	Track	Dwell	Cycle	Trail Grn

Default Data **Default Data** **Default Data**

System/Detectors Data

Local Critical Alarms

Revert to Backup: 15 1st Phone:

Local Free: No Cycle Failure: No Coord Failure: No Conflict Flash: No Remote Flash: No 2nd Phone:

Local Fash: No Cycle Fault: No Coord Fault: No Premption: No Voltage Monitor: No

Special Status 1: No Special Status 2: No Special Status 3: No Special Status 4: No Special Status 5: No Special Status 6: No

Traffic Responsive

System Detector	Detector Channel	Name	Veh/ Hr	Average Time(mins)	Occupancy Correction/10	Min Volume %	Queue 1 Detectors	System Detectors	Weight Factor	Queue 2 Detectors	System Detectors	Weight Factor

Default Data **Default Data** **Default Data**

Sample Interval: 0

Queue: 1 Input Selection: 0=Average

Detector Failed Level : 0

Queue: 2 Input Selection: 0=Average

Detector Failed Level : 0

Queue:

Level	Enter	Leave	Dial / Split / Offset
			/ /

Default Data

Vehical Detector Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - Diag 0 Values

Vehical Detector Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 1 Values

Special Detector Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Valu

Pedestrian Detector

Diagnostic Value 0

Detector	Max Presence	No Activity	Erratic Count

Pedestrian Detector

Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Special Detector

Diagnostic Value 1

Detector	Max Presence	No Activity	Erratic Count

Default Data - No Diag 0 Values

Default Data - No Diag 1 Values

Default Data - No Diag 1 Values

Speed Trap Low Treshold	Speed Trap High Treshold

Speed Trap Data

Speed Trap:

Measurement:

Detector 1 Detector_2 Distance :

Dial/Split/Offset

//

Default Data

Default Data

Volume Detector Data

Report Interval 0

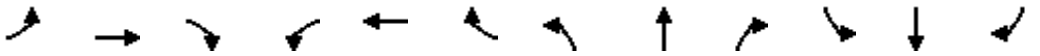
Volume Detector Number	Controller Detector Channel

Default Data

APPENDIX C

SYNCHRO INTERSECTION CAPACITY ANALYSIS

Background Traffic Volumes

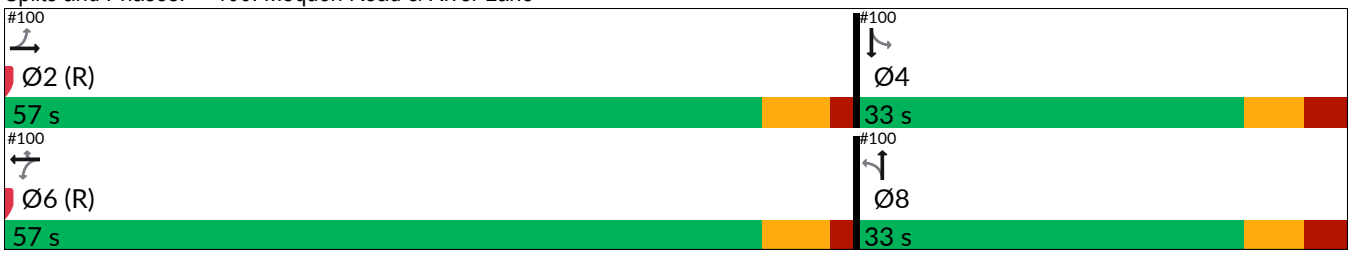


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	585	70	35	490	50	25	5	15	45	20	55
Future Volume (vph)	50	585	70	35	490	50	25	5	15	45	20	55
Ideal Flow (vphpl)	1950	1950	1950	1970	1970	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	275		0	90		310	100		0	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		775			1671			676			704	
Travel Time (s)		11.7			25.3			15.4			19.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	7%	7%	9%	9%	9%	2%	2%	2%	6%	6%	6%
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)	52	675	0	36	505	32	26	20	0	46	78	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	21.2	21.2		21.2	21.2	21.2	16.9	16.9		16.9	16.9	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	50.8	50.8		50.8	50.8	50.8	26.1	26.1		26.1	26.1	
Yellow Time (s)	4.5	4.5		4.5	4.5	4.5	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.7	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	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	25.0	25.0		25.0	25.0	25.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	15.0	15.0		15.0	15.0	15.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.08	0.25		0.06	0.19	0.03	0.17	0.10		0.29	0.41	
Control Delay (s/veh)	3.9	3.8		3.7	3.4	3.4	37.9	36.1		41.0	43.6	

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	
Total Delay (s/veh)	3.9	3.8		3.7	3.4	3.4	37.9	36.1		41.0	43.6	
Queue Length 50th (ft)	7	55		6	44	5	14	11		26	44	
Queue Length 95th (ft)	19	87		14	57	13	38	31		59	88	
Internal Link Dist (ft)		695			1591			596			624	
Turn Bay Length (ft)	275			90		310	100			195		
Base Capacity (vph)	668	2682		562	2703	1166	381	479		386	462	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.08	0.25		0.06	0.19	0.03	0.07	0.04		0.12	0.17	

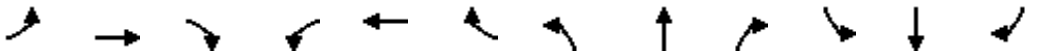
Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 24 (27%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Mequon Road & River Lane



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	675	36	505	32	26	20	46	78
v/c Ratio	0.08	0.25	0.06	0.19	0.03	0.17	0.10	0.29	0.41
Control Delay (s/veh)	3.9	3.8	3.7	3.4	3.4	37.9	36.1	41.0	43.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	3.9	3.8	3.7	3.4	3.4	37.9	36.1	41.0	43.6
Queue Length 50th (ft)	7	55	6	44	5	14	11	26	44
Queue Length 95th (ft)	19	87	14	57	13	38	31	59	88
Internal Link Dist (ft)		695		1591			596		624
Turn Bay Length (ft)	275		90		310	100		195	
Base Capacity (vph)	668	2682	562	2703	1166	381	479	386	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.25	0.06	0.19	0.03	0.07	0.04	0.12	0.17

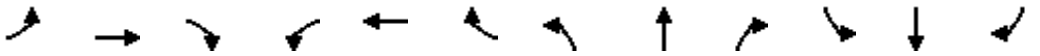
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	585	70	35	490	50	25	5	15	45	20	55
Future Volume (veh/h)	50	585	70	35	490	50	25	5	15	45	20	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1844	1844	1844	1832	1832	1767	1870	1870	1870	1811	1811	1811
Adj Flow Rate, veh/h	52	603	72	36	505	32	26	5	15	46	21	57
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	9	9	9	2	2	2	6	6	6
Cap, veh/h	680	2348	280	592	2593	1115	164	45	135	213	47	128
Arrive On Green	0.74	0.74	0.74	0.74	0.74	0.74	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	855	3152	376	748	3480	1497	1321	412	1236	1348	431	1170
Grp Volume(v), veh/h	52	335	340	36	505	32	26	0	20	46	0	78
Grp Sat Flow(s),veh/h/ln	855	1751	1776	748	1740	1497	1321	0	1648	1348	0	1601
Q Serve(g_s), s	1.7	5.4	5.4	1.4	3.9	0.5	1.7	0.0	1.0	2.9	0.0	4.1
Cycle Q Clear(g_c), s	5.6	5.4	5.4	6.9	3.9	0.5	5.8	0.0	1.0	3.9	0.0	4.1
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.75	1.00		0.73
Lane Grp Cap(c), veh/h	680	1305	1323	592	2593	1115	164	0	180	213	0	175
V/C Ratio(X)	0.08	0.26	0.26	0.06	0.19	0.03	0.16	0.00	0.11	0.22	0.00	0.44
Avail Cap(c_a), veh/h	680	1305	1323	592	2593	1115	403	0	478	456	0	464
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.3	3.6	3.6	4.7	3.4	3.0	40.2	0.0	36.1	37.9	0.0	37.5
Incr Delay (d2), s/veh	0.2	0.5	0.5	0.2	0.2	0.0	0.2	0.0	0.1	0.2	0.0	0.7
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(95%),veh/ln	0.5	2.4	2.5	0.4	1.6	0.2	1.0	0.0	0.7	1.7	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	4.5	4.1	4.1	4.9	3.6	3.0	40.4	0.0	36.2	38.0	0.0	38.2
LnGrp LOS	A	A	A	A	A	A	D		D	D		D
Approach Vol, veh/h		727			573			46			124	
Approach Delay, s/veh		4.1			3.6			38.6			38.1	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		73.2		16.8		73.2		16.8				
Change Period (Y+Rc), s		6.2		6.9		6.2		6.9				
Max Green Setting (Gmax), s		50.8		26.1		50.8		26.1				
Max Q Clear Time (g_c+I1), s		7.6		6.1		8.9		7.8				
Green Ext Time (p_c), s		9.9		0.3		7.7		0.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			7.9									
HCM 7th LOS			A									

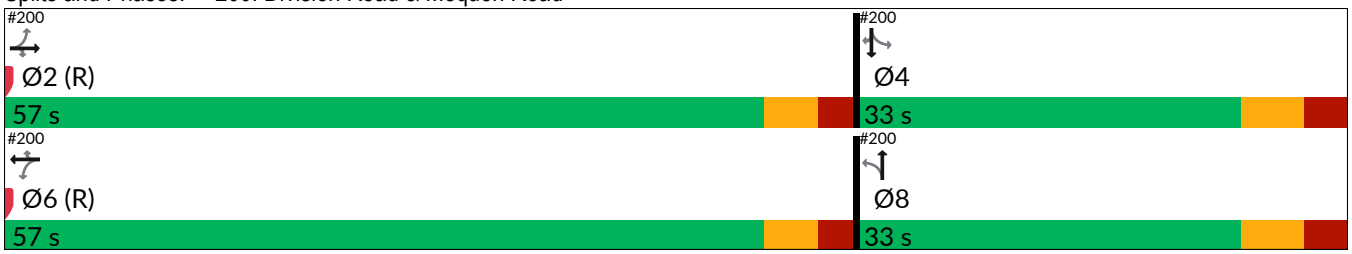


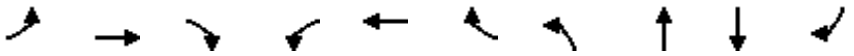
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	530	75	55	425	20	105	10	70	30	20	55
Future Volume (vph)	15	530	75	55	425	20	105	10	70	30	20	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	225		100	75		0	0		165
Storage Lanes	1		1	1		1	1		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		958			1302			1185			774	
Travel Time (s)		18.7			25.4			23.1			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	2%	2%	2%	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)	19	679	60	71	545	16	135	103	0	0	64	44
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	2	2	2	6	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	17.1	17.1		17.1	17.1	17.1
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	33.0	33.0		33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	36.7%
Maximum Green (s)	50.9	50.9	50.9	50.9	50.9	50.9	25.9	25.9		25.9	25.9	25.9
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	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)	6.1	6.1	6.1	6.1	6.1	6.1	7.1	7.1			7.1	7.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Time Before Reduce (s)	25.0	25.0	25.0	25.0	25.0	25.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	15.0	15.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.03	0.28	0.06	0.15	0.23	0.02	0.65	0.41			0.29	0.18
Control Delay (s/veh)	4.4	5.4	4.2	6.5	5.7	5.4	49.6	38.1			35.4	32.8

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 (s/veh)	4.4	5.4	4.2	6.5	5.7	5.4	49.6	38.1			35.4	32.8
Queue Length 50th (ft)	1	88	5	12	51	2	75	55			33	23
Queue Length 95th (ft)	9	118	22	30	77	9	106	82			57	42
Internal Link Dist (ft)		878			1222			1105			694	
Turn Bay Length (ft)	100		100	225		100	75					165
Base Capacity (vph)	565	2395	1049	485	2372	1039	383	460			406	449
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	0.03	0.28	0.06	0.15	0.23	0.02	0.35	0.22			0.16	0.10

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 70 (78%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

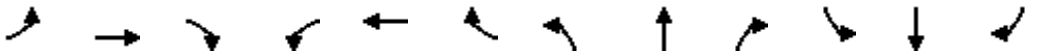
Splits and Phases: 200: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	19	679	60	71	545	16	135	103	64	44
v/c Ratio	0.03	0.28	0.06	0.15	0.23	0.02	0.65	0.41	0.29	0.18
Control Delay (s/veh)	4.4	5.4	4.2	6.5	5.7	5.4	49.6	38.1	35.4	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.4	5.4	4.2	6.5	5.7	5.4	49.6	38.1	35.4	32.8
Queue Length 50th (ft)	1	88	5	12	51	2	75	55	33	23
Queue Length 95th (ft)	9	118	22	30	77	9	106	82	57	42
Internal Link Dist (ft)		878			1222			1105	694	
Turn Bay Length (ft)	100		100	225		100	75			165
Base Capacity (vph)	565	2395	1049	485	2372	1039	383	460	406	449
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	0.03	0.28	0.06	0.15	0.23	0.02	0.35	0.22	0.16	0.10

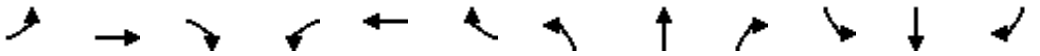
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	530	75	55	425	20	105	10	70	30	20	55
Future Volume (veh/h)	15	530	75	55	425	20	105	10	70	30	20	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	1826	1826	1826	1811	1811	1811	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	679	60	71	545	16	135	13	90	38	26	44
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	5	5	5	6	6	6	2	2	2	2	2	2
Cap, veh/h	569	2273	992	478	2255	984	246	40	276	189	114	309
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	828	3469	1514	697	3441	1502	1329	201	1394	633	577	1562
Grp Volume(v), veh/h	19	679	60	71	545	16	135	0	103	64	0	44
Grp Sat Flow(s),veh/h/ln	828	1735	1514	697	1721	1502	1329	0	1595	1209	0	1562
Q Serve(g_s), s	0.9	7.6	1.3	4.4	5.8	0.3	8.9	0.0	5.0	1.7	0.0	2.1
Cycle Q Clear(g_c), s	6.7	7.6	1.3	12.0	5.8	0.3	15.5	0.0	5.0	6.6	0.0	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.87	0.59		1.00
Lane Grp Cap(c), veh/h	569	2273	992	478	2255	984	246	0	316	303	0	309
V/C Ratio(X)	0.03	0.30	0.06	0.15	0.24	0.02	0.55	0.00	0.33	0.21	0.00	0.14
Avail Cap(c_a), veh/h	569	2273	992	478	2255	984	365	0	459	436	0	449
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.7	6.6	5.6	9.2	6.4	5.4	38.4	0.0	30.9	31.5	0.0	29.8
Incr Delay (d2), s/veh	0.1	0.3	0.1	0.7	0.3	0.0	0.7	0.0	0.2	0.1	0.0	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(95%),veh/ln	0.3	4.4	0.7	1.2	3.4	0.2	5.2	0.0	3.4	2.2	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.9	7.0	5.7	9.9	6.6	5.4	39.1	0.0	31.2	31.6	0.0	29.9
LnGrp LOS	A	A	A	A	A	A	D		C	C		C
Approach Vol, veh/h		758			632			238			108	
Approach Delay, s/veh		6.9			6.9			35.6			30.9	
Approach LOS		A			A			D			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.1		24.9		65.1		24.9				
Change Period (Y+Rc), s		6.1		7.1		6.1		7.1				
Max Green Setting (Gmax), s		50.9		25.9		50.9		25.9				
Max Q Clear Time (g_c+I1), s		9.6		8.6		14.0		17.5				
Green Ext Time (p_c), s		11.3		0.2		9.2		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.4									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	5	5	1	5	10	170	1	5	135	10
Future Volume (vph)	5	1	5	5	1	5	10	170	1	5	135	10
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		90
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		495			280			1078			340	
Travel Time (s)		13.5			7.6			21.0			6.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	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)	0	13	0	0	13	0	0	223	0	0	173	12
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

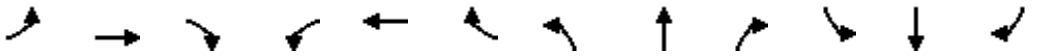
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	5	5	1	5	10	170	1	5	135	10
Future Vol, veh/h	5	1	5	5	1	5	10	170	1	5	135	10
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	-	-	-	-	-	-	-	-	-	-	-	90
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	3	3	3
Mvmt Flow	6	1	6	6	1	6	12	210	1	6	167	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	309	415	167	415	427	106	179	0	0	211	0	0
Stage 1	179	179	-	235	235	-	-	-	-	-	-	-
Stage 2	130	236	-	180	191	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.245	7.33	6.53	6.93	4.13	-	-	4.145	-	-
Critical Hdwy Stg 1	6.145	5.545	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.545	5.545	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.519	4.019	3.319	2.219	-	-	2.2285	-	-
Pot Cap-1 Maneuver	629	525	874	535	519	929	1395	-	-	1351	-	-
Stage 1	820	748	-	747	710	-	-	-	-	-	-	-
Stage 2	858	707	-	822	741	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	615	518	874	522	512	929	1395	-	-	1351	-	-
Mov Cap-2 Maneuver	615	518	-	522	512	-	-	-	-	-	-	-
Stage 1	815	745	-	740	703	-	-	-	-	-	-	-
Stage 2	842	700	-	810	738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.27	10.65	0.48	0.26
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	197	-	-	697	650	64	-	-
HCM Lane V/C Ratio	0.009	-	-	0.019	0.021	0.005	-	-
HCM Ctrl Dly (s/v)	7.6	0.1	-	10.3	10.7	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	30	15	15	1	40	170	5	1	130	15
Future Volume (vph)	10	10	30	15	15	1	40	170	5	1	130	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		130	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		40			25			35			35	
Link Distance (ft)		2628			530			960			1078	
Travel Time (s)		44.8			14.5			18.7			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	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)	0	64	0	0	39	0	0	269	6	0	187	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇃	↱		⇕	
Traffic Vol, veh/h	10	10	30	15	15	1	40	170	5	1	130	15
Future Vol, veh/h	10	10	30	15	15	1	40	170	5	1	130	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	-	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	4	4	4	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	13	38	19	19	1	51	218	6	1	167	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	509	506	176	496	509	218	186	0	0	224	0	0
Stage 1	179	179	-	321	321	-	-	-	-	-	-	-
Stage 2	330	327	-	176	188	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	471	466	862	484	467	822	1389	-	-	1344	-	-
Stage 1	818	748	-	691	652	-	-	-	-	-	-	-
Stage 2	679	644	-	826	744	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	432	446	862	430	447	822	1389	-	-	1344	-	-
Mov Cap-2 Maneuver	432	446	-	430	447	-	-	-	-	-	-	-
Stage 1	817	747	-	662	624	-	-	-	-	-	-	-
Stage 2	629	617	-	775	743	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.45	13.88	1.43	0.05
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	343	-	-	622	445	12	-	-
HCM Lane V/C Ratio	0.037	-	-	0.103	0.089	0.001	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	11.5	13.9	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.3	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	50	120	20	30	130
Future Volume (vph)	20	50	120	20	30	130
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		100	150	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100	100		100	100	
Link Speed (mph)	40		40			40
Link Distance (ft)	2582		494			598
Travel Time (s)	44.0		8.4			10.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	5%	5%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	140	23	35	151
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

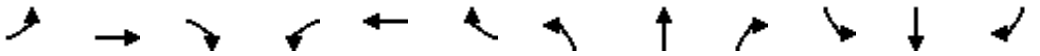
Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	50	120	20	30	130
Future Vol, veh/h	20	50	120	20	30	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	5	5	6	6
Mvmt Flow	23	58	140	23	35	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	360	140	0	0	163	0
Stage 1	140	-	-	-	-	-
Stage 2	221	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.16	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.254	-
Pot Cap-1 Maneuver	636	906	-	-	1392	-
Stage 1	885	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	620	906	-	-	1392	-
Mov Cap-2 Maneuver	620	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10	0	1.43
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	801	1392	-
HCM Lane V/C Ratio	-	-	0.102	0.025	-
HCM Ctrl Dly (s/v)	-	-	10	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

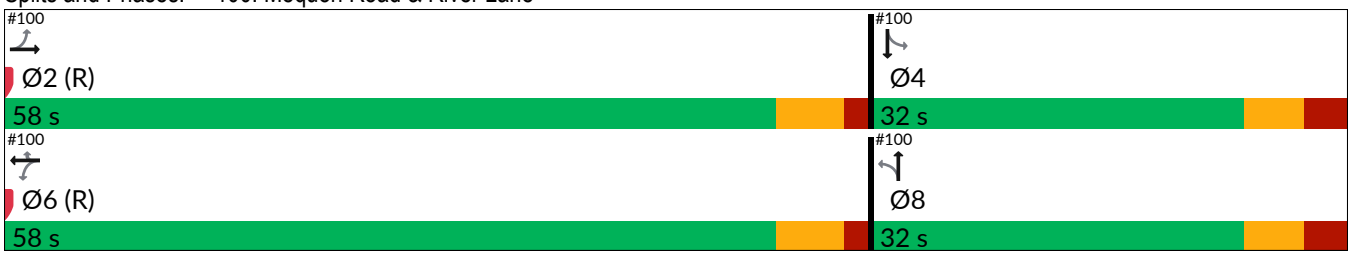


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	665	10	5	780	155	45	5	25	95	1	65
Future Volume (vph)	175	665	10	5	780	155	45	5	25	95	1	65
Ideal Flow (vphpl)	1950	1950	1950	1970	1970	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	275		0	90		310	100		0	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		775			1671			676			704	
Travel Time (s)		11.7			25.3			15.4			19.2	
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%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	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)	190	734	0	5	848	104	49	32	0	103	72	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	21.2	21.2		21.2	21.2	21.2	16.9	16.9		16.9	16.9	
Total Split (s)	58.0	58.0		58.0	58.0	58.0	32.0	32.0		32.0	32.0	
Total Split (%)	64.4%	64.4%		64.4%	64.4%	64.4%	35.6%	35.6%		35.6%	35.6%	
Maximum Green (s)	51.8	51.8		51.8	51.8	51.8	25.1	25.1		25.1	25.1	
Yellow Time (s)	4.5	4.5		4.5	4.5	4.5	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.7	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	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	25.0	25.0		25.0	25.0	25.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	15.0	15.0		15.0	15.0	15.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.40	0.27		0.01	0.30	0.09	0.27	0.14		0.56	0.34	
Control Delay (s/veh)	8.8	4.6		3.4	3.3	3.2	37.7	34.4		47.6	38.7	

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	
Total Delay (s/veh)	8.8	4.6		3.4	3.3	3.2	37.7	34.4		47.6	38.7	
Queue Length 50th (ft)	36	64		1	63	13	26	17		58	39	
Queue Length 95th (ft)	101	110		m2	77	26	57	41		104	76	
Internal Link Dist (ft)		695			1591			596			624	
Turn Bay Length (ft)	275			90		310	100			195		
Base Capacity (vph)	470	2735		552	2823	1217	368	453		378	438	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.40	0.27		0.01	0.30	0.09	0.13	0.07		0.27	0.16	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 55 (61%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

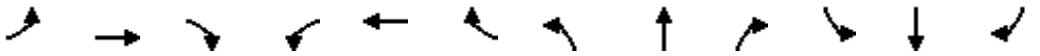
Splits and Phases: 100: Mequon Road & River Lane



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	190	734	5	848	104	49	32	103	72
v/c Ratio	0.40	0.27	0.01	0.30	0.09	0.27	0.14	0.56	0.34
Control Delay (s/veh)	8.8	4.6	3.4	3.3	3.2	37.7	34.4	47.6	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.8	4.6	3.4	3.3	3.2	37.7	34.4	47.6	38.7
Queue Length 50th (ft)	36	64	1	63	13	26	17	58	39
Queue Length 95th (ft)	101	110	m2	77	26	57	41	104	76
Internal Link Dist (ft)		695		1591			596		624
Turn Bay Length (ft)	275		90		310	100		195	
Base Capacity (vph)	470	2735	552	2823	1217	368	453	378	438
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.27	0.01	0.30	0.09	0.13	0.07	0.27	0.16

Intersection Summary

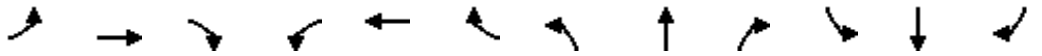
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	665	10	5	780	155	45	5	25	95	1	65
Future Volume (veh/h)	175	665	10	5	780	155	45	5	25	95	1	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1889	1889	1889	1939	1939	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	190	723	11	5	848	104	49	5	27	103	1	71
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
Percent Heavy Veh, %	4	4	4	2	2	2	2	2	2	3	3	3
Cap, veh/h	472	2668	41	583	2717	1169	179	30	160	216	3	182
Arrive On Green	0.74	0.74	0.74	0.74	0.74	0.74	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	595	3619	55	750	3685	1585	1328	254	1370	1366	22	1554
Grp Volume(v), veh/h	190	358	376	5	848	104	49	0	32	103	0	72
Grp Sat Flow(s),veh/h/ln	595	1795	1879	750	1842	1585	1328	0	1624	1366	0	1576
Q Serve(g_s), s	14.4	5.9	5.9	0.2	7.1	1.7	3.2	0.0	1.6	6.6	0.0	3.8
Cycle Q Clear(g_c), s	21.5	5.9	5.9	6.1	7.1	1.7	7.0	0.0	1.6	8.2	0.0	3.8
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.84	1.00		0.99
Lane Grp Cap(c), veh/h	472	1323	1386	583	2717	1169	179	0	190	216	0	185
V/C Ratio(X)	0.40	0.27	0.27	0.01	0.31	0.09	0.27	0.00	0.17	0.48	0.00	0.39
Avail Cap(c_a), veh/h	472	1323	1386	583	2717	1169	394	0	453	437	0	439
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.7	3.9	3.9	4.9	4.0	3.3	40.0	0.0	35.8	39.5	0.0	36.8
Incr Delay (d2), s/veh	2.5	0.5	0.5	0.0	0.3	0.2	0.3	0.0	0.2	0.6	0.0	0.5
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(95%),veh/ln	3.1	2.8	2.9	0.0	3.2	0.7	1.9	0.0	1.1	4.0	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.2	4.4	4.4	4.9	4.3	3.5	40.3	0.0	35.9	40.1	0.0	37.3
LnGrp LOS	B	A	A	A	A	A	D		D	D		D
Approach Vol, veh/h		924			957			81			175	
Approach Delay, s/veh		5.6			4.2			38.6			38.9	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		72.6		17.4		72.6		17.4				
Change Period (Y+Rc), s		6.2		6.9		6.2		6.9				
Max Green Setting (Gmax), s		51.8		25.1		51.8		25.1				
Max Q Clear Time (g_c+I1), s		23.5		10.2		9.1		9.0				
Green Ext Time (p_c), s		12.4		0.4		14.4		0.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			9.0									
HCM 7th LOS			A									

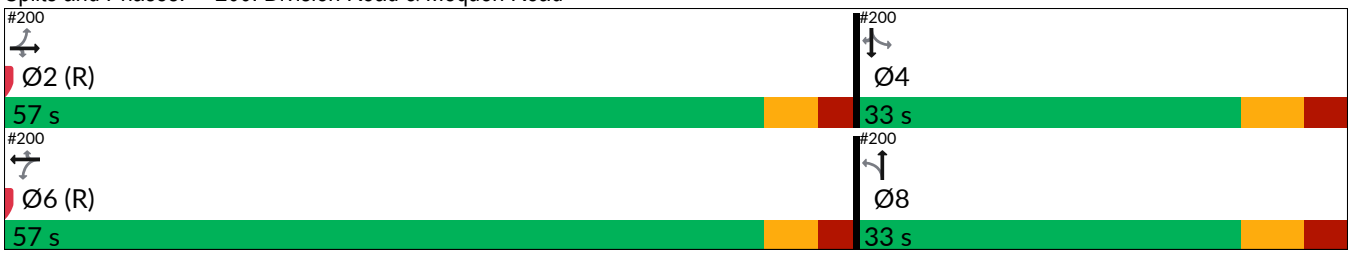


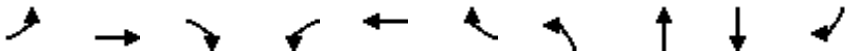
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	600	120	100	780	35	110	35	105	35	25	65
Future Volume (vph)	40	600	120	100	780	35	110	35	105	35	25	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	225		100	75		0	0		165
Storage Lanes	1		1	1		1	1		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		958			1302			1185			774	
Travel Time (s)		18.7			25.4			23.1			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	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	638	79	106	830	23	117	149	0	0	64	43
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	2	2	2	6	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	17.1	17.1		17.1	17.1	17.1
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	33.0	33.0		33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	36.7%
Maximum Green (s)	50.9	50.9	50.9	50.9	50.9	50.9	25.9	25.9		25.9	25.9	25.9
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	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)	6.1	6.1	6.1	6.1	6.1	6.1	7.1	7.1			7.1	7.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Time Before Reduce (s)	25.0	25.0	25.0	25.0	25.0	25.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	15.0	15.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.10	0.26	0.07	0.20	0.33	0.02	0.60	0.62			0.32	0.19
Control Delay (s/veh)	6.1	6.0	5.1	6.3	5.9	4.9	48.3	47.0			37.4	34.1

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 (s/veh)	6.1	6.0	5.1	6.3	5.9	4.9	48.3	47.0			37.4	34.1
Queue Length 50th (ft)	10	87	18	17	80	3	65	83			34	22
Queue Length 95th (ft)	32	145	40	46	135	12	114	136			68	50
Internal Link Dist (ft)		878			1222			1105			694	
Turn Bay Length (ft)	100		100	225		100	75					165
Base Capacity (vph)	425	2476	1084	538	2500	1095	383	470			395	449
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	0.10	0.26	0.07	0.20	0.33	0.02	0.31	0.32			0.16	0.10

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 19 (21%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

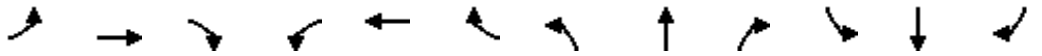
Splits and Phases: 200: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	43	638	79	106	830	23	117	149	64	43
v/c Ratio	0.10	0.26	0.07	0.20	0.33	0.02	0.60	0.62	0.32	0.19
Control Delay (s/veh)	6.1	6.0	5.1	6.3	5.9	4.9	48.3	47.0	37.4	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.1	6.0	5.1	6.3	5.9	4.9	48.3	47.0	37.4	34.1
Queue Length 50th (ft)	10	87	18	17	80	3	65	83	34	22
Queue Length 95th (ft)	32	145	40	46	135	12	114	136	68	50
Internal Link Dist (ft)		878			1222			1105	694	
Turn Bay Length (ft)	100		100	225		100	75			165
Base Capacity (vph)	425	2476	1084	538	2500	1095	383	470	395	449
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	0.10	0.26	0.07	0.20	0.33	0.02	0.31	0.32	0.16	0.10

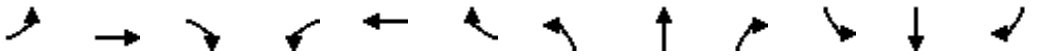
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	600	120	100	780	35	110	35	105	35	25	65
Future Volume (veh/h)	40	600	120	100	780	35	110	35	105	35	25	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	638	79	106	830	23	117	37	112	37	27	43
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	423	2271	991	495	2289	999	229	85	256	172	109	327
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	642	3526	1539	734	3554	1551	1329	404	1224	519	523	1562
Grp Volume(v), veh/h	43	638	79	106	830	23	117	0	149	64	0	43
Grp Sat Flow(s),veh/h/ln	642	1763	1539	734	1777	1551	1329	0	1629	1042	0	1562
Q Serve(g_s), s	3.0	7.1	1.7	6.6	9.8	0.5	7.7	0.0	7.2	1.7	0.0	2.0
Cycle Q Clear(g_c), s	12.8	7.1	1.7	13.7	9.8	0.5	16.4	0.0	7.2	8.8	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	0.58		1.00
Lane Grp Cap(c), veh/h	423	2271	991	495	2289	999	229	0	341	281	0	327
V/C Ratio(X)	0.10	0.28	0.08	0.21	0.36	0.02	0.51	0.00	0.44	0.23	0.00	0.13
Avail Cap(c_a), veh/h	423	2271	991	495	2289	999	334	0	469	395	0	450
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.4	7.0	6.0	10.0	7.4	5.8	38.9	0.0	31.0	31.4	0.0	28.9
Incr Delay (d2), s/veh	0.5	0.3	0.2	1.0	0.4	0.0	0.7	0.0	0.3	0.2	0.0	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(95%),veh/ln	0.8	4.2	0.9	2.0	5.9	0.3	4.5	0.0	5.0	2.3	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.9	7.3	6.2	10.9	7.9	5.8	39.5	0.0	31.3	31.5	0.0	29.0
LnGrp LOS	B	A	A	B	A	A	D		C	C		C
Approach Vol, veh/h		760			959			266			107	
Approach Delay, s/veh		7.4			8.2			34.9			30.5	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.1		25.9		64.1		25.9				
Change Period (Y+Rc), s		6.1		7.1		6.1		7.1				
Max Green Setting (Gmax), s		50.9		25.9		50.9		25.9				
Max Q Clear Time (g_c+I1), s		14.8		10.8		15.7		18.4				
Green Ext Time (p_c), s		10.9		0.2		14.7		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.4									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	10	1	1	10	5	230	5	5	230	5
Future Volume (vph)	5	1	10	1	1	10	5	230	5	5	230	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		90
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		495			280			1078			340	
Travel Time (s)		13.5			7.6			21.0			6.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	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)	0	17	0	0	13	0	0	255	0	0	250	5
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

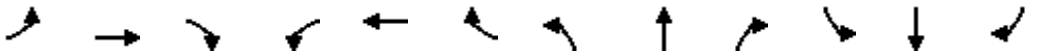
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	10	1	1	10	5	230	5	5	230	5
Future Vol, veh/h	5	1	10	1	1	10	5	230	5	5	230	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	-	-	-	-	-	-	-	-	-	-	-	90
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	11	1	1	11	5	245	5	5	245	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	389	516	245	514	519	125	250	0	0	250	0	0
Stage 1	255	255	-	258	258	-	-	-	-	-	-	-
Stage 2	134	261	-	256	261	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	557	462	793	457	461	903	1314	-	-	1314	-	-
Stage 1	748	695	-	725	694	-	-	-	-	-	-	-
Stage 2	857	692	-	748	692	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	544	458	793	446	456	903	1314	-	-	1314	-	-
Mov Cap-2 Maneuver	544	458	-	446	456	-	-	-	-	-	-	-
Stage 1	745	692	-	722	691	-	-	-	-	-	-	-
Stage 2	841	689	-	733	689	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.54	9.73	0.19	0.16
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	73	-	-	667	774	38	-	-
HCM Lane V/C Ratio	0.004	-	-	0.026	0.017	0.004	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	10.5	9.7	7.8	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	30	105	10	15	5	50	225	15	1	220	20
Future Volume (vph)	10	30	105	10	15	5	50	225	15	1	220	20
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		130	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		40			25			35			35	
Link Distance (ft)		2628			530			960			1078	
Travel Time (s)		44.8			14.5			18.7			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	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)	0	166	0	0	34	0	0	316	17	0	277	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	10	30	105	10	15	5	50	225	15	1	220	20
Future Vol, veh/h	10	30	105	10	15	5	50	225	15	1	220	20
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	-	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	11	34	121	11	17	6	57	259	17	1	253	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	649	657	264	646	652	259	276	0	0	276	0	0
Stage 1	267	267	-	374	374	-	-	-	-	-	-	-
Stage 2	382	391	-	272	278	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	383	384	774	385	387	780	1281	-	-	1287	-	-
Stage 1	739	688	-	647	618	-	-	-	-	-	-	-
Stage 2	640	607	-	734	680	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	344	364	774	279	366	780	1281	-	-	1287	-	-
Mov Cap-2 Maneuver	344	364	-	279	366	-	-	-	-	-	-	-
Stage 1	738	688	-	613	585	-	-	-	-	-	-	-
Stage 2	584	575	-	587	680	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.56	16.03	1.37	0.03
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	327	-	-	587	361	7	-	-
HCM Lane V/C Ratio	0.045	-	-	0.284	0.096	0.001	-	-
HCM Ctrl Dly (s/v)	7.9	0	-	13.6	16	7.8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.3	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	45	215	65	80	210
Future Volume (vph)	40	45	215	65	80	210
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		100	150	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100	100		100	100	
Link Speed (mph)	40		40			40
Link Distance (ft)	2582		494			598
Travel Time (s)	44.0		8.4			10.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	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)	99	0	250	76	93	244
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	45	215	65	80	210
Future Vol, veh/h	40	45	215	65	80	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	52	250	76	93	244

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	680	250	0	0	326	0
Stage 1	250	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	416	789	-	-	1234	-
Stage 1	792	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	385	789	-	-	1234	-
Mov Cap-2 Maneuver	385	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	656	-	-	-	-	-

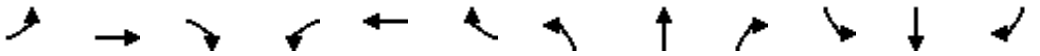
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.38	0	2.25
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	528	1234	-
HCM Lane V/C Ratio	-	-	0.187	0.075	-
HCM Ctrl Dly (s/v)	-	-	13.4	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.2	-

APPENDIX D

SYNCHRO INTERSECTION CAPACITY ANALYSIS

Build Traffic Volumes

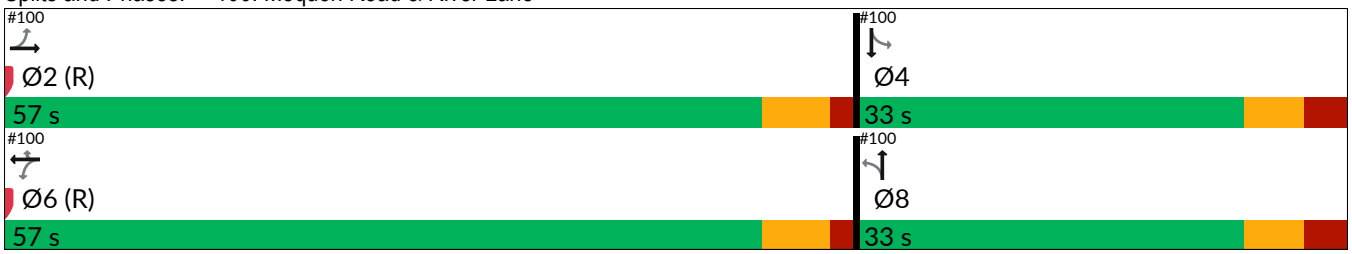


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	585	90	45	490	50	85	10	35	45	20	55
Future Volume (vph)	50	585	90	45	490	50	85	10	35	45	20	55
Ideal Flow (vphpl)	1950	1950	1950	1970	1970	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	275		0	90		310	100		0	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		775			1671			676			704	
Travel Time (s)		11.7			25.3			15.4			19.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	7%	7%	9%	9%	9%	2%	2%	2%	6%	6%	6%
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)	52	696	0	46	505	32	88	46	0	46	78	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	21.2	21.2		21.2	21.2	21.2	16.9	16.9		16.9	16.9	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	50.8	50.8		50.8	50.8	50.8	26.1	26.1		26.1	26.1	
Yellow Time (s)	4.5	4.5		4.5	4.5	4.5	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.7	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	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	25.0	25.0		25.0	25.0	25.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	15.0	15.0		15.0	15.0	15.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.08	0.26		0.08	0.19	0.03	0.52	0.22		0.27	0.38	
Control Delay (s/veh)	4.5	4.3		4.2	3.7	3.8	47.1	36.6		38.7	40.6	

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	
Total Delay (s/veh)	4.5	4.3		4.2	3.7	3.8	47.1	36.6		38.7	40.6	
Queue Length 50th (ft)	7	59		8	43	5	49	25		26	44	
Queue Length 95th (ft)	22	103		17	57	13	92	54		57	84	
Internal Link Dist (ft)		695			1591			596			624	
Turn Bay Length (ft)	275			90		310	100			195		
Base Capacity (vph)	658	2632		542	2664	1149	381	477		377	462	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.08	0.26		0.08	0.19	0.03	0.23	0.10		0.12	0.17	

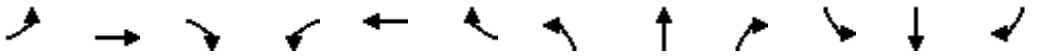
Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 24 (27%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Mequon Road & River Lane



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	696	46	505	32	88	46	46	78
v/c Ratio	0.08	0.26	0.08	0.19	0.03	0.52	0.22	0.27	0.38
Control Delay (s/veh)	4.5	4.3	4.2	3.7	3.8	47.1	36.6	38.7	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.5	4.3	4.2	3.7	3.8	47.1	36.6	38.7	40.6
Queue Length 50th (ft)	7	59	8	43	5	49	25	26	44
Queue Length 95th (ft)	22	103	17	57	13	92	54	57	84
Internal Link Dist (ft)		695		1591			596		624
Turn Bay Length (ft)	275		90		310	100		195	
Base Capacity (vph)	658	2632	542	2664	1149	381	477	377	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.26	0.08	0.19	0.03	0.23	0.10	0.12	0.17

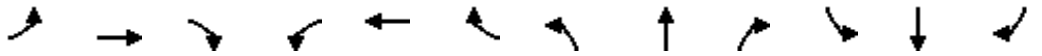
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	585	90	45	490	50	85	10	35	45	20	55
Future Volume (veh/h)	50	585	90	45	490	50	85	10	35	45	20	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1844	1844	1844	1832	1832	1767	1870	1870	1870	1811	1811	1811
Adj Flow Rate, veh/h	52	603	93	46	505	32	88	10	36	46	21	57
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	9	9	9	2	2	2	6	6	6
Cap, veh/h	656	2192	337	558	2508	1079	198	48	172	223	58	157
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.72	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	855	3042	468	733	3480	1497	1321	356	1283	1317	431	1170
Grp Volume(v), veh/h	52	347	349	46	505	32	88	0	46	46	0	78
Grp Sat Flow(s),veh/h/ln	855	1751	1759	733	1740	1497	1321	0	1639	1317	0	1601
Q Serve(g_s), s	1.9	6.2	6.2	2.1	4.3	0.5	5.8	0.0	2.3	2.9	0.0	4.0
Cycle Q Clear(g_c), s	6.2	6.2	6.2	8.3	4.3	0.5	9.8	0.0	2.3	5.2	0.0	4.0
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.78	1.00		0.73
Lane Grp Cap(c), veh/h	656	1262	1268	558	2508	1079	198	0	219	223	0	214
V/C Ratio(X)	0.08	0.27	0.28	0.08	0.20	0.03	0.44	0.00	0.21	0.21	0.00	0.36
Avail Cap(c_a), veh/h	656	1262	1268	558	2508	1079	404	0	475	429	0	464
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.1	4.4	4.4	5.8	4.1	3.6	40.0	0.0	34.7	37.0	0.0	35.5
Incr Delay (d2), s/veh	0.2	0.5	0.5	0.3	0.2	0.1	0.6	0.0	0.2	0.2	0.0	0.4
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(95%),veh/ln	0.5	3.0	3.0	0.5	1.9	0.2	3.4	0.0	1.6	1.7	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.4	4.9	4.9	6.1	4.3	3.6	40.6	0.0	34.9	37.2	0.0	35.9
LnGrp LOS	A	A	A	A	A	A	D		C	D		D
Approach Vol, veh/h		748			583			134			124	
Approach Delay, s/veh		5.0			4.4			38.6			36.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		71.1		18.9		71.1		18.9				
Change Period (Y+Rc), s		6.2		6.9		6.2		6.9				
Max Green Setting (Gmax), s		50.8		26.1		50.8		26.1				
Max Q Clear Time (g_c+I1), s		8.2		7.2		10.3		11.8				
Green Ext Time (p_c), s		10.2		0.3		7.9		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			10.0									
HCM 7th LOS			B									

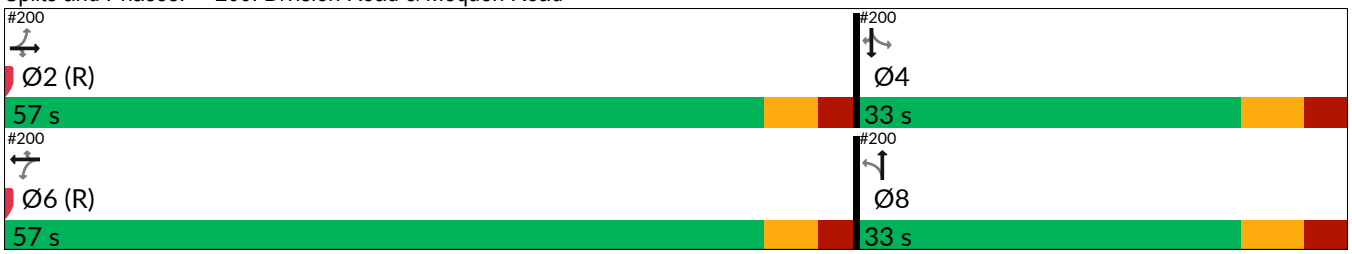


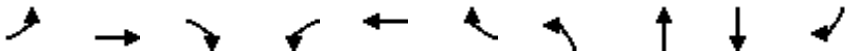
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	550	75	55	435	20	105	10	75	30	20	55
Future Volume (vph)	15	550	75	55	435	20	105	10	75	30	20	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	225		100	75		0	0		165
Storage Lanes	1		1	1		1	1		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		958			1302			1185			774	
Travel Time (s)		18.7			25.4			23.1			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	2%	2%	2%	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)	19	705	60	71	558	16	135	109	0	0	64	44
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	2	2	2	6	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	17.1	17.1		17.1	17.1	17.1
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	33.0	33.0		33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	36.7%
Maximum Green (s)	50.9	50.9	50.9	50.9	50.9	50.9	25.9	25.9		25.9	25.9	25.9
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	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)	6.1	6.1	6.1	6.1	6.1	6.1	7.1	7.1			7.1	7.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Time Before Reduce (s)	25.0	25.0	25.0	25.0	25.0	25.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	15.0	15.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.03	0.29	0.06	0.15	0.24	0.02	0.65	0.44			0.29	0.18
Control Delay (s/veh)	4.3	5.6	4.2	6.6	5.7	5.4	49.6	38.8			35.5	32.8

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 (s/veh)	4.3	5.6	4.2	6.6	5.7	5.4	49.6	38.8			35.5	32.8
Queue Length 50th (ft)	2	97	5	12	53	2	75	58			33	23
Queue Length 95th (ft)	6	126	15	30	80	9	106	86			57	42
Internal Link Dist (ft)		878			1222			1105			694	
Turn Bay Length (ft)	100		100	225		100	75					165
Base Capacity (vph)	558	2395	1049	471	2372	1039	383	459			404	449
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	0.03	0.29	0.06	0.15	0.24	0.02	0.35	0.24			0.16	0.10

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 70 (78%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

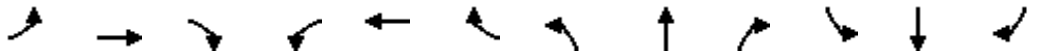
Splits and Phases: 200: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	19	705	60	71	558	16	135	109	64	44
v/c Ratio	0.03	0.29	0.06	0.15	0.24	0.02	0.65	0.44	0.29	0.18
Control Delay (s/veh)	4.3	5.6	4.2	6.6	5.7	5.4	49.6	38.8	35.5	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.3	5.6	4.2	6.6	5.7	5.4	49.6	38.8	35.5	32.8
Queue Length 50th (ft)	2	97	5	12	53	2	75	58	33	23
Queue Length 95th (ft)	6	126	15	30	80	9	106	86	57	42
Internal Link Dist (ft)		878			1222			1105	694	
Turn Bay Length (ft)	100		100	225		100	75			165
Base Capacity (vph)	558	2395	1049	471	2372	1039	383	459	404	449
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	0.03	0.29	0.06	0.15	0.24	0.02	0.35	0.24	0.16	0.10

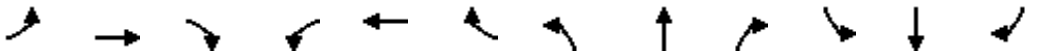
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	550	75	55	435	20	105	10	75	30	20	55
Future Volume (veh/h)	15	550	75	55	435	20	105	10	75	30	20	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	1826	1826	1826	1811	1811	1811	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	705	60	71	558	16	135	13	96	38	26	44
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	5	5	5	6	6	6	2	2	2	2	2	2
Cap, veh/h	558	2261	987	463	2243	979	246	38	283	189	114	315
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	819	3469	1514	680	3441	1502	1329	190	1403	620	566	1562
Grp Volume(v), veh/h	19	705	60	71	558	16	135	0	109	64	0	44
Grp Sat Flow(s),veh/h/ln	819	1735	1514	680	1721	1502	1329	0	1593	1186	0	1562
Q Serve(g_s), s	0.9	8.0	1.3	4.6	6.1	0.3	8.9	0.0	5.3	1.7	0.0	2.1
Cycle Q Clear(g_c), s	7.0	8.0	1.3	12.6	6.1	0.3	15.8	0.0	5.3	6.9	0.0	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	0.59		1.00
Lane Grp Cap(c), veh/h	558	2261	987	463	2243	979	246	0	321	303	0	315
V/C Ratio(X)	0.03	0.31	0.06	0.15	0.25	0.02	0.55	0.00	0.34	0.21	0.00	0.14
Avail Cap(c_a), veh/h	558	2261	987	463	2243	979	361	0	459	430	0	450
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.0	6.8	5.7	9.6	6.5	5.5	38.3	0.0	30.8	31.4	0.0	29.5
Incr Delay (d2), s/veh	0.1	0.4	0.1	0.7	0.3	0.0	0.7	0.0	0.2	0.1	0.0	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(95%),veh/ln	0.3	4.7	0.7	1.3	3.5	0.2	5.2	0.0	3.6	2.2	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.1	7.2	5.8	10.3	6.8	5.5	39.1	0.0	31.0	31.5	0.0	29.6
LnGrp LOS	A	A	A	B	A	A	D		C	C		C
Approach Vol, veh/h		784			645			244			108	
Approach Delay, s/veh		7.1			7.1			35.5			30.7	
Approach LOS		A			A			D			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.8		25.2		64.8		25.2				
Change Period (Y+Rc), s		6.1		7.1		6.1		7.1				
Max Green Setting (Gmax), s		50.9		25.9		50.9		25.9				
Max Q Clear Time (g_c+I1), s		10.0		8.9		14.6		17.8				
Green Ext Time (p_c), s		11.8		0.2		9.4		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.4									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1	15	5	1	5	15	170	1	5	135	10
Future Volume (vph)	10	1	15	5	1	5	15	170	1	5	135	10
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		90
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		495			280			1078			340	
Travel Time (s)		13.5			7.6			21.0			6.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	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)	0	32	0	0	13	0	0	230	0	0	173	12
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

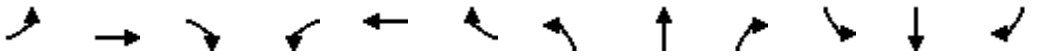
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	15	5	1	5	15	170	1	5	135	10
Future Vol, veh/h	10	1	15	5	1	5	15	170	1	5	135	10
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	-	-	-	-	-	-	-	-	-	-	-	90
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	3	3	3
Mvmt Flow	12	1	19	6	1	6	19	210	1	6	167	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	322	427	167	427	439	106	179	0	0	211	0	0
Stage 1	179	179	-	248	248	-	-	-	-	-	-	-
Stage 2	143	248	-	180	191	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.245	7.33	6.53	6.93	4.13	-	-	4.145	-	-
Critical Hdwy Stg 1	6.145	5.545	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.545	5.545	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.519	4.019	3.319	2.219	-	-	2.2285	-	-
Pot Cap-1 Maneuver	617	517	874	524	511	929	1395	-	-	1351	-	-
Stage 1	820	748	-	735	701	-	-	-	-	-	-	-
Stage 2	844	698	-	822	741	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	600	507	874	502	501	929	1395	-	-	1351	-	-
Mov Cap-2 Maneuver	600	507	-	502	501	-	-	-	-	-	-	-
Stage 1	815	745	-	725	691	-	-	-	-	-	-	-
Stage 2	825	688	-	799	738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.19	10.8	0.7	0.26
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	288	-	-	726	635	64	-	-
HCM Lane V/C Ratio	0.013	-	-	0.044	0.021	0.005	-	-
HCM Ctrl Dly (s/v)	7.6	0.1	-	10.2	10.8	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	30	15	15	1	40	175	5	1	140	15
Future Volume (vph)	10	10	30	15	15	1	40	175	5	1	140	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		130	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		40			25			35			35	
Link Distance (ft)		2628			530			960			1078	
Travel Time (s)		44.8			14.5			18.7			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	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)	0	64	0	0	39	0	0	275	6	0	199	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	10	10	30	15	15	1	40	175	5	1	140	15
Future Vol, veh/h	10	10	30	15	15	1	40	175	5	1	140	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	-	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	4	4	4	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	13	38	19	19	1	51	224	6	1	179	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	528	525	189	515	528	224	199	0	0	231	0	0
Stage 1	192	192	-	327	327	-	-	-	-	-	-	-
Stage 2	337	333	-	188	201	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	458	455	848	470	456	815	1374	-	-	1337	-	-
Stage 1	805	738	-	686	648	-	-	-	-	-	-	-
Stage 2	673	640	-	813	735	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	418	435	848	417	436	815	1374	-	-	1337	-	-
Mov Cap-2 Maneuver	418	435	-	417	436	-	-	-	-	-	-	-
Stage 1	805	737	-	656	620	-	-	-	-	-	-	-
Stage 2	624	613	-	762	734	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.62	14.16	1.4	0.05
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	335	-	-	608	433	11	-	-
HCM Lane V/C Ratio	0.037	-	-	0.106	0.092	0.001	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	11.6	14.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.3	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	50	125	20	30	145
Future Volume (vph)	20	50	125	20	30	145
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		100	150	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100	100		100	100	
Link Speed (mph)	40		40			40
Link Distance (ft)	2582		494			598
Travel Time (s)	44.0		8.4			10.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	5%	5%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	145	23	35	169
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

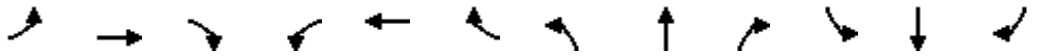
Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	50	125	20	30	145
Future Vol, veh/h	20	50	125	20	30	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	5	5	6	6
Mvmt Flow	23	58	145	23	35	169

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	384	145	0	0	169	0
Stage 1	145	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.16	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.254	-
Pot Cap-1 Maneuver	617	899	-	-	1385	-
Stage 1	880	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	602	899	-	-	1385	-
Mov Cap-2 Maneuver	602	-	-	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.1	0	1.31
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	788	1385	-
HCM Lane V/C Ratio	-	-	0.103	0.025	-
HCM Ctrl Dly (s/v)	-	-	10.1	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

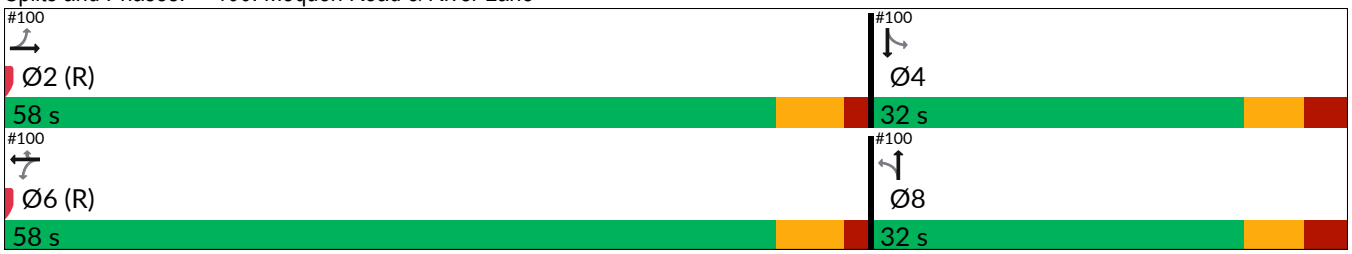


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	665	55	20	780	155	85	5	35	95	5	65
Future Volume (vph)	175	665	55	20	780	155	85	5	35	95	5	65
Ideal Flow (vphpl)	1950	1950	1950	1970	1970	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	275		0	90		310	100		0	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		775			1671			676			704	
Travel Time (s)		11.7			25.3			15.4			19.2	
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%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	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)	190	783	0	22	848	104	92	43	0	103	76	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	21.2	21.2		21.2	21.2	21.2	16.9	16.9		16.9	16.9	
Total Split (s)	58.0	58.0		58.0	58.0	58.0	32.0	32.0		32.0	32.0	
Total Split (%)	64.4%	64.4%		64.4%	64.4%	64.4%	35.6%	35.6%		35.6%	35.6%	
Maximum Green (s)	51.8	51.8		51.8	51.8	51.8	25.1	25.1		25.1	25.1	
Yellow Time (s)	4.5	4.5		4.5	4.5	4.5	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.7	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	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	25.0	25.0		25.0	25.0	25.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	15.0	15.0		15.0	15.0	15.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.41	0.29		0.04	0.30	0.09	0.51	0.19		0.56	0.35	
Control Delay (s/veh)	8.9	4.7		3.5	3.3	3.2	45.6	35.3		47.7	38.9	

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	
Total Delay (s/veh)	8.9	4.7		3.5	3.3	3.2	45.6	35.3		47.7	38.9	
Queue Length 50th (ft)	36	70		3	62	13	51	23		58	41	
Queue Length 95th (ft)	101	120		9	76	26	94	51		104	79	
Internal Link Dist (ft)		695			1591			596			624	
Turn Bay Length (ft)	275			90		310	100			195		
Base Capacity (vph)	469	2707		521	2821	1216	367	450		375	442	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.41	0.29		0.04	0.30	0.09	0.25	0.10		0.27	0.17	

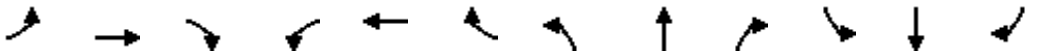
Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 55 (61%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Mequon Road & River Lane



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	190	783	22	848	104	92	43	103	76
v/c Ratio	0.41	0.29	0.04	0.30	0.09	0.51	0.19	0.56	0.35
Control Delay (s/veh)	8.9	4.7	3.5	3.3	3.2	45.6	35.3	47.7	38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.9	4.7	3.5	3.3	3.2	45.6	35.3	47.7	38.9
Queue Length 50th (ft)	36	70	3	62	13	51	23	58	41
Queue Length 95th (ft)	101	120	9	76	26	94	51	104	79
Internal Link Dist (ft)		695		1591			596		624
Turn Bay Length (ft)	275		90		310	100		195	
Base Capacity (vph)	469	2707	521	2821	1216	367	450	375	442
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.29	0.04	0.30	0.09	0.25	0.10	0.27	0.17

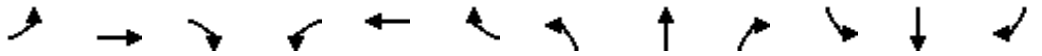
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	665	55	20	780	155	85	5	35	95	5	65
Future Volume (veh/h)	175	665	55	20	780	155	85	5	35	95	5	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1889	1889	1889	1939	1939	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	190	723	60	22	848	104	92	5	38	103	5	71
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
Percent Heavy Veh, %	4	4	4	2	2	2	2	2	2	3	3	3
Cap, veh/h	458	2412	200	539	2648	1139	202	25	194	232	14	201
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.72	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	595	3355	278	716	3685	1585	1323	188	1426	1353	105	1484
Grp Volume(v), veh/h	190	387	396	22	848	104	92	0	43	103	0	76
Grp Sat Flow(s),veh/h/ln	595	1795	1839	716	1842	1585	1323	0	1614	1353	0	1588
Q Serve(g_s), s	15.4	6.9	7.0	1.0	7.6	1.8	6.1	0.0	2.1	6.6	0.0	3.9
Cycle Q Clear(g_c), s	23.0	6.9	7.0	8.0	7.6	1.8	10.0	0.0	2.1	8.7	0.0	3.9
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.88	1.00		0.93
Lane Grp Cap(c), veh/h	458	1290	1322	539	2648	1139	202	0	219	232	0	216
V/C Ratio(X)	0.42	0.30	0.30	0.04	0.32	0.09	0.46	0.00	0.20	0.44	0.00	0.35
Avail Cap(c_a), veh/h	458	1290	1322	539	2648	1139	392	0	450	425	0	443
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	4.5	4.5	6.0	4.6	3.8	39.8	0.0	34.5	38.4	0.0	35.3
Incr Delay (d2), s/veh	2.8	0.6	0.6	0.1	0.3	0.2	0.6	0.0	0.2	0.5	0.0	0.4
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(95%),veh/ln	3.4	3.5	3.5	0.3	3.7	0.8	3.6	0.0	1.5	4.0	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.6	5.1	5.1	6.1	4.9	4.0	40.4	0.0	34.7	38.9	0.0	35.7
LnGrp LOS	B	A	A	A	A	A	D		C	D		D
Approach Vol, veh/h		973			974			135			179	
Approach Delay, s/veh		6.4			4.9			38.6			37.5	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		70.9		19.1		70.9		19.1				
Change Period (Y+Rc), s		6.2		6.9		6.2		6.9				
Max Green Setting (Gmax), s		51.8		25.1		51.8		25.1				
Max Q Clear Time (g_c+I1), s		25.0		10.7		10.0		12.0				
Green Ext Time (p_c), s		12.8		0.4		14.6		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			10.1									
HCM 7th LOS			B									

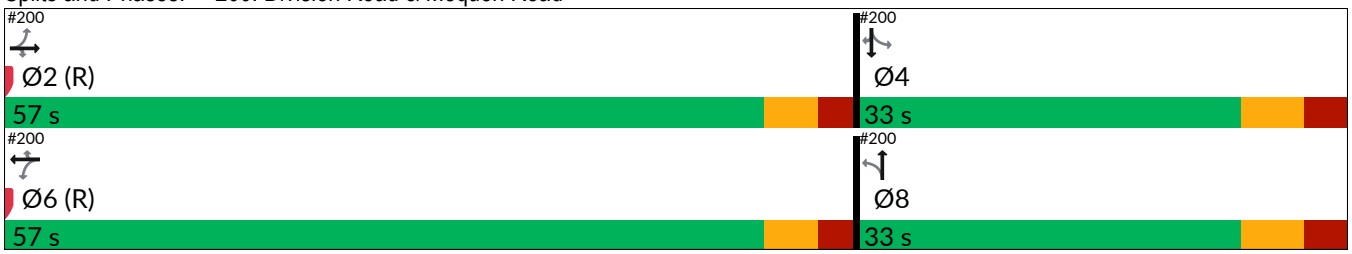


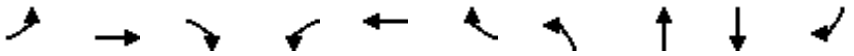
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	610	120	105	795	35	110	35	110	35	25	65
Future Volume (vph)	40	610	120	105	795	35	110	35	110	35	25	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	225		100	75		0	0		165
Storage Lanes	1		1	1		1	1		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		958			1302			1185			774	
Travel Time (s)		18.7			25.4			23.1			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	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	649	79	112	846	23	117	154	0	0	64	43
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	2	2	2	6	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	17.1	17.1		17.1	17.1	17.1
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	33.0	33.0		33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	36.7%
Maximum Green (s)	50.9	50.9	50.9	50.9	50.9	50.9	25.9	25.9		25.9	25.9	25.9
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	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)	6.1	6.1	6.1	6.1	6.1	6.1	7.1	7.1			7.1	7.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Time Before Reduce (s)	25.0	25.0	25.0	25.0	25.0	25.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	15.0	15.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.10	0.26	0.07	0.21	0.34	0.02	0.59	0.63			0.32	0.18
Control Delay (s/veh)	6.2	6.1	5.2	6.5	6.0	5.0	47.5	47.4			37.2	33.9

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 (s/veh)	6.2	6.1	5.2	6.5	6.0	5.0	47.5	47.4			37.2	33.9
Queue Length 50th (ft)	10	88	18	19	83	3	64	85			34	22
Queue Length 95th (ft)	32	150	37	49	138	12	113	140			68	49
Internal Link Dist (ft)		878			1222			1105			694	
Turn Bay Length (ft)	100		100	225		100	75					165
Base Capacity (vph)	415	2468	1081	529	2492	1091	383	470			392	449
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	0.10	0.26	0.07	0.21	0.34	0.02	0.31	0.33			0.16	0.10

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 19 (21%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

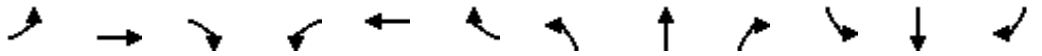
Splits and Phases: 200: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	43	649	79	112	846	23	117	154	64	43
v/c Ratio	0.10	0.26	0.07	0.21	0.34	0.02	0.59	0.63	0.32	0.18
Control Delay (s/veh)	6.2	6.1	5.2	6.5	6.0	5.0	47.5	47.4	37.2	33.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.2	6.1	5.2	6.5	6.0	5.0	47.5	47.4	37.2	33.9
Queue Length 50th (ft)	10	88	18	19	83	3	64	85	34	22
Queue Length 95th (ft)	32	150	37	49	138	12	113	140	68	49
Internal Link Dist (ft)		878			1222			1105	694	
Turn Bay Length (ft)	100		100	225		100	75			165
Base Capacity (vph)	415	2468	1081	529	2492	1091	383	470	392	449
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	0.10	0.26	0.07	0.21	0.34	0.02	0.31	0.33	0.16	0.10

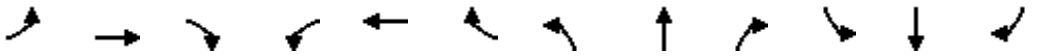
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	610	120	105	795	35	110	35	110	35	25	65
Future Volume (veh/h)	40	610	120	105	795	35	110	35	110	35	25	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	649	79	112	846	23	117	37	117	37	27	43
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	2261	987	487	2279	995	229	83	262	171	109	331
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	632	3526	1539	727	3554	1551	1329	391	1236	510	515	1562
Grp Volume(v), veh/h	43	649	79	112	846	23	117	0	154	64	0	43
Grp Sat Flow(s),veh/h/ln	632	1763	1539	727	1777	1551	1329	0	1627	1026	0	1562
Q Serve(g_s), s	3.1	7.3	1.7	7.2	10.1	0.5	7.7	0.0	7.4	1.7	0.0	2.0
Cycle Q Clear(g_c), s	13.2	7.3	1.7	14.5	10.1	0.5	16.7	0.0	7.4	9.0	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	0.58		1.00
Lane Grp Cap(c), veh/h	414	2261	987	487	2279	995	229	0	345	281	0	331
V/C Ratio(X)	0.10	0.29	0.08	0.23	0.37	0.02	0.51	0.00	0.45	0.23	0.00	0.13
Avail Cap(c_a), veh/h	414	2261	987	487	2279	995	330	0	468	390	0	450
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	7.1	6.1	10.3	7.6	5.9	38.9	0.0	30.9	31.2	0.0	28.7
Incr Delay (d2), s/veh	0.5	0.3	0.2	1.1	0.5	0.0	0.7	0.0	0.3	0.2	0.0	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(95%),veh/ln	0.8	4.4	1.0	2.1	6.1	0.3	4.5	0.0	5.1	2.3	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.2	7.4	6.3	11.4	8.1	5.9	39.5	0.0	31.2	31.4	0.0	28.8
LnGrp LOS	B	A	A	B	A	A	D		C	C		C
Approach Vol, veh/h		771			981			271			107	
Approach Delay, s/veh		7.5			8.4			34.8			30.3	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.8		26.2		63.8		26.2				
Change Period (Y+Rc), s		6.1		7.1		6.1		7.1				
Max Green Setting (Gmax), s		50.9		25.9		50.9		25.9				
Max Q Clear Time (g_c+I1), s		15.2		11.0		16.5		18.7				
Green Ext Time (p_c), s		11.0		0.2		15.0		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.5									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1	15	1	1	10	15	230	5	5	230	10
Future Volume (vph)	10	1	15	1	1	10	15	230	5	5	230	10
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		90
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		495			280			1078			340	
Travel Time (s)		13.5			7.6			21.0			6.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	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)	0	28	0	0	13	0	0	266	0	0	250	11
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

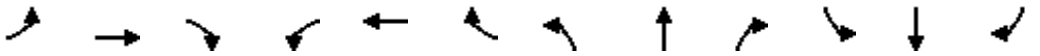
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	15	1	1	10	15	230	5	5	230	10
Future Vol, veh/h	10	1	15	1	1	10	15	230	5	5	230	10
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	-	-	-	-	-	-	-	-	-	-	-	90
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	16	1	1	11	16	245	5	5	245	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	410	537	245	535	545	125	255	0	0	250	0	0
Stage 1	255	255	-	279	279	-	-	-	-	-	-	-
Stage 2	155	282	-	256	266	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	539	449	793	442	445	903	1308	-	-	1314	-	-
Stage 1	748	695	-	704	679	-	-	-	-	-	-	-
Stage 2	833	677	-	748	688	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	522	441	793	424	437	903	1308	-	-	1314	-	-
Mov Cap-2 Maneuver	522	441	-	424	437	-	-	-	-	-	-	-
Stage 1	745	692	-	695	670	-	-	-	-	-	-	-
Stage 2	811	668	-	728	685	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.84	9.8	0.55	0.16
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	210	-	-	645	763	38	-	-
HCM Lane V/C Ratio	0.012	-	-	0.043	0.017	0.004	-	-
HCM Ctrl Dly (s/v)	7.8	0.1	-	10.8	9.8	7.8	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	30	105	10	15	5	50	235	15	1	225	20
Future Volume (vph)	10	30	105	10	15	5	50	235	15	1	225	20
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		130	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		40			25			35			35	
Link Distance (ft)		2628			530			960			1078	
Travel Time (s)		44.8			14.5			18.7			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	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)	0	166	0	0	34	0	0	327	17	0	283	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	10	30	105	10	15	5	50	235	15	1	225	20
Future Vol, veh/h	10	30	105	10	15	5	50	235	15	1	225	20
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	-	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	11	34	121	11	17	6	57	270	17	1	259	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	666	675	270	663	669	270	282	0	0	287	0	0
Stage 1	272	272	-	385	385	-	-	-	-	-	-	-
Stage 2	394	402	-	278	284	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	373	376	769	375	379	769	1275	-	-	1275	-	-
Stage 1	734	684	-	638	611	-	-	-	-	-	-	-
Stage 2	631	600	-	728	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	334	355	769	271	358	769	1275	-	-	1275	-	-
Mov Cap-2 Maneuver	334	355	-	271	358	-	-	-	-	-	-	-
Stage 1	733	684	-	604	578	-	-	-	-	-	-	-
Stage 2	575	568	-	582	676	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.74	16.35	1.33	0.03
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	316	-	-	578	352	7	-	-
HCM Lane V/C Ratio	0.045	-	-	0.289	0.098	0.001	-	-
HCM Ctrl Dly (s/v)	8	0	-	13.7	16.4	7.8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.3	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	45	225	65	80	220
Future Volume (vph)	40	45	225	65	80	220
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		100	150	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100	100		100	100	
Link Speed (mph)	40		40			40
Link Distance (ft)	2582		494			598
Travel Time (s)	44.0		8.4			10.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	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)	99	0	262	76	93	256
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	45	225	65	80	220
Future Vol, veh/h	40	45	225	65	80	220
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	52	262	76	93	256

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	703	262	0	0	337	0
Stage 1	262	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	404	777	-	-	1222	-
Stage 1	782	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	373	777	-	-	1222	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.65	0	2.18
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	515	1222	-
HCM Lane V/C Ratio	-	-	0.192	0.076	-
HCM Ctrl Dly (s/v)	-	-	13.7	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.2	-

TECHNICAL MEMORANDUM

DATE: June 25, 2026

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

SUBJECT: **Heyday Residential Development – Additional Access Study**
Village of Germantown, WI

INTRODUCTION

This technical memorandum was prepared to evaluate an additional site access to Lilac Lane for the proposed Heyday residential development in Germantown, Wisconsin. This analysis and technical memorandum supplement the *June 24, 2026 Heyday Residential Development Traffic Impact Analysis* (TIA) report, which evaluated site access at only two locations: Mequon Road (STH 167) via River Lane and Division Road via Virginia Avenue.

PEAK HOUR TRAFFIC VOLUMES

The Heyday residential traffic assignment with the additional Lilac Lane access is on Exhibit 1. This traffic was added to the Background traffic volumes from the June 2026 Heyday Residential TIA to generate Build traffic volumes for the additional access scenario. The Build traffic volumes with the additional Lilac Lane access are on Exhibit 2.

PEAK HOUR TRAFFIC OPERATIONS

The Build traffic volumes with the additional Lilac Lane access were evaluated with the existing geometrics and traffic control at the study intersections evaluated in the June 2026 Heyday Residential TIA. Due to the relatively low traffic volumes assigned to the Lilac Lane access, that intersection was evaluated with a single southbound left-turn/right-turn lane and stop sign control on the site access approach, and single-lane eastbound and westbound approaches on Lilac Lane.

With these conditions, the Build traffic analysis with the additional Lilac Lane access results in acceptable LOS D or better for all movements at the study intersections for the AM and PM peak hours. The site access to Lilac Lane operates at LOS A for all movements at the peak hours.

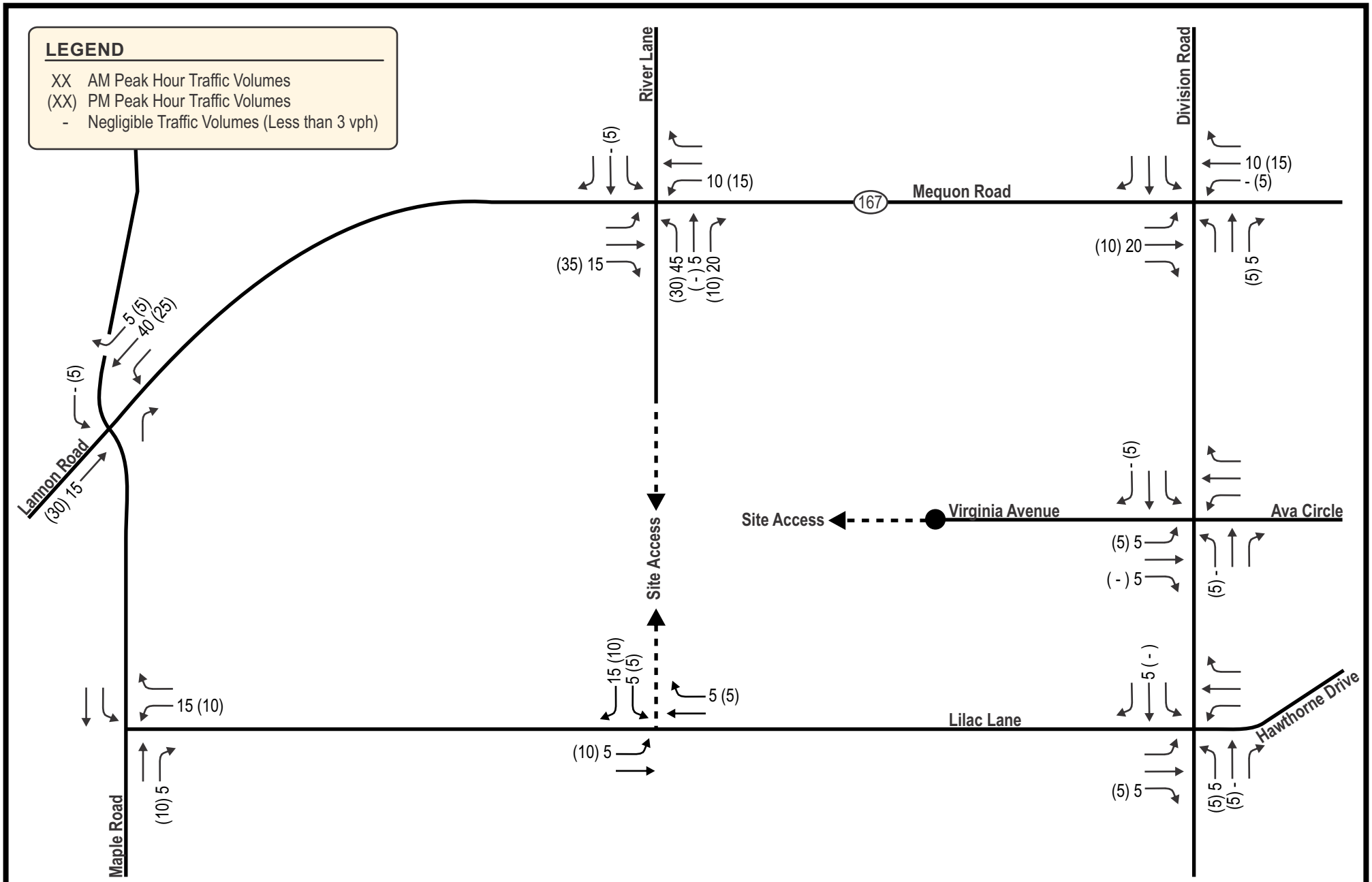
The Build traffic with the additional site access peak hour delays, corresponding level of service, and 95th percentile queues for all approach lane groups at the study intersections are in a table on Exhibit 3. The Synchro analysis files are in the Appendix of this report.

RECOMMENDATIONS & CONCLUSIONS

Modifications are for jurisdictional consideration and are not legally binding. The Village of Germantown reserves the right to determine alternative solutions.

The additional traffic from the proposed Germantown Heyday residential development between Mequon Road (STH 167) and Lilac Lane does not significantly increase traffic delays or queues at the study intersections evaluated in this TIA. With full buildout of the Carillon at Germantown residential development, Culver's restaurant, and the Heyday residential development, all movements at the study intersections operate at LOS D or better during the AM and PM peak hours. Therefore, no geometric or traffic control changes are recommended at the existing study intersections to accommodate additional traffic from the proposed Heyday residential development.

The Heyday residential traffic assigned to the site access at Lilac Lane is relatively low and not expected to meet warrants for separate full right or left turn lanes on Lilac Lane. Therefore, no additional lanes are recommended in this study. The site access to Lilac Lane is recommended to be constructed with a single southbound left-turn/right-turn lane with stop sign control.



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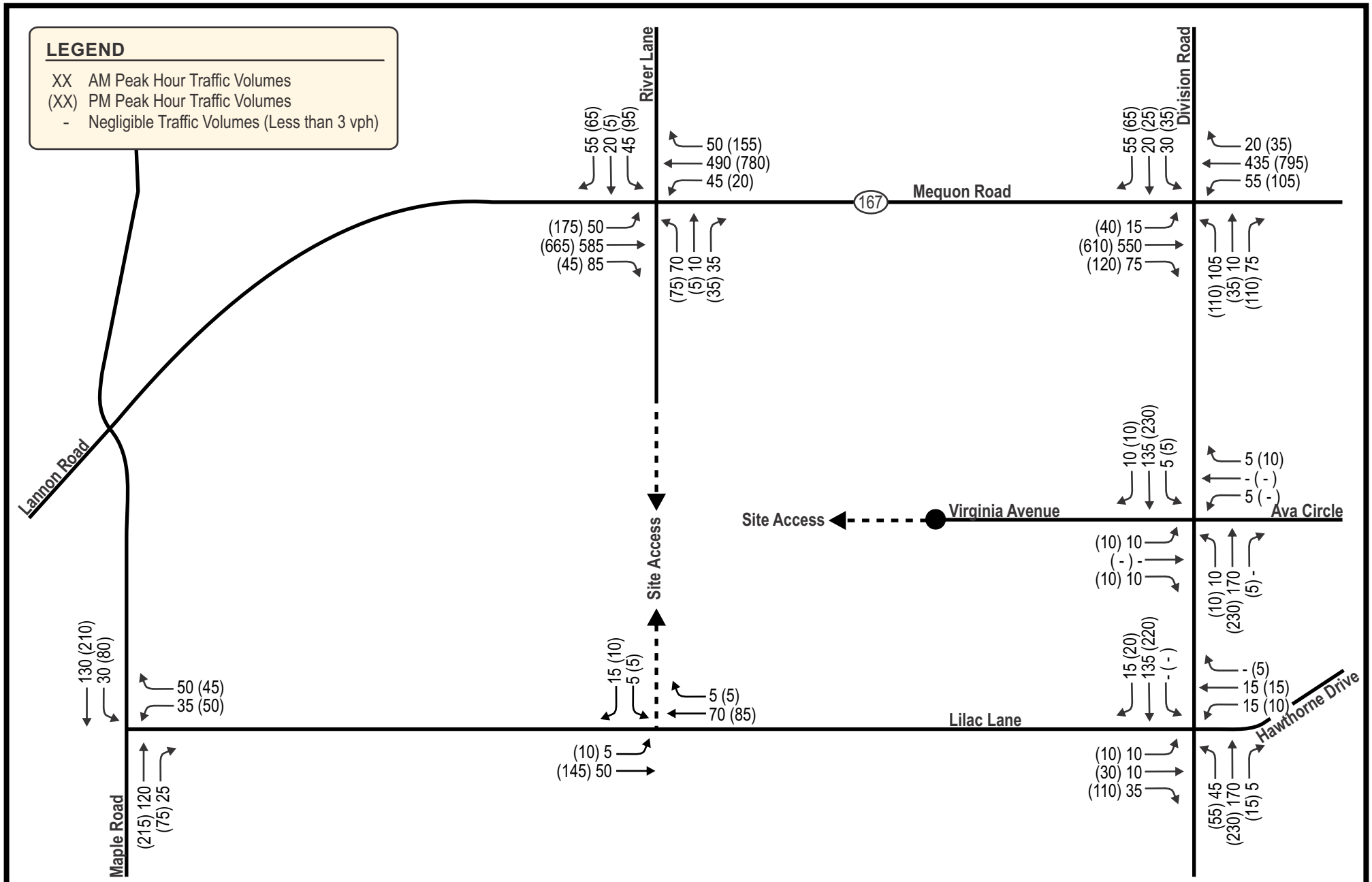
3669: 06-25-2026

N

NOT TO SCALE

EXHIBIT 1
ON-SITE DEVELOPMENT NEW TRIPS
HEYDAY MULTI-FAMILY RESIDENTIAL DEVELOPMENT
ADDITIONAL SITE ACCESS AT LILAC LANE

HEYDAY DEVELOPMENT ADDITIONAL ACCESS STUDY - GERMANTOWN, WISCONSIN



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TRAFFIC ANALYSIS & DESIGN, INC.

3669: 06-25-2026

N

NOT TO SCALE

EXHIBIT 2
BUILD TRAFFIC VOLUMES
ADDITIONAL SITE ACCESS AT LILAC LANE

HEYDAY DEVELOPMENT ADDITIONAL ACCESS STUDY - GERMANTOWN, WISCONSIN

Build Alternative Traffic Peak Hour Operating Conditions - With Lilac Lane Access

Existing Transportation System

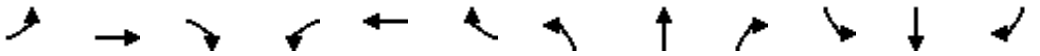
Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Mequon Road & River Lane *Traffic Signal Control*		*Lanes->*	*1*	*2>*		*1*	*2*	*1*	*1*	*1>*		*1*	*1>*		
	AM	LOS	A	A		A	A	A	D	D		D	D		A
		Delay	4.9	4.5		5.6	4.0	3.3	41.0	35.9		38.2	36.9		9.6
		Queue	20'	95'		15'	55'	15'	80'	55'		60'	85'		
	PM	LOS	B	A		A	A	A	D	D		D	D		A
		Delay	11.1	4.9		5.8	4.7	3.8	40.7	35.3		39.6	36.3		9.8
		Queue	100'	120'		10'	75'	25'	85'	50'		105'	80'		
Mequon Road & Division Road *Traffic Signal Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1>*		*<1*		*1*	
	AM	LOS	A	A	A	B	A	A	D	C		C		C	B
		Delay	8.1	7.2	5.8	10.3	6.8	5.5	39.1	31.0		31.5		29.6	12.4
		Queue	10'	130'	20'	30'	80'	10'	105'	85'		55'		40'	
	PM	LOS	B	A	A	B	A	A	D	C		C		C	B
		Delay	11.2	7.4	6.3	11.4	8.1	5.9	39.5	31.2		31.4		28.8	12.5
		Queue	30'	150'	40'	50'	140'	10'	115'	140'		70'		50'	
Virginia Avenue/Ava Circle & Division Road *Stop Sign Control (EB/WB)*		*Lanes->*	*<1>*			*<1>*			*<2>*			*<1*		*1*	
	AM	LOS	B			B			A			A		*	A
		Delay	10.3			10.7			7.6			7.7		*	1.3
		Queue	5'			5'			0'			0'		*	
	PM	LOS	B			A			A			A		*	A
		Delay	11.0			9.8			7.8			7.8		*	0.9
		Queue	5'			5'			0'			0'		*	
Lilac Lane/Hawthorne Drive & Division Road *Stop Sign Control (EB/WB)*		*Lanes->*	*<1>*			*<1>*			*<1*		*1*	*<1>*			
	AM	LOS	B			B			A		*	A			A
		Delay	11.5			14.2			7.7		*	7.7			3.1
		Queue	10'			10'			5'		*	0'			
	PM	LOS	B			C			A		*	A			A
		Delay	13.7			16.4			8.0		*	7.8			4.2
		Queue	30'			10'			5'		*	0'			
Lilac Lane & Maple Road *Stop Sign Control (WB)*		*Lanes->*	-			*<1>*			-	*1*	*1*	*1*	*1*	-	
	AM	LOS	-			B			-	*	*	A	*	-	A
		Delay	-			10.4			-	*	*	7.7	*	-	2.9
		Queue	-			10'			-	*	*	5'	*	-	
	PM	LOS	-			B			-	*	*	A	*	-	A
		Delay	-			14.0			-	*	*	8.2	*	-	2.9
		Queue	-			20'			-	*	*	5'	*	-	
Lilac Lane & Site Access Road *Stop Sign Control (SB)*		*Lanes->*	*<1*		-	-	*1>*		-			*<1>*			
	AM	LOS	A		-	-	*		-			A			A
		Delay	7.4		-	-	*		-			9.0			1.5
		Queue	0'		-	-	*		-			5'			
	PM	LOS	A		-	-	*		-			A			A
		Delay	7.5		-	-	*		-			9.5			0.8
		Queue	0'		-	-	*		-			5'			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

APPENDIX

SYNCHRO INTERSECTION CAPACITY ANALYSIS

Build Traffic Volumes
Additional Site Access at Lilac Lane

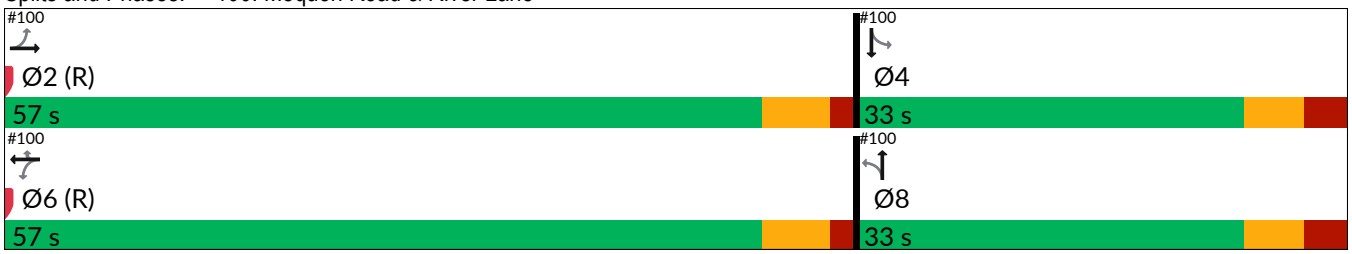


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	585	85	45	490	50	70	10	35	45	20	55
Future Volume (vph)	50	585	85	45	490	50	70	10	35	45	20	55
Ideal Flow (vphpl)	1950	1950	1950	1970	1970	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	275		0	90		310	100		0	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		775			1671			676			704	
Travel Time (s)		11.7			25.3			15.4			19.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	7%	7%	9%	9%	9%	2%	2%	2%	6%	6%	6%
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)	52	691	0	46	505	32	72	46	0	46	78	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	21.2	21.2		21.2	21.2	21.2	16.9	16.9		16.9	16.9	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	50.8	50.8		50.8	50.8	50.8	26.1	26.1		26.1	26.1	
Yellow Time (s)	4.5	4.5		4.5	4.5	4.5	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.7	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	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	25.0	25.0		25.0	25.0	25.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	15.0	15.0		15.0	15.0	15.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.08	0.26		0.08	0.19	0.03	0.45	0.23		0.29	0.40	
Control Delay (s/veh)	4.1	4.0		3.9	3.5	3.5	45.4	37.9		40.2	42.3	

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	
Total Delay (s/veh)	4.1	4.0		3.9	3.5	3.5	45.4	37.9		40.2	42.3	
Queue Length 50th (ft)	7	57		7	43	5	40	25		26	44	
Queue Length 95th (ft)	21	95		17	56	13	80	55		58	86	
Internal Link Dist (ft)		695			1591			596			624	
Turn Bay Length (ft)	275			90		310	100			195		
Base Capacity (vph)	664	2659		550	2688	1160	381	477		377	462	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.08	0.26		0.08	0.19	0.03	0.19	0.10		0.12	0.17	

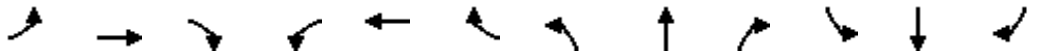
Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 24 (27%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Mequon Road & River Lane



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	691	46	505	32	72	46	46	78
v/c Ratio	0.08	0.26	0.08	0.19	0.03	0.45	0.23	0.29	0.40
Control Delay (s/veh)	4.1	4.0	3.9	3.5	3.5	45.4	37.9	40.2	42.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.1	4.0	3.9	3.5	3.5	45.4	37.9	40.2	42.3
Queue Length 50th (ft)	7	57	7	43	5	40	25	26	44
Queue Length 95th (ft)	21	95	17	56	13	80	55	58	86
Internal Link Dist (ft)		695		1591			596		624
Turn Bay Length (ft)	275		90		310	100		195	
Base Capacity (vph)	664	2659	550	2688	1160	381	477	377	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.26	0.08	0.19	0.03	0.19	0.10	0.12	0.17

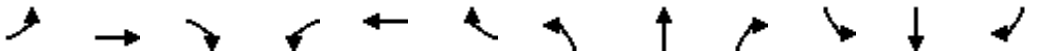
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	585	85	45	490	50	70	10	35	45	20	55
Future Volume (veh/h)	50	585	85	45	490	50	70	10	35	45	20	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1844	1844	1844	1832	1832	1767	1870	1870	1870	1811	1811	1811
Adj Flow Rate, veh/h	52	603	88	46	505	32	72	10	36	46	21	57
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	7	7	9	9	9	2	2	2	6	6	6
Cap, veh/h	667	2246	327	571	2548	1096	182	44	157	208	53	143
Arrive On Green	0.73	0.73	0.73	0.73	0.73	0.73	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	855	3068	447	737	3480	1497	1321	356	1283	1317	431	1170
Grp Volume(v), veh/h	52	344	347	46	505	32	72	0	46	46	0	78
Grp Sat Flow(s),veh/h/ln	855	1751	1763	737	1740	1497	1321	0	1639	1317	0	1601
Q Serve(g_s), s	1.8	5.9	5.9	2.0	4.1	0.5	4.8	0.0	2.3	2.9	0.0	4.0
Cycle Q Clear(g_c), s	5.9	5.9	5.9	7.9	4.1	0.5	8.8	0.0	2.3	5.2	0.0	4.0
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.78	1.00		0.73
Lane Grp Cap(c), veh/h	667	1282	1291	571	2548	1096	182	0	201	208	0	196
V/C Ratio(X)	0.08	0.27	0.27	0.08	0.20	0.03	0.40	0.00	0.23	0.22	0.00	0.40
Avail Cap(c_a), veh/h	667	1282	1291	571	2548	1096	404	0	475	428	0	464
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.7	4.0	4.0	5.3	3.8	3.3	40.5	0.0	35.7	38.0	0.0	36.4
Incr Delay (d2), s/veh	0.2	0.5	0.5	0.3	0.2	0.0	0.5	0.0	0.2	0.2	0.0	0.5
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(95%),veh/ln	0.5	2.8	2.8	0.5	1.8	0.2	2.8	0.0	1.6	1.7	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	4.9	4.5	4.5	5.6	4.0	3.3	41.0	0.0	35.9	38.2	0.0	36.9
LnGrp LOS	A	A	A	A	A	A	D		D	D		D
Approach Vol, veh/h		743			583			118			124	
Approach Delay, s/veh		4.6			4.1			39.0			37.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		72.1		17.9		72.1		17.9				
Change Period (Y+Rc), s		6.2		6.9		6.2		6.9				
Max Green Setting (Gmax), s		50.8		26.1		50.8		26.1				
Max Q Clear Time (g_c+I1), s		7.9		7.2		9.9		10.8				
Green Ext Time (p_c), s		10.2		0.3		7.9		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			9.6									
HCM 7th LOS			A									

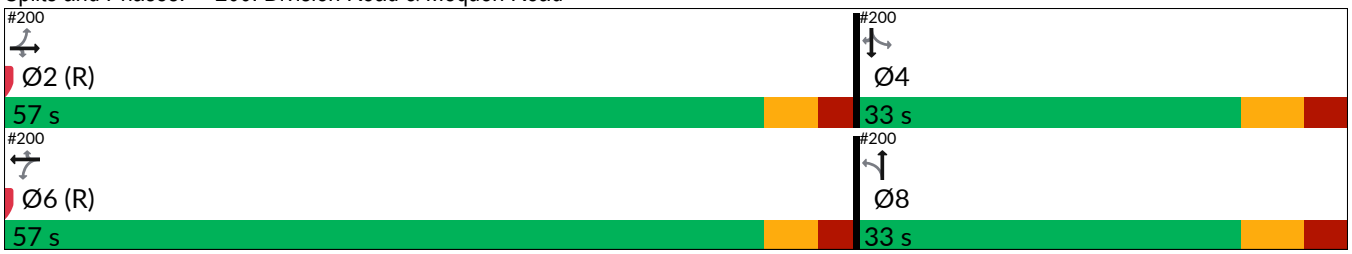


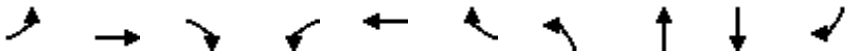
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	550	75	55	435	20	105	10	75	30	20	55
Future Volume (vph)	15	550	75	55	435	20	105	10	75	30	20	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	225		100	75		0	0		165
Storage Lanes	1		1	1		1	1		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		958			1302			1185			774	
Travel Time (s)		18.7			25.4			23.1			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	2%	2%	2%	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)	19	705	60	71	558	16	135	109	0	0	64	44
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	2	2	2	6	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	17.1	17.1		17.1	17.1	17.1
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	33.0	33.0		33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	36.7%
Maximum Green (s)	50.9	50.9	50.9	50.9	50.9	50.9	25.9	25.9		25.9	25.9	25.9
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	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)	6.1	6.1	6.1	6.1	6.1	6.1	7.1	7.1			7.1	7.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Time Before Reduce (s)	25.0	25.0	25.0	25.0	25.0	25.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	15.0	15.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.03	0.29	0.06	0.15	0.24	0.02	0.65	0.44			0.29	0.18
Control Delay (s/veh)	4.7	5.9	4.6	6.6	5.7	5.4	49.6	38.8			35.5	32.8

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 (s/veh)	4.7	5.9	4.6	6.6	5.7	5.4	49.6	38.8			35.5	32.8
Queue Length 50th (ft)	2	96	6	12	53	2	75	58			33	23
Queue Length 95th (ft)	8	128	19	30	80	9	106	86			57	42
Internal Link Dist (ft)		878			1222			1105			694	
Turn Bay Length (ft)	100		100	225		100	75					165
Base Capacity (vph)	558	2395	1049	471	2372	1039	383	459			404	449
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	0.03	0.29	0.06	0.15	0.24	0.02	0.35	0.24			0.16	0.10

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 70 (78%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

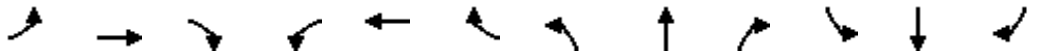
Splits and Phases: 200: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	19	705	60	71	558	16	135	109	64	44
v/c Ratio	0.03	0.29	0.06	0.15	0.24	0.02	0.65	0.44	0.29	0.18
Control Delay (s/veh)	4.7	5.9	4.6	6.6	5.7	5.4	49.6	38.8	35.5	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.7	5.9	4.6	6.6	5.7	5.4	49.6	38.8	35.5	32.8
Queue Length 50th (ft)	2	96	6	12	53	2	75	58	33	23
Queue Length 95th (ft)	8	128	19	30	80	9	106	86	57	42
Internal Link Dist (ft)		878			1222			1105	694	
Turn Bay Length (ft)	100		100	225		100	75			165
Base Capacity (vph)	558	2395	1049	471	2372	1039	383	459	404	449
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	0.03	0.29	0.06	0.15	0.24	0.02	0.35	0.24	0.16	0.10

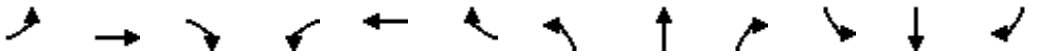
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	550	75	55	435	20	105	10	75	30	20	55
Future Volume (veh/h)	15	550	75	55	435	20	105	10	75	30	20	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	1826	1826	1826	1811	1811	1811	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	705	60	71	558	16	135	13	96	38	26	44
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	5	5	5	6	6	6	2	2	2	2	2	2
Cap, veh/h	558	2261	987	463	2243	979	246	38	283	189	114	315
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	819	3469	1514	680	3441	1502	1329	190	1403	620	566	1562
Grp Volume(v), veh/h	19	705	60	71	558	16	135	0	109	64	0	44
Grp Sat Flow(s),veh/h/ln	819	1735	1514	680	1721	1502	1329	0	1593	1186	0	1562
Q Serve(g_s), s	0.9	8.0	1.3	4.6	6.1	0.3	8.9	0.0	5.3	1.7	0.0	2.1
Cycle Q Clear(g_c), s	7.0	8.0	1.3	12.6	6.1	0.3	15.8	0.0	5.3	6.9	0.0	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	0.59		1.00
Lane Grp Cap(c), veh/h	558	2261	987	463	2243	979	246	0	321	303	0	315
V/C Ratio(X)	0.03	0.31	0.06	0.15	0.25	0.02	0.55	0.00	0.34	0.21	0.00	0.14
Avail Cap(c_a), veh/h	558	2261	987	463	2243	979	361	0	459	430	0	450
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.0	6.8	5.7	9.6	6.5	5.5	38.3	0.0	30.8	31.4	0.0	29.5
Incr Delay (d2), s/veh	0.1	0.4	0.1	0.7	0.3	0.0	0.7	0.0	0.2	0.1	0.0	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(95%),veh/ln	0.3	4.7	0.7	1.3	3.5	0.2	5.2	0.0	3.6	2.2	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.1	7.2	5.8	10.3	6.8	5.5	39.1	0.0	31.0	31.5	0.0	29.6
LnGrp LOS	A	A	A	B	A	A	D		C	C		C
Approach Vol, veh/h		784			645			244			108	
Approach Delay, s/veh		7.1			7.1			35.5			30.7	
Approach LOS		A			A			D			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.8		25.2		64.8		25.2				
Change Period (Y+Rc), s		6.1		7.1		6.1		7.1				
Max Green Setting (Gmax), s		50.9		25.9		50.9		25.9				
Max Q Clear Time (g_c+I1), s		10.0		8.9		14.6		17.8				
Green Ext Time (p_c), s		11.8		0.2		9.4		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.4									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1	10	5	1	5	10	170	1	5	135	10
Future Volume (vph)	10	1	10	5	1	5	10	170	1	5	135	10
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		90
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		495			280			1078			340	
Travel Time (s)		13.5			7.6			21.0			6.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	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)	0	25	0	0	13	0	0	223	0	0	173	12
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

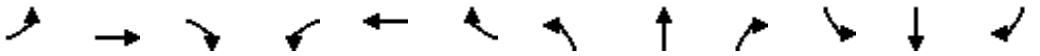
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	10	5	1	5	10	170	1	5	135	10
Future Vol, veh/h	10	1	10	5	1	5	10	170	1	5	135	10
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	-	-	-	-	-	-	-	-	-	-	-	90
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	3	3	3
Mvmt Flow	12	1	12	6	1	6	12	210	1	6	167	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	309	415	167	415	427	106	179	0	0	211	0	0
Stage 1	179	179	-	235	235	-	-	-	-	-	-	-
Stage 2	130	236	-	180	191	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.245	7.33	6.53	6.93	4.13	-	-	4.145	-	-
Critical Hdwy Stg 1	6.145	5.545	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.545	5.545	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.519	4.019	3.319	2.219	-	-	2.2285	-	-
Pot Cap-1 Maneuver	629	525	874	535	519	929	1395	-	-	1351	-	-
Stage 1	820	748	-	747	710	-	-	-	-	-	-	-
Stage 2	858	707	-	822	741	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	615	518	874	518	512	929	1395	-	-	1351	-	-
Mov Cap-2 Maneuver	615	518	-	518	512	-	-	-	-	-	-	-
Stage 1	815	745	-	740	703	-	-	-	-	-	-	-
Stage 2	842	700	-	804	738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.27	10.68	0.48	0.26
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	197	-	-	708	648	64	-	-
HCM Lane V/C Ratio	0.009	-	-	0.037	0.021	0.005	-	-
HCM Ctrl Dly (s/v)	7.6	0.1	-	10.3	10.7	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	35	15	15	1	45	170	5	1	135	15
Future Volume (vph)	10	10	35	15	15	1	45	170	5	1	135	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		130	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		40			25			35			35	
Link Distance (ft)		2628			530			960			1078	
Travel Time (s)		44.8			14.5			18.7			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	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)	0	71	0	0	39	0	0	276	6	0	193	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	10	10	35	15	15	1	45	170	5	1	135	15
Future Vol, veh/h	10	10	35	15	15	1	45	170	5	1	135	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	-	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	4	4	4	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	13	45	19	19	1	58	218	6	1	173	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	528	525	183	515	528	218	192	0	0	224	0	0
Stage 1	185	185	-	333	333	-	-	-	-	-	-	-
Stage 2	343	340	-	182	195	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	458	455	855	470	456	822	1381	-	-	1344	-	-
Stage 1	812	743	-	680	644	-	-	-	-	-	-	-
Stage 2	668	636	-	820	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	416	432	855	412	433	822	1381	-	-	1344	-	-
Mov Cap-2 Maneuver	416	432	-	412	433	-	-	-	-	-	-	-
Stage 1	811	742	-	648	613	-	-	-	-	-	-	-
Stage 2	615	606	-	762	739	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.5	14.25	1.58	0.05
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	377	-	-	624	429	12	-	-
HCM Lane V/C Ratio	0.042	-	-	0.113	0.093	0.001	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	11.5	14.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.3	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	50	120	25	30	130
Future Volume (vph)	35	50	120	25	30	130
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		100	150	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100	100		100	100	
Link Speed (mph)	40		40			40
Link Distance (ft)	2582		494			598
Travel Time (s)	44.0		8.4			10.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	5%	5%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	140	29	35	151
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

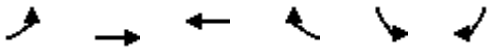
Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	50	120	25	30	130
Future Vol, veh/h	35	50	120	25	30	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	5	5	6	6
Mvmt Flow	41	58	140	29	35	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	360	140	0	0	169	0
Stage 1	140	-	-	-	-	-
Stage 2	221	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.16	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.254	-
Pot Cap-1 Maneuver	636	906	-	-	1385	-
Stage 1	885	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	620	906	-	-	1385	-
Mov Cap-2 Maneuver	620	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.43	0	1.44
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	762	1385	-
HCM Lane V/C Ratio	-	-	0.13	0.025	-
HCM Ctrl Dly (s/v)	-	-	10.4	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	50	70	5	5	15
Future Volume (vph)	5	50	70	5	5	15
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	100	100
Link Speed (mph)		40	40		30	
Link Distance (ft)		2582	2628		654	
Travel Time (s)		44.0	44.8		14.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	3%	3%	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)	0	73	99	0	27	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

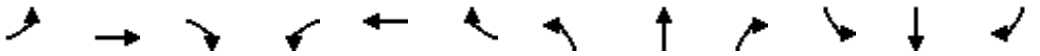
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	50	70	5	5	15
Future Vol, veh/h	5	50	70	5	5	15
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	76	76	76	76	76	76
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	7	66	92	7	7	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	99	0	-	0	174	95
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	79	-
Critical Hdwy	4.14	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.236	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1482	-	-	-	816	961
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1482	-	-	-	812	961
Mov Cap-2 Maneuver	-	-	-	-	812	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	944	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.68	0	9.03
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	164	-	-	-	919
HCM Lane V/C Ratio	0.004	-	-	-	0.029
HCM Ctrl Dly (s/v)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

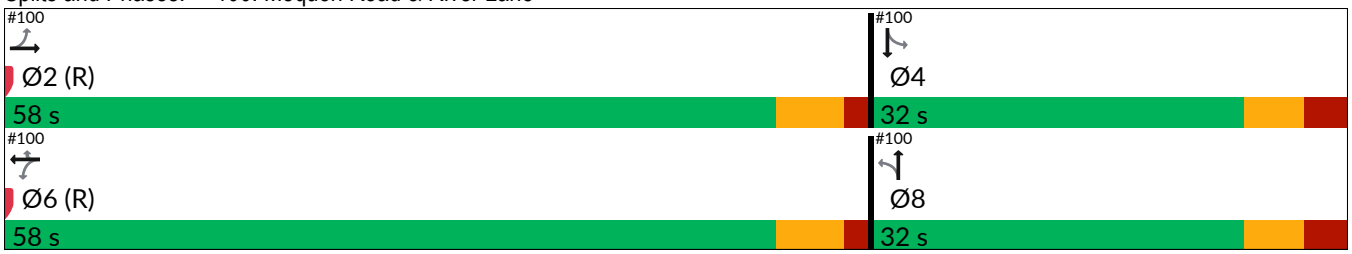


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	665	45	20	780	155	75	5	35	95	5	65
Future Volume (vph)	175	665	45	20	780	155	75	5	35	95	5	65
Ideal Flow (vphpl)	1950	1950	1950	1970	1970	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	275		0	90		310	100		0	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		45			45			30			25	
Link Distance (ft)		775			1671			676			704	
Travel Time (s)		11.7			25.3			15.4			19.2	
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%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	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)	190	772	0	22	848	104	82	43	0	103	76	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	21.2	21.2		21.2	21.2	21.2	16.9	16.9		16.9	16.9	
Total Split (s)	58.0	58.0		58.0	58.0	58.0	32.0	32.0		32.0	32.0	
Total Split (%)	64.4%	64.4%		64.4%	64.4%	64.4%	35.6%	35.6%		35.6%	35.6%	
Maximum Green (s)	51.8	51.8		51.8	51.8	51.8	25.1	25.1		25.1	25.1	
Yellow Time (s)	4.5	4.5		4.5	4.5	4.5	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.7	1.7		1.7	1.7	1.7	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	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.9	6.9		6.9	6.9	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	25.0	25.0		25.0	25.0	25.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	15.0	15.0		15.0	15.0	15.0	0.0	0.0		0.0	0.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.41	0.28		0.04	0.30	0.09	0.46	0.19		0.56	0.35	
Control Delay (s/veh)	8.9	4.7		3.5	3.3	3.2	43.3	35.3		47.7	38.9	

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	
Total Delay (s/veh)	8.9	4.7		3.5	3.3	3.2	43.3	35.3		47.7	38.9	
Queue Length 50th (ft)	36	68		3	62	13	45	23		58	41	
Queue Length 95th (ft)	101	118		9	76	26	85	51		104	79	
Internal Link Dist (ft)		695			1591			596			624	
Turn Bay Length (ft)	275			90		310	100			195		
Base Capacity (vph)	469	2711		528	2821	1216	367	450		375	442	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.41	0.28		0.04	0.30	0.09	0.22	0.10		0.27	0.17	

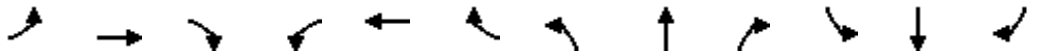
Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 55 (61%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Mequon Road & River Lane



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	190	772	22	848	104	82	43	103	76
v/c Ratio	0.41	0.28	0.04	0.30	0.09	0.46	0.19	0.56	0.35
Control Delay (s/veh)	8.9	4.7	3.5	3.3	3.2	43.3	35.3	47.7	38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.9	4.7	3.5	3.3	3.2	43.3	35.3	47.7	38.9
Queue Length 50th (ft)	36	68	3	62	13	45	23	58	41
Queue Length 95th (ft)	101	118	9	76	26	85	51	104	79
Internal Link Dist (ft)		695		1591			596		624
Turn Bay Length (ft)	275		90		310	100		195	
Base Capacity (vph)	469	2711	528	2821	1216	367	450	375	442
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.28	0.04	0.30	0.09	0.22	0.10	0.27	0.17

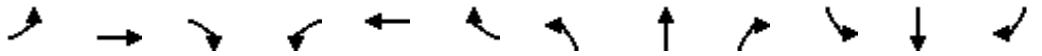
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	665	45	20	780	155	75	5	35	95	5	65
Future Volume (veh/h)	175	665	45	20	780	155	75	5	35	95	5	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1889	1889	1889	1939	1939	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	190	723	49	22	848	104	82	5	38	103	5	71
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
Percent Heavy Veh, %	4	4	4	2	2	2	2	2	2	3	3	3
Cap, veh/h	463	2476	168	552	2674	1151	192	24	183	222	13	191
Arrive On Green	0.73	0.73	0.73	0.73	0.73	0.73	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	595	3411	231	723	3685	1585	1323	188	1426	1353	105	1484
Grp Volume(v), veh/h	190	380	392	22	848	104	82	0	43	103	0	76
Grp Sat Flow(s),veh/h/ln	595	1795	1848	723	1842	1585	1323	0	1614	1353	0	1588
Q Serve(g_s), s	15.0	6.6	6.6	1.0	7.4	1.7	5.4	0.0	2.1	6.6	0.0	3.9
Cycle Q Clear(g_c), s	22.4	6.6	6.6	7.6	7.4	1.7	9.4	0.0	2.1	8.8	0.0	3.9
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.88	1.00		0.93
Lane Grp Cap(c), veh/h	463	1303	1341	552	2674	1151	192	0	208	222	0	204
V/C Ratio(X)	0.41	0.29	0.29	0.04	0.32	0.09	0.43	0.00	0.21	0.46	0.00	0.37
Avail Cap(c_a), veh/h	463	1303	1341	552	2674	1151	391	0	450	425	0	443
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	4.3	4.3	5.6	4.4	3.6	40.2	0.0	35.1	39.0	0.0	35.9
Incr Delay (d2), s/veh	2.7	0.6	0.6	0.1	0.3	0.2	0.6	0.0	0.2	0.6	0.0	0.4
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(95%),veh/ln	3.3	3.2	3.3	0.2	3.5	0.7	3.2	0.0	1.5	4.0	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.1	4.9	4.8	5.8	4.7	3.8	40.7	0.0	35.3	39.6	0.0	36.3
LnGrp LOS	B	A	A	A	A	A	D		D	D		D
Approach Vol, veh/h		962			974			125			179	
Approach Delay, s/veh		6.1			4.6			38.9			38.2	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		71.5		18.5		71.5		18.5				
Change Period (Y+Rc), s		6.2		6.9		6.2		6.9				
Max Green Setting (Gmax), s		51.8		25.1		51.8		25.1				
Max Q Clear Time (g_c+I1), s		24.4		10.8		9.6		11.4				
Green Ext Time (p_c), s		12.8		0.4		14.7		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			9.8									
HCM 7th LOS			A									

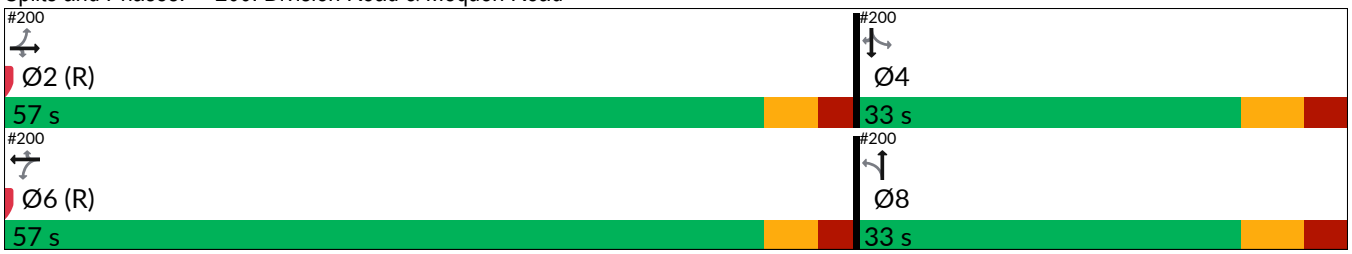


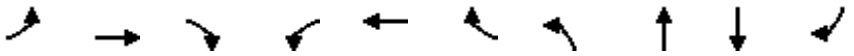
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	610	120	105	795	35	110	35	110	35	25	65
Future Volume (vph)	40	610	120	105	795	35	110	35	110	35	25	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	225		100	75		0	0		165
Storage Lanes	1		1	1		1	1		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		958			1302			1185			774	
Travel Time (s)		18.7			25.4			23.1			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	62%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	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	649	79	112	846	23	117	154	0	0	64	43
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	2	2	2	6	6	6	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	17.1	17.1		17.1	17.1	17.1
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	33.0	33.0		33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	36.7%
Maximum Green (s)	50.9	50.9	50.9	50.9	50.9	50.9	25.9	25.9		25.9	25.9	25.9
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	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)	6.1	6.1	6.1	6.1	6.1	6.1	7.1	7.1			7.1	7.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Time Before Reduce (s)	25.0	25.0	25.0	25.0	25.0	25.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	15.0	15.0	15.0	15.0	15.0	15.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.10	0.26	0.07	0.21	0.34	0.02	0.59	0.63			0.32	0.18
Control Delay (s/veh)	6.2	6.2	5.2	6.5	6.0	5.0	47.5	47.4			37.2	33.9

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 (s/veh)	6.2	6.2	5.2	6.5	6.0	5.0	47.5	47.4			37.2	33.9
Queue Length 50th (ft)	10	88	18	19	83	3	64	85			34	22
Queue Length 95th (ft)	32	149	38	49	138	12	113	140			68	49
Internal Link Dist (ft)		878			1222			1105			694	
Turn Bay Length (ft)	100		100	225		100	75					165
Base Capacity (vph)	415	2468	1081	529	2492	1091	383	470			392	449
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	0.10	0.26	0.07	0.21	0.34	0.02	0.31	0.33			0.16	0.10

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 19 (21%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	

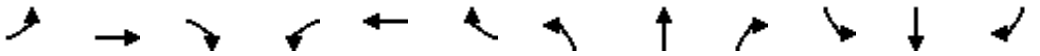
Splits and Phases: 200: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	43	649	79	112	846	23	117	154	64	43
v/c Ratio	0.10	0.26	0.07	0.21	0.34	0.02	0.59	0.63	0.32	0.18
Control Delay (s/veh)	6.2	6.2	5.2	6.5	6.0	5.0	47.5	47.4	37.2	33.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.2	6.2	5.2	6.5	6.0	5.0	47.5	47.4	37.2	33.9
Queue Length 50th (ft)	10	88	18	19	83	3	64	85	34	22
Queue Length 95th (ft)	32	149	38	49	138	12	113	140	68	49
Internal Link Dist (ft)		878			1222			1105	694	
Turn Bay Length (ft)	100		100	225		100	75			165
Base Capacity (vph)	415	2468	1081	529	2492	1091	383	470	392	449
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	0.10	0.26	0.07	0.21	0.34	0.02	0.31	0.33	0.16	0.10

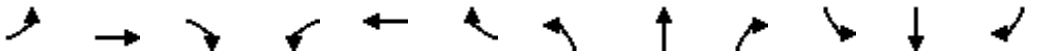
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	610	120	105	795	35	110	35	110	35	25	65
Future Volume (veh/h)	40	610	120	105	795	35	110	35	110	35	25	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	649	79	112	846	23	117	37	117	37	27	43
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	2261	987	487	2279	995	229	83	262	171	109	331
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	632	3526	1539	727	3554	1551	1329	391	1236	510	515	1562
Grp Volume(v), veh/h	43	649	79	112	846	23	117	0	154	64	0	43
Grp Sat Flow(s),veh/h/ln	632	1763	1539	727	1777	1551	1329	0	1627	1026	0	1562
Q Serve(g_s), s	3.1	7.3	1.7	7.2	10.1	0.5	7.7	0.0	7.4	1.7	0.0	2.0
Cycle Q Clear(g_c), s	13.2	7.3	1.7	14.5	10.1	0.5	16.7	0.0	7.4	9.0	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	0.58		1.00
Lane Grp Cap(c), veh/h	414	2261	987	487	2279	995	229	0	345	281	0	331
V/C Ratio(X)	0.10	0.29	0.08	0.23	0.37	0.02	0.51	0.00	0.45	0.23	0.00	0.13
Avail Cap(c_a), veh/h	414	2261	987	487	2279	995	330	0	468	390	0	450
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	7.1	6.1	10.3	7.6	5.9	38.9	0.0	30.9	31.2	0.0	28.7
Incr Delay (d2), s/veh	0.5	0.3	0.2	1.1	0.5	0.0	0.7	0.0	0.3	0.2	0.0	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(95%),veh/ln	0.8	4.4	1.0	2.1	6.1	0.3	4.5	0.0	5.1	2.3	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.2	7.4	6.3	11.4	8.1	5.9	39.5	0.0	31.2	31.4	0.0	28.8
LnGrp LOS	B	A	A	B	A	A	D		C	C		C
Approach Vol, veh/h		771			981			271			107	
Approach Delay, s/veh		7.5			8.4			34.8			30.3	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.8		26.2		63.8		26.2				
Change Period (Y+Rc), s		6.1		7.1		6.1		7.1				
Max Green Setting (Gmax), s		50.9		25.9		50.9		25.9				
Max Q Clear Time (g_c+I1), s		15.2		11.0		16.5		18.7				
Green Ext Time (p_c), s		11.0		0.2		15.0		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.5									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1	10	1	1	10	10	230	5	5	230	10
Future Volume (vph)	10	1	10	1	1	10	10	230	5	5	230	10
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		90
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		495			280			1078			340	
Travel Time (s)		13.5			7.6			21.0			6.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	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)	0	23	0	0	13	0	0	261	0	0	250	11
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

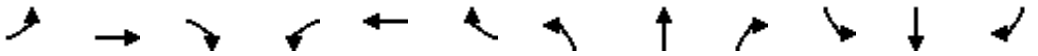
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	10	1	1	10	10	230	5	5	230	10
Future Vol, veh/h	10	1	10	1	1	10	10	230	5	5	230	10
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	-	-	-	-	-	-	-	-	-	-	-	90
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	11	1	1	11	11	245	5	5	245	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	399	527	245	524	535	125	255	0	0	250	0	0
Stage 1	255	255	-	269	269	-	-	-	-	-	-	-
Stage 2	144	271	-	256	266	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	548	456	793	449	451	903	1308	-	-	1314	-	-
Stage 1	748	695	-	715	686	-	-	-	-	-	-	-
Stage 2	844	684	-	748	688	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	533	450	793	436	445	903	1308	-	-	1314	-	-
Mov Cap-2 Maneuver	533	450	-	436	445	-	-	-	-	-	-	-
Stage 1	745	692	-	708	680	-	-	-	-	-	-	-
Stage 2	826	678	-	733	685	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.97	9.76	0.38	0.16
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	143	-	-	625	768	38	-	-
HCM Lane V/C Ratio	0.008	-	-	0.036	0.017	0.004	-	-
HCM Ctrl Dly (s/v)	7.8	0.1	-	11	9.8	7.8	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	30	110	10	15	5	55	230	15	1	220	20
Future Volume (vph)	10	30	110	10	15	5	55	230	15	1	220	20
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		130	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	100		100	100		100	100		100	100		100
Link Speed (mph)		40			25			35			35	
Link Distance (ft)		2628			530			960			1078	
Travel Time (s)		44.8			14.5			18.7			21.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	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)	0	171	0	0	34	0	0	327	17	0	277	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	30	110	10	15	5	55	230	15	1	220	20
Future Vol, veh/h	10	30	110	10	15	5	55	230	15	1	220	20
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	-	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	11	34	126	11	17	6	63	264	17	1	253	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	666	675	264	663	669	264	276	0	0	282	0	0
Stage 1	267	267	-	391	391	-	-	-	-	-	-	-
Stage 2	399	408	-	272	278	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	373	376	774	375	379	774	1281	-	-	1281	-	-
Stage 1	739	688	-	634	607	-	-	-	-	-	-	-
Stage 2	627	597	-	734	680	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	332	353	774	267	356	774	1281	-	-	1281	-	-
Mov Cap-2 Maneuver	332	353	-	267	356	-	-	-	-	-	-	-
Stage 1	738	688	-	596	572	-	-	-	-	-	-	-
Stage 2	568	562	-	582	680	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.74	16.44	1.46	0.03
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	347	-	-	583	349	7	-	-
HCM Lane V/C Ratio	0.049	-	-	0.295	0.099	0.001	-	-
HCM Ctrl Dly (s/v)	8	0	-	13.7	16.4	7.8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	0.3	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	50	45	215	75	80	210
Future Volume (vph)	50	45	215	75	80	210
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		100	150	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100	100		100	100	
Link Speed (mph)	40		40			40
Link Distance (ft)	2582		494			598
Travel Time (s)	44.0		8.4			10.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	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)	110	0	250	87	93	244
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

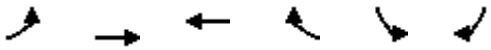
Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	45	215	75	80	210
Future Vol, veh/h	50	45	215	75	80	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	52	250	87	93	244

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	680	250	0	0	337	0
Stage 1	250	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	416	789	-	-	1222	-
Stage 1	792	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	385	789	-	-	1222	-
Mov Cap-2 Maneuver	385	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	656	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.05	0	2.26
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	508	1222	-
HCM Lane V/C Ratio	-	-	0.217	0.076	-
HCM Ctrl Dly (s/v)	-	-	14	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.2	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	145	85	5	5	10
Future Volume (vph)	10	145	85	5	5	10
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	100	100
Link Speed (mph)		40	40		30	
Link Distance (ft)		2582	2628		654	
Travel Time (s)		44.0	44.8		14.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	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)	0	206	120	0	20	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	145	85	5	5	10
Future Vol, veh/h	10	145	85	5	5	10
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	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	193	113	7	7	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	120	0	-	0	337	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	220	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1468	-	-	-	659	935
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	817	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1468	-	-	-	652	935
Mov Cap-2 Maneuver	-	-	-	-	652	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	817	-

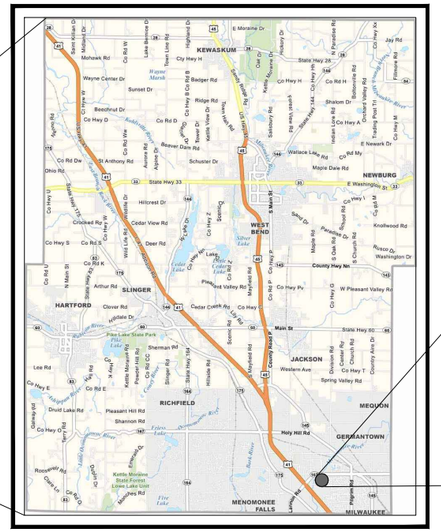
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.48	0	9.52
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	116	-	-	-	817
HCM Lane V/C Ratio	0.009	-	-	-	0.024
HCM Ctrl Dly (s/v)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HEYDAY GERMANTOWN

SECTION 28, TOWNSHIP 9N, RANGE 20E

REGIONAL MAP



WASHINGTON COUNTY

N

SITE LOCATION MAP

VILLAGE OF GERMANTOWN,
WASHINGTON COUNTY, WISCONSIN

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TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE

CAUTION:

CERTAIN UNDERGROUND UTILITIES HAVE BEEN LOCATED ON THE PLANS. THESE LOCATIONS SHALL NOT BE TAKEN AS CONCLUSIVE. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITES, WHETHER SHOWN ON THE DRAWING OR NOT, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. FOR EXACT LOCATION CONTACT DIGGERS HOTLINE 1-800-242-8511

Index of Sheets

C100	TITLE
C300	SITE PLAN
C400	GRADING PLAN
C500	UTILITY PLAN

MARK	REVISION	DATE	BY
	LILAC ACCESS & DELINEATED WETLANDS	07/28/26	BCA
	TOTAL ACREAGE	07/06/26	BCA
	VILLAGE PW COMMENTS	06/29/26	BCA

Engineer: BCA | Checked By: MLC | T-R-S: 9N-20E-28
Technician: TJM | Date: 06-25-2026 | Project No: 125.1245.30 | Sheet C100

HEYDAY GERMANTOWN

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WI

TITLE

SNYDER & ASSOCIATES, INC.
5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com

SNYDER & ASSOCIATES

Project No: 125.1245.30

Sheet C100

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MARK	DATE	REVISION
BY	07/28/26	LILAC ACCESS & DELINEATED WETLANDS
BCA	07/06/26	TOTAL ACREAGE
BCA	06/29/26	VILLAGE PW COMMENTS

Engineer: BCA
Checked By: MLC
Technician: TJM
Date: 06-25-2026
T-R-S: 9N-20E-28

Project No: 125.1245.30

Sheet C300

HEYDAY GERMANTOWN

SITE PLAN

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WI

SNYDER & ASSOCIATES, INC.
5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com

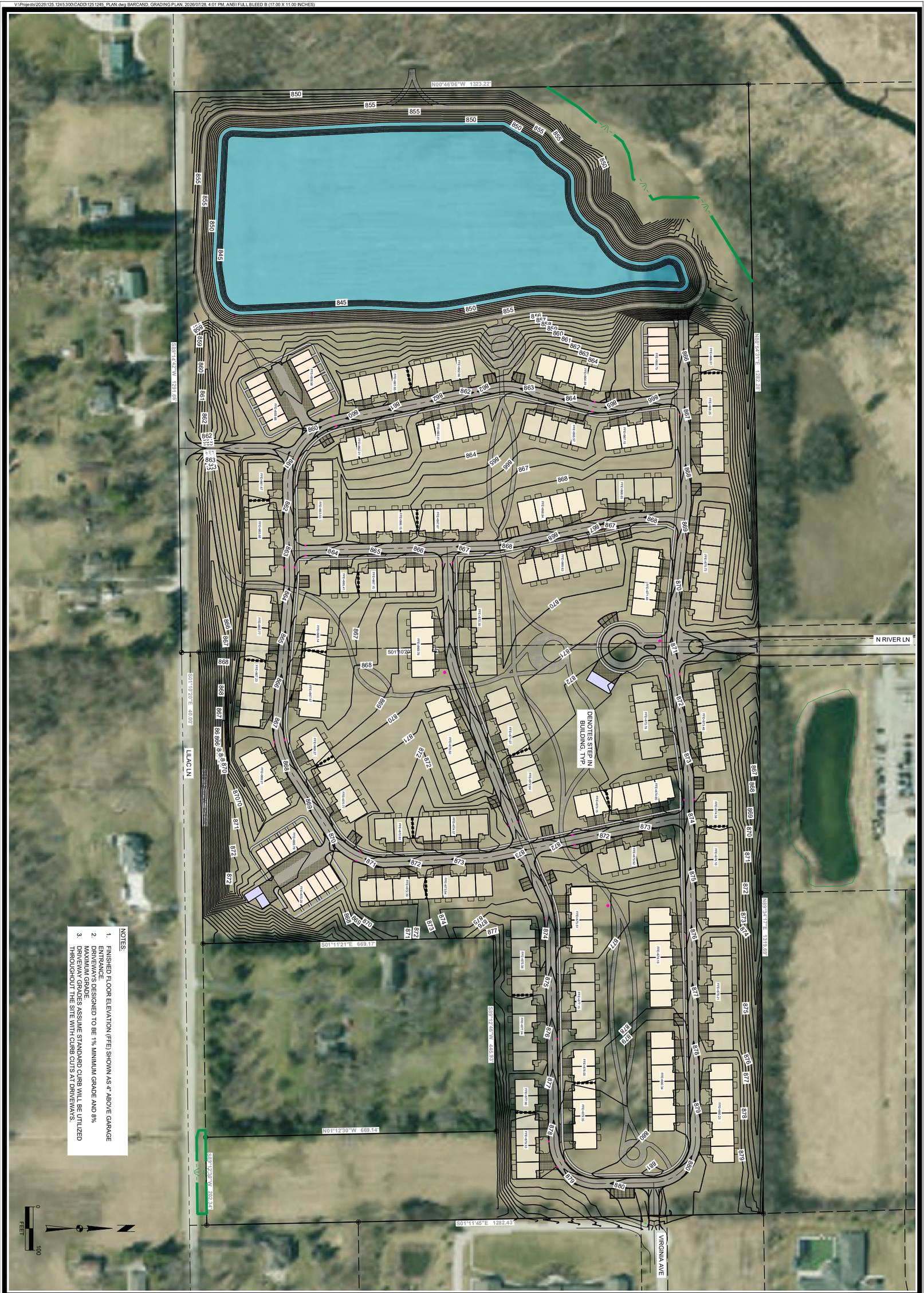
SNYDER & ASSOCIATES

Project No: 125.1245.30

Sheet C300

V:\Projects\2025\125.1245.300\CADD\125.1245_PLAN.dwg BARCAND, SITE PLAN, 2026/07/28, 4:01 PM, ANSI FULL BLEED B (17.00 X 11.00 INCHES)

V:\Projects\2025\125.1245.300\CADD\1251245_PLAN.dwg, BARCAND_GRADING PLAN, 2026/07/28, 4:01 PM, ANSI FULL BLEED B (17.00 X 11.00 INCHES)



NOTES:

1. FINISHED FLOOR ELEVATION (FFE) SHOWN AS 4' ABOVE GARAGE ENTRANCE.
2. DRIVEWAYS DESIGNED TO BE 1% MINIMUM GRADE AND 8% MAXIMUM GRADE.
3. DRIVEWAY GRADES ASSUME STANDARD CURB WILL BE UTILIZED THROUGHOUT THE SITE WITH CURB CUTS AT DRIVEWAYS.

0 100 FEET

HEYDAY GERMANTOWN

GRADING PLAN

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WI

MARK	REVISION	DATE	BY
	LILAC ACCESS & DELINEATED WETLANDS	07/28/26	BCA
	TOTAL ACREAGE	07/06/26	BCA
	VILLAGE PW COMMENTS	06/29/26	BCA

Engineer: BCA | Checked By: MLC

Technician: TJM | Date: 06-25-2026 | T-R-S: 9N-20E-28

Project No: 125.1245.30 | Sheet C400

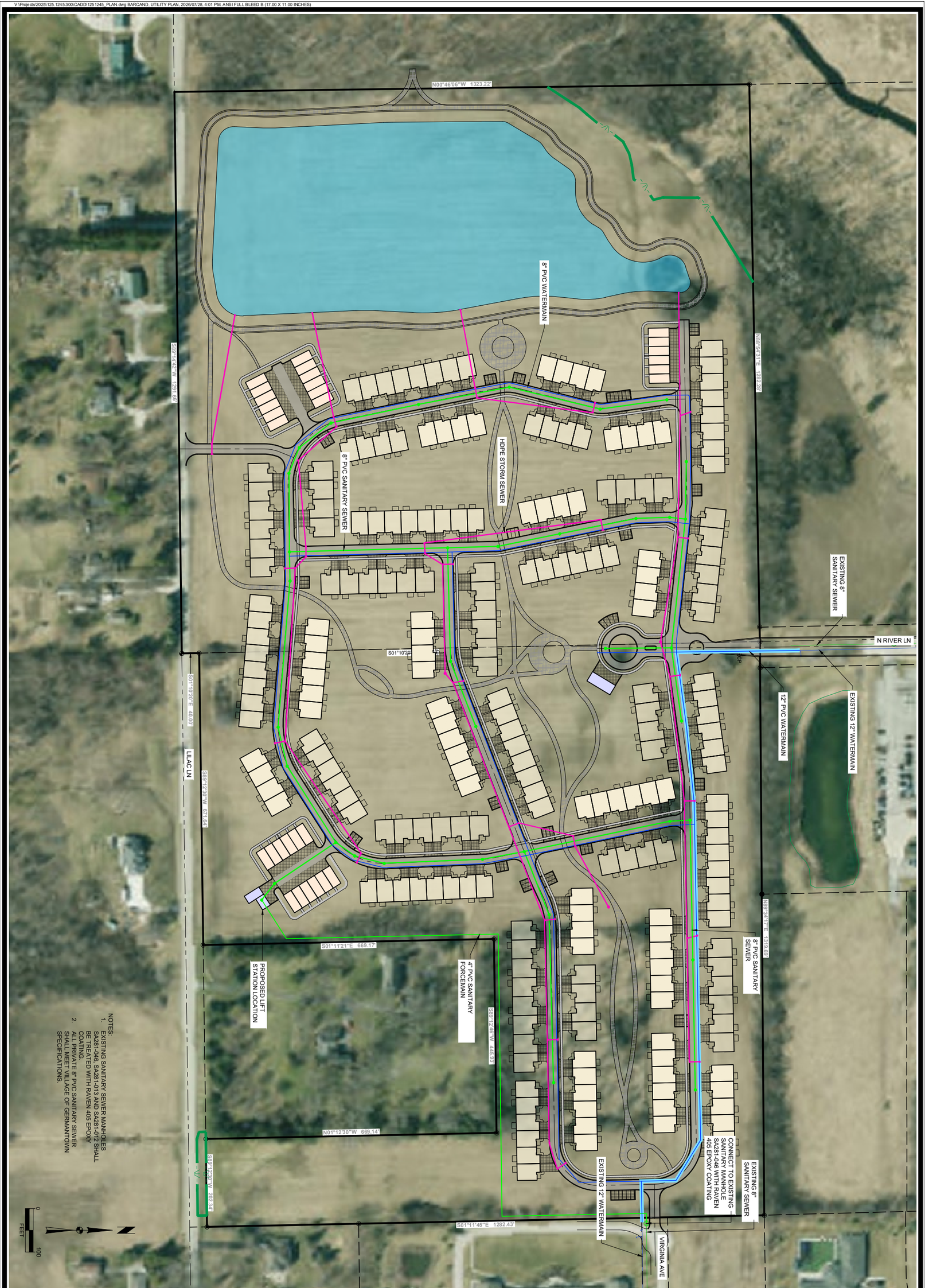
SNYDER & ASSOCIATES

SNYDER & ASSOCIATES, INC.

5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com

Project No: 125.1245.30
Sheet C400

V:\Projects\2025\125.1245.300\CADD\1251245_PLAN.dwg, BARCAND, UTILITY PLAN, 2026/07/28, 4:01 PM, ANSI FULL BLEED B (17.00 X 11.00 INCHES)



NOTES:
1. EXISTING SANITARY SEWER MANHOLES SA281-046, SA281-013 AND SA281-072 SHALL BE INTERNALLY COATED WITH RAVEN 405 EPOXY COATING.
2. ALL PRIVATE 8" PVC SANITARY SEWER SHALL MEET VILLAGE OF GERMANTOWN SPECIFICATIONS.

HEYDAY GERMANTOWN

UTILITY PLAN

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WI

MARK	REVISION	DATE	BY
	LILAC ACCESS & DELINEATED WETLANDS	07/28/26	BCA
	TOTAL ACREAGE	07/06/26	BCA
	VILLAGE PW COMMENTS	06/29/26	BCA

Engineer: BCA | Checked By: MLC
Technician: TJM | Date: 06-25-2026 | T-R-S: 9N-20E-28

Project No: 125.1245.30 | Sheet C500

SNYDER & ASSOCIATES

SNYDER & ASSOCIATES, INC. |

5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com

Project No: 125.1245.30
Sheet C500

Memorandum

To: Village of Germantown **Date:** 6/26/2026

From: Brian Arcand, P.E.

CC:

RE: Heyday Germantown – Stormwater Management

This memo is intended as a supplement to the General Development Plan submittal to verify that the proposed development can meet all state, county, and local stormwater requirements.

The site contains approximately 70 acres of developable area that consists mainly of agricultural land and grassland. There are existing wetlands in the northwest of the western parcel and the development has been laid out to avoid impacts to the wetlands and to stay outside of any setbacks. The wetland is scheduled to be delineated in July and will be shown (with proper setbacks) on final plans and documents.

The existing site generally drains from east to west, outleting across Schoen Laufen Park to the west and ultimately to the Menomonee River. Proposed drainage patterns will maintain the existing conditions as closely as possible, utilizing a wet detention pond on the west of the parcel to control runoff before outleting on the west property line.

Stormwater requirements include:

- Comply with NR-151 requirements.
- Comply with Milwaukee Metropolitan Sewerage District stormwater requirements.
- 80% of total suspended solids removal for water quality.
- Maintain 90% of pre-development stay-on (infiltration).
- Provide sediment control during construction, limiting construction erosion to 5 tons per acre per year.

Due to high bedrock throughout the parcels, the site has been given an exemption from infiltration requirements from the Wisconsin DNR (see attached email correspondence and test pit information) in order to protect groundwater from contamination due to a lack of separation from bedrock. Given this site constraint, the Unit Release Rate Procedure (maximum allowable runoff release rate of 0.50 cfs per acre for the 100-year storm event and 0.15 cfs per acre for the 2-year storm event) will be utilized to meet the Milwaukee Metropolitan Sewerage District stormwater requirements. Additionally, we are aware of the major flooding the Village dealt with in August of 2025 (local rain gauge data from the

Germantown Wastewater Treatment Plant recorded 8.62 inches in a 24-hour period – equivalent to the 500-year storm event) and will review the 500-year storm event in our modeling and design our stormwater management systems accordingly.

N. RIVER LANE

TP 101
EX. EL.=847.90'
DEPTH TO BEDROCK= 4.4 FT
BEDROCK EL. = 843.50'

TP 102
EX. EL.=849.46'
PR. TP BOTTOM EL=843.00'
TP DEPTH=6.46'
NO BEDROCK

TP 103
EX. EL.=852.48'
PR. TP BOTTOM EL=843.00'
TP DEPTH=9.48'
NO BEDROCK

TP 104
EX. EL.=849.94'
PR. TP BOTTOM EL=843.00'
TP DEPTH=6.94'
DEPTH TO BEDROCK= 5 FT
BEDROCK EL. = 844.94'

TP 105
EX. EL.=852.97'
PR. TP BOTTOM EL=843.00'
TP DEPTH=9.97'
DEPTH TO BEDROCK= 5 FT
BEDROCK EL. = 847.97'

TP 106
EX. EL.=857.91'
DEPTH TO BEDROCK= 1.8 FT
BEDROCK EL. = 856.11'

TP 107
EX. EL.=856.96'
PR. TP BOTTOM EL=843.00'
TP DEPTH=13.96'
DEPTH TO BEDROCK= 2.6 FT
BEDROCK EL. = 854.36'

TP 108
EX. EL.=862.05'
PR. TP BOTTOM EL=843.00'
TP DEPTH=19.05'
DEPTH TO BEDROCK= 15 FT
BEDROCK EL. = 847.05'

TP 109
EX. EL.=856.62'
PR. TP BOTTOM EL=843.00'
TP DEPTH=13.62'
DEPTH TO BEDROCK= 7 FT
BEDROCK EL. = 849.62'

TP 110
EX. EL.=857.23'
PR. TP BOTTOM EL=843.00'
TP DEPTH=14.23'
DEPTH TO BEDROCK= 3.7 FT
BEDROCK EL. = 853.53'

TP 111
EX. EL.=867.77'
DEPTH TO BEDROCK= 1.8 FT
BEDROCK EL. = 865.97'

TP 112
EX. EL.=864.95'
DEPTH TO BEDROCK= 3.2 FT
BEDROCK EL. = 861.75'

TP 113
EX. EL.=866.00'
DEPTH TO BEDROCK= 3.7 FT
BEDROCK EL. = 862.30'

TP 114
EX. EL.=864.74'
DEPTH TO BEDROCK= 1.4 FT
BEDROCK EL. = 863.34'

TP 115
EX. EL.=859.55'
DEPTH TO BEDROCK= 8 FT
BEDROCK EL. = 851.55'

TP 116
EX. EL.=866.65'
DEPTH TO BEDROCK= 7.9 FT
BEDROCK EL. = 858.75'

TP 117
EX. EL.=866.18'
DEPTH TO BEDROCK= 8 FT
BEDROCK EL. = 858.18'
POTENTIAL GROUNDWATER 8' BELOW SURFACE

TP 118
EX. EL.=867.36'
DEPTH TO BEDROCK= 5.3 FT
BEDROCK EL. = 862.07'

TP 119
EX. EL.=865.10'
DEPTH TO BEDROCK= 3.4 FT
BEDROCK EL. = 861.70'

TP 120
EX. EL.=860.94'
DEPTH TO BEDROCK= 2.4 FT
BEDROCK EL. = 858.54'

TP 121
EX. EL.=867.73'
DEPTH TO BEDROCK= 4.1 FT
BEDROCK EL. = 863.63'

TP 122
EX. EL.=868.66'
DEPTH TO BEDROCK= 4 FT
BEDROCK EL. = 864.66'

TP 123
EX. EL.=868.81'
DEPTH TO BEDROCK= 4 FT
BEDROCK EL. = 864.66'

TP 124
EX. EL.=864.22'
DEPTH TO BEDROCK= 4.9 FT
BEDROCK EL. = 859.32'

TP 125
EX. EL.=858.97'
DEPTH TO BEDROCK= 2.9 FT
BEDROCK EL. = 856.07'

TP 126
EX. EL.=868.94'
DEPTH TO BEDROCK= 6.8 FT
BEDROCK EL. = 862.14'
POTENTIAL GROUNDWATER 4' BELOW SURFACE

TP 127
EX. EL.=875.20'
DEPTH TO BEDROCK= 2.8 FT
BEDROCK EL. = 872.54'

TP 128
EX. EL.=875.61'
DEPTH TO BEDROCK= 1.8 FT
BEDROCK EL. = 873.81'

TP 129
EX. EL.=865.55'
DEPTH TO BEDROCK= 2.2 FT
BEDROCK EL. = 863.35'

TP 130
EX. EL.=856.19'
DEPTH TO BEDROCK= 6.3 FT
BEDROCK EL. = 849.89'

TP 131
EX. EL.=874.59'
DEPTH TO BEDROCK= 0-0.3 FT
BEDROCK EL. = 874.29'

TP 132
EX. EL.=874.76'
DEPTH TO BEDROCK= 3 FT
BEDROCK EL. = 871.76'

TP 133
EX. EL.=880.23'
DEPTH TO BEDROCK= 0-10 INCHES
BEDROCK EL. = 879.40'

TP 134
EX. EL.=876.87'

TP 135
EX. EL.=878.91'

TP 136
EX. EL.=870.77'

TP 137
EX. EL.=861.94'

TP 138
EX. EL.=852.59'

LILAC LANE

N

0 100
FEET

Point Table

POINT #	NORTHING	EASTING	LATITUDE	LONGITUDE	DESCRIPTION
101	449189.25	2465191.28	N43° 13' 02.00"	W88° 08' 11.46"	TP 1
102	448966.43	2465193.21	N43° 12' 59.80"	W88° 08' 11.50"	TP 2
103	448666.45	2465197.15	N43° 12' 56.84"	W88° 08' 11.54"	TP 3
104	448366.48	2465201.10	N43° 12' 53.87"	W88° 08' 11.58"	TP 4
105	448066.50	2465205.04	N43° 12' 50.91"	W88° 08' 11.61"	TP 5
106	449193.20	2465491.25	N43° 13' 01.97"	W88° 08' 07.41"	TP 6
107	448970.37	2465493.18	N43° 12' 59.77"	W88° 08' 07.45"	TP 7
108	448670.40	2465497.13	N43° 12' 56.81"	W88° 08' 07.49"	TP 8
109	448370.42	2465501.07	N43° 12' 53.85"	W88° 08' 07.53"	TP 9
110	448070.45	2465505.02	N43° 12' 50.88"	W88° 08' 07.56"	TP 10

Point Table

POINT #	NORTHING	EASTING	LATITUDE	LONGITUDE	DESCRIPTION
111	449197.14	2465791.23	N43° 13' 01.95"	W88° 08' 03.36"	TP 11
112	448974.32	2465793.15	N43° 12' 59.74"	W88° 08' 03.40"	TP 12
113	448674.34	2465797.10	N43° 12' 56.78"	W88° 08' 03.44"	TP 13
114	448374.37	2465801.04	N43° 12' 53.82"	W88° 08' 03.47"	TP 14
115	448074.39	2465804.99	N43° 12' 50.86"	W88° 08' 03.51"	TP 15
116	449201.09	2466091.20	N43° 13' 01.92"	W88° 07' 59.31"	TP 16
117	448978.26	2466093.13	N43° 12' 59.72"	W88° 07' 59.35"	TP 17
118	448678.29	2466097.07	N43° 12' 56.75"	W88° 07' 59.39"	TP 18
119	448378.31	2466101.02	N43° 12' 53.79"	W88° 07' 59.42"	TP 19
120	448078.34	2466104.96	N43° 12' 50.83"	W88° 07' 59.46"	TP 20

Point Table

POINT #	NORTHING	EASTING	LATITUDE	LONGITUDE	DESCRIPTION
121	449205.03	2466391.17	N43° 13' 01.89"	W88° 07' 55.26"	TP 21
122	448982.21	2466393.10	N43° 12' 59.69"	W88° 07' 55.30"	TP 22
123	448682.23	2466397.05	N43° 12' 56.73"	W88° 07' 55.33"	TP 23
124	448382.26	2466400.99	N43° 12' 53.76"	W88° 07' 55.37"	TP 24
125	448082.29	2466404.94	N43° 12' 50.80"	W88° 07' 55.41"	TP 25
126	449208.98	2466691.15	N43° 13' 01.86"	W88° 07' 51.20"	TP 26
127	448986.15	2466693.08	N43° 12' 59.66"	W88° 07' 51.25"	TP 27
128	448686.18	2466697.02	N43° 12' 56.70"	W88° 07' 51.28"	TP 28
129	448386.20	2466700.97	N43° 12' 53.74"	W88° 07' 51.32"	TP 29
130	448086.23	2466704.91	N43° 12' 50.77"	W88° 07' 51.36"	TP 30

Point Table

POINT #	NORTHING	EASTING	LATITUDE	LONGITUDE	DESCRIPTION
131	449212.92	2466991.12	N43° 13' 01.84"	W88° 07' 47.15"	TP 31
132	448990.10	2466993.05	N43° 12' 59.63"	W88° 07' 47.19"	TP 32
133	448781.48	2466995.79	N43° 12' 57.57"	W88° 07' 47.22"	TP 33
134	449218.30	2467399.62	N43° 13' 01.80"	W88° 07' 41.64"	TP 34
135	448995.47	2467401.55	N43° 12' 59.60"	W88° 07' 41.68"	TP 35
136	448695.50	2467405.49	N43° 12' 56.63"	W88° 07' 41.71"	TP 36
137	448395.52	2467409.44	N43° 12' 53.67"	W88° 07' 41.75"	TP 37
138	448095.55	2467413.38	N43° 12' 50.71"	W88° 07' 41.79"	TP 38

MARK	REVISION	DATE	BY
Engineer:	BCA	Checked By:	CHKD
Technician:	TECH	Date:	02-09-2026

Scale: 1" = 100'
T-R-S: TTN-RRW-SS
Project No: 125.1245.30
Sheet EXBT

HEYDAY GERMANTOWN
TEST PIT MAP
VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WI

SNYDER & ASSOCIATES, INC.
5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com

SNYDER & ASSOCIATES

Project No:125.1245.30
Sheet EXBT

V:\Projects\2025\125.1245.300\CADD\125.1245 EXBT-SOIL-TEST PITS.dwg TMARTIN, TEST PIT MAP 2026/03/06, 9:21 AM, ANSI FULL BLEED D (34.00 X 22.00 INCHES)

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-01**
Surface Elevation **847.93±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			18± in. TOPSOIL (OL)					
			M			Medium Stiff to Stiff, Brown-Gray (Mottled) Lean CLAY (CL)	(0.75-1.0)				
			M		5	Dark Brown Silty Fine to Medium SAND, Some Clay, Little Gravel (SM; Possible Weathered Bedrock)					
						End Test Pit at 4.4 ft Due to Refusal on Hard Bedrock					
						Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-02**
Surface Elevation **849.5±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			8± in. TOPSOIL (OL)					
			M			*USDA: 10YR 2/2 Silty Clay Loam* Stiff, Brown Lean CLAY (CL) *USDA: 10YR 4/4 Silty Clay Loam*	(1.25)				
1			M		5	Tan Silty Fine to Coarse SAND, Little Gravel, Some Clay, Scattered Cobbles/Boulders (SM) *USDA: 10YR 7/3 Loam with Thin Silt Loam Seams* P200@4 ft: 49.6%			15	12	
					10	End Test Pit at 9 ft Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-03**
Surface Elevation **852.7±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			8± in. TOPSOIL (OL) *USDA: 10YR 2/2 Silty Clay Loam*					
			M			Stiff, Brown Lean CLAY (CL) *USDA: 10YR 4/4 Silty Clay Loam*	(1.5)				
					5	Tan Silty Fine to Medium SAND, Little Gravel, Some Clay, Scattered Cobbles/Boulders (SM) *USDA: 10YR 7/3 Loam with Thin Silt Loam Seams*					
			M								
					10	End Test Pit at 10 ft Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-04**
Surface Elevation **849.49±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			7± in. TOPSOIL (OL) *USDA: 10YR 2/2 Silty Clay Loam* Medium Stiff to Stiff, Brown-Gray (Mottled) Lean CLAY (CL) *USDA: 10YR 6/3 Silty Clay Loam* Redox: c1p 10YR 6/1	(0.75-1.25)				
			M								
					5	End Test Pit at 5 ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-05**
Surface Elevation **853.06±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			10± in. TOPSOIL *USDA: 10YR 2/2 Silty Clay Loam*					
			M			Tan Silty Fine SAND, Some Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 7/4 Gravelly Fine Sandy Loam with Thin Silt Loam Seams*					
					5	End Test Pit at 5 ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-06**
Surface Elevation **858.04±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			11± in. TOPSOIL (OL) *USDA: 10YR 2/2 Silty Clay Loam*					
			M			Dark Brown Silty Fine to Medium SAND, Some Clay, Little Gravel with Thin Silt Seams (SM) *USDA: 10YR 4/2 Loam with Thin Silt Seams*					
						End Test Pit at 1.8 ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-07**
Surface Elevation **857.20±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			16± in. TOPSOIL (OL) *USDA: 10YR 2/2 Silty Clay Loam*					
			M			Stiff, Brown Lean CLAY (CL) *USDA: 10YR 4/4 Silty Clay Loam*					
						End Test Pit at 2.6 ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-08**
Surface Elevation **862.05±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			10± in. TOPSOIL (OL) *USDA: 10YR 2/2 Silty Clay Loam*					
			M			Stiff, Brown Lean CLAY (CL) *USDA: 10YR 4/4 Silty Clay Loam*					
					5	Tan Silty Fine SAND, Some Gravel, Scattered Cobbles/Boulders, Scattered Thin Silt Seams (SM) *USDA: 10YR 7/3 Gravelly Fine Sandy Loam with Thin Silt Loam Seams*					
			M								
					10						
					15	End Test Pit at 15 ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-09**
Surface Elevation **856.72±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			9± in. TOPSOIL (OL) *USDA: 10YR 2/2 Silty Clay Loam*					
			M			Stiff, Brown Lean CLAY (CL) *USDA: 10YR 4/4 Silty Clay Loam*					
			M		5	Tan Silty Fine to Medium SAND, Some Gravel, Little Clay, Scattered Cobbles/Boulders, Thin Silt Seams (SM) *USDA: 10YR 7/3 Loam with Thin Silt Loam Seams*					
					10	End Test Pit at 7 ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-10**
Surface Elevation **851.31±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			11± in. TOPSOIL (OL) *USDA: 10YR 2/2 Silty Clay Loam*					
			M			Stiff, Brown Lean CLAY (CL) *USDA: 10YR 4/4 Silty Clay Loam*					
			M			Tan Silty Fine SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM) *USDA: 10YR 7/3 Gravelly Fine Sandy Loam with Thin Silt Loam Seams*					
					5	End Test Pit at 3.7± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-11**
Surface Elevation **867.78±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			8± in. TOPSOIL (OL)					
			M			Dark Brown Silty Fine to Medium SAND, Some Clay, Little Gravel (SM)					
						End Test Pit at 1.8± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-12**
Surface Elevation **864.90±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			12± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.75)				
						End Test Pit at 3.2± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-13**
Surface Elevation **866.17±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			6± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.5)	24.1			
			M			Tan Silty Fine to Medium, SAND, Some Gravel, Scattered Cobbles/Boulders (SM)					
						End Test Pit at 3.7± ft Due to Refusal on Hard Bedrock					
					5	Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-14**
Surface Elevation **864.87±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			3± in. TOPSOIL (OL)					
			M			Tan Silty Fine to Medium SAND, Some Gravel, Little Clay, Scattered Cobbles/Boulders (SM)					
						End Test Pit at 1.4± ft Due to Refusal on Hard Bedrock					
						Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-15**
Surface Elevation **859.62±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			9± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.25)				
			M		5	Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
					10	End Test Pit at 8± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-16**
Surface Elevation **866.88±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			10± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.5)				
			M		5	Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
					10	End Test Pit at 7.9± in. Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-17**
Surface Elevation **866.30±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			10± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.25-1.5)				
					5	Tan Silty Fine to Medium SAND, Some Gravel, Little Clay, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
			M			Very Moist at 8 ft					
						End Test Pit at 8.6± ft Due to Refusal on Hard Bedrock					
					10	Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-18**
Surface Elevation **867.50±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			12± in. TOPSOIL (OL)					
			M			Medium Stiff to Stiff, Brown-Gray (Mottled) Lean CLAY (CL) Sandy with Depth	(0.75-1.0)				
			M		5	Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders (SM)					
						End Test Pit at 5.3± ft Due to Refusal on Hard Bedrock					
						Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-19**
Surface Elevation **865.25±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			6± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.75)	20.7			
			M			Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
					5	End Test Pit at 3.4± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-20**
Surface Elevation **861.00±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			6± in. TOPSOIL (OL)					
			M			Dark Brown Silty Fine to Medium SAND, Some Clay, Little Gravel (SM)					
			M			Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
						End Test Pit at 2.4± ft Due to Refusal on Hard Bedrock					
						Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

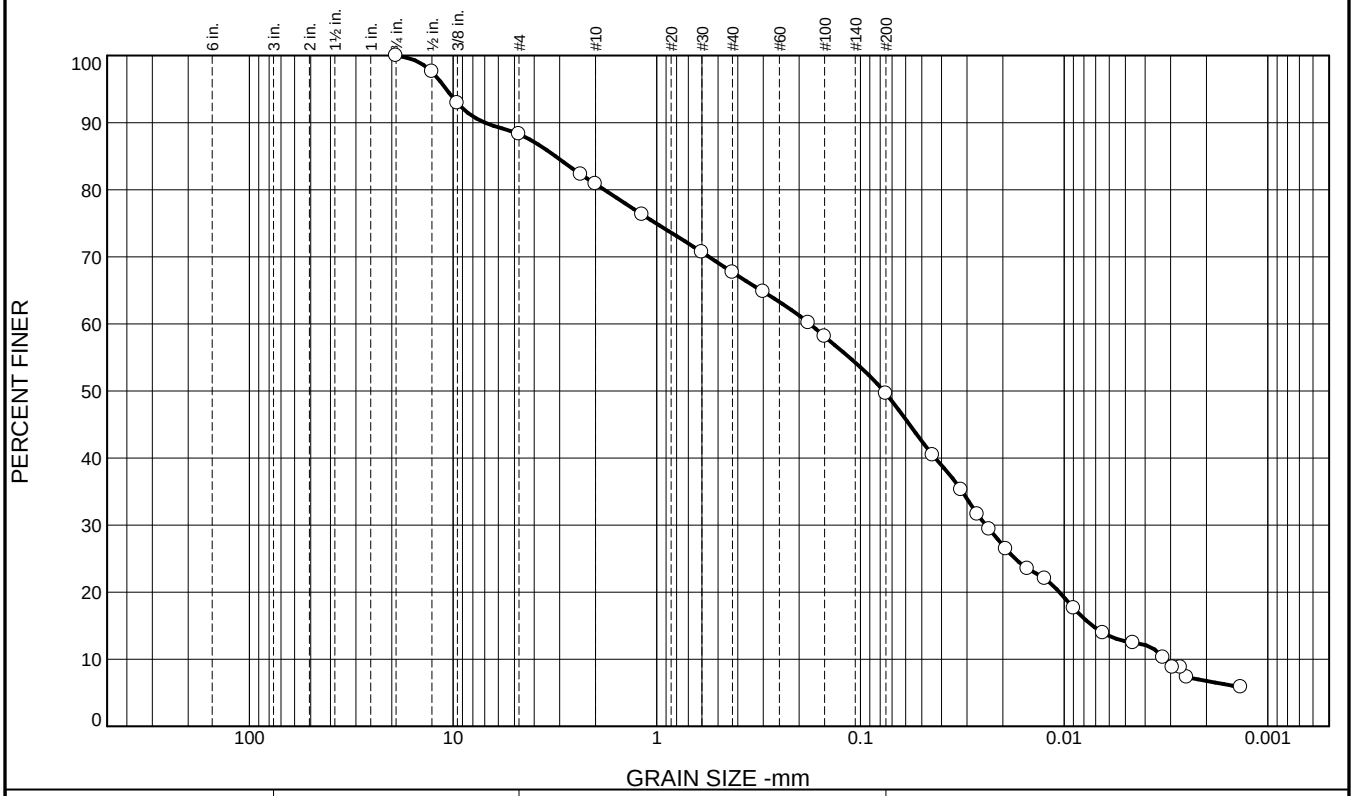
While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	11.7	7.4	13.2	18.1	36.9	12.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100.0		
1/2	97.6		
3/8	92.9		
#4	88.3		
#8	82.3		
#10	80.9		
#16	76.3		
#30	70.7		
#40	67.7		
#50	64.8		
#80	60.2		
#100	58.1		
#200	49.6		

* (no specification provided)

Material Description

Brown Silty Fine to Coarse Sand, Some Clay, Little Gravel

Atterberg Limits

PL= 12 LL= 15 PI= 3

Coefficients

D_{90}= 6.9777 D_{85}= 3.1469 D_{60}= 0.1773
D_{50}= 0.0769 D_{30}= 0.0242 D_{15}= 0.0073
D_{10}= 0.0032 C_u= 55.06 C_c= 1.03

Classification

USCS= SM AASHTO= A-4(0)

Remarks

USDA: Loam

Sample Number: TP-2 **Depth:** 4'

Date: 2/6/26

CGC,Inc.

Client: Heyday Company
Project: Heyday-Germantown

Project No: C26061 **Figure**

Tested By: JFS **Checked By:** KJS

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-21**
Surface Elevation **867.87±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			12± in. TOPSOIL (OL)					
			M			Medium Stiff to Stiff, Brown-Gray (Mottled) Lean CLAY (CL) Sandy with Depth	(0.5-1.0)	26.6			
			M			Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
					5	End Test Pit at 4.1± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-22**
Surface Elevation **868.79±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			13± in. TOPSOIL (OL)					
			M			Stiff to Very Stiff, Brown-Gray (Mottled) Lean CLAY (CL)	(1.5-2.5)				
					5	End Test Pit at 4± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-23**
Surface Elevation **868.87±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			10± in. TOPSOIL (OL)					
			M			Very Stiff, Brown Lean CLAY (CL)	(2.5)	26.6			
			M			Medium Stiff to Stiff, Brown-Gray (Mottled) Sandy Lean CLAY (CL)	(0.75)				
					5	End Test Pit at 4± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-24**
Surface Elevation **864.32±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			14± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.25)				
			M			Tan Silty Fine to Medium SAND, Some Gravel, Little Clay, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
					5	End Test Pit at 4.9± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-25**
Surface Elevation **859.02±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			9± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.75)	27.7			
			M			Dark Brown Silty Fine to Medium SAND, Some Clay, Little Gravel (SM)					
						End Test Pit at 2.9± ft Due to Refusal on Hard Bedrock					
					5	Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-26**
Surface Elevation **868.87±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			11± in. TOPSOIL (OL)					
1			M			Brown SILT, Little Clay (ML)		25.0	43	29	
2			M		5	Tan Silty Fine to Medium SAND, Little Clay, Trace Gravel, Scattered Cobbles/Boulders (SM) P200 @ 4ft: 51.2% Very Moist Below 4 ft		13.8	17	13	
			M/W								
						End Test Pit at 6.8± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-27**
Surface Elevation **875.34±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			6± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.25)				
			M			Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
						End Test Pit at 2.8± ft Due to Refusal on Hard Bedrock					
						Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-28**
Surface Elevation **875.62±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			5± in. TOPSOIL (OL) Stiff, Brown Lean CLAY (CL)	(1.0)				
			M			Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
						End Test Pit at 1.8± in. Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-29**
Surface Elevation **865.66±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			6± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.0-1.5)	20.1			
			M			Dark Brown Silty Fine to Medium SAND, Some Clay, Little Gravel, Thin Silt Seams (SM)					
						End Test Pit at 2.2± ft Due to Refusal on Hard Bedrock					
						Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-30**
Surface Elevation **856.39±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			8± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.0-1.25)				
			M		5	Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
						End Test Pit at 6.3± ft Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-31**
Surface Elevation **874.48±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
					0	4± in. TOPSOIL (OL)					
						End Test Pit at 0.3± ft Due to Refusal on Hard Bedrock					
						Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
						*Rock Outcrop Observed at Surface within 20 ft of Test Pit Location.					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-32**
Surface Elevation **874.68±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
			M			11± in. TOPSOIL (OL)					
			M			Stiff, Brown Lean CLAY (CL)	(1.0)				
			M			Tan Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders, Thin Silt Seams (SM)					
						End Test Pit at 3± ft Due to Refusal on Hard Bedrock					
					5	Excavation Backfilled with Spoils Compacted with a Hoe-Pak					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

CGC Inc.

LOG OF TEST PIT

Project **Heyday**
Lilac Lane
Location **Germantown, WI**

Pit No. **TP-33**
Surface Elevation **880.30±**
Job No. **C26061**
Sheet **1** of **1**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	Probe (in.)
						10± in. TOPSOIL (OL)					
						End Test Pit at 10± in. Due to Refusal on Hard Bedrock Excavation Backfilled with Spoils Compacted with a Hoe-Pak *Rock Outcrop Observed at Surface within 10 ft of Test Pit Location.					
					5						
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Excavating ▽ **NW** Upon Completion of Drilling **NW**
Time After Excavating
Depth to Water ▼
Depth to Cave in

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **2/17/26** End **2/17/26**
Driller **Huston** Chief **Brian**
Logger **AJB** Editor **AJB**
Equip. Used: **Hitachi 135**

Particle Size Distribution Report

% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.5	4.8	19.1	23.4	41.0	10.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8	100.0		
#4	98.5		
#8	95.1		
#10	93.7		
#16	86.0		
#30	78.3		
#40	74.6		
#50	71.2		
#80	65.5		
#100	62.9		
#200	51.2		

* (no specification provided)

Material Description

Brown Silty Fine to Coarse Sand, Little Clay, Trace Gravel

Atterberg Limits

PL= 13 LL= 17 PI= 4

Coefficients

D_{90}= 1.5247 D_{85}= 1.0987 D_{60}= 0.1221
D_{50}= 0.0714 D_{30}= 0.0281 D_{15}= 0.0101
D_{10}= 0.0049 C_u= 24.85 C_c= 1.32

Classification

USCS= CL-ML AASHTO= A-4(0)

Remarks

USDA: Sandy Loam

Sample Number: TP-26 **Depth:** 4'

Date: 2/20/26

CGC,Inc.

Client: Heyday Company
Project: Heyday-Germantown

Project No: C26061 **Figure**

Tested By: JFS **Checked By:** KJS

Brian Arcand

From: Wood, Peter C - DNR <Peter.Wood@wisconsin.gov>
Sent: Wednesday, June 10, 2026 9:50 AM
To: Brian Arcand
Subject: RE: Village of Germantown - Bedrock and Infiltration

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address and know the content is safe.

Brian,

I think an infiltration exemption claim for this site is appropriate due to the high bedrock conditions.

Pete Wood
262-822-8227
Peter.Wood@Wisconsin.gov

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

From: Brian Arcand <barcand@snyder-associates.com>
Sent: Tuesday, June 09, 2026 8:49 AM
To: Wood, Peter C - DNR <Peter.Wood@wisconsin.gov>
Subject: RE: Village of Germantown - Bedrock and Infiltration

CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Pete, circling back on this one that we discussed back in March in Germantown. Not sure if you recall, but the site has very high and significant bedrock. We had discussed infiltration being exempt. This one is now moving forward and we will be submitting in about 3 weeks. As I dial in stormwater I was hoping to get feedback on infiltration requirements from the DNR's perspective.

Concept plan is also attached.

Thanks,

Brian Arcand, P.E. (he/him)
Civil Engineer
Snyder & Associates, Inc.
P: 608.838.0444 x3224
C: 612.840.2477

From: Wood, Peter C - DNR <Peter.Wood@wisconsin.gov>
Sent: Friday, March 6, 2026 10:20 AM
To: Brian Arcand <barcand@snyder-associates.com>
Subject: RE: Village of Germantown - Bedrock and Infiltration

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address and know the content is safe.

Hey Brian. Yes, I'm available until noon today and all day Monday.

Pete Wood
262-822-8227
Peter.Wood@Wisconsin.gov

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

From: Brian Arcand <barcand@snyder-associates.com>
Sent: Friday, March 06, 2026 10:09 AM
To: Wood, Peter C - DNR <Peter.Wood@wisconsin.gov>
Subject: RE: Village of Germantown - Bedrock and Infiltration

CAUTION: This email originated from outside the organization.
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Hi Pete - test pits were completed out at the site in Germantown we had talked about back in early February. Was wondering if we could discuss infiltration requirements on this one again?

Thanks,

Brian Arcand, P.E. (he/him)
Project Manager/Civil Engineer
Snyder & Associates, Inc.

From: Wood, Peter C - DNR <Peter.Wood@wisconsin.gov>
Sent: Thursday, January 29, 2026 11:59 AM
To: Brian Arcand <barcand@snyder-associates.com>
Subject: RE: Village of Germantown - Bedrock and Infiltration

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address and know the content is safe.

Yes, I'm free all day Friday next week

Pete Wood
262-822-8227
Peter.Wood@Wisconsin.gov

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

From: Brian Arcand <barcand@snyder-associates.com>
Sent: Thursday, January 29, 2026 11:58 AM
To: Wood, Peter C - DNR <Peter.Wood@wisconsin.gov>
Subject: RE: Village of Germantown - Bedrock and Infiltration

CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Peter, I should have checked my calendar. I have NASECA next Tuesday and Wednesday. Any other availability?

Thanks,

Brian Arcand, P.E. (he/him)
Project Manager/Civil Engineer
Snyder & Associates, Inc.

From: Brian Arcand
Sent: Thursday, January 29, 2026 11:43 AM
To: 'Wood, Peter C - DNR' <Peter.Wood@wisconsin.gov>
Subject: RE: Village of Germantown - Bedrock and Infiltration

Thanks, I'll send a Teams invite.

Brian Arcand, P.E. (he/him)
Project Manager/Civil Engineer
Snyder & Associates, Inc.

From: Wood, Peter C - DNR <Peter.Wood@wisconsin.gov>
Sent: Thursday, January 29, 2026 11:41 AM
To: Brian Arcand <barcand@snyder-associates.com>
Subject: RE: Village of Germantown - Bedrock and Infiltration

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender email address and know the content is safe.

Brian,

Yes, I'm free any time next Tuesday or Wednesday.

Pete Wood
262-822-8227
Peter.Wood@Wisconsin.gov

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

From: Brian Arcand <barcand@snyder-associates.com>
Sent: Thursday, January 29, 2026 11:20 AM
To: Wood, Peter C - DNR <Peter.Wood@wisconsin.gov>
Subject: Village of Germantown - Bedrock and Infiltration

**CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Hi Peter,

We have been working on a potential project in the Village of Germantown for some time now and had a great meeting with the Village yesterday that clears a path forward for this one. One of the outstanding issues we've been dealing with is the high likelihood of high bedrock throughout the entire area. The attached exhibit has some information pulled off of GIS, as built plans provided by the Village for a 12" force main that was installed on Lilac Lane (those as-builts are also attached with bedrock elevations shown) and well data we were able to find online.

The client is going to be contacting the current landowner this week to ask for permission to do extensive borings and test pits throughout the property which will give us a much better understanding of the depth of the bedrock. That being said, I was hoping to have a discussion with you prior to getting too far along in our stormwater management design to get some feedback on if the side would be required to meet the full 90% infiltration requirement (or if a full or partial exemption would be appropriate if the bedrock is as anticipated). Do you have any availability this week or early next week to discuss?

Thanks,

Brian Arcand, P.E. (he/him)
Project Manager/Civil Engineer

SNYDER & ASSOCIATES

P: 608.838.0444 x3224
5010 Voges Rd, Madison, WI 53718
Snyder-Associates.com

PETITION
TO THE VILLAGE OF GERMANTOWN BOARD

To the Village of Germantown, N112 W17001 Mequon Road
Germantown, WI 53022

WE, THE UNDERSIGNED, HEREBY PETITION the Village of Germantown – Plan Commission and Village Board to halt the planning of the Heyday proposal for the 164-unit rental development project on Lilac Lane, Germantown WI

WE STATE OR BELIEVE:

1. Congestion – We believe there is already enough congestion for this 2 lane road (1 lane each direction). Lilac Lane is used as a main road for Menards, Walmart, Fleet Farm and other businesses on County Line Road. Our police, Fire Department, dog walkers, bicyclists and high school joggers use Lilac Lane daily. Adding 164 homes will increase traffic significantly and put the safety of our local residents at risk.
2. Loss in Property Value – Households that have no ownership, or financial stake, do not care for the property and surrounding areas like owners do. Why would we believe an out of state company would do the same? Increased Fire, Police and Emergency needs would also increase taxes.
3. Schoen Laufen Park – Heyday proposes to create a path into our beautiful Village Park – SchoenLaufen park. This would involve disturbing wildlife, plant life and cutting down trees (some 75-100 years old). This will destroy the beauty of the park and surrounding area by allowing multi apartments residents access to the park by adding a Private access trail to Schoen Laufen Village Park.
4. Water Issues – Between 2003 to 2005, Germantown Village attempted to put a municipal well on this very site. They lowered all the private wells on Lilac Lane. Extensive testing was done resulting in drying up wells and low water pressure extending east of Division. The municipal well was immediately abandoned. Should we really allow multi-complex building developments to take water from other areas in Germantown?
5. Flooding – The average Wisconsin household uses 130 to 160 gallons of water per day. In 2025, during heavy rains, homes on Lilac Lane and east of Division experienced millions of dollars lost due to sewer backups. Multi-complex buildings will only add to this risk in the years to come. This area is a low land flood risk.
6. Foundation Damage – Chipping away or harsher methods of removing massive bedrock can damage foundations of nearby homes.

These repetitious, no basement, plywood cabinets apartments are far from luxurious rental units. They are incompatible and out of character with the surrounding area and homes.

Please do NOT allow this multi-structure rental development by Heyday!

The following oppose the Lilac Lane Development Plan by Heyday:

SIGNATURE PAGES TO FOLLOW

RECEIVED
AUG 04 2026
VILLAGE OF GERMANTOWN
CLERK'S OFFICE

Signature of Signer	Name	Legal Address	Date	PAGE 1
1.	Dale Pruitt	DALE PRUITT N108 W18101 LILAC LN	1/15/26	
2.	Terry Heinzelman	N108W18009 Lilac Ln	1-15-26	
3.		Dennis N108W18147 Lilac LN	1-15-26	
4.		N108 W18201 LILAC LN	1-15-25	
5.		Todd Salm N108W17456 Lilac L	ane 1-15-26	
6.	Jeff Persohke	W173 N10727 Willow Wood Dr	1/15/26	
7.	Kris Piwek	N106W17321 Wildflower Ln.	1-15-26	
8.	Sigga Piwek	N106W17321 Wildflower Ln	1-15-26	
9.	Jeffrey Zolcay	N106W17385 Wildflower LN Germantown	1-15-26	
10.	Elizabeth Potcovage	N106W17385 Wildflower Ln	1-15-26	
11.	Michelle Sharma	N106W17256 Wildflower Ln	1-15-26	
12.	Daniel Welch	N106W17261 Wildflower Ln.	1-15-26	
13.	Christine Welch	N106W17261 Wildflower Ln.	1-15-26	
14.	Kurt Pratt & Rene Peterson	W173N10692 Willow Wood Dr.	1/15/26	
15.	Dave Hamm	N108W17271 Lilac Ln	1-15-26	

STATE OF WISCONSIN
COUNTY OF Washington

Affidavit of Petition Circulator

Dale L Pruitt, being duly sworn, deposes and says that he or she is an owner of land within the boundaries of the proposed district; that to the best of his or her knowledge, all persons who have signed the foregoing petition are landowners within the boundaries of the proposed district and that the accompanying map and description

indicates the territory to be included in the proposed district and that the petition has been signed by persons constituting 51 percent or more of the landowners within the proposed district.

Signature of Petition Circulator Dale Pruitt PO Address N108W18101 Lilac
City Germantown WI 53022

Subscribed and sworn to before me this 2 day of February, 2026.

Hermila Castaneda-Dominguez
Signature of Notary
My commission expires 10/29/27

HERMILA CASTANEDA-DOMINGUEZ NOTARY PUBLIC STATE OF WISCONSIN

	Signature of Signer	Name	Legal Address	Date	PAGE 2
1.	Chris Pruitt	CHRIS PRUITH	N108W18101 Lilac Lane	01-16-2026	
2.	Penny Baier	PENNY BAIER	N108 W17504 Lilac Lane	1-16-26	
3.	Bill Swanson	BILL SWANSON	N108W17134 HAWTHORNE		
4.	Marilyn Swanson	MARILYN SWANSON	N108W17134 Hawthorne Dr	1/16/26	
5.	Shelby J Mantz	Shelby J Mantz	N108W17048 Hawthorne Dr.	1/16/26	
6.	TIMOTHY SCHERCK		N108W17048 HAWTHORNE DR.	1/16/2026	
7.	Judy Evdaly	~~JUDY~~ Judy Evdaly	N108 W17026 Hawthorne	1/16/26	
8.	Jody Babe	Jody Babe	N108 W17066 Hawthorne Dr	1/16/26	
9.	Shandell McClain	Shandell McClain	N108W17069 Hawthorne Germantown WI	1-16-26	
10.	Robert H. Witz	ROBERT H. WITZ	N108W17091 HAWTHORNE DR.	1/16/2026	
11.	Michael Blue	Michael Blue	N108W17117 Hawthorne Dr	1/16/26	
12.	Mike Pierce	Mike Pierce	N108W17167 Hawthorne Dr.	1/16/26	
13.	Victoria Busalacchi	Victoria Busalacchi	N108W18445 Lilac Lane,	1/16/2026 Germantown WI 53022	
14.	Andrew Busalacchi	Andrew Busalacchi	N108W18445 Lilac Lane	1/16/2026 Germantown	
15.	Michael Dotson	Michael Dotson	N108W18051 Lilac Lane, Germantown WI	1/17/2026	
16.	H Dotson	Helena Dotson	N108W18051 Lilac Lane, Germantown WI	1/17/2026	
17.	Tom Truse	Tom Truse	W172 N10815 Division Rd	1/29/2006	
18.	Steve Keller	STEVE KELLER	N108 W17574 LILAC CT	1-30-26	
19.	Kristen McVay	Kristen McVay	W173N10791 Willowood Dr.	1/31/2026	
20.	James Nielsen	JAMES NIELSEN	W173 N10711 WILLOWOOD DR	1-31-2026	
21.	Paul Tourigny	Paul Tourigny	W173N10754 Willow Wood Dr.	1-31-2026	
22.	Steve Kennedy	STEVE KENNEDY	N108W17010 HAWTHORNE D	1/31/26	
23.	Deanna Orlofski	Deanna Orlofski	N108 W16990 Hawthorne Dr	1/31/26	
24.	Joe Orlofski	Joe Orlofski	"	1/31/26	
25.	Mary Dombrock	Mary Dombrock	W172N10635	1/31/26	

PAGE 1 of 2

	Signature of Signer	Name	Legal Address	Date
1.		Charissa Peters	N113W19679 Woodberry Ct- Germantown	2/6/26
2.		Wade Peters	N113 W19679 Woodberry Ct Germantown, WI 53022	2/6/26
3.			W172N9908 Division Rd	4-26
4.		Kathleen Coakley	W161 N 10081 Santa Fe Ct. Germantown WI	4/29/26
5.		Natallya Kovalchuk	W166N10095 Santa Fe Ct	4/29/26
6.			W169N10658 JUNIPER DR	05/05/26
7.			W169N10658 Juniper DR	5/5/26
8.			W148N10364 Whitefield Ct GT	5/5/26
9.			W148N10364 WHITEFIELD CT. GT	5/5/26
10.			W151N10329 Wandsing Ct GT	5/11/26
11.		Scott VanWilligen	W174N9907 Meadow Creek Ct GT	6/25/26
12.		David Ruehl	W196N11292 Shadow Wood Ln GT	6/25/26
13.		Donna Ruehl	W196N11292 Shadow Wood Ln. GT.	6/25/26
14.		Linda Martin	W114W15823 Hilbert Ln	07/15/26
15.		Jill Konicek	N114 W15823 Hilbert Ln GT	07/15/26

STATE OF WISCONSIN
COUNTY OF Waukesha

Affidavit of Petition Circulator

Amanda Kaiser, being duly sworn, deposes and says that he or she is an owner of land within the boundaries of the proposed district; that to the best of his or her knowledge, all persons who have signed the foregoing petition are landowners within the boundaries of the proposed district and that the accompanying map and description

indicates the territory to be included in the proposed district and that the petition has been signed by persons constituting 51 percent or more of the landowners within the proposed district.

RECEIVED
AUG 06 2026
VILLAGE OF GERMANTOWN
CLERK'S OFFICE

Signature of Petition Circulator _____ PO Address
City

Subscribed and sworn to before me this 4 day of August, 2026.

Andries P. de Ruiter III
Signature of Notary
My commission expires 07/06/2027

Andries P. de Ruiter III
Notary Public
State of Wisconsin

Signature of Signer	Name	Legal Address	Date	PAGE 2 of 2
1. Kristy Melby	Kristy Melby	N120W18020 Freistadt Rd	7/15/26	
2. Candace Buedke	Candace Buedke - N98W17971	Bramblewood Ct, Germantown (Germantown)	7/16	
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AUG 06 2026

VILLAGE OF GERMANTOWN
CLERK'S OFFICE

Signature of Signer	Name	Legal Address	Date	PAGE 3
1. Patrick Kaiser	Patrick Kaiser	N108W17855 Lilac Lane	1/31/26	
2. Amanda Kaiser	Amanda Kaiser	N108W17855 Lilac Ln	1/31/26	
3. Mark Schrauth	Mark Schrauth	W173N10635 W. Willow Wood Dr	02/01/26	
4. Denise Hoinacki	Denise Hoinacki	N108W17760 LILAC LANE	2-1-2026	
5. Denise M Hoinacki		N108W17760 LILAC LANE	2-1-2026	
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Wetland & Waterway Consulting, LLC
Dave Meyer
S83 W23915 Artesian Avenue • Big Bend, WI 53103
262-719-4286 • Fax 262-364-2197
E-Mail • *dave@wetlandwi.com*

July 15, 2026

Anthony Rodriguez
Heyday Co.
44 S. Vail Ave., Ste. 102
Arlington Heights, IL 60005

Dear Mr. Rodriguez:

Wetland & Waterway Consulting (WWC) has conducted a wetland delineation on property located in Sec. 28, T9N, R20E, Village of Germantown, Washington County. The delineation was conducted on June 9 and 10, 2026 at your request. This site is under consideration for future development; therefore, location of the wetlands prior to construction is necessary. The purpose of the delineation was to identify and flag all wetlands within the boundaries identified on the attached maps. The subject site is a 72.13-acre area comprised of two parcels located on Lilac Lane, just south of River Lane. The predominant land cover for this property is agricultural field and an unplowed old field. The Menomonee River is located 350 feet to the northwest off the property. Kristi Sherfinski conducted the wetland delineation field work on July 9 and 10, 2026. Field conditions on both July 9th and 10th were sunny with air temperatures in the 90s (°F).

INTRODUCTION

Dave Meyer, the owner of WWC, is an independent environmental consultant providing environmental permitting services, site assessments, wetland delineations, and planning advice. He obtained a master's degree in Natural Resources Management from Southern Illinois University-Carbondale in 1977. Mr. Meyer has held technical and administrative positions in wetland and water resources specialties with the Wisconsin Department of Natural Resources and the U.S. Army Corps of Engineers. He has satisfactorily completed the Reg IV Wetland Delineation training offered by the U.S. Army Corps of Engineers, the Advanced Wetland Delineation training conducted by the University of Wisconsin-LaCrosse in 2002 and 2007, the USACOE/WIDNR 1987 Wetland Delineation Manual Midwest Region Supplement Training in 2009, the USACOE/WIDNR 1987 Wetland Delineation Manual Northcentral/Northeast Region Supplement Training in 2010, the Basic Hydric Soil ID training conducted by the University of Wisconsin-LaCrosse in 2011, the Wetland Training Institute's Advanced Hydrology for Jurisdictional Determinations in 2016, and the SEWRPC Environmental Corridor Delineation Workshops in 2004 and 2015. Mr. Meyer is recognized by the Wisconsin Department of Natural Resources as an Assured Delineator.

Kristi Sherfinski, the lead delineator for this project, is also recognized as an Assured Wetland Delineator with the Wisconsin Department of Natural Resources (WIDNR). She has over 20 years of experience

delineating wetlands in the Great Lakes Region. She received her initial basic wetland training at the Wetland Training Institute in Hastings, Michigan in 2002. Kristi worked as a project manager and wetland delineator at JFNew & Associates in Grand Haven, Michigan for six years, conducting wetland delineations in Michigan, Indiana, Illinois, and Wisconsin. Kristi then moved to Wisconsin to work for the Southeastern Wisconsin Regional Planning Commission (SEWRPC). At SEWRPC, Kristi updated the Wisconsin Wetland Inventory (WWI) in 2005 and in 2010 for the seven-county area of southeast Wisconsin. Kristi participated in the Advanced Wetland Delineation training in 2006. In 2009, she attended the Wetland Delineation USACE Regional Supplement training session, the Environmental Corridor Delineation Workshop, and the Farm Service Agency (FSA) Slide Review training session. After working at SEWRPC for seven years, Kristi worked as an environmental specialist at JSD Professional Services, Inc. for two years, before she started her own consulting business. Ella Klackner, who is currently pursuing a degree in Freshwater Sciences at the University of Wisconsin-Milwaukee, assisted with the wetland delineation.

METHODS

The process of wetland delineation involves collecting information about the soils, vegetation, and hydrology of a site in order to determine where the wetland boundary is located. The methodology used to conduct the delineation followed the US Army Corps of Engineers Wetlands Delineation Manual (1987), and the appropriate Regional Supplement to the Corps of Engineers Wetland Delineation Manual. In general, in southeastern and western Wisconsin, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0, August, 2010) is used. The remaining portions of the state follow the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0, January, 2012). At this site, the Northcentral and Northeast Regional Supplement was used.

Prior to the site visit, several sources of data are consulted to reveal information that will aid in locating the wetlands on the site. The sources reviewed include weather records to determine antecedent hydrologic conditions, the Wisconsin Wetland Inventory (WWI) map, the soil survey maps, a topographic map, and historic aerial photographs of the project area. In areas that are under active cultivation as farmland, a Farm Service Agency (FSA) Slide Review is also conducted.

Data sample points are chosen based on the potential wetland areas identified by reviewing the above-referenced sources, and other sample points are added based on information gathered while in the field. Sample points are chosen on either side of the wetland line for their ability to reveal information about the actual location of the line, and upland reference data samples are chosen in order to show the contrast between wetland and upland field conditions.

Once a data sample point is chosen and located in the field, data is collected on the vegetation, the hydrology, and the soils of the site. Vegetation is identified by strata (tree, shrub/sapling, herbaceous, and vine layers), and an aerial coverage percent is determined for each species by strata. The plot size for the tree, shrub, and vine strata is a 30-foot radius circle, and the plot size for the herbaceous strata is a 5-foot radius circle. The scientific names and wetland status of each plant species follows the National Wetland Plant List (2022). Once all species have been assigned a cover percentage, the dominance by wetland indicator plant species is assessed.

Hydrological indicators, as described in the Regional Supplements, are then listed for the sample point. A soil pit is excavated to required depths and the depth of water, saturation, and the water table is

recorded. The soil profile at the sample point is also described, using the Munsell Soil-Color Charts (2009) to assess the color of the soil, and a texture analysis to determine the predominant texture of each soil layer. This data is used to determine if the soil profile meets the hydric soil indicators as defined in the Regional Supplements and the Field Guide for Identifying Hydric Soils V. 9.0 (United States Department of Agriculture, 2024).

If a data sample point has all three indicators for a wetland—hydrology, soils, and vegetation—then the sample point is determined to be within a wetland. In certain circumstances where one or more of the three factors is missing due to problematic conditions or recent disturbances, a sample may still be determined to be in wetland by following the procedures in Chapter 5 "Difficult Wetland Situations" in the regional supplements.

Once the location of the wetland line is determined from the data sampling effort, the edge of the wetland is flagged in the field and then surveyed in order to produce a map of the wetland that occurs on the subject property. Representative photographs of the sample points and of each wetland area were taken during the field visit. Any ditch, stream, pond or other water body that may be considered a Water of the U.S. and thus regulated by the U.S. Army Corps of Engineers (USACE) or the Wisconsin Department of Natural Resources (WDNR) is also identified.

RESULTS AND DISCUSSION

Antecedent Hydrologic Condition Analysis

Weather records were consulted from the Germantown Wastewater Utility weather station to determine if precipitation levels were normal (based on 1995-2025) for the three months prior to the site visit. The antecedent hydrologic condition analysis for the site revealed that climatic conditions near the site were normal at the time of the site visit (**Table 1**). Drier than normal conditions means that hydrologic indicators may be absent from the wetland sample points and the data must be interpreted accordingly. Wetter than normal conditions must be accounted for when interpreting the data because saturation or the water table may be higher than it is during normal conditions, giving false positives for hydrological indicators.

Table 1 – Antecedent Hydrologic Condition Analysis

Month	3 yrs in 10 Less Than* (inches)	3 yrs in 10 More Than* (inches)	Rain Fall (inches)	Condition Dry, Wet, Normal	Condition Value	Month Weight Value	Product of Previous Two Columns
June	2.75	5.38	3.42	Normal	2	3	6
May	2.75	4.82	0.62	Dry	1	2	2
April	2.64	4.32	10.11	Wet	3	1	3
						Sum	11
If sum is:							
6-9	Then prior period has been drier than normal						
10-14	Then prior period has been normal						
15-18	Then prior period has been wetter than normal						

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HEYDAY GERMANTOWN

WETLAND DELINEATION MAP

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WI

MARK	REVISION	DATE	BY

Engineer: BCA | Checked By: |
Technician: TJM | Date: 07-24-2026 | T-R-S: 9N-20E-28

Project No: 125.1245.30 | Sheet EXBT

SNYDER & ASSOCIATES

SNYDER & ASSOCIATES, INC. |

5010 VOGES ROAD
MADISON, WISCONSIN 53718
608-838-0444 | www.snyder-associates.com

Project No: 125.1245.30

Sheet EXBT

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State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
1027 W. Saint Paul Avenue
Milwaukee WI 53233

Tony Evers, Governor
Karen Hyun, Ph.D., Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

April 1, 2026

Kristi Sherfinski, PLA
LANDCO2
P.O. Box 12043
Milwaukee, WI 53212

Subject: 2026 Assured Wetland Delineator Confirmation

Dear Kristi Sherfinski:

This letter provides Wisconsin Department of Natural Resources (WDNR) confirmation for the wetland delineations you conduct during the 2026 growing season. You and your clients will not need to wait for the WDNR to review your wetland delineations before moving forward with project planning. This will help expedite the review process for WDNR's wetland regulatory program. Your name and contact information will continue to be listed on our website at: http://dnr.wi.gov/topic/wetlands/assurance.html.

In the instance where a municipality may require a letter of confirmation for your work prior to moving forward in the local regulatory process, this letter shall serve as that confirmation. Although your wetland delineations do not require WDNR field review, inclusion of a Wetland Delineation Report is required for projects needing State authorized wetland, waterway and/or storm water permit approvals.

To comply with Chapter 23.321, State Statutes, please supply the department with a polygon shapefile of the wetland boundaries delineated within the project area. Please do not include data such as parcel boundaries, project limits, wetland graphic representation symbols, etc. If internal upland polygons are found within a wetland polygon, then please label as UPLAND. The shapefile should utilize a State Plane Projection and be overlain onto recent aerial photography. If a different projection system is used, please indicate in which system the data are projected. In the correspondence sent with the shapefile, please supply a brief description of each wetland's plant community (eg: wet meadow, floodplain forest, etc.). Please send these data to Calvin Lawrence (608-266-0756 or email at calvin.lawrence@wisconsin.gov).

If you or any client has a question regarding your status in the Wetland Delineation Professional Assurance Program, contact me by email at kara.brooks@wisconsin.gov or phone at 414-308-6780. Thank you for all your hard work and best wishes for the upcoming field season.

Sincerely,

Kara Brooks
Wetland Identification Coordinator
Bureau of Watershed Management

Conclusions:	A sum of 11 shows the prior period to the site visit to be normal.

*Averages based on the 1995-2025 data.

Review of Existing Data Sources

Existing data sources were reviewed to aid in the identification of wetland areas in the field.

The topographic maps show that the property slopes gently away from a hilltop located in the northeast measuring 884 feet in elevation above Mean Sea Level. The low point for the subject area is located at the northwest corner and is 845 feet in elevation above Mean Sea Level.

The soil survey maps show ten different soil types. The Mussey loam (MzkA/7429A) is Hydric and located in the northwest corner. The Fabius loam (FaA/7445B) and Virgil silt loam (VsA/7204A) may include a small number of hydric soils in depressions. The remaining soils were non-hydric. All of the soil types occurring on the property are listed in **Table 2**.

Table 2 – Soil Types

Map Symbol	Map Unit Name	Hydric Soil Type
FaA (7445B)	Fabius loam, 1-3%	Predominantly Non-hydric
FsB (7327B)	Fox silt loam, 2-6%	Non-hydric
GrA (7698A)	Grays silt loam, 0-2%	Non-hydric
GrB (7698B)	Grays silt loam, 2-6%	Non-hydric
KwB (7823B)	Knowles silt loam, 2-6%	Non-hydric
MzkA (7429A)	Mussey loam, 0-3%	Hydric
RkB (7161B)	Ritchey silt loam, 2-6%	Non-hydric
RkC2 (7161C2)	Ritchey silt loam, 6-12%, eroded	Non-hydric
SeA (7743A)	St. Charles silt loam, gravelly substratum, 2-6%	Non-hydric
VsA (7204A)	Virgil silt loam, gravelly substratum, 0-3%	Predominantly Non-hydric

The Wisconsin Wetland Inventory identifies a wetland complex in the northwest corner of the site. The complex includes a S3/E2K, scrub-shrub and emergent wetland, and two T3K, forested wetlands. The inventory also identifies purple, potentially hydric soils, which include the Fabius loam, Mussey loam, and Virgil silt loam.

Historic aerial photographs revealed that the subject area has been cultivated since at least 1941. A small rectangle of land was allowed to go fallow just north of the house and has not been cultivated since 1995.

Because agricultural fields are part of the project area, a Farm Service Agency (FSA) Slide Review was conducted to identify the potential for the presence of farmed wetlands. We investigated four areas that showed possible wet signatures. The strongest wet signatures were in the areas on the east side of the property. FSA Area A and B showed wet signatures in 46% of years reviewed, FSA Area C showed

wet signatures in 69% of years reviewed, FSA Area D showed wet signatures in 38% of years reviewed, and FSA Area E showed signatures in 92% of years.

Wetlands Identified During the Site Visit

A total of two wetlands were identified on the property during the field visit. A description of the wetlands follows.

Wetland A is a scrub-shrub/fresh wet meadow wetland in the northwest corner of the subject area that partially extends into the adjacent agricultural field as a farmed wetland. This wetland is associated with the Menomonee River, which is located off site. Data points were taken in each area. In the scrub-shrub/fresh wet meadow (Data Point 2), dominant species included common buckthorn, reed canary grass, and riverbank grape. Soils consisted of 14 inches of silty clay loam over silty clay and met the criteria for A12. Thick Dark Surface and F6. Redox Dark Surface. Hydrology indicators included Geomorphic Position and FAC-Neutral Test. The adjacent upland point (Data Point 4) was located on a hillslope in a group of trees on a rockpile, dominated by basswood, burr oak, common buckthorn, and Virginia waterleaf, which had a Prevalence Index of 3.48, indicating an upland plant community. Soils consisted 4 inches of mineral soil, with a restrictive layer of rock fill at 4 inches. Both hydric soils and wetland hydrology were lacking.

In the farmed wetland, Data Point 1 was located in FSA Area A which showed soil wetness in 46% of years reviewed. It was dominated by sandbar willow and had a sparser cover of soy bean crop. Soils consisted of 10 inches of silty clay loam over silty clay and met the criteria for A11. Depleted Below Dark Surface, F3. Depleted Matrix, and F6. Redox Dark Surface. Hydrology indicators included Geomorphic Position, Saturation Visible on Aerial Imagery, and FAC-Neutral Test. The adjacent upland point (Data Point 3) was about 3 feet above the wetland in the agricultural field and was mapped as having potential wetland indicators by the WWI. There was 100% cover of soybean crop with last year's corn stubble, and the only dominant species was a small percentage of common dandelion. Both hydric soils and wetland hydrology were lacking.

Wetland B is a fresh wet meadow located in a ditch on the side of the road in the southeast corner of the subject area. Data Point 12 had a dominant species of reed canary grass, and soils consisted of 7 inches of silt loam over silty clay and met the criteria for F6. Redox Dark Surface. Hydrology indicators included Drainage Patterns, Geomorphic Position, and FAC-Neutral Test. The adjacent upland point (Data Point 13) was about 12 inches above the wetland and was dominated by Kentucky bluegrass. Soils consisted of silty clay loam and met the criteria for F6. Redox Dark Surface; however, hydrology indicators were lacking for this data point.

Table 3 – NR 151 Protective Areas

Wetland Area	Wetland Class	Protective Area
Wetland A	Moderately Susceptible	50 feet
Wetland B	Less Susceptible	10-30 feet (10% of the average width of the wetland, but no less than 10 feet and no more than 30 feet

Upland Data Points

Several other data points were taken during the field investigation to determine the presence of wetland. At least one data point was taken in each of the FSA Areas and are described below. The field had shallow bedrock outcroppings in several areas, which appeared as wetland soil indicators in the aerial photographs, but actually were uncropped areas where the plow was avoiding the shallow outcroppings in order not to get damaged.

Data Point 5 was taken in FSA Area B which showed potential soil indicators in 46% of years reviewed. The sample point was taken in an agricultural field and had 100% cover of soybean crop. The dominant weed species in the plot was red root amaranth. Reference vegetation at the edge of the field consisted of basswood, box elder, common buckthorn, and riverbank grape. Hydric soils and hydrology indicators were lacking which made this area non-wetland.

Data Point 6 was taken in an isolated group of trees on a pile of field stones. Dominant species included apple tree, common buckthorn, Solomon's seal, and riverbank grape which passed the Dominance Test for hydrophytic vegetation. Soils consisted of loam over silt loam and had a restrictive layer of rock fill at 5 inches. Soils were non-hydric and hydrology indicators were lacking. Therefore, this area was non-wetland.

Data Point 7 was also taken in FSA Area B which showed soil wetness and crop stress in 46% of years reviewed. The sample point was taken in an agricultural field and had 100% cover of soybean crop. Weed vegetation was dominated by red root amaranth. Soils consisted of 12 inches of silt loam over silty clay and were non hydric. Hydrology indicators were lacking. Therefore, this area was non-wetland.

Data Point 8 was taken in an un-mowed old field north of the residence on a convex hillslope. Vegetation was dominated by common buckthorn, green ash, Kentucky bluegrass, tall goldenrod, and whorled milkweed. Soils consisted of 8 inches of silt loam over shallow bedrock and were non-hydric. Hydrology indicators were lacking. Therefore, this area was non-wetland.

Data Point 9 was taken on a convex hillslope in the agricultural field where a gap of soybean crop was present due to shallow bedrock. Vegetation was dominated by wild carrot and common buckthorn, which had a Prevalence Index of 4.21, indicating an upland plant community. Soils consisted of 10 inches of silty clay loam over silty clay, and bedrock was present at a depth of 12 inches. Soils were non-hydric and hydrology indicators were lacking. Therefore, this area was non-wetland.

Data Point 10 was taken on a convex hillslope on FSA Area C which showed soil wetness and crop stress in 69% of years reviewed. The sample point was taken in an agricultural field, though crops were absent due to shallow bedrock. Dominant species included common buckthorn seedlings, wild carrot, and horseweed. Soils consisted of 8 inches of silty clay loam over bedrock, and were non-hydric. One secondary hydrology indicator, Saturation Visible on Aerial Imagery, was met, but was not enough to indicate wetland hydrology alone. Therefore, this area was non-wetland.

Data Point 11 was taken on a hillslope in FSA Area D which showed soil wetness and crop stress in 38% of years reviewed. The sample point was taken in an agricultural field with 90% cover of soybean crop. Dominant weed vegetation included common horsetail, pigweed, and common dandelion. Soils consisted of 12 inches of silty clay loam over silty clay and me the criteria for A12. Thick Dark Surface and F6. Redox Dark Surface. Because wetland hydrology was absent, and the plant community was not hydrophytic, this area was non-wetland.

Data Point 14 was taken in FSA Area E near the side of the road in the agricultural field. FSA Area E showed potential wetness signatures in 92% of years reviewed. There was 100% cover of soybean crop, and the dominant weed vegetation was rough amaranth. Soils consisted of 12 inches of silty clay loam over silty clay and were non-hydric. Hydrology indicators were lacking aside from the FSA indicator. Therefore, this area was non-hydric.

Data Point 15 was taken on a wooded rock pile near the side of the road and also within FSA Area E. Vegetation was dominated by black cherry, common buckthorn, moonseed, and Virginia creeper, which passed the Dominance Test for hydrophytic vegetation. Soils consisted of 8 inches of silt loam over rock fill, and were non-hydric. Hydrology indicators were lacking aside from the FSA indicator. Therefore, this area was non-wetland.

Data Point 16 was taken in an un-mowed old field in the south of the subject area and also within FSA Area E. The data point was taken on top of an old road bed that had grown over with vegetation. Vegetation was dominated by wild plum, common buckthorn, and smooth brome. Soils consisted of 15 inches of silt loam over a restrictive layer of rock fill, and were non-hydric. Hydrology indicators were lacking. Therefore, this area was non-wetland.

Data Point 17 was taken in a ditch along the side of the road in the southwest corner. Vegetation was dominated by smooth brome, quack grass, and common ragweed. Soils consisted of 8 inches of silt loam over rock fill, and were non-hydric. Hydrology indicators consisted of Drainage Patterns and Geomorphic Position. However, this area was non-wetland due to lack of hydric soils and vegetation.

Data Point 18 was taken in the agricultural field in a concave hillslope in the southwest in FSA Area A which showed soil wetness in 46% of years reviewed. There was 60% cover by soybean crop and 100% cover of last year's corn stubble. Reference vegetation at the edge of the field included common buckthorn, box elder, basswood, and quaking aspen. Soils consisted of 12 inches of silty clay loam over silty clay and were non hydric. One secondary hydrology indicator, Geomorphic Position was met, but was not enough to indicate wetland hydrology. Therefore, this area was non-wetland.

Data Point 19 was taken in the agricultural field in a concave hillslope in the southwest and also in FSA Area A which showed soil wetness in 46% of years reviewed. There was 100% cover by soybean crop and 100% cover of last year's corn stubble. Reference vegetation included box elder, black cherry, Virginia creeper, reed canary grass, and smooth brome. Soils consisted of 5 inches of silty clay loam over silty clay and were non-hydric. One secondary hydrology indicator, Geomorphic Position was met, but was not enough to indicate wetland hydrology. Therefore, this area was non-wetland.

Data Point 20 was taken in the agricultural field in a concave hillslope to the southwest. There was 100% cover by soybean crop and last year's corn stubble, and no weeds were present. 5 inches of silt loam and 7 inches of silty clay loam over silty clay, and were non-hydric. One secondary hydrology indicator, Geomorphic Position was met, but was not enough to indicate wetland hydrology. Therefore, this area was non-wetland.

CONCLUSION

The wetland lines staked in the field and referred to in this report are the best estimate of the wetland boundaries based on the conditions present at the time of delineation. The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers,

state regulation under the jurisdiction of Wisconsin DNR, and local jurisdiction under your local county, town, city, or village. The wetlands may also require a WDNR construction site storm water permit and be subject to NR 151 Wetland Protective Area requirements if over one acre of land disturbance is proposed. The protective areas for each wetland area are listed in Table 3. Because this delineation was conducted by Ms. Sherfinski, an Assured Delineator, obtaining a concurrence letter from the Wisconsin Department of Natural Resources is not necessary. Concurrence with these wetland lines by the U.S. Army Corps of Engineers is not necessary. In addition, because a wetland delineation is considered to be a point in time determination, wetland delineations are considered to be valid for a period of only five years for federal wetlands and 15 years for nonfederal wetlands. Permit applications may be submitted at the federal and state levels after a delineation is completed, with the request to review the delineation report and make a determination as to which, if any, wetlands on the site are nonfederal wetlands. Weather patterns and site conditions can change over time, making a new delineation necessary. If a USACOE permit is being sought for this project, this wetland delineation report will be reviewed during the permit application process. If the USACOE has questions about, or issues with this report, they will not issue their permit(s) until those issues are resolved. Activities affecting wetlands or surface waters may require permits from the U.S. Army Corps of Engineers, the Wisconsin Department of Natural Resources, and local municipal authorities. The client must obtain authorization from all proper regulatory authorities before altering, modifying, or using the property. If the required authorizations are not obtained, Wetland & Waterway Consulting, LLC shall not be liable or responsible for any resulting damages.

Sincerely,

Dave Meyer

Kristi Sherfinski

Attachments

1. Literature Cited
2. Location map
3. USGS Topographic maps
4. Soil Survey maps
5. Wisconsin Wetland Inventory map
6. Historical Aerial Photographs
7. FSA Review
8. Site Photographs
9. Data Points
10. Wetland Boundary map
11. Assured Delineator letter

LITERATURE CITED

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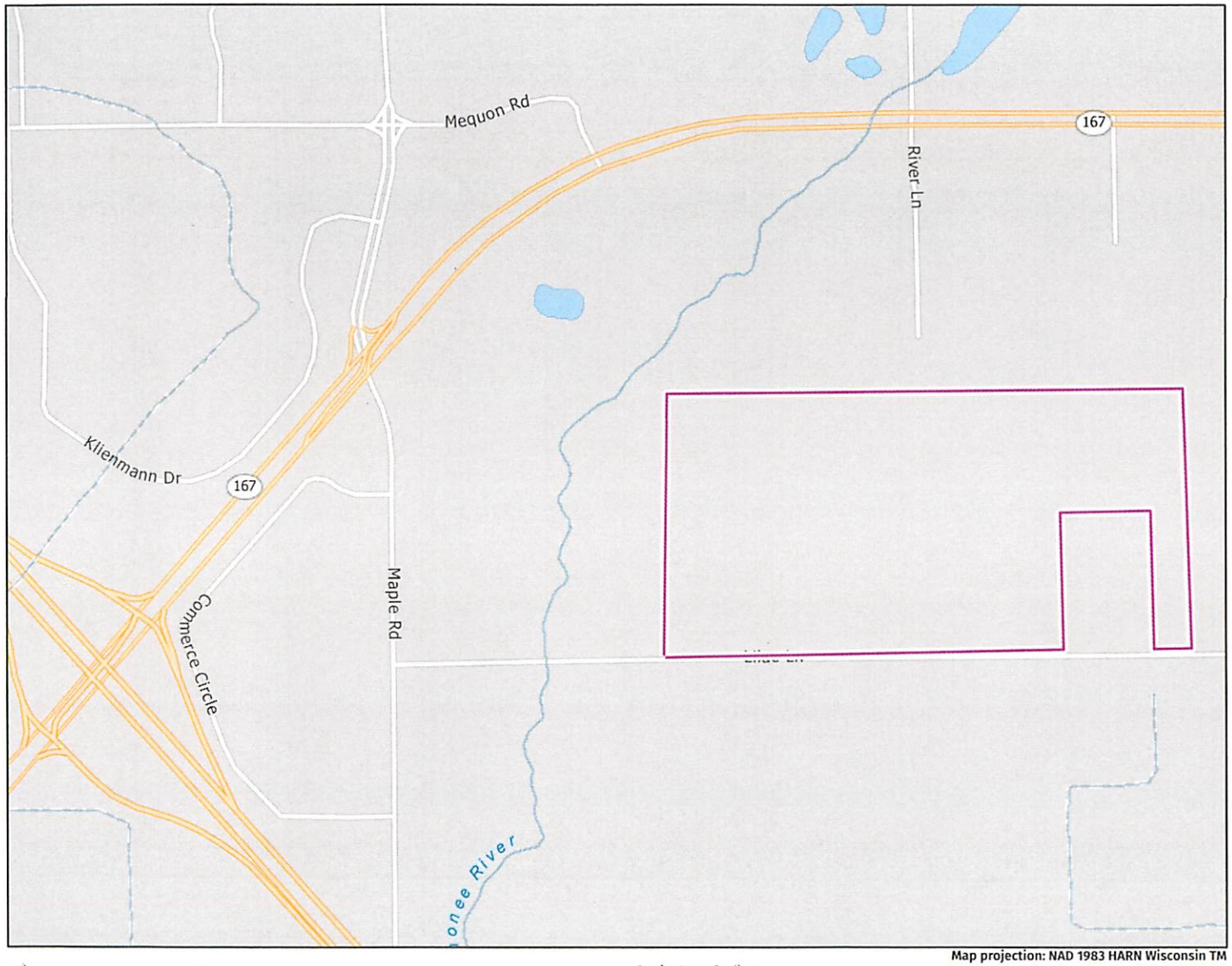
WISCONSIN DEPARTMENT OF NATURAL RESOURCES

WY: Surface Water Data Viewer (SWDV_VS_App)



Legend: (some map layers may not be displayed)

- Rivers and Streams
- Intermittent Streams
- Open Water
- Rivers and Streams
- Intermittent Streams
- Open Water
- 24K Intermittent Streams
- 24K Lakes and Open Water
- 24K Streams and Rivers

Notes:

Map projection: NAD 1983 HARN Wisconsin TM

N

Map: 0 660 1,320 Feet
0 190 380 Meters

Service Layer Credits:
DNR Basic Feature VTL (WTM): Wisconsin Department of Natural Resources, GIS Section, Surface Water (Cached): WiDNR, USGS, and other data

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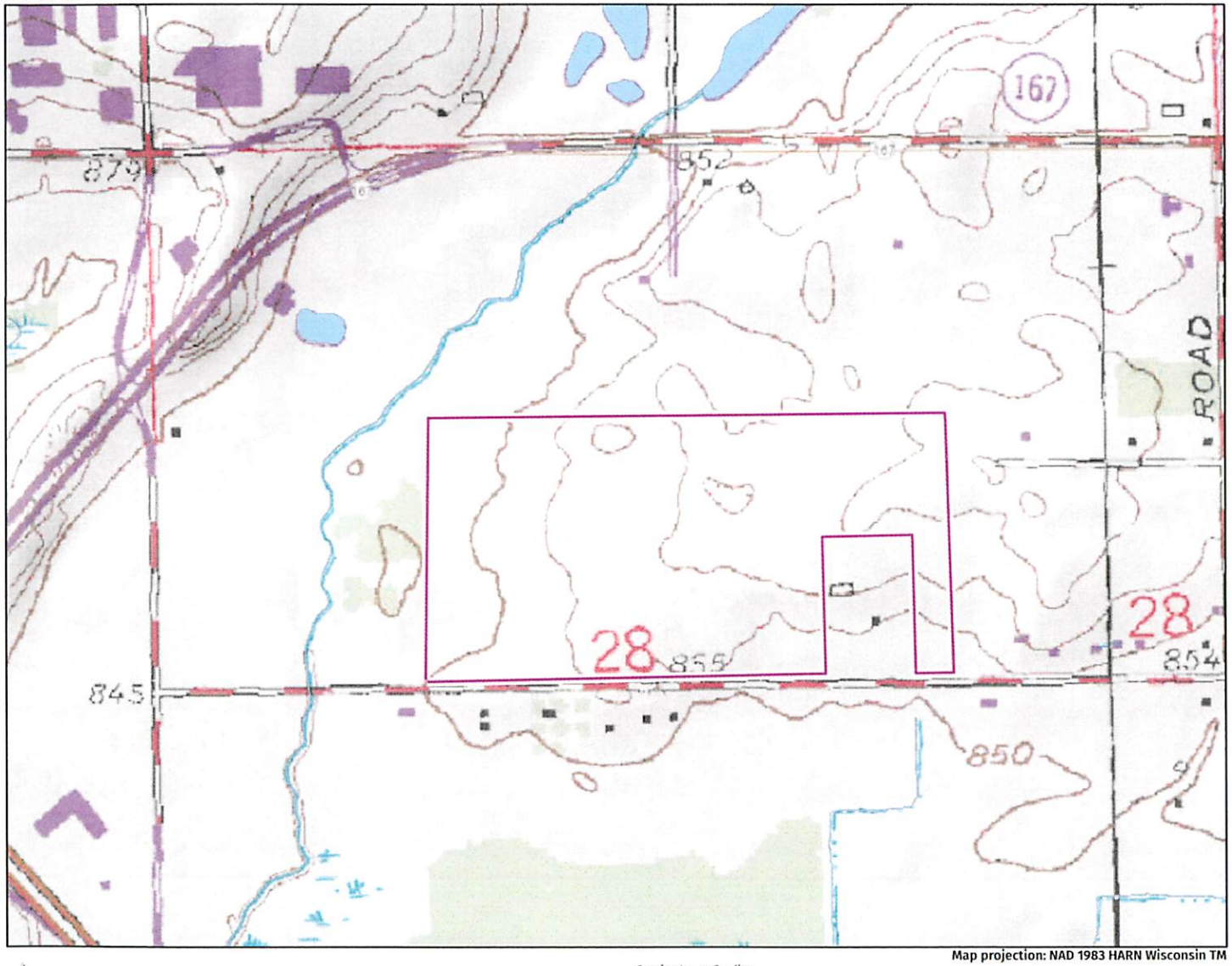

Legend: (some map layers may not be displayed)

- Rivers and Streams
- Intermittent Streams
- Open Water
- Rivers and Streams
- Intermittent Streams
- Open Water
- 24K Intermittent Streams
- 24K Lakes and Open Water
- 24K Streams and Rivers

24K USGS DRGs

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 8

Notes:

Map projection: NAD 1983 HARN Wisconsin TM

N

Map: 0 660 1,320 Feet
0 190 380 Meters

Service Layer Credits:
DNR Basic Feature VTL (WTM): Wisconsin Department of Natural Resources, GIS Section, Latest Leaf Off: ,
Topographic Maps: , Surface Water (Cached): WiDNR, USGS, and other data

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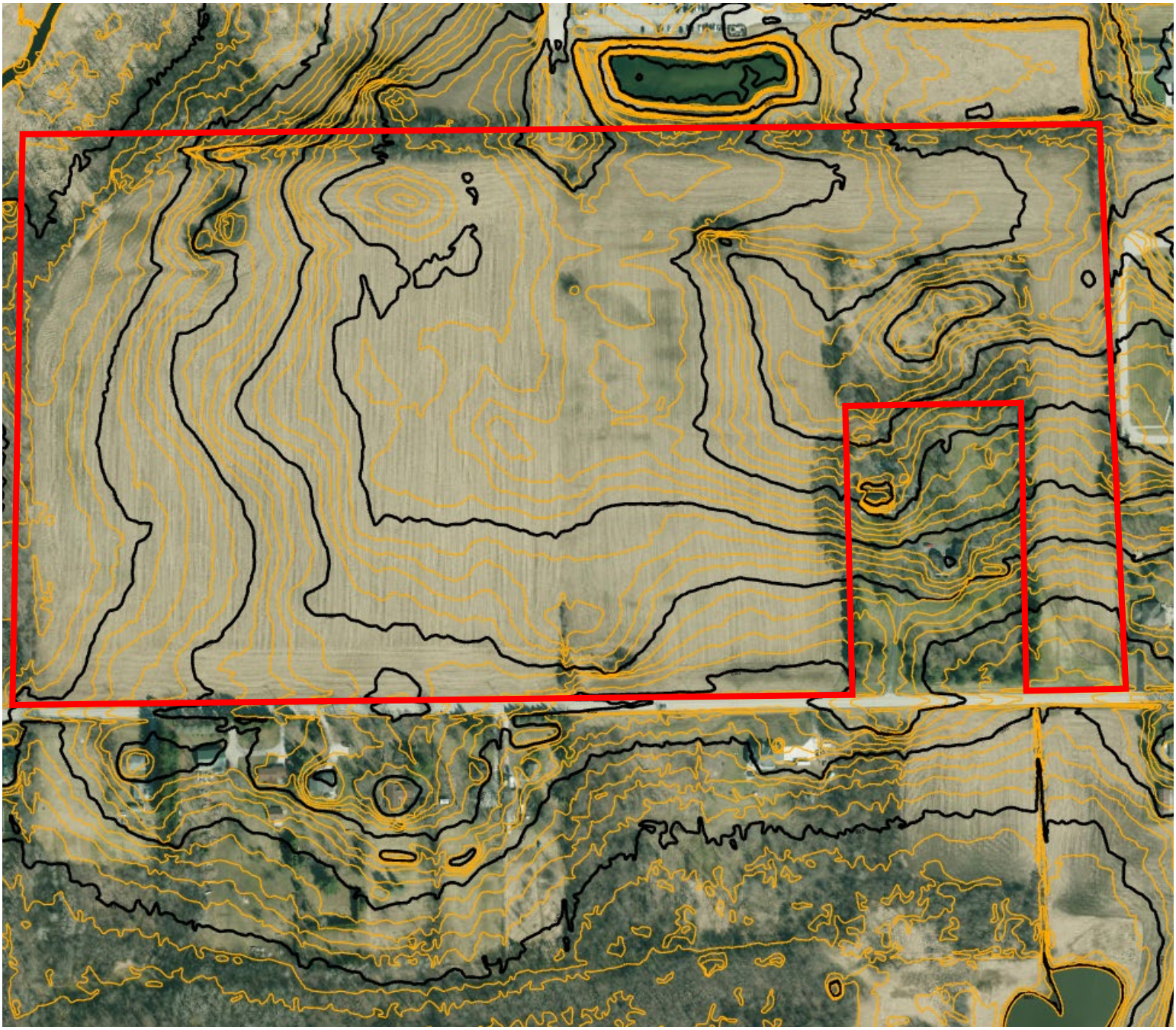


200 FT

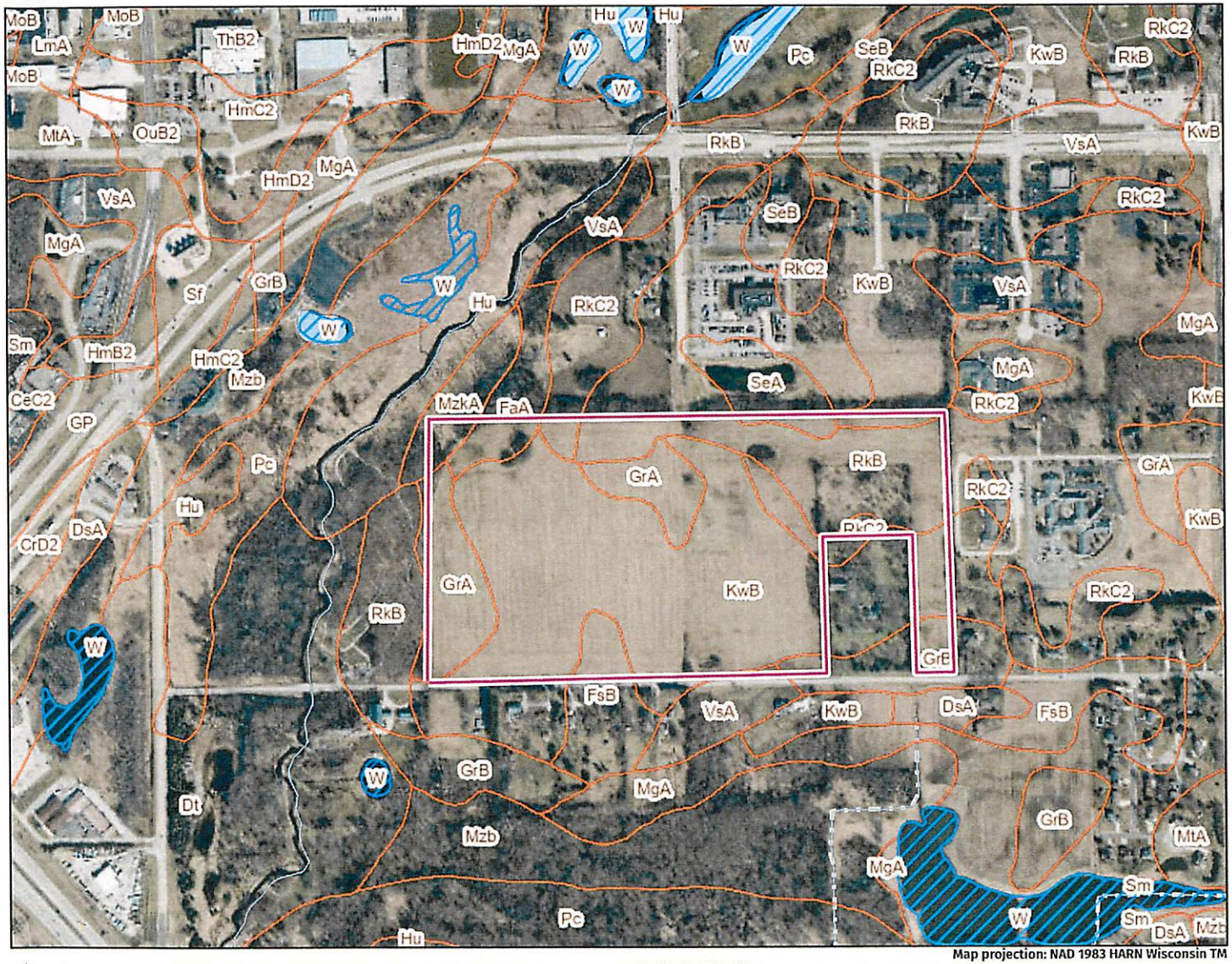
N

TOPOGRAPHIC MAP

Source: Washington County GIS, 2026

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

WY: Surface Water Data Viewer (SWDV_VS_App)



Legend: (some map layers may not be displayed)

NRCS Wisconsin Soils
- Water
- Soil Mapping Unit
- Rivers and Streams
- Intermittent Streams
- Open Water
- Rivers and Streams
- Intermittent Streams
- Open Water
- 24K Intermittent Streams
- 24K Lakes and Open Water
- 24K Streams and Rivers
- Latest Leaf Off Index
- Latest Leaf Off Imagery

Notes:

Map projection: NAD 1983 HARN Wisconsin TM

N

Map: 0 660 1,320 Feet
0 190 380 Meters

Service Layer Credits:
Wetland Indicators & Soils^: Surface Water Data Viewer Team, DNR Basic Feature VTL (WTM): Wisconsin Department of Natural Resources, GIS Section, Latest Leaf Off: , Surface Water (Cached): WiDNR, USGS, and other data

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Soil Map—Washington County, Wisconsin

Map Scale: 1:4,290 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

Map Unit Legend

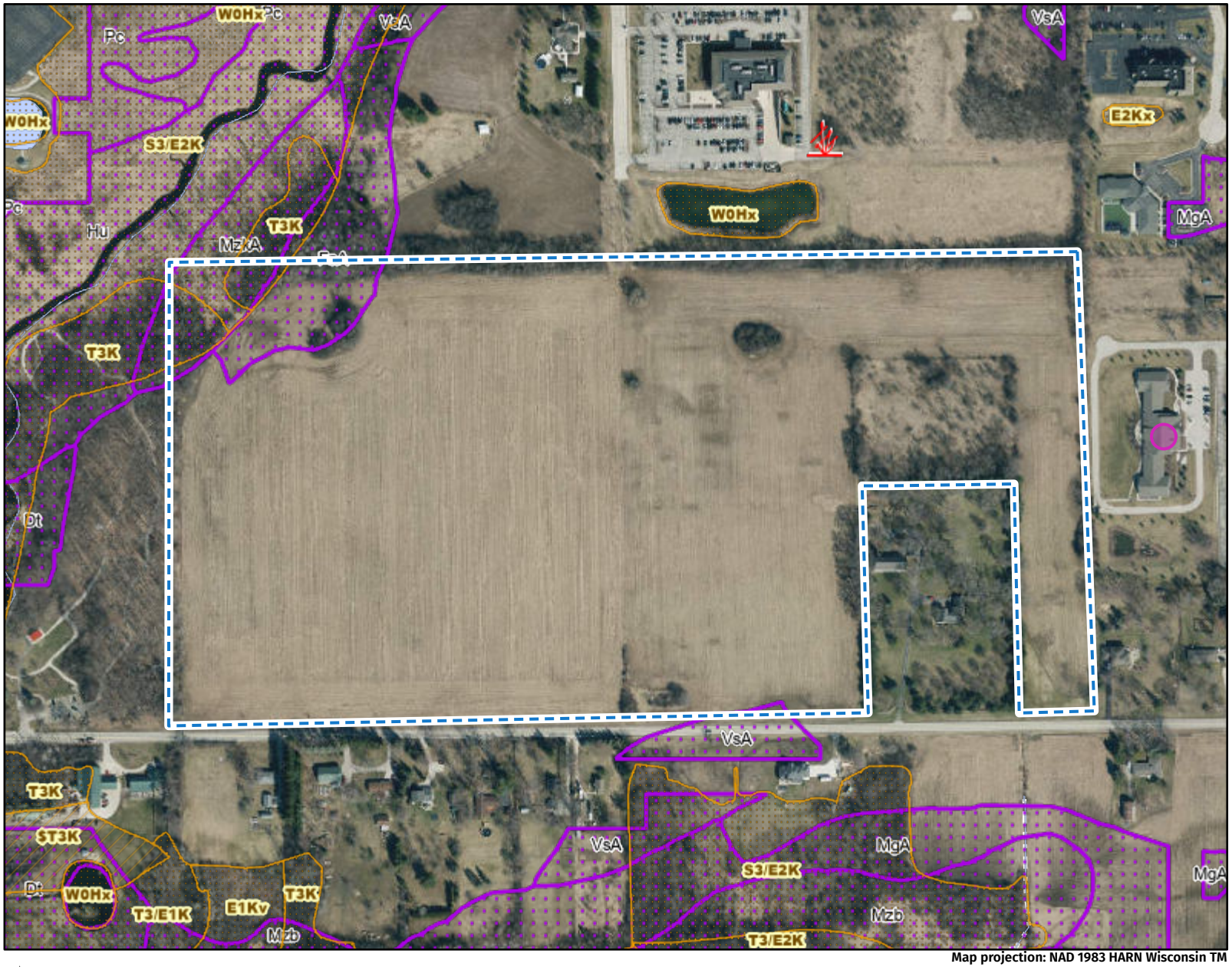
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7161B	Ritchey silt loam, 2 to 6 percent slopes	12.8	18.6%
7161C2	Ritchey silt loam, 6 to 12 percent slopes, eroded	2.6	3.8%
7204A	Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	0.2	0.3%
7327B	Fox silt loam, 2 to 6 percent slopes	1.6	2.3%
7429A	Mussey loam, 0 to 3 percent slopes	1.0	1.5%
7445B	Fabius loam, 1 to 3 percent slopes	1.7	2.5%
7698A	Grays silt loam, 0 to 2 percent slopes	8.6	12.5%
7698B	Grays silt loam, 2 to 6 percent slopes	1.7	2.5%
7743A	St. Charles silt loam, gravelly subtratum, 0 to 2 percent slopes	1.0	1.4%
7823B	Knowles silt loam, 2 to 6 percent slopes	37.5	54.6%
Totals for Area of Interest		**68.6**	**100.0%**

Report—Hydric Soil List - All Components

Hydric Soil List - All Components–WI131-Washington County, Wisconsin					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
7161B: Ritchey silt loam, 2 to 6 percent slopes	Ritchey	100	Bluffs	No	—
7161C2: Ritchey silt loam, 6 to 12 percent slopes, eroded	Ritchey	100	Bluffs	No	—
7204A: Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	Virgil-Gravelly substratum	85-95	Drainageways on outwash plains	No	—
	Sebewa	2-5	Depressions on outwash plains	Yes	2,3
	Drummer-Drained	2-6	Depressions on outwash plains	Yes	2
	Sable	1-4	Depressions on outwash plains	Yes	2
7327B: Fox silt loam, 2 to 6 percent slopes	Fox	80-90	Outwash plains	No	—
	Casco	5-10	Outwash plains	No	—
	St. Charles-Gravelly substratum	5-10	Outwash plains	No	—
7429A: Mussey loam, 0 to 3 percent slopes	Mussey	100	Drainageways on outwash plains,depressions on outwash plains	Yes	2,3
7445B: Fabius loam, 1 to 3 percent slopes	Fabius	90	Flats	No	—
	Sebewa	10	Depressions	Yes	2,3
7698A: Grays silt loam, 0 to 2 percent slopes	Grays	100	Lakebeds (relict)	No	—
7698B: Grays silt loam, 2 to 6 percent slopes	Grays	100	Lakebeds (relict)	No	—
7743A: St. Charles silt loam, gravelly subtratum, 0 to 2 percent slopes	St. Charles-Gravelly substratum	80-95	Outwash plains	No	—
	Fox	3-13	Outwash plains	No	—
	Mayville	2-7	Outwash plains	No	—
7823B: Knowles silt loam, 2 to 6 percent slopes	Knowles	85-95	Ground moraines	No	—
	Dodge	3-6	Ground moraines	No	—
	Lamartine	1-5	Ground moraines	No	—
	Ritchey	1-4	Ground moraines	No	—

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

WY: Surface Water Data Viewer (SWDV_VS_App)



Legend: (some map layers may not be displayed)

Wetland Class Points

Filled/drained wetland

Filled Points

Yes

Wetland Class Areas

Filled Areas

Y

Wetland Indicators

Rivers and Streams

Intermittent Streams

Open Water

Rivers and Streams

Intermittent Streams

Open Water

24K Intermittent Streams

24K Lakes and Open Water

24K Streams and Rivers

Latest Leaf Off Index

Notes:

Map projection: NAD 1983 HARN Wisconsin TM

N

Map: 0 390 780 Feet
0 110 220 Meters

Service Layer Credits:
Wetland Indicators & Soils^: Surface Water Data Viewer Team, DNR Basic Feature VTL (WTM): Wisconsin Department of Natural Resources, GIS Section, Latest Leaf Off: , Surface Water (Cached): WiDNR, USGS, and other data, Wetland Inventory NWI (Dynamic): Calvin Lawrence, Dennis Weise, Nina Rihn

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Date Printed: 2/16/2026 3:58 PM

To: Planning Commission
From: Parks and Recreation Director
Ref: Roskoph property.
Date: August 17, 2026

This is intended for the Planning Commission with background information on the Comprehensive Outdoor Recreation Plan (CORP), adopted as part of the Village 2050 Comprehensive Plan in 2021, as it relates to the Heyday project on Lilac Road adjacent to Schoen Laufen Park.

In 2014 the Parks and Recreation Commission began developing maps to support a future CORP plan. These maps identified an overall parks map, a recreational connectivity map, and a park service area map. As part of the park service area map, areas were identified as "potential future locations" for parks either in underserved areas or areas where the Village could expand existing parks to meet community needs. In 2019 GRAEF was contracted to develop a CORP plan and utilized existing maps and materials, along with input from Graef, public meetings and surveys to develop a service area map (pg 27 of the CORP plan). That map shows existing park locations in relation to the 2050 Future Land use map which includes existing park locations as they relate to the 2050 Future Land Use map- Neighborhoods, Districts, and Corridors. Most neighborhoods are served by an existing park. Areas not served by a public park should consider new park land, privately shared open space, or have planned trail connections that would connect residential areas to existing parks and river corridors.

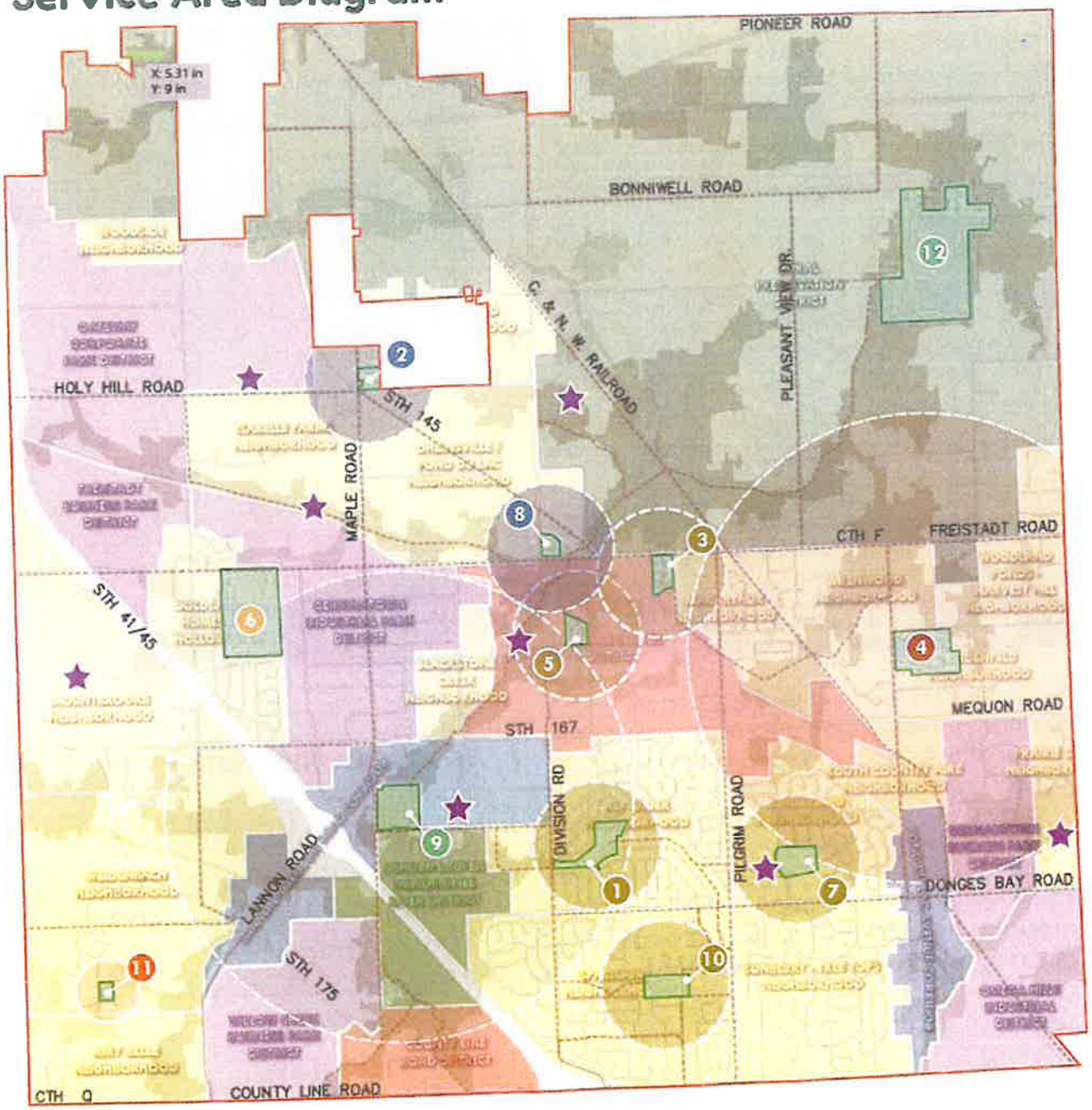
This was the first time Parks and Recreation Commission identified the Village's recreation needs on a map within an adopted CORP plan. Three of those top needs identified in the plan were a Community Park, Community Center, and Athletic fields. At the time there were only Friedenfeld Park, and Homestead Hollow, two locations that could potentially accommodate those amenities. Homestead Hollow is county-owned, and Friedenfeld Park was not viewed as suitable for a community park, community center or consider as an athletic complex due to nearby neighboring subdivisions. The Parks and Recreation Commission and Parks and Recreation Department identified and designated lands directly east of Schoen Laufen Park, owned by the Roskoph family, as land large enough to accommodate the needs of a community park, an athletic complex and community center.

In 2021 the Village Board adopted the CORP as part of the 2050 Comprehensive Plan. This included a site-specific map-identifying an additional 40 acres of parkland, with potential park expansion for community park and/or shared open space with the existing current park. In addition to this the Pedestrian and Trail Recreation plan, adopted in 2022, by the Park and Recreation Commission identified this area for a river trail connection and designated a potential trailhead on the northwest corner of the Roskopf property.

I wanted to provide this background information from the Comprehensive Outdoor Recreation Plan, adopted by the Board of Trustees in 2021 as part of the Village 2050 Comprehensive Plan, for the Planning Commission's consideration as whether to allow the Heyday group to move forward with its request, as you are deciding whether to allow the Hayday group to develop this land for rental housing or not.

Gil Standridge

Service Area Diagram



The Service Area Diagram above includes existing park locations as they relate to the 2050 Future Land Use Map - Neighborhoods, Districts, and Corridors. As the map shows, the majority of neighborhoods (yellow) are served by an existing park. Those areas not served by a public park should look to include new park land, privately shared open space, or have planned trail connections that would connect residential areas to existing parks or river corridors.

★ = Potential Future Park or Shared Open Space

September 3, 2026

Jeff Retzlaff
Community Development Director
Village of Germantown
N112 W17001 Mequon Road
Germantown, WI 53022

Re: Heyday Germantown applications; Parks and Recreation Director memo of August 17, 2026; our property at North River Lane and Lilac Lane (Tax Key GTNV 282999)

Dear Mr. Retzlaff,

We are the owners of the 40-acre parcel on Lilac Lane just east of Schoen Laufen Park. Our family has owned and farmed this land for approximately 50 years. We are writing because we understand the Parks and Recreation Director's August 17, 2026 memo told the Plan Commission that the Village long ago identified our land as the site for a future community park and sports complex. Before the Plan Commission relies on that account, we want it to hear directly from the people who actually own this land.

In all the years our family has owned this property, no one from the Village – not the Parks and Recreation Commission, not the Parks and Recreation Department, not Village staff, not the Village Board – has ever contacted us about it. No one has approached us about acquiring this land, in whole or in part, for a park, sports complex, community center, or any other public use, at any time, including before or after the CORP was adopted in 2021. No one has asked to buy it. No one has asked about our plans or intentions for the land. Not a letter. Not a phone call. Not a meeting. We were never consulted, never notified, and never given any opportunity to comment before our farm was placed on Village maps and plans for a use we never agreed to.

We have never offered this land for a park, and we have no interest in selling or donating it to the Village for that purpose. This land has been privately owned and farmed by our family, and any decision about its future belongs to us.

We have been careful with this property and deliberate about its future. When we decided to sell, we chose Heyday on purpose. Their plan keeps a large share of the land green, opens the property to the public for the first time with walking trails, connects it to Schoen Laufen Park, and even names a trail for our family. At no cost to Village taxpayers, that plan delivers real public benefit this farm has never provided in generations of private ownership. That is the future we chose for our land.

We support the Heyday applications and respectfully ask that this letter be included in the Plan Commission packet for the September 14, 2026 hearing.

Sincerely,

Dan Roskopf

Doug Roskopf

Todd Roskopf

HEYDAY GERMANTOWN

Village of Germantown - Development Proposal Fact Sheet

256 Units (Attached Rental) | 71.34 Acres | $0 Public Assistance | Private Finance Only

One Time Payment

IMPACT & CONNECTION FEES

- **Fire Protection** $43,780
- **Park and Recreation** $335,620
- **Water Connection** $256,770
- **Police Protection** $37,830
- **Library** $182,000
- **Sewer Connection** $1,386,160

Total: $2,242,160

Annual Revenue

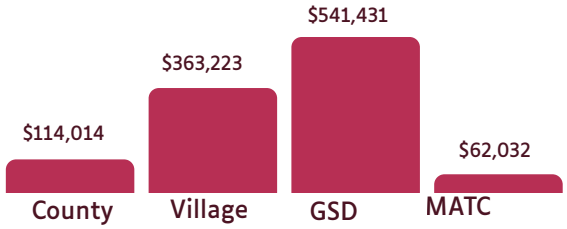
TAX REVENUE

256 Units

Assessed Value
$79,000,000

Tax Revenue
$1,080,700

Tax Revenue per Jurisdiction



WATER SEWER AVERAGE

Water $292.80

Sewer $482.80

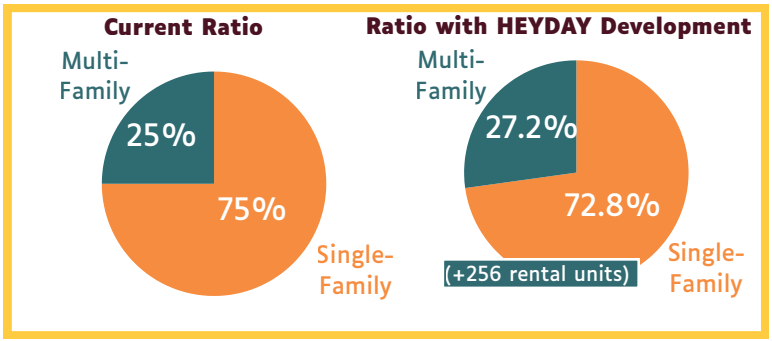
Per dwelling unit

Total Revenue YoY
$198,553

IMPACT TO SCHOOL ENROLLMENT

Projected increase
28 Students

*data per MDRoffers June 2025 Report
.11 new students per multi-family unit



One Time Payment

BUILDING PERMIT REVENUE

$542,665

Our ability to strengthen and maintain our tax base relies on being fiscally responsible and living within our means and on 'net new construction' and thoughtful development and growth

Tax Levy Capacity Expansion

Under Wisconsin's levy limit restrictions, the Village can only increase its levy in proportion to 'net new construction'. Heyday's $79M in new assessed value will expand the Village's levy capacity while lowering the effective tax rate for all existing Germantown residents.

Village of Germantown

SUTTON FARMS

Development Fact Sheet

271 Units (Owner Occupied) | 88 Acres | $0 Public Assistance | Private Finance Only

One Time Payment

IMPACT FEES

- **Water Connection** $271,813
- **Park and Recreation** $355,281
- **Fire Protection** $46,341
- **Police Protection** $40,108
- **Library** $192,681
- **Sewer Connection** $1,421,124

Total: $2,327,348

Annual Revenue

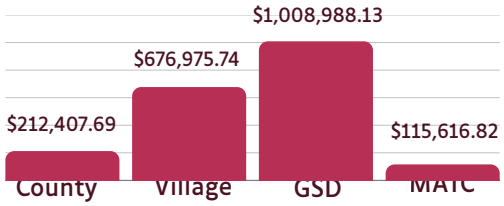
TAX REVENUE

271 Units

Assessed Value
$147,225,000

Tax Revenue
$2,013,985

Taxes per Jurisdiction



WATER SEWAGE AVERAGE

Water $292.80

Sewer $482.80

Per dwelling unit

Total Revenue YoY
$210,187.60

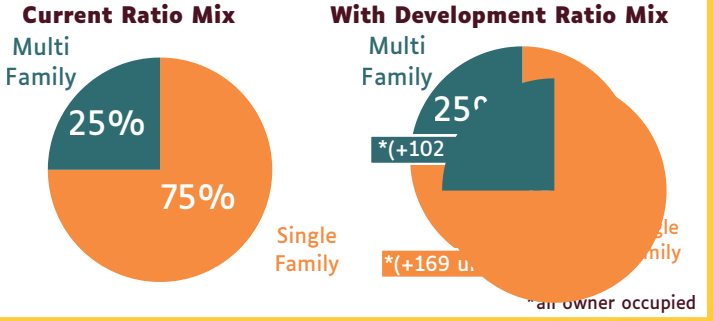
IMPACT TO SCHOOL ENROLLMENT

Projected increase

81

Students

*data per MDRoffers report



Our ability to strengthen and maintain our tax base relies on being fiscally responsible and living within our means and on 'net new construction' and thoughtful development and growth

Outstanding Debt

$95,589,811

Upcoming Projects

Fire Station Renovation	$6,500,000
PD Building	30,000,000
Sewer Infrastructure	15,000,000

SITE PLAN & CERTIFIED SURVEY MAP (CSM)

09/14/26 Plan Commission Meeting

Premier Real Estate Management, LLC / Victory Place, LLC

Village Staff Report & Recommendation ***Germantown, Wisconsin***

SUMMARY

Premier Real Estate Management, LLC, Agent for Victory Place, LLC, Property Owner. Site Plan and Certified Survey Map applications for a 48-unit multifamily residential development (Town Nine Apartments) totaling 7.0 acres located on Fond du Lac Avenue (approximately W140N9889 Fond du Lac Avenue) in the *Victory Center Corridor*.

Location: Fond du Lac Avenue ¾ Mile South of Donges Bay Road (Approx. W140N9889 Fond du Lac Avenue)

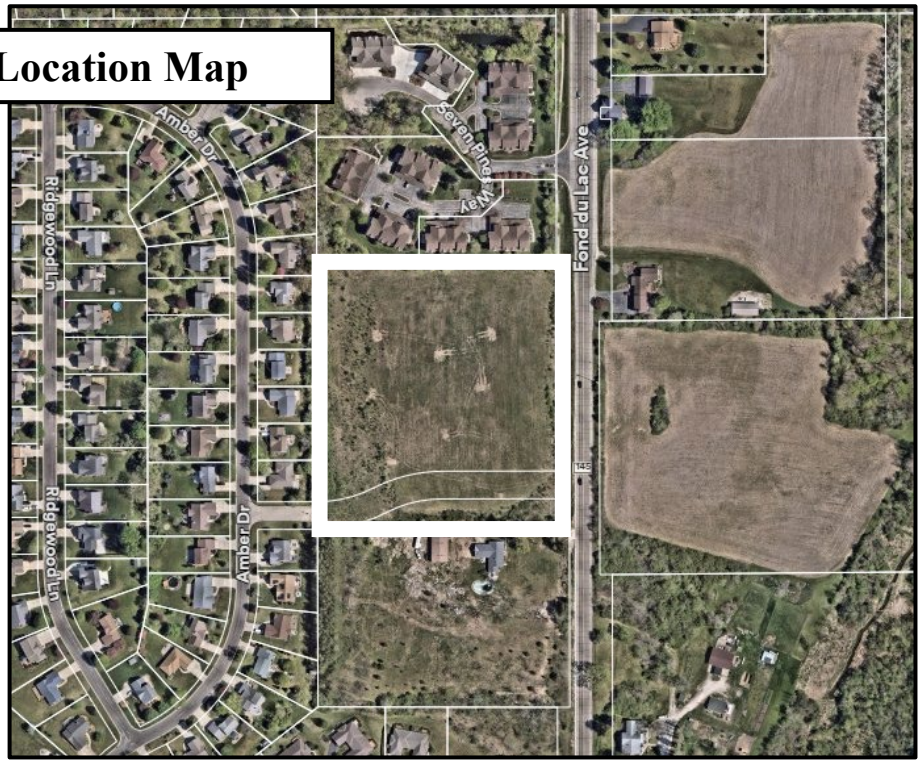
Applicant/ Owner:

Premier Real Estate, LLC 3120 Gateway Road Brookfield, WI 53045	Victory Place LLC 840 S Main Street, Suite 100 Fond du Lac, WI 54935

Zoning: Rm-2: Multi-Family Residential District

Adjacent Land Uses		Zoning
North	Residential (Seven Pines Condominiums)	Rm-1/PDD
South	Residential	Rs-1
East	Residential/Agricultural	Rs-1/A-2
West	Residential (Autumn Ridge Subdivision)	Rd-2

Location Map



Background/Proposal

Premier Real Estate Management, LLC, Agent for Victory Place, LLC, Property Owner. Site Plan and Certified Survey Map applications for a 48-unit multifamily residential development (Town Nine Apartments) totaling 7.0 acres located on Fond du Lac Avenue (approximately W140N9889 Fond du Lac Avenue) in the *Victory Center Corridor*.

In March 2026, the Village Board approved a Rezoning of the 7.0-acre property from the I: Institutional Zoning District to the Rm-2: Multi-Family Zoning District for a 48-unit multi-family residential development (Town Nine Apartments). An ordinance containing details associated with the Rezoning was adopted at the time and is attached to this memo. Most importantly, the Rm-2 District allows for multi-family residential development up to a maximum density of 8.0 DU/acre.

At this time, the developer has submitted final site development plans, architectural plans, landscaping/lighting plans, and a Certified Survey Map for the project consistent with the site's Rm-2 zoning classification.

Certified Survey Map (CSM)

The existing 7.0-acre project site is technically comprised of two (2) parcels that were platted per Certified Survey Map #5268 in 2000. To combine the existing parcels and create one (1) legal lot for development purposes, the developer submitted a Certified Survey Map with the site development plan. The Certified Survey Map will also memorialize the vacation of the Crimson Road right-of-way that currently runs through the southern part of the property. The Village agreed to vacate this right-of-way and NOT require Crimson Road to be extended through the site to Fond du Lac Avenue (STH 145) during the Rezoning process. While recording of the CSM will be the final step to memorialize the right-of-way vacation, the Village will also need to adopt a separate Resolution to approve the vacation, which will then be reflected on the CSM when it's recorded.

Site Plan

As presented in the submitted materials, the proposed site plan contains 4 buildings with a total of 48 dwelling units (rental). The development will be served by an access drive to/from Fond du Lac Avenue (STH 145). Fifty-six (56) percent of the lot will remain open space/impervious area. For a detailed list of project specifications, please refer to the following summary:

- 48 total dwelling units in 4 two-story buildings (12 DU per building).
- 6.9 DU/acre density.
- 2-bed/2-bath units with private patios or balconies.
- 1,050 to 1,150 sqft per unit each with private entry & 1-car attached garage.
- 148 total parking stalls – 3 stalls per unit; 48 1-car garage stalls + 48 1-car driveway stalls + 52 surface stalls for guests.
- Wood-frame construction with vinyl shake & horizontal siding, brick veneer wainscoting, & architectural shingles.
- Landscaping & berming around site perimeter.
- On-site storm water management ponds.

- Center “amenity area” with dog park and gazebo/grill area.
- Cross-access easement @ FDL drive entrance for future access to south parcel.
- 5-ft sidewalk along FDL frontage and 6-ft asphalt trail through southern part of site.

As discussed during the Rezoning process, the site plan proposal is contingent on eliminating the Crimson Road extension and vacating the existing 60’ wide right-of-way that extends through the property along the southern portion of the property, which the Village has agreed to and will be done through adoption of a separate Resolution and recording of the CSM.

Access and Traffic Circulation

Access to the site will be provided directly to Fond du Lac Avenue (STH 145). One (1) access point is proposed to serve the site, located in the southern half of the property away from the existing driveway serving Seven Pines Condominiums to the north. A Traffic Impact Analysis (TIA) was conducted and is attached.

Based on the TIA, the study intersections (proposed site access point & Knollcrest Circle access point to south) on Fond du Lac Avenue (STH 145) operate acceptably with full buildout of the Town Nine Apartments. Although the TIA included acceptable operations with site buildout, Fond du Lac Avenue is a State Highway within WisDOT’s jurisdictional authority. Note that the State is requiring the following geometric and traffic control improvements at the proposed site access point:

- Construct the site access to Fond du Lac Avenue (STH 145) with a single shared left-turn/right-turn lane and stop sign control. *This site access replaces a future extension of Crimson Road to Fond du Lac Avenue (STH 145). Per WisDOT, the platted Crimson Road right-of-way will need to be discontinued per Wisconsin Statute 66.1003.*
- Install a northbound left-turn bypass lane on Fond du Lac Avenue (STH 145) per WisDOT FDM Standards. Alternatively, install a northbound left-turn lane with 300 feet of storage plus proper taper.
- Install a southbound right-turn lane on Fond du Lac Avenue (STH 145) with 175 feet of storage plus proper taper.

Storm Water Management and Utilities

The development incorporates two (2) new bioretention basins to manage runoff on site. Stormwater will be treated by both basins, one in the western portion of the site and the other in the southeastern corner of the property. A full Storm Water Management Plan (SWMP) was submitted with the application and is attached. Public sanitary and water utilities are proposed to serve the development. Utility profiles and system plans have been included by the applicant with the site development plan.

Landscaping and Buffering

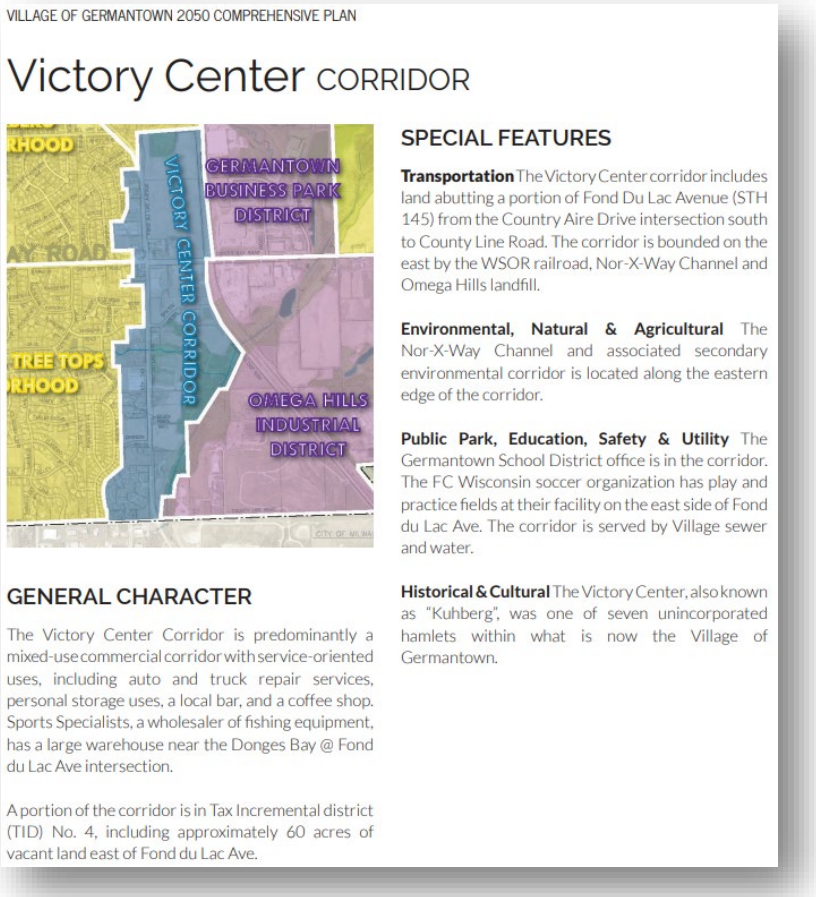
Landscaping is proposed throughout the project site, as illustrated by the submitted landscape plan. New trees, shrubs, and grasses/perennials will be planted along the northern, eastern, and southern perimeters of the site. New plantings will also be installed around each building and the central amenity area. Decorative landscape berms incorporating many of the new plantings will be formed along the property’s

highway frontage for visual screening and appeal. To buffer the site from the Autumn Ridge Subdivision to the west, the applicant intends to utilize an existing tree canopy line that runs north/south along the western boundary of the site.

Lighting
A photometric lighting plan was submitted and is included with the application materials. The site will include a total of 64 LED light fixtures mounted on the buildings (16 lights per building) to illuminate the footprint around the buildings and immediate parking stalls.

Signage
One (1) permanent real estate sign is depicted on the submitted landscape plan but no specifications were provided. The applicant will be required to submit a formal sign permit for review and approval by the Plan Commission prior to installation.

Staff Comments: Community Development – Planning & Zoning
Land Use & Density
The property is located in the *Victory Center Corridor* under the 2050 Comprehensive Plan. The *Victory Center Corridor* is intended to further develop as a mixed-use area with commercial, mixed-use commercial, institutional, and residential development. With respect to residential, development can be in both a traditional or conservation design pattern with single-family densities ranging from 2.2 to 2.9 DU/acre on 15,000-20,000 sqft lots; two (2) and 4-family densities up to 6 DU/acre; and multi-family densities up to 10 DU/acre.


VILLAGE OF GERMANTOWN 2050 COMPREHENSIVE PLAN

Victory Center CORRIDOR

RHOOD
AY ROAD
TREE TOPS
RHOOD
VICTORY CENTER CORRIDOR
GERMANTOWN BUSINESS PARK DISTRICT
OMEGA HILLS INDUSTRIAL DISTRICT

GENERAL CHARACTER

The Victory Center Corridor is predominantly a mixed-use commercial corridor with service-oriented uses, including auto and truck repair services, personal storage uses, a local bar, and a coffee shop. Sports Specialists, a wholesaler of fishing equipment, has a large warehouse near the Donges Bay @ Fond du Lac Ave intersection.

A portion of the corridor is in Tax Incremental district (TID) No. 4, including approximately 60 acres of vacant land east of Fond du Lac Ave.

SPECIAL FEATURES

Transportation The Victory Center corridor includes land abutting a portion of Fond Du Lac Avenue (STH 145) from the Country Aire Drive intersection south to County Line Road. The corridor is bounded on the east by the WSOR railroad, Nor-X-Way Channel and Omega Hills landfill.

Environmental, Natural & Agricultural The Nor-X-Way Channel and associated secondary environmental corridor is located along the eastern edge of the corridor.

Public Park, Education, Safety & Utility The Germantown School District office is in the corridor. The FC Wisconsin soccer organization has play and practice fields at their facility on the east side of Fond du Lac Ave. The corridor is served by Village sewer and water.

Historical & Cultural The Victory Center, also known as "Kuhberg", was one of seven unincorporated hamlets within what is now the Village of Germantown.

The Town Nine proposal includes a total of 48 dwelling units and a density of 6.9 DU/acre that are both consistent with the parameters for residential development allowed in the *Victory Center Corridor*. Although commercial land use is the only "desirable" land use intended within the Corridor, "acceptable" land uses include all types of residential uses including those proposed under the Town Nine Apartments plan. By comparison to a previous proposal for the site

(SunStarr "Victory Place" proposal), the Town Nine proposal has significantly fewer units (48 vs. 66) and a lower density (6.9 vs. 9.5 DU/acre).

As discussed during the Rezoning process, staff believes this property is better suited for residential (vs. commercial) development as an allowable use in the *Victory Center Corridor*. The property abuts existing single-family residential development to the west. The Autumn Ridge neighborhood is zoned Rd-2: One & 2-Family Residential that allows both single-family and two-family dwellings. To the north, the Seven Pines multi-family condominiums are zoned Rm-1: Multi-Family Residential that allows multi-family dwellings at a density up to 6 DU/acre. An existing single-family home on an approximate 5-acre parcel lies to the south and is currently zoned Rs-1: Single-Family that allows 1 DU/5 acres.

The maximum density for multi-family residential development allowed in the *Victory Center Corridor* is 10 DU/acre, regardless if it's for-sale condominiums, rental apartments, or any other multi-unit building types providing rental or ownership units. Also discussed during the Rezoning process, staff's vision for future residential development in the *Victory Center Corridor* as well as other corridors and districts in the Village is one where the type of dwelling units and buildings will vary within the corridor or district and not necessarily be all of one type or density (unlike the existing residential "neighborhoods" designated in the 2050 Comprehensive Plan). Other than the 65-acre Frenz Trust property to the north, most if not all the remaining developable or potentially re-developable parcels in the *Victory Center Corridor* are under 10 acres in size with many in the 5 to 10-acre range... including this property. In order to foster and encourage infill development and re-development of previously subdivided parcels that have challenging characteristics or land use compatibility concerns that may have hindered development in the past, staff believes that the Village should allow development with a higher residential density on these 5 to 10-acre parcels. A good example of this is the recently approved 4-unit townhouse development by Virtus Development (Greg Nagel) as part of the Kuhburg PDD that includes the former Kuhburg Junction tavern and new Kaffeehaus coffee shop. If not for the higher density (6 DU/ac) and flexibility created through the "planned development district" (PDD) zoning requirements created specifically for that area, it is unlikely that the old, dilapidated school house and bar would have been re-developed in the manner and timeframe that it has (the coffeehouse is complete, the restaurant has been permitted and financing now available, and the 4-unit townhouse project hopefully starting soon).

Residential Housing & Market Demand

The Town Nine Apartments proposal also meets many of the objectives contained within the Housing element under the Implementation section of the Village's 2050 Comprehensive Plan. The 2050 Plan maintains the following "*Developing a diversity of housing choices is also an important part of community resiliency, allowing residents of all ages to grow up and stay in the community through all life's stages and encouraging inter-generational interaction and support. Diverse housing choices are also important for Germantown's economic development, allowing the workers that earn their livelihood in Germantown the opportunity to live in the Village as well. Finally, a diverse housing stock can help ensure that living in Germantown is accessible to residents of various*

income levels and family sizes." The development not only meets this goal/objective laid out in the 2050 Plan, but it also provides for a needed housing product in the Village as specified in the Residential Market Analysis prepared by Tracy Cross & Associates, Inc., dated February 9, 2024 (attached).

The proposal is consistent with and intended to satisfy an existing market demand for new rental housing in the Village's target household annual income range of $50k-$150k as identified in the Tracy Cross report. Premier Real Estate Management indicates that the rental price for these 2-story, 2-bed/2-bath rental units with private entrance and attached garage will be $2,100/month and higher.

Single-Family vs. Multi-Family Housing Ratio

In 2025, staff was directed to keep track of the Village's ratio of multi-to-single-family housing units. Using January 1, 2024, estimates as a baseline, the table below presents the effect of the proposed Town Nine Apartments development on the number and ratio of single-family vs. multi-family housing units in the Village (middle table). The cumulative effect of the Town Nine development plus all residential development approved since January 1, 2024, is also shown below (lower table).

Baseline (Jan. 1, 2024)	Total Units	Single-Family Units	Multi-Family Units	Single-Family to Multi-Family Ratio	
				% SF Units	% MF Units
Housing Units	8,619	6,464	2,155	**75.0%**	**25.0%**

Town Nine Apts.		Total Units	Single-Family Units	Multi-Family Units	Single-Family to Multi-Family Ratio	
SF Units:	0	8,667	6,464	2,203	% SF Units	% MF Units
MF Units:	48				**74.6%**	**25.4%**

Cumulative (Jan. 1, 2024, to Sept. 14, 2026)		Total Units	Single-Family Units	Multi-Family Units	Single-Family to Multi-Family Ratio	
SF Units:	169	8,978	6,633	2,345	% SF Units	% MF Units
MF Units:	190				**73.9%**	**26.1%**

Residential Development Included in Cumulative Total:

Sutton Farm - Home Path Financial; 2025	169 SF	102 MF
Carillon - Cirrus Development Corp.; 2025	0 SF	36 MF
Virtus Townhomes; 2026	0 SF	4 MF

Financial Impact (Property Tax & Impact Fee Revenue)

As summarized in the table below, the Town Nine multi-family development is expected to generate approximately $36,300 in annual property tax revenue for the Village of Germantown (only); $54,300 for the Germantown School District; and a total of $108,300 annual property tax revenue for all taxing jurisdictions (including MATC and Washington County):

Housing Type	Units	Projected Value (unit)	Estimated Total Value	Estimated 2026 Property Taxes (Village Germantown)	Estimated 2026 Property Taxes (Germantown School Dist)	Estimated 2026 Property Taxes (ALL Taxing Jurisdictions)
Multi-Family	48	$ 165,000	$ 7,920,000	$ 36,416	$ 54,276	$ 108,338
Total	**48**		**$ 7,920,000**	**$ 36,416**	**$ 54,276**	**$ 108,338**

As summarized in the table below, the Town Nine multi-family development is expected to generate approximately $412,200 in one-time impact fee revenue for the Village of Germantown:

Impact Fee Type	Units	2026 Fee	Total
Water Connection	48	$ 1,003	$ 48,144
Sewer Connection	48	$ 5,244	$ 251,712
Police Protection	48	$ 148	$ 7,104
Park & Recreation	48	$ 1,311	$ 62,928
Library	48	$ 711	$ 34,128
Fire Protection	48	$ 171	$ 8,208
Total			**$ 412,224**

School District Student Enrollment Impact

The Town Nine Apartments project is located within Germantown School District (GSD) Attendance Area #58, which feeds the County Line Elementary School. Based on a student generation rate of 0.11 students/new multi-family unit recommended in the MD Roffers *Community Growth & Students Enrollment Projection Report* (dated June 2, 2025), the 48-unit development would generate a total of approximately five (5) school-aged children (4K-Grade 12 students).

According to the MD Roffers Report, a total of 84 new family dwelling units (duplex and multi-family) are included in the assumed growth projections for Attendance Area #58 by 2027 with 64 new multi-family units assumed to develop on the subject 7.0-acre property (higher than the 48 proposed units). The MD Roffers report also assumes an additional 20 duplex units will develop on the 5-acre (approx.) parcel to the south in the 2035-2040 time period.

Since there has been no new residential units, single or multi-family, approved or constructed within Attendance Area #58 since the MD Roffers Report was published in

June 2025, the 48 multi-family units proposed by Premier Real Estate Management for this property have already been taken into account in the student enrollment projections and school capacity impacts presented in the MD Roffers report.

Crimson Road Right-of-Way

During the Rezoning process, the developer (Premier Real Estate Management) indicated that if they were required to extend Crimson Road from Amber Drive to Fond du Lac Avenue (STH 145) in the existing right-of-way through the site, the project will not be economically nor logistically feasible. In discussions with the Plan Commission on this topic (Crimson Road extension) during prior development proposals, it was stated that the Department of Public Works, Fire Department, and Police Department did NOT support eliminating the Crimson Road extension to Fond du Lac Avenue. As noted during the Rezoning approval, that position had changed.

Village staff in all three departments agree that, although the connection from Amber Drive to Fond du Lac Avenue (STH 145) would provide improved traffic circulation and more convenient emergency vehicle access to the Autumn Ridge subdivision, the Crimson Road extension is not a critically important segment in the overall street system nor is it a high priority road improvement. With that said, while vehicle access may no longer be as important, the Department of Public Works was/is concerned with pedestrian accessibility and the opportunity lost if Crimson Road is not extended. Consequently, during the Rezoning the Department of Public Works and Village Engineer recommended that if the Plan Commission and Village Board agree to vacate the right-of-way for the Crimson Road extension, provisions be made to extend pedestrian access across/through the Town Nine development to Fond du Lac Avenue.

The Village ultimately agreed NOT to extend Crimson Road and proceed with vacating the right-of-way (which will be memorialized through a separate Resolution adopted by the Village Board and ultimately reflected on the Certified Survey Map for recording). At the same time, the Village conditioned the Rezoning approval with provisions requiring pedestrian access across/through the development site. To fulfill this, the developer has proposed a 6-foot wide asphalt trail through the site from the west to Fond du Lac Avenue on the east.

Other Comments

The developer had a Wetland Delineation report prepared for the site and submitted to the Wisconsin Department of Natural Resources (WisDNR). Included per attached is a confirmation letter provided by the DNR verifying that the delineator's wetland findings are acceptable. The delineator found a small wetland in the northeastern portion of the property. The developer has advised staff that the process to obtain an "artificial exemption" for the delineated wetland has been started through the DNR. An artificial exemption would essentially render the delineated wetland as moot in terms of development restrictions as it pertains to the project. A condition has been added requiring documentation (issued by the DNR) of an "artificial exemption" be submitted to the Village prior to commencement of construction activities.

Finally, staff recommends additional landscape plantings along the west property line to increase screening/buffering between the project site and residential subdivision to the west. Although an existing tree line runs north/south along the western property line and will be utilized by the applicant for screening/buffering purposes, staff recommends additional plantings to enhance the natural buffer and to ensure adequate screening between the existing residential lots and the new multi-family buildings on site. This will help reduce any potential impacts related to light emittance. Although the lighting plan shows no light levels at the property lines, the proposed fixtures are not "cut-off" and could create a scenario where the new lights emit glare that is visible from the neighboring homes to the west. Conditions have been added to address these comments (note that these comments are separate from the Village Forester's review noted below).

Staff Comments: Public Works – Village Engineer & Village Surveyor
The Public Works Department, including the Village Engineer and Village Surveyor, have identified technical issues and plan revisions that need to be resolved or otherwise addressed by the applicant prior to commencing construction activities. Staff is recommending conditional approval of the submitted site plan application and Certified Survey Map subject to all outstanding items and issues identified in the following review memos being resolved and reflected in additional information and/or revised plans submitted to staff for further review, comment, and approval prior to commencing site construction:

- July 20, 2026 – Village Surveyor Review Memo
- August 26, 2026 – Village Engineer Review Memo

Staff Comments: Police & Fire Departments
The Police Department has no comments/concerns. The Fire Department has approved the proposed parking and driveway layout in regard to emergency vehicle access and turnaround capability. The Fire Department also approved the site without an emergency access point in the far southwestern corner of the property (i.e. from Crimson Road to the west into the development).

Staff Comments: Village Forester
After reviewing the detailed landscape plan, the Village Forester approved the plan and is supportive of the proposed species, quantities, sizes, and location of plantings throughout the site. The Village Forester also indicates that the berm plantings along both the northern and eastern border should create an aesthetically pleasing border and act as a quality buffer for the site.

VILLAGE STAFF RECOMMENDATIONS

APPROVE the proposed 1-lot Certified Survey Map (CSM) for the Premier Real Estate/Town Nine property located on Fond du Lac Avenue (approximately W140N9889 Fond du Lac Avenue), subject to the following conditions:

1. All technical issues and corrections identified by the Village Surveyor (see July 20, 2026, memo from Bob Beilfuss, PLC) shall be addressed and reflected in a revised CSM reviewed and approved by Village staff prior to recording.
2. Prior to recording, the CSM shall be updated/revised to reflect the appropriate Resolution No. adopted by the Village which formally vacates the existing Crimson Road right-of-way through the property.

APPROVE the site development and architectural building plans submitted by Premier Real Estate Management, LLC, for a 48-unit multifamily residential development (Town Nine Apartments) on a 7.0-acre property located on Fond du Lac Avenue (approximately W140N9889 Fond du Lac Avenue), subject to the following conditions:

1. This approval is for the various plan sheets that comprise the site development and building plans as noted below and is subject to compliance with all the conditions and requirements set forth herein and subsequently adopted and/or revised by the Plan Commission. Approval is granted for the following unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission:
    a. *Site/civil engineering plans dated July 13, 2026.*
    b. *Landscape plan dated August 18, 2026.*
    c. *Photometric lighting plan dated July 9, 2026.*
    d. *Architectural building plans and elevations dated July 9, 2026.*

    If revised plan sheets are necessary, each revised sheet shall contain the date of said revision clearly stamped in the lower right corner.
2. The technical issues and plan revisions identified in the August 26, 2026, memo from Public Works and the Village Engineer shall be addressed in revised plan sheets and/or supplemental documents as necessary prior to commencing construction activities and/or issuance of building permits.
3. State agency (DSPS) approved plans and a $25,000 occupancy bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS and may be used as an alternative to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.
4. The Developer shall install 5-foot wide sidewalk along the west side of Fond du Lac Avenue (STH 145) for the entire property frontage. The Developer shall install 6-foot asphalt trail/path through the site on the southern portion of property connecting Crimson Road segment to the west to Fond du Lac Avenue (STH 145) to the east. Where applicable, construction methods shall be in compliance with the Village of Germantown Development Handbook design standards and

constructed as set forth in a Development Agreement.

5. Public utilities (i.e. sanitary and water) shall be installed in compliance with the Village of Germantown Development Handbook design standards and/or as set forth in a Development Agreement. Final utility profiles, plans, and precise location shall be coordinated with the Public Works Director, Village Engineer, and Water and Wastewater Utility Superintendents.
6. Unless mutually agreed to between the Developer and the Village as set forth in the Development Agreement, the provisions of Village Code Section 11.08 pertaining to garbage and recycling collection for a property containing five (5) or more residential units ("multiple-family dwellings") shall apply.
7. The approved Certified Survey Map (CSM) creating the subject development site and memorializing the vacation of the existing Crimson Road right-of-way through the parcel shall be recorded at the Washington County Register of Deeds prior to commencing construction activities and/or issuance of building permits.
8. A Development Agreement shall be reviewed by the Public Works and Highways Committee and approved by the Village Board. Maintenance guarantees pertaining to stormwater management facilities, sidewalks & pedestrian paths/trails, and utilities shall be included in the Development Agreement.
9. Documentation shall be submitted to the Village showing proof of an "artificial exemption" for the delineated wetland found on site, as illustrated in the Wisconsin Department of Natural Resources (WisDNR) confirmation letter regarding the Wetland Delineation prepared for the site. Such documentation shall be submitted to the Village prior to commencement of construction and/or issuance of building permits.
10. Specific design and location details for signage must comply with the Village's Sign Code regulations and be submitted and approved by the Plan Commission, prior to sign installation.
11. The Developer shall provide additional landscape plantings along the west property line to increase screening/buffering between the project site and residential subdivision to the west. A revised landscape plan including the additional plantings showing quantity, type, and placement in relation to the existing tree line, shall be submitted to the Village Forester and Community Development Department for review and approval prior to commencing construction activities and/or issuance of building permits.
12. If the Village observes and/or receives complaints regarding negative impacts associated with and/or created by the property and any related activities, including but not limited to noise and lighting, the Property Owner/Operator shall work with the Village to identify the source of such impact(s), evaluate alternative mitigation measures, and implement a mutually-agreeable solution to mitigating the impact(s).

Docusign Envelope ID: A61C2182-675E-8D1B-8041-1A2C9873BD14

Village of Germantown ...Willkommen

Fee must accompany application

- ☐ $810 Minor Addition
- ☐ $1,430 Construction <10,000 SF
- ☒ $2,410 Construction 10,000 SF to 50,000
- ☐ $3,980 Industrial Construction >50,000 SF
- ☐ $3,980 Commercial Construction >50,000
- ☐ $350 Plan Commission Consultation
- ☒ $125 Fire Department Plan Review

Paid On: 7/13/26 Check/CC 2659

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Premier Real Estate Management, LLC
Calvin Akin
3120 Gateway Rd
Brookfield, WI 53045

Phone
E-Mail

PROPERTY OWNER

Victory Place, LLC
Scott Stivlingson
840 S. Main St. #100
Fond du Lac, WI 54935

Phone
E-Mail

2 PROPERTY ADDRESS

Crimson Rd. - TAx Ket GTNV 354978 and 354963

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
Residential	Residential	Agricultural	Residential

4 READ AND INITIAL THE FOLLOWING:

X I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

X I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

X I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

Signed by: Calvin M. Akin 983A66378BB0437...
Applicant 7/13/2026 Date

Signed by: 5332AAC12B6B443...
Owner 7/13/2026 Date

RECEIVED JUL 13 REC'D
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

Revised 12/5/25

Sharepoint>06-APPLICATIONS ALL>Application Forms>Site Plan

Docusign Envelope ID: 50086666-2522-8251-811E-CE37B1C70498

Village of Germantown
Willkommen

Fee must accompany application.
X $3340 with public improvements
☐ $2260 no public improvements
Paid On: 7/13/26 Check/CC 2659

CERTIFIED SURVEY MAP APPLICATION

Pursuant to Section 18.06 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

APPLICANT/AGENT:	PROPERTY OWNER:
Premier Real Estate Management, LLC	Victory Place, LLC
Calvin Akin - 3120 Gateway Rd	Attn: Scott Stivlingson
Brookfield, WI 53045	840 S. Main St. #100
	Fond du Lac, WI 54935
Phone	Phone
Email	Email

PROPERTY ADDRESS	TAX KEY NUMBER
Crimson Rd.	GTNV 354978 and 354963

PURPOSE OF LAND SPLIT

Combine two properties into one.	Will the land split require rezoning? No	
	From	To

READ AND INITIAL THE FOLLOWING:

X ____ I understand that the Certified Survey Map is not valid until recorded at the Washington County Register of Deeds. The Village will record the document and charge the applicant all applicable recording fees.

X ____ I understand that the Map will not be placed on the Village Board agenda until all the technical corrections to the CSM are made, the payment of any outstanding impact fees are paid to the Village Clerk's Department, and the original signed and stamped copy of the Map is submitted on the proper paper.

X ____ I understand that parcels created outside the Sewer Service Area will require a soil test. I also understand that all properties abutting a State Highway will require DOT approval and I will be responsible for securing such approval prior to recording.

X ____ I understand all delinquent property taxes on any of the properties involved shall be paid prior to recording.

SIGNATURES: ALL APPLICATIONS MUST BE SIGNED

Signed by: Calvin M. Akin 983A869F6BB0437...
Applicant 7/13/2026 Date

Signed by: 5332AAC12B6B443...
Owner 7/13/2026 Date

RECEIVED
JUL 13 REC'D
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

Docusign Envelope ID: 9993DA49-BD47-4626-9869-22A229B48BC2

PRE / 3

December 19, 2025

Community Development Department
Village of Germantown
N112 W17001 Mequon Road
Germantown WI 53022

Re: Project Description – W140 N9935 Fond du Lac Ave (Tax key 354978 & 354963)
Proposed RM-2 Residential Rental Community

Dear Village of Germantown:

Premier Real Estate Management, LLC respectfully submits this application for rezoning to allow development of an RM-2 Residential Rental Community at W140 N9935 Fond du Lac Ave. This proposal has been shaped by public feedback and is thoughtfully designed for compatibility with surrounding neighborhoods and the Village Comprehensive Plan.

The development will create 48 apartment homes, between approximately 1,050 and 1,1150 square feet, all featuring two bedrooms, two full bathrooms, with a private entrance, an attached garage and individual patio space. We find that this layout offers residents a single-family–style living experience without the burden of ongoing maintenance. As a result, our communities typically experience annual turnover of 20–25%, compared to approximately 45% nationally. This lower-than-average turnover supports stable, market-rate, community-oriented neighborhoods that contribute to the long-term vitality of the village.

Project Overview

The proposed 48-unit residential market-rate rental development, comprised of four (4) 12-unit, two-story buildings arranged with abundant open space, provides a scale and layout that functions as an appropriate residential transition within the Victory Center Corridor, consistent with the Village of Germantown's 2050 Comprehensive Plan and recent residential market findings.

This application reflects a meaningful reduction in density and intensity from prior concepts presented for the site and has been refined with feedback from Village staff, Plan Commission members, and nearby residents in mind. The building placement and open space are designed to increase separation from adjacent neighbors, creating a park-like setting along the property edge.

This proposal builds on what we have learned from earlier discussions and reflects a thoughtful approach to aligning with community needs and desires, while remaining economically viable.

Density & Land Use Compatibility

The Victory Center Corridor allows multi-family residential development up to 10 units/ac. The proposed development is designed at 6.87 units/acre under RM-2 zoning, well below the maximum allowed.

Lower density was chosen not out of necessity, rather it was selected as a thoughtful response to community input about density, noise, green space, and traffic and as an appropriate fit for this

transitional residential area, given its proximity to the existing RD-2 and RM-1 neighborhoods to the west and north.

Ownership & Long-Term Management

The proposed community will be owned and professionally managed by Premier Real Estate Management, LLC, a locally based real estate company with a long-term focus on residential neighborhoods. Founded in 1978, Premier Real Estate Management, LLC specializes in the development, ownership and management of multifamily properties in small to mid-sized communities. With several thousand apartment homes developed across Wisconsin, and more than 16,000 apartment homes currently managed in 16 states, Premier Real Estate Management, LLC is a leader in creating high-quality, low-density housing in underserved markets. We are dedicated to fostering strong communities through smart design, enduring quality and a focus on neighborhood success.

In the past five years alone, Premier Real Estate Management, LLC has developed over 2,500 units in Wisconsin, emphasizing low-density communities with home-like amenities. This thoughtful design attracts long-term tenants who take pride in their homes and positively contribute to their communities.

Relationship to Adjacent Neighborhoods

Careful attention has been given to how the development interfaces with the Autumn Ridge subdivision and Seven Pines Condominiums. Design considerations include:

- Enhanced perimeter landscaping and buffering
- Two-story building height limits
- Building orientation away from existing homes
- Preservation of existing tree lines & landscaping

The intent is for the development to be a quiet, residential area, while also providing an effective buffer to STH 145. In doing so, the proposed residential use offers a more appropriate transition than potential commercial, mixed-use or institutional alternatives.

Traffic, Access & Crimson Road Considerations

In response to previous comments pertaining to traffic, noise and safety, the preliminary site plan enclosed includes a private drive with direct access to Fond du Lac Ave (STH 145) to direct all traffic to this arterial highway. In doing so, we will request at a future meeting to vacate Crimson Road right-of-way. We recognize there is also a desire to keep this right-of-way, so we remain open to conversations about emergency access and look forward to continued coordination with Village staff to refine the most appropriate solution during Site Development Plan review. This site plan also shows an access easement allowing the property to the south to use the STH 145 entrance.

Market Need & Community Benefit

Independent analysis prepared for the Village confirms a strong demand for well-designed, middle-market rental housing. This proposal responds directly to this documented need while providing housing that have many of the benefits of single-family living.

Docusign Envelope ID: 9993DA49-BD47-4626-9869-22A229B48BC2

Commitment to Ongoing Coordination

Premier Real Estate Management, LLC is committed to working with Village staff, elected officials and area residents to help ensure this project aligns with Germantown's Comprehensive Plan vision. We appreciate your feedback and look forward to continued coordination.

Thank you for your consideration,

Premier Real Estate Management, LLC

Community Minded Development

PRE/3™

INVESTMENT | DEVELOPMENT | MANAGEMENT

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Josh Kenitzer
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joshua@pre-3.com

Emily McFarland
920.988.5874
emily.mcfarland@pre-3.com

Company **Summary**

Founded in 1978, with over 45 years of experience, **PRE/3** has grown into a trusted leader in multifamily development, ownership, and management. With a focus on small to mid-sized communities, our team combines decades of expertise with a deep understanding of what makes neighborhoods thrive. Over the years, **PRE/3** has developed more than 10,000 apartment homes across Wisconsin and now proudly manages over 18,000 units in 16 states. **PRE/3** is dedicated to creating high-quality, low-density housing in underserved markets — communities where thoughtful investment makes a significant difference.

By blending smart design, lasting construction, and strong management, we aim to build more than housing — we build places where residents feel connected, supported, and proud to call home.

We believe this approach is what truly builds communities, and we are proud to deliver both the stability of scale and the personal attention that ensures our communities stand out from the rest.

PRE/3™

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FOUNDED IN 1978

Relevant Developments

PRE/3 has been a driving force in Wisconsin's housing market for decades, developing thousands of apartment homes across the state, including more than 2,000 units in just the past five years. Our communities are intentionally low-density, designed to feel more like a neighborhood than a complex. With features such as attached garages, private entrances, and single-family home-like layouts, residents enjoy both comfort and privacy. This thoughtful, low-impact approach attracts longer-term tenants who take pride in their homes and communities. **Below are a few of our recent developments that reflect this scale and vision:**

Recent Developments

HILLCREST ESTATES (2025)
60-unit Market Rate
Nicolet Construction
hillcrestestatesapartments.com

THE PENINSULA (2024)
96-unit Market Rate
Nicolet Construction
thepeninsulaapartmentliving.com

THE RESIDENCES AT DUNHAM GROVE (2022)
120-unit Market Rate
Nicolet Construction
residencesatdunhamgrove.com

CLAYTON CROSSING (2023)
96-unit Market Rate
9117 Clayton Avenue, Neenah, WI 54956
Nicolet Construction
claytoncrossingapartments.com

Under Construction

FOX LAKE, WI
72-unit Market Rate
Nicolet Construction

PORTAGE, WI
60-unit Market Rate
Nicolet Construction

BERLIN, WI
48-unit Market Rate
Nicolet Construction

BEAVER DAM, WI
60-unit Market Rate
Nicolet Construction

BARABOO, WI
72-unit Market Rate
Nicolet Construction

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Floor Plans

At **PRE/3**, we take great care to partner with communities that align with our long-term vision of creating thriving communities. While each development is thoughtfully tailored to its setting, we consistently rely on proven floor plans that deliver on our goals: providing residents with comfortable, high-quality living spaces and offering communities durable, attractive housing that adds long-term value. **Below are examples of the floor plans we typically use to achieve these results.**

LOWER UNIT
2 bedroom, 2 bathroom
1,067 square feet

UPPER UNIT
2 bedroom, 2 bathroom
1,144 square feet

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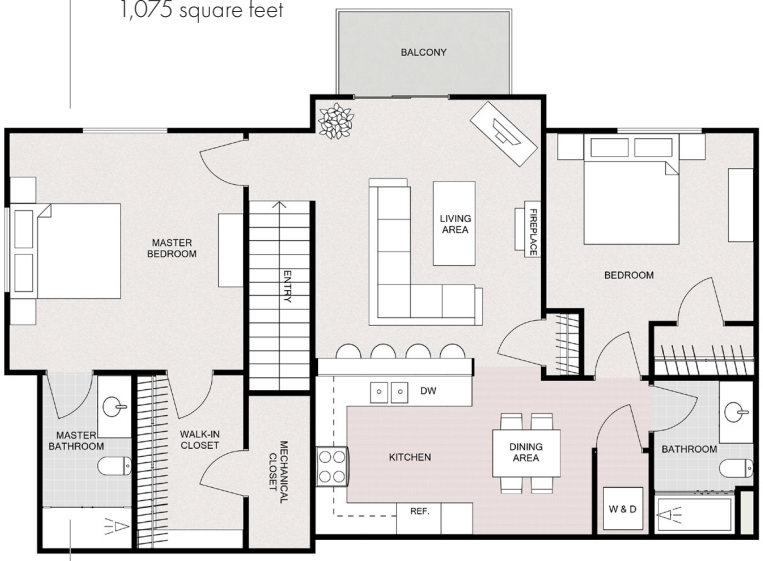
Floor **Plans** cont.

In addition to utilizing our proven floor plans, PRE/3 is committed to using materials and finishes that are durable, attractive, and thoughtfully matched to each community.

Inside our homes, residents enjoy high-quality features such as maple shaker cabinets with crown molding, granite countertops, stainless steel appliances, vinyl plank flooring, plush carpet, and ceiling fans in dining rooms and bedrooms. On the exterior, we prioritize lasting construction with 2x6 walls, Atlas Pinnacle shingles, LP SmartSiding with brick or stone accents, composite balconies, and fiberglass entry doors. While finishes may vary slightly by community and material availability, each choice is made with the same goal in mind—to provide lasting quality and a welcoming place to call home.

UPPER SPLIT BEDROOM
2 bedroom, 2 bathroom
1,075 square feet



PRE/3™
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FOUNDED IN 1978

References

We encourage you to reach out to our references and hear directly from those who know our work best. At **PRE/3**, we truly believe in the quality of what we do—from thoughtful design to responsible management—and we want you to share that same confidence. Our track record speaks through the communities we've built and the partners we've worked with, and we welcome the opportunity for you to see that firsthand.

THE VILLAGE OF WATERFORD, WI
Zeke Jackson, Village Administrator
123 N. River Street, Waterford, WI 53185
262.534.3980
zjackson@waterfordwi.org

THE VILLAGE OF SAUKVILLE, WI
Dawn Wagner, Village Administrator
639 E. Green Bay Avenue, Saukville, WI 53080
262.235.9016
dwagner@village.saukville.wi.us

THE VILLAGE OF PLOVER, WI
Steve Kunst, Village Administrator
2400 Post Road, Plover, WI 54467
715.345.5250
skunst@ploverwi.gov

CITY OF REEDSBURG, WI
Brian Duvalle, Planner/Bldg Inspector
134 S. Locust Street, Reedsburg, WI 53959
608.768.3354

CITY OF PORTAGE, WI
Justin Schoenemann, City Administrator
115 W. Pleasant Street, Portage, WI 53901
608.742.2176
justin.schoenemann@portagewi.gov

Example **Properties**

Here are samples of a few of our properties, but we invite you to visit pre-3.com for additional photos, virtual tours, and a closer look at communities we've developed.

EXTERIOR VIEWS

a **PRE/3** apartment community showing a combination of brick and siding, landscaped grounds and private balconies.

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INTERIOR VIEWS : **LIVING ROOM**

vinyl plank flooring with space for a couch, and coffee table; access to the first floor patio and a fireplace is also shown

INTERIOR VIEWS : **KITCHEN AND HALLWAY**

granite countertops, stainless steel appliances, white shaker-style cabinets, and vinyl plank flooring

INTERIOR VIEWS : **BATHROOM**

vinyl plank flooring, white trim, granite countertops, brushed nickel fixtures, and a shower

INTERIOR VIEWS : **BEDROOM/OFFICE**

plush carpet, white trim, and room for a desk, guest chair and side table

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INTERIOR VIEWS : **MASTER BEDROOM AND EN SUITE BATHROOM AND LAUNDRY**

A large bed and dresser are shown with access to the en suite bathroom
in addition to a full-size washer and dryer

INTERIOR VIEWS : **BEDROOM**

plush carpet, white trim, a large bed, a chair, and side tables

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PRE-3.COM

Thank you!

Put your trust in the professionals who've led the way in multifamily real estate for more than 45 years. Every community deserves high-quality development that adds lasting value to the community. With our proven expertise and commitment to excellence, we deliver projects that meet today's needs while building long-term value for years to come.

PRE/3™

INVESTMENT | DEVELOPMENT | MANAGEMENT

For more information, contact us

PRE-3.COM

262.790.4560

3120 Gateway Road
Brookfield, WI 53045

TOWN NINE APARTMENTS

SITE DEVELOPMENT PLANS

VILLAGE OF GERMANTOWN, WISCONSIN

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.
   –VILLAGE OF GERMANTOWN 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.

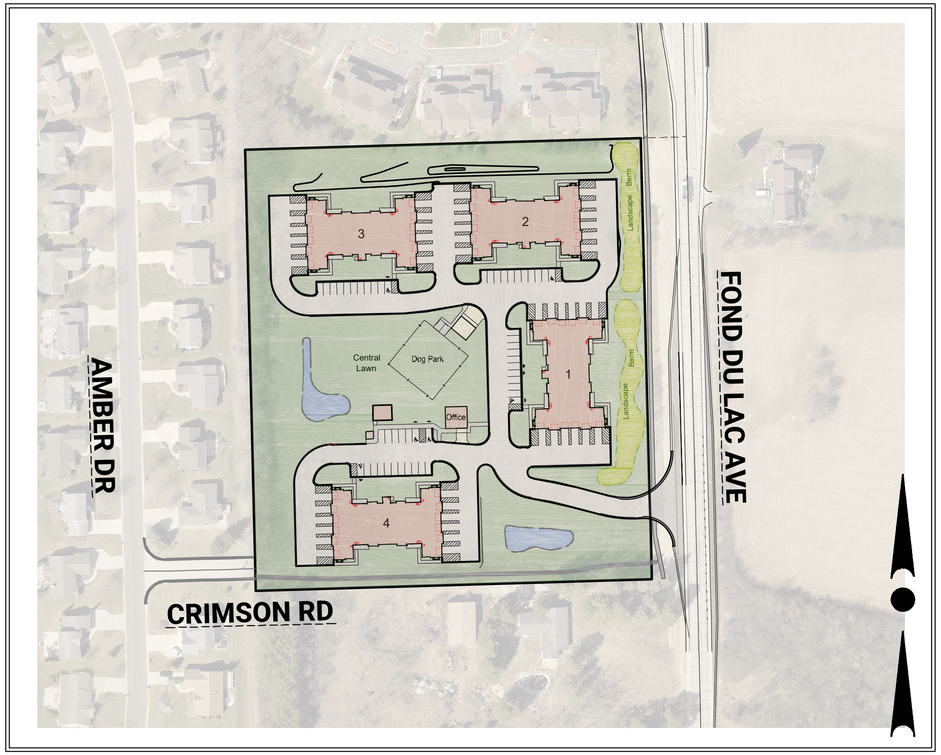
8. ENGINEER SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF PERFORMING ANY CONSTRUCTION.

9. ALL TRENCHING SHALL BE PERFORMED ACCORDING TO OSHA STANDARDS.

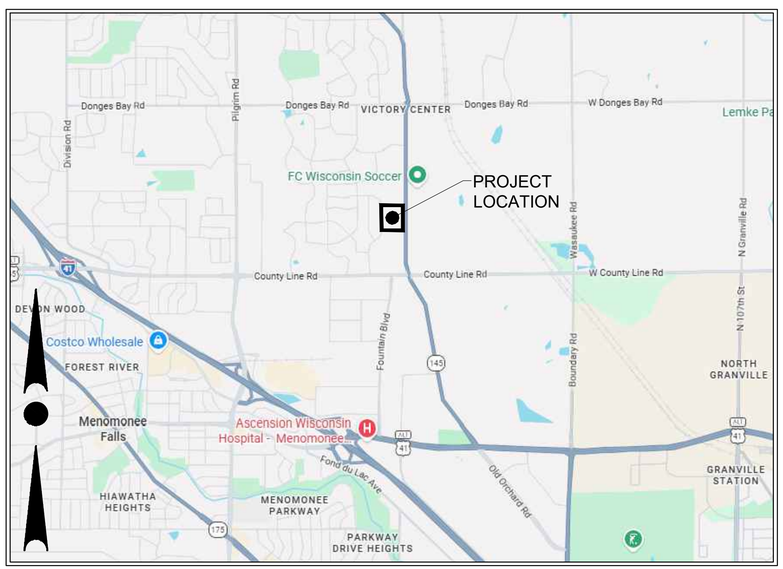
10. ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.

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 VILLAGE OF GERMANTOWN.

12. THE CONTRACTOR MUST AND IS REQUIRED TO NOTIFY THE VILLAGE OF GERMANTOWN 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.



SITE PLAN
SCALE: 1" = 100'



LOCATION MAP
NOT TO SCALE

ENGINEER:
TRIO ENGINEERING, LLC
19035 W. CAPITOL DR., SUITE 200
BROOKFIELD, WI 53045
CONTACT: MR. JOSHUA PUDELKO, P.E., M.S.
PHONE: 262–790–1480
FAX: 262–790–1481
EMAIL: jpudelko@trioeng.com

DEVELOPER:
PRE/3
3120 GATEWAY RD.
BROOKFIELD, WI 53045
PHONE: (262) 790–4560
EMAIL: reception@pre–3.com

SHEET INDEX

PRELIMINARY CIVIL		
T1	–	COVER SHEET
C0.1	–	EXISTING SITE & DEMOLITION PLAN
C0.2	–	PROPOSED SITE PLAN
C1.0	–	MASTER GRADING & DRAINAGE PLAN
C1.1	–	POND PLANS AND DETAILS
C2.0	–	EROSION CONTROL PLAN
C3.0	–	SANITARY SEWER & WATER MAIN SYSTEM MAP
C3.1–3.3	–	SANITARY SEWER & WATER MAIN PLAN & PROFILE
C4.0	–	STORM SEWER PLAN
C5.0	–	CONSTRUCTION NOTES & DETAILS

WISCONSIN
MATTHEW A. DUCKOW
E–40933
OCONOMOWOC
PROFESSIONAL ENGINEER

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EMAIL: jpudelko@trioeng.com

PROJECT:
TOWN NINE APARTMENTS
VILLAGE OF GERMANTOWN, WISCONSIN
BY: PRE/3
3120 GATEWAY ROAD
BROOKFIELD, WI 53045

REVISION HISTORY

DATE	DESCRIPTION
07/13/26	INITIAL SUBMITTAL

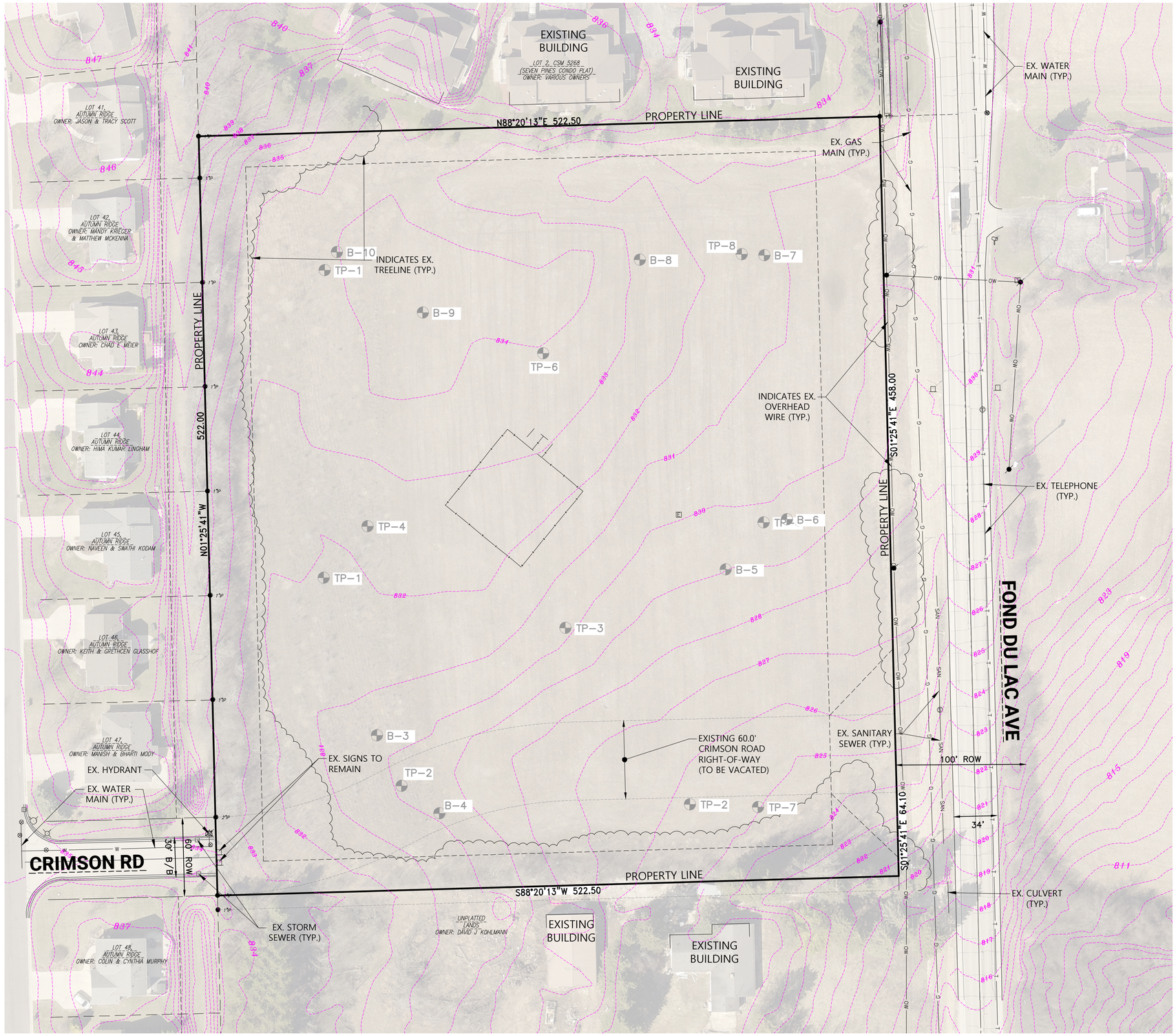
DATE:
JULY 13, 2026

JOB NUMBER:
24-46-1237

DESCRIPTION:
COVER SHEET

SHEET
T1

X:\2024\24-46-1237 CRIMSON RD – GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CRIMSON ROAD_CDV&DET_22X34.DWG



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SCALE: 1" = 40' (22"X34")
SCALE: 1" = 80' (11"X17")

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.

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E-[illegible]
OCONOMOWOC, WI
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07/13/26	INITIAL SUBMITTAL

DATE:
JULY 13, 2026

JOB NUMBER:
24-46-1237

DESCRIPTION:
EXISTING SITE & DEMOLITION PLAN

SHEET
C0.1

X:\2024\24-46-1237 CRIMSON RD - GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CRIMSON ROAD_SITE_22X34.DWG

Site Data	
- Total Area	
- Lot 3 CSM 5268 =	5.68 ac
- OL 1 CSM 5268 =	0.59 ac
- Sub-total =	6.27 ac
- Vacated Crimson Rd =	0.72 ac
- **TOTAL AREA =**	**6.99 ac**
- Proposed Zoning:	Rm-2
- Proposed Project:	**48 unit Multi-Family** (4) - 12 unit buildings
- Density:	48 units/ 6.99 ac = 6.87 un/ac
- Lot Coverage:	
- Building Coverage =	0.95 ac (13.6% of site)
- Pavement =	1.95 ac
- Sidewalk & Patio =	0.17 ac
- TOTAL IMPERVIOUS =	3.07 ac (43.9% of site)
- TOTAL OPEN SPACE =	3.92 ac (56.1% of site)
- Proposed Parking:	
- Garage =	> 48 spaces (1 per unit)
- Driveway =	> 48 spaces (1 per unit)
- Surface Guest =	52 spaces
- TOTAL PARKING =	148 spaces (3.08 per unit)

Proposed Zoning:
Rm-2 Multiple-Family Residential District

- Density: 8 un/ac (max)
- Lot Size: 0.5 acre (min)
- Lot Width: 120' (at setback)
- Zoning Setbacks:
  - Front: 35' (50' to STH 145)
  - Side: 25'
  - Rear: 35'
- Principal Building Height = 45' (max)
  - 2 1/2 stories (max)
  - Percent of Lot Coverage = 40% (building)
- Parking = 2 spaces per unit (1 of which is in a garage)

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SCALE: 1" = 40' (22"X34")
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PROJECT:
TOWN NINE APARTMENTS
VILLAGE OF GERMANTOWN, WISCONSIN
BY: PRE/3
3120 GATEWAY ROAD
BROOKFIELD, WI 53045

REVISION HISTORY

DATE	DESCRIPTION
07/13/26	INITIAL SUBMITTAL

DATE:
JULY 13, 2026

JOB NUMBER:
24-46-1237

DESCRIPTION:
PROPOSED SITE PLAN

SHEET
C0.2

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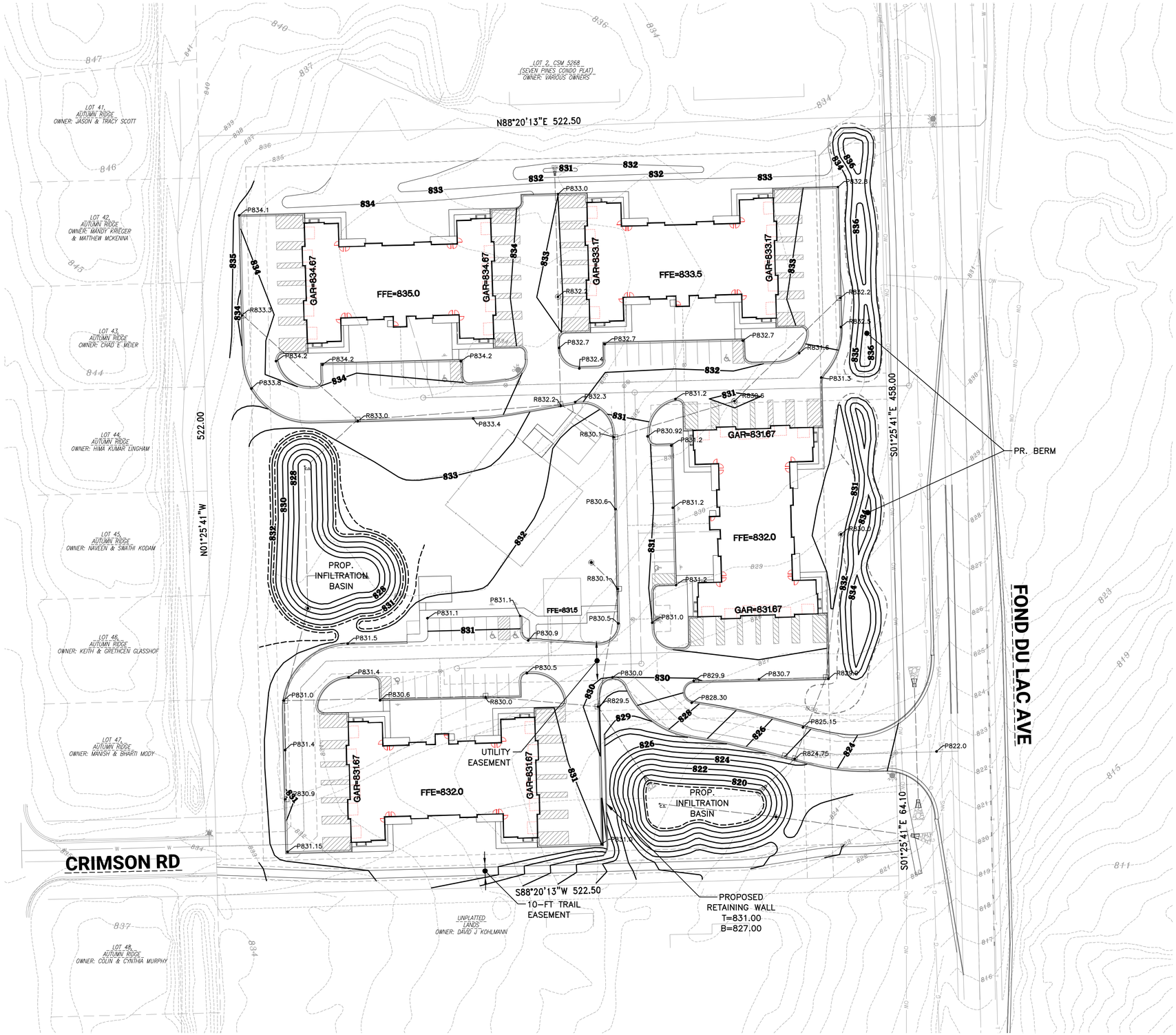

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OCONOMOWOC
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3120 GATEWAY ROAD
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REVISION HISTORY

DATE	DESCRIPTION
07/13/26	INITIAL SUBMITTAL

DATE:
JULY 13, 2026

JOB NUMBER:
24-46-1237

DESCRIPTION:
MASTER GRADING & DRAINAGE PLAN

SHEET
C1.0

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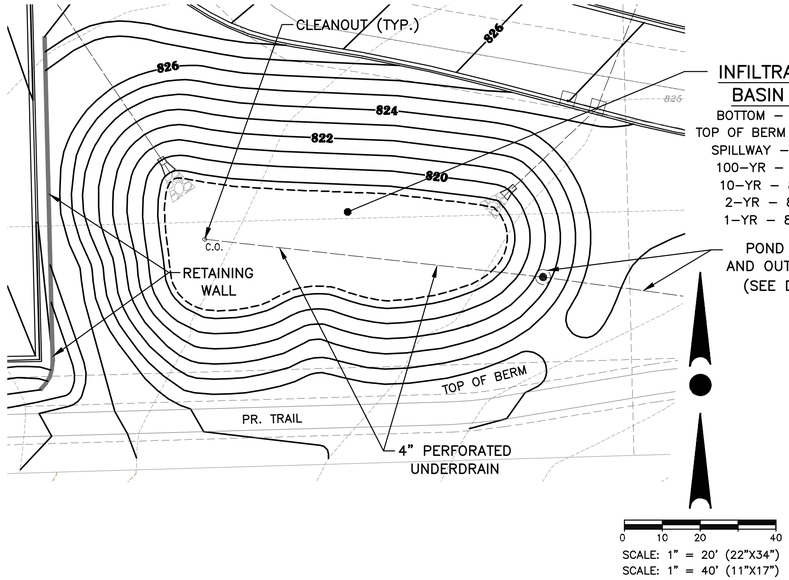
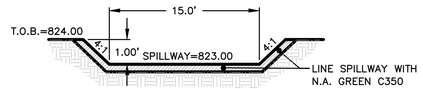


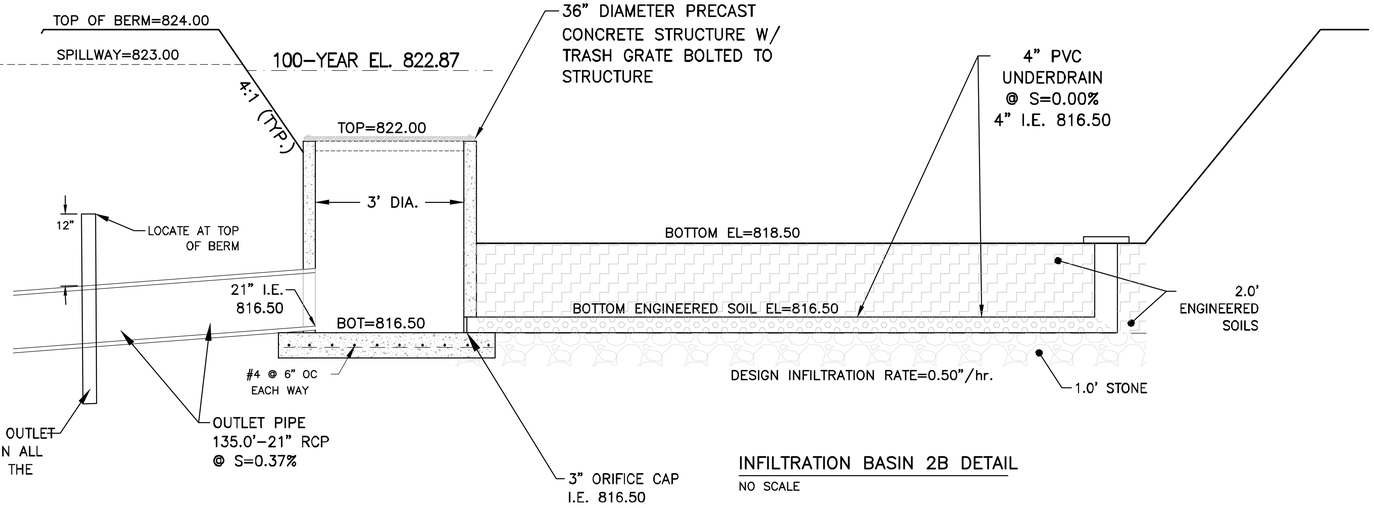
INFILTRATION BASIN 2B
BOTTOM – 825.00
TOP OF BERM – 824.00
SPILLWAY – 823.00
100–YR – 822.87
10–YR – 822.13
2–YR – 821.71
1–YR – 821.02

POND RISER AND OUTLET PIPE (SEE DETAIL)

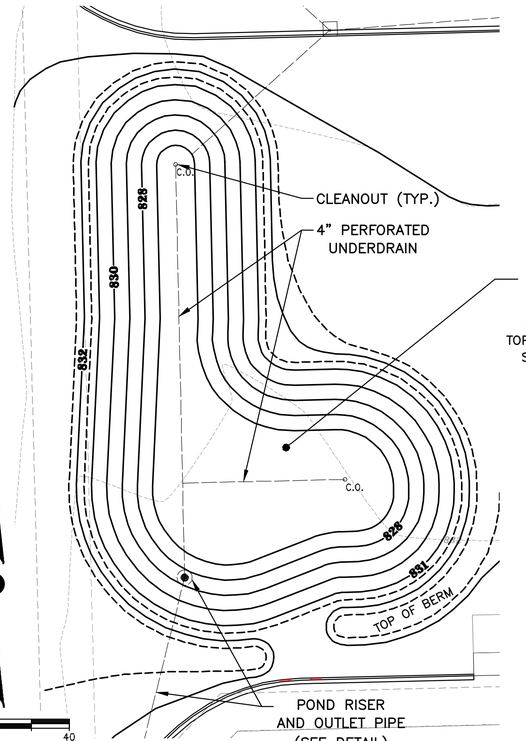
0 10 20 40
SCALE: 1" = 20' (22"X34")
SCALE: 1" = 40' (11"X17")



POND OVERFLOW SPILLWAY DETAIL
NO SCALE



INFILTRATION BASIN 2B DETAIL
NO SCALE



INFILTRATION BASIN 1B
BOTTOM – 825.00
TOP OF BERM – 832.50
SPILLWAY – 832.00
100–YR – 831.50
10–YR – 830.70
2–YR – 829.14
1–YR – 828.70

0 10 20 40
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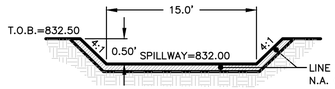
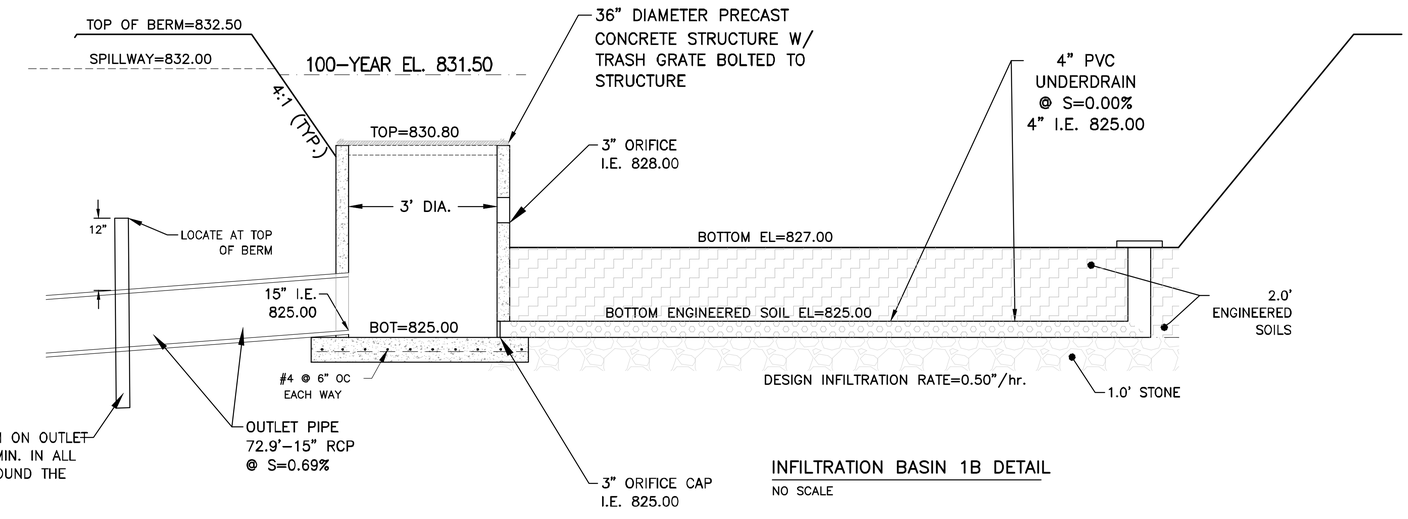


POND OVERFLOW SPILLWAY DETAIL
NO SCALE



INFILTRATION BASIN 1B DETAIL
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PROJECT:
TOWN NINE APARTMENTS
VILLAGE OF GERMANTOWN, WISCONSIN
BY: PRE/3
3120 GATEWAY ROAD
BROOKFIELD, WI 53045

REVISION HISTORY

DATE	DESCRIPTION
07/13/26	INITIAL SUBMITTAL

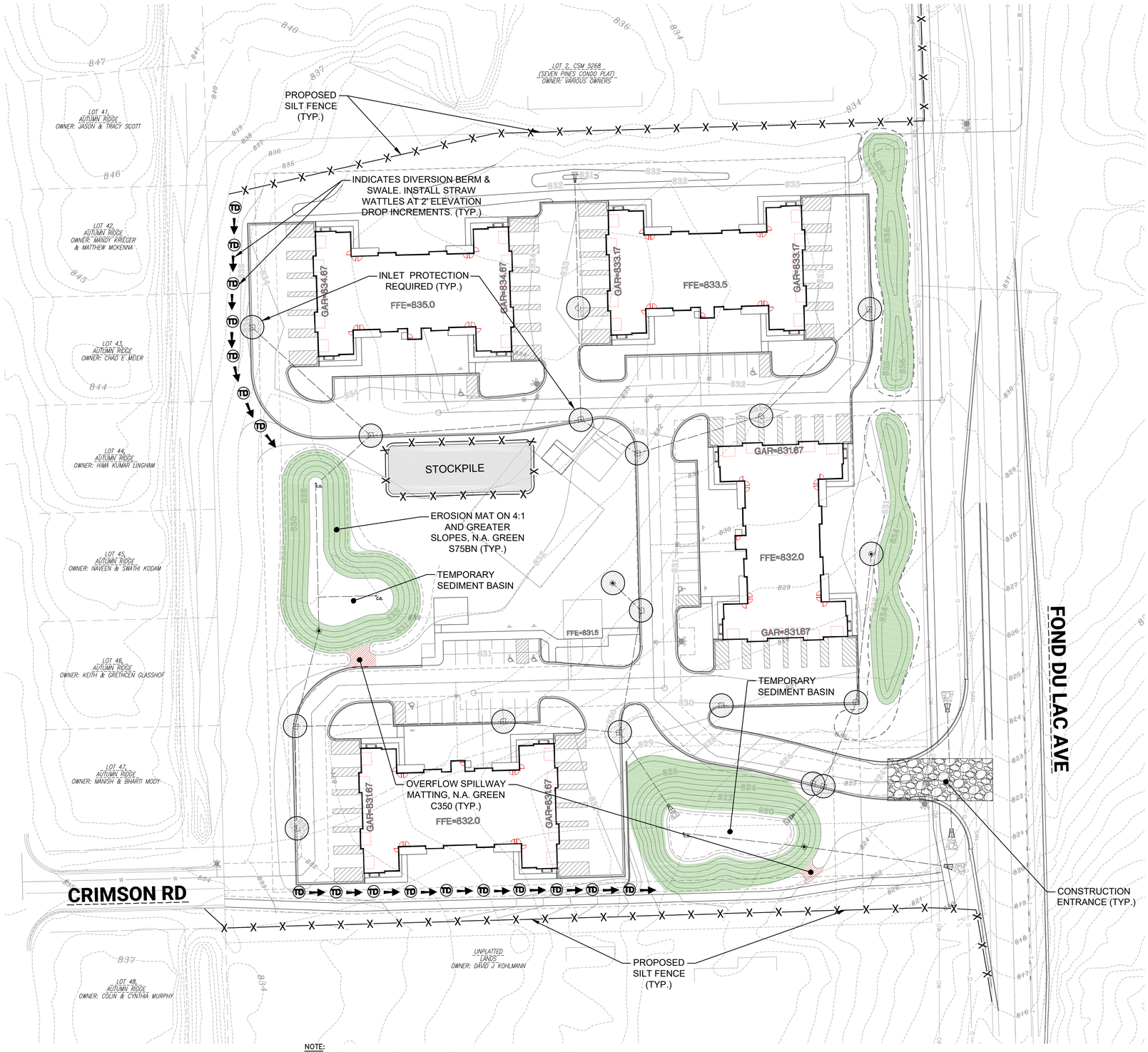
DATE:
JULY 13, 2026

JOB NUMBER:
24-46-1237

DESCRIPTION:
POND PLANS AND DETAILS

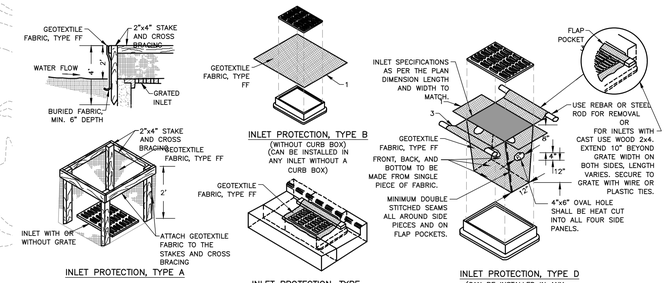
SHEET
C1.1

X:\2024\24-46-1237 CRIMSON RD - GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CRIMSON ROAD_POND_22X34.DWG



TEMPORARY EROSION MATTING
N.A. GREEN S75BN
CLASS I URBAN, TYPE B

OVERFLOW SPILLWAY MATTING
N.A. GREEN C350
CLASS III, TYPE A



INLET PROTECTION, TYPE A

INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)

INLET PROTECTION, TYPE C (WITH CURB BOX)

INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE 2)

GENERAL NOTES:

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES:

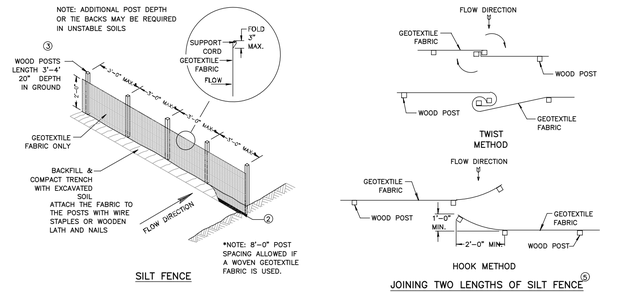
TYPE B & C
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OT OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

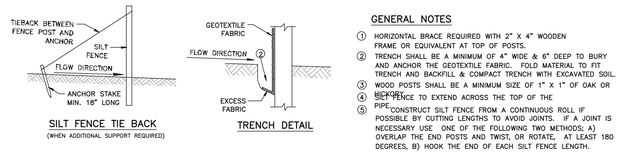
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION DETAIL
NO SCALE



SILT FENCE

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.

0 20 40 80
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REVISION HISTORY

DATE	DESCRIPTION
07/13/26	INITIAL SUBMITTAL

DATE:
JULY 13, 2026

JOB NUMBER:
24-46-1237

DESCRIPTION:
EROSION CONTROL PLAN

SHEET
C2.0

X:\2024\24-46-1237 CRIMSON RD - GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CRIMSON ROAD_EC_22X34.DWG

BACKFILL NOTES

TRENCH BACKFILL

- GRANULAR BACKFILL OR CRUSHED RECYCLED CONCRETE IS REQUIRED FOR TRENCHES UNDER & TO A MIN. OF 5 FEET BEYOND PAVEMENT. BACKFILL SHALL BE 1-1/2 INCH GRADED CRUSHED STONE OR RECYCLED CONCRETE. CONFORMING TO STANDARD SPECIFICATION CH. 8.43.4
- AGGREGATE SLURRY BACKFILL SHALL BE REQUIRED AT THE TOP 3 FEET OF TRENCH UNDER ANY EXISTING VILLAGE PAVEMENT, CONFORMING TO STANDARD SPECIFICATION CH. 8.43.8
- SPOIL BACKFILL CONFORMING TO STANDARD SPECIFICATION CH. 8.43.5 MAY BE USED FOR TRENCHES GREATER THAN 5 FEET OUTSIDE OF PAVEMENT.

WATER MAIN NOTES

WATERMAIN

- ALL 6" & 8" WATERMAIN CONSTRUCTED AS PART OF THIS PLAN SHALL BE PVC, C-900, CLASS 150 (DR-18).
- PVC PIPE SHALL HAVE PUSH-ON JOINTS WITH RUBBER GASKET.
- WATER SERVICES FOR SINGLE FAMILY LOTS SHALL BE 1 1/2" POLYETHYLENE TUBING.
- HYDRANTS SHALL BE SET AT 3 FT. BEHIND THE BACK OF CURB, WITH THE NOZZLE ELEVATION 18 TO 24 INCHES ABOVE TOP OF CURB.
- ALL LATERAL CURB STOP BOXES INSTALLED WITHIN A DRIVEWAY SHALL BE INSTALLED INSIDE A 6860 SERIES TYLER SECTION GATE VALVE BOX SET ON 2 BRICKS AND MWW DROP IN LID. THE CURB BOX RISER WILL BE INSTALLED INSIDE A 3"-5" PVC FROST SLEEVE.

SANITARY SEWER NOTES

SANITARY SEWER

- ALL 8" PVC SEWER PIPE SHALL MEET THE REQUIREMENTS SET FORTH IN SECTION 8.10.0 (SSSWCW).
- ALL SANITARY MANHOLES SHALL BE 48" DIA. WITH A SELF-SEALING LID (NON LOCKING TYPE) WITH NO VENT HOLES AND MEET THE REQUIREMENTS SET FORTH IN SSSWCW.
- SDR-35 PVC PIPE SHALL BE USED FOR SANITARY SEWERS LESS THAN 16 FEET DEEP.
- SDR-26 OR C-900 PVC PRESSURE PIPE SHALL BE USED FOR SANITARY SEWERS DEEPER THAN 16 FEET.
- ALL SANITARY SEWER LATERALS FOR SINGLE FAMILY LOTS SHALL BE 6" DIA. SDR-35 PVC & MADE OF GASKETED PVC FITTINGS MEETING ASTM D-3034.

VILLAGE TRACER WIRE SPECIFICATIONS

MATERIALS

- SANITARY LATERALS = "COPPERHEAD" 1230-HS-GREEN WIRE.
- DIRECTIONALLY DRILLED/BORED PIPE = "COPPERHEAD" #1245-EHS.
- CONNECTORS FOR OPEN CUT LATERALS SHALL BE SNAKEBITE TWISTLOCK OR DIRECT BURY LUG CONNECTOR.
- TERMINATION OF LATERAL TRACER WIRE AT MAIN SHALL BE A GROUND ROD "COPPERHEAD" @AN0-12. CONNECT THE RED WIRE TO GREEN WIRE USING TWIST LOCK OR BURIED LUG CONNECTOR.

INSTALLATION

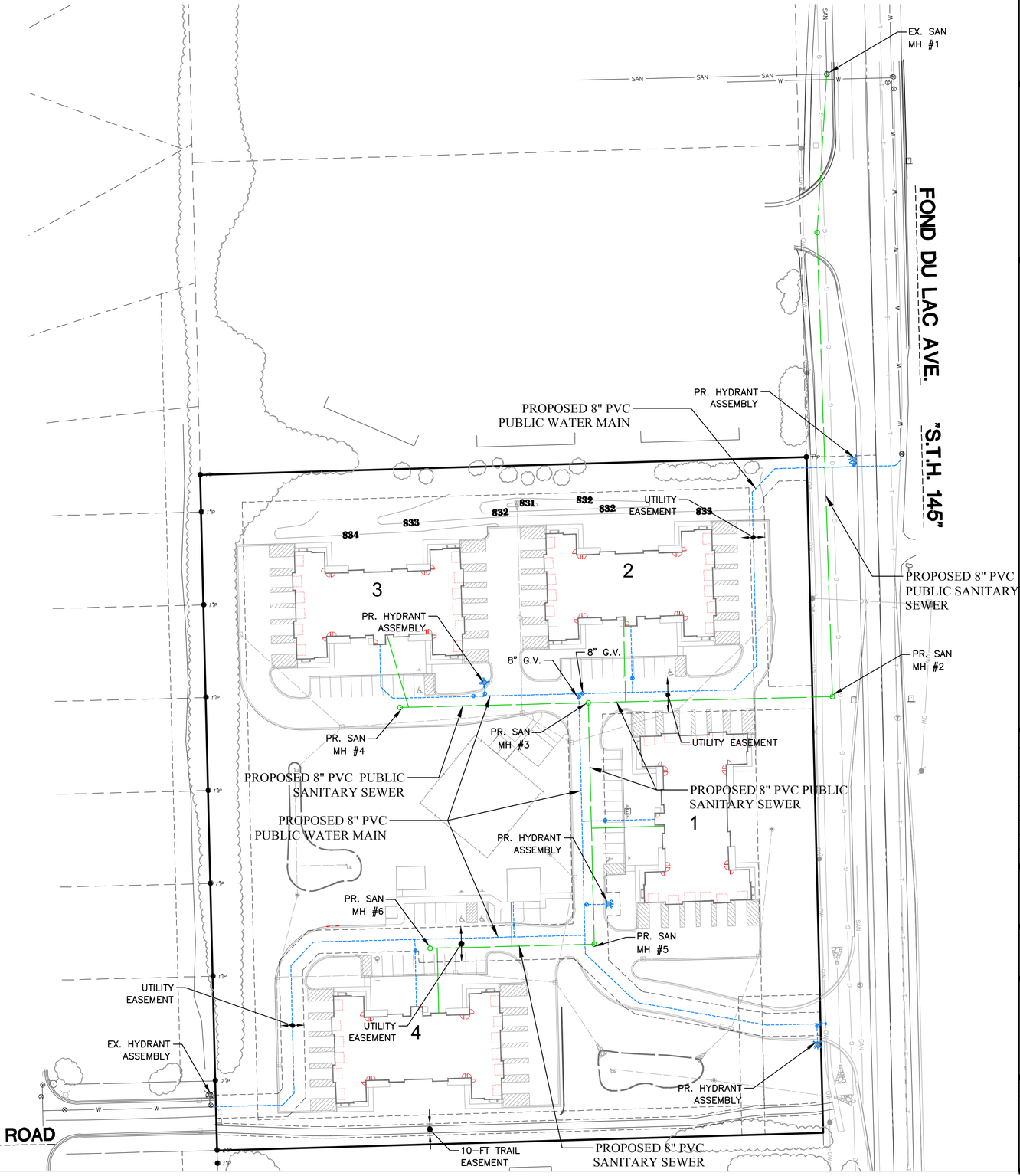
- CONTRACTOR SHALL VERIFY DURING BACKFILLING OF COVER MATERIAL THAT THE TRACER WIRE HAS REMAINED ON TOP OF THE LATERAL.
- CONNECTIONS WITH THE TRACER WIRE SHALL REQUIRE APPROVAL BY WASTEWATER SUPERINTENDENT.
- LATERAL TRACER WIRE SHALL BE TERMINATED AT START-END POINTS. AT THE MAIN USE A GROUND ROD AND AT THE ROW RUN TO SURFACE WITH A MINIMUM OF 2 FEET OF WIRE WRAPPED AROUND MARKING POST.
- A 1 1/2" DIAMETER PVC SCH. 20 PIPE WITH SCREW CAP TO BE USED AT TERMINATION POINT WHEN EXTENDED TO DWELLING. A 1.5-FT. PIGTAIL OF EXCESS TRACER WIRE SHALL STICK OUT OF THE TOP IF THE PIPE.

TESTING

- ALL TRACER WIRE SHALL BE TESTED PRIOR TO ACCEPTANCE BE VILLAGE ENGINEER. TESTING BY USING A RADIO FREQUENCY LOCATOR.

NOTE:
ALL MATERIALS SHALL BE APPROVED BY THE VILLAGE OF GERMANTOWN PUBLIC WORKS DEPARTMENT PRIOR TO INSTALLATION.

CONTRACTOR SHALL ADHERE TO VILLAGE OF GERMANTOWN STANDARD SPECIFICATIONS FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION



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DATE:
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24-46-1237

DESCRIPTION:
SANITARY SEWER & WATER MAIN SYSTEM MAP

SHEET
C3.0

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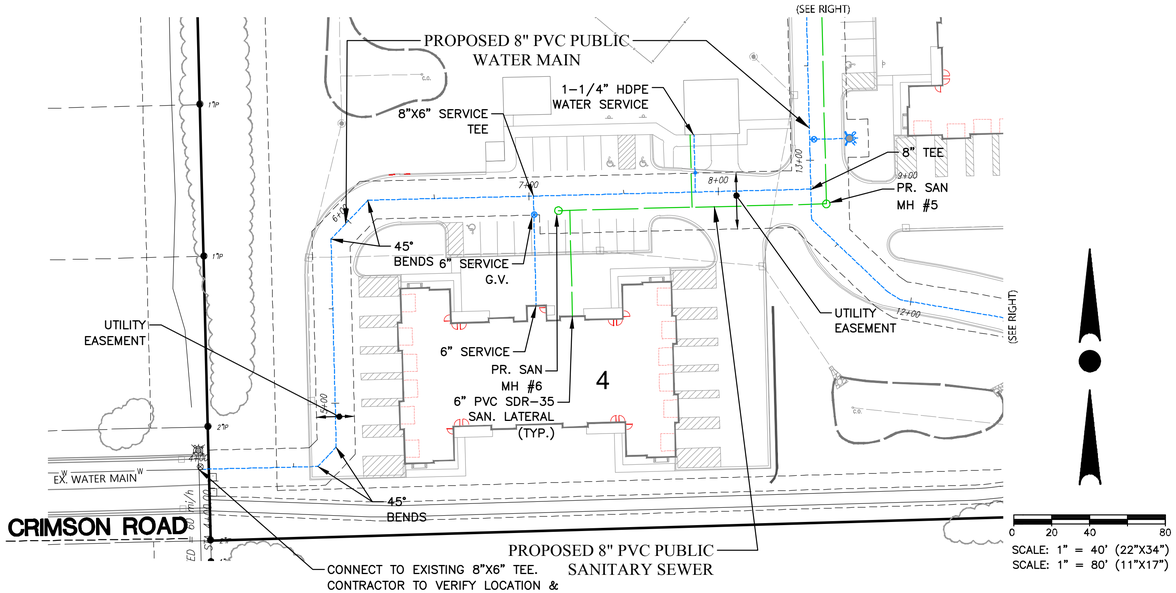

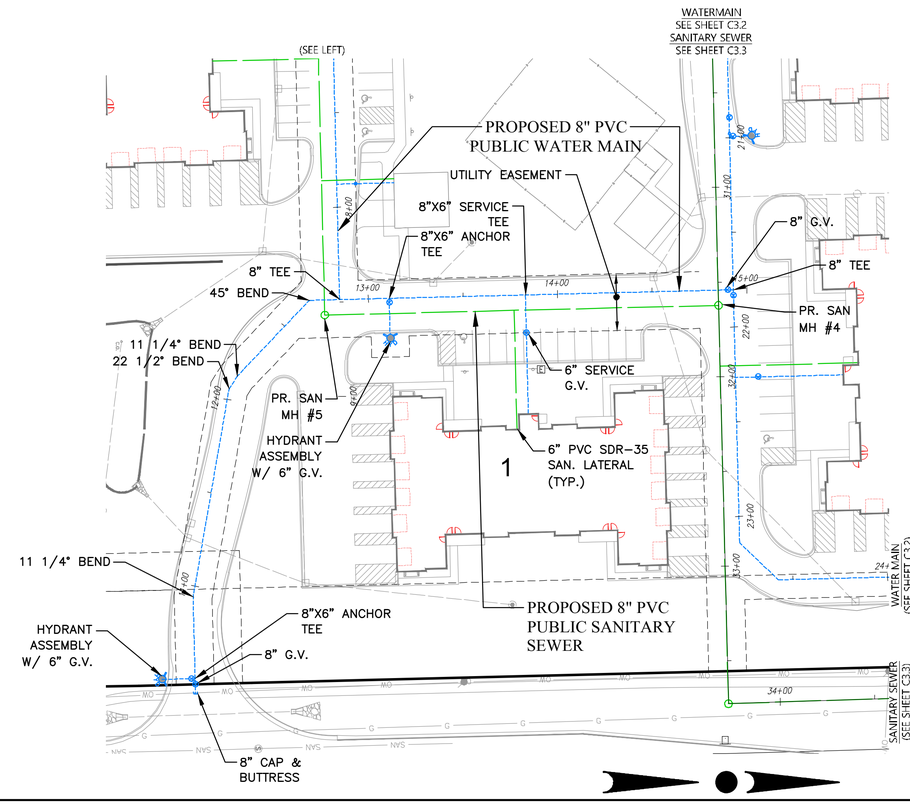

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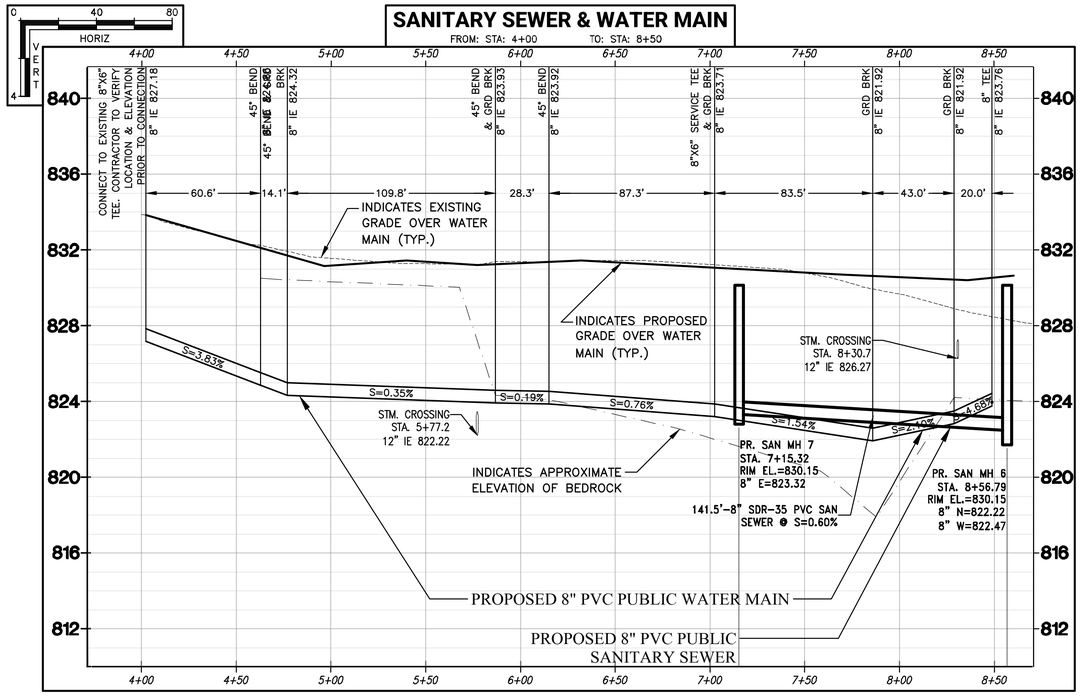

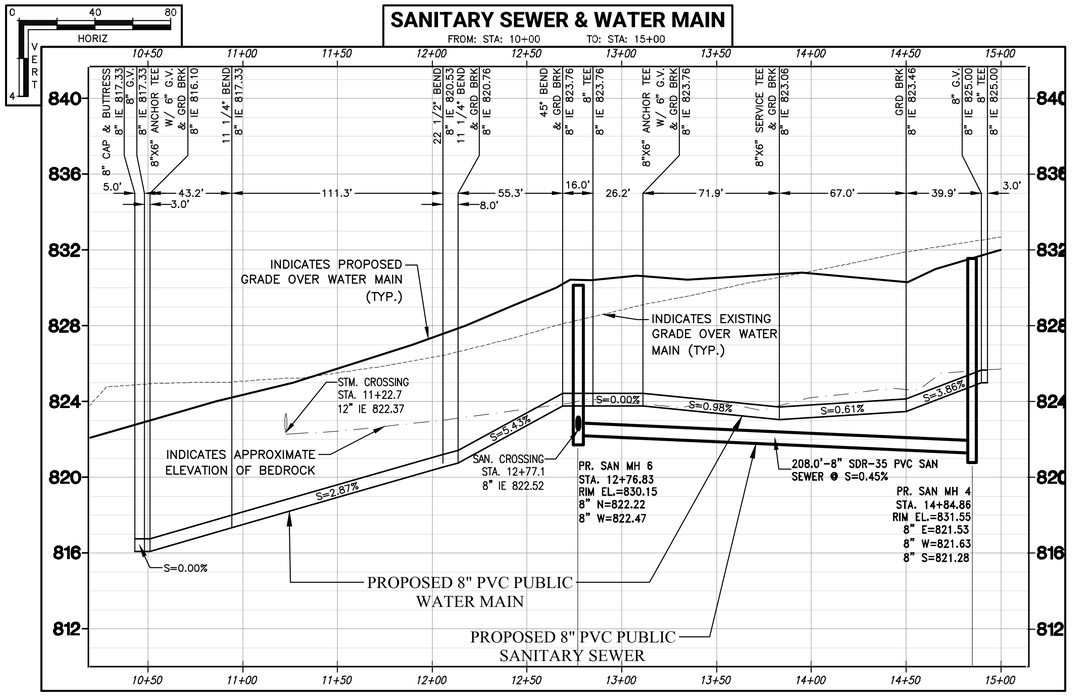

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DESCRIPTION:
SANITARY SEWER & WATER MAIN PLAN & PROFILE

SHEET
C3.1

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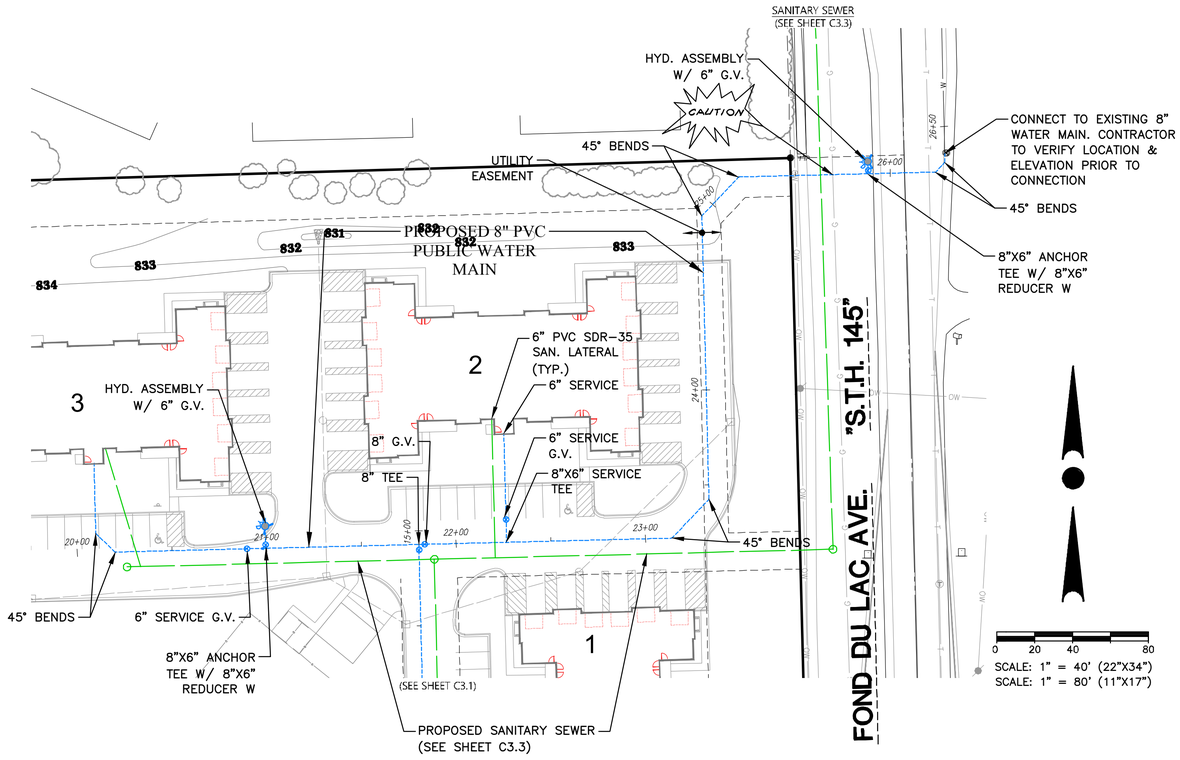

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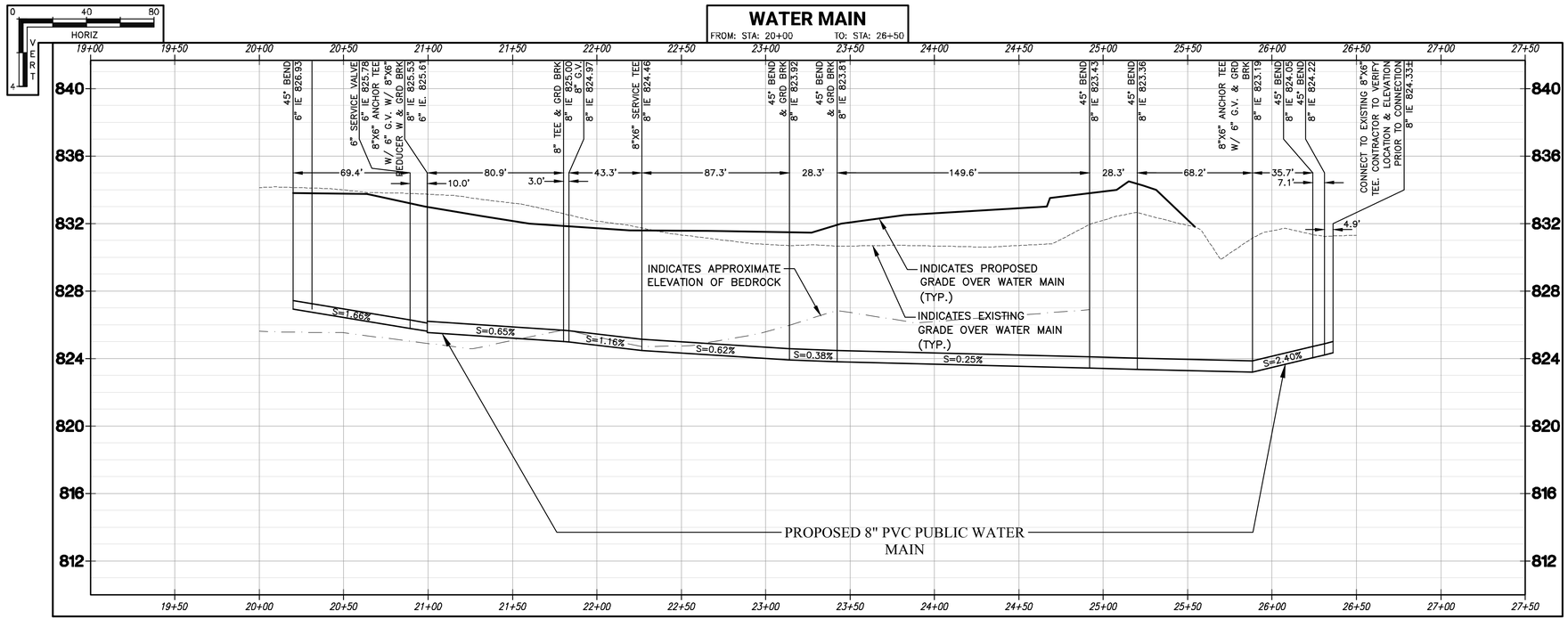

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24-46-1237

DESCRIPTION:
WATER MAIN
PLAN & PROFILE

SHEET
C3.2

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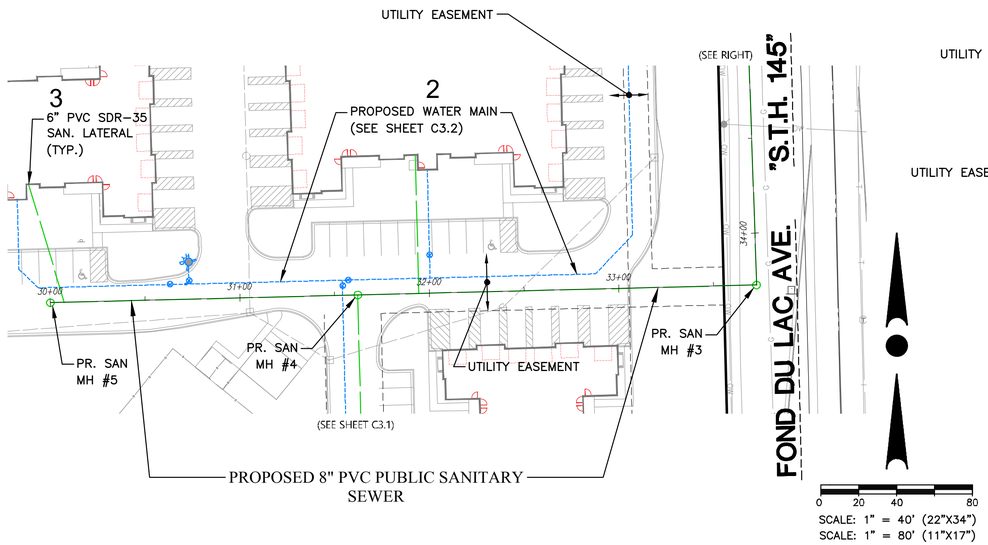

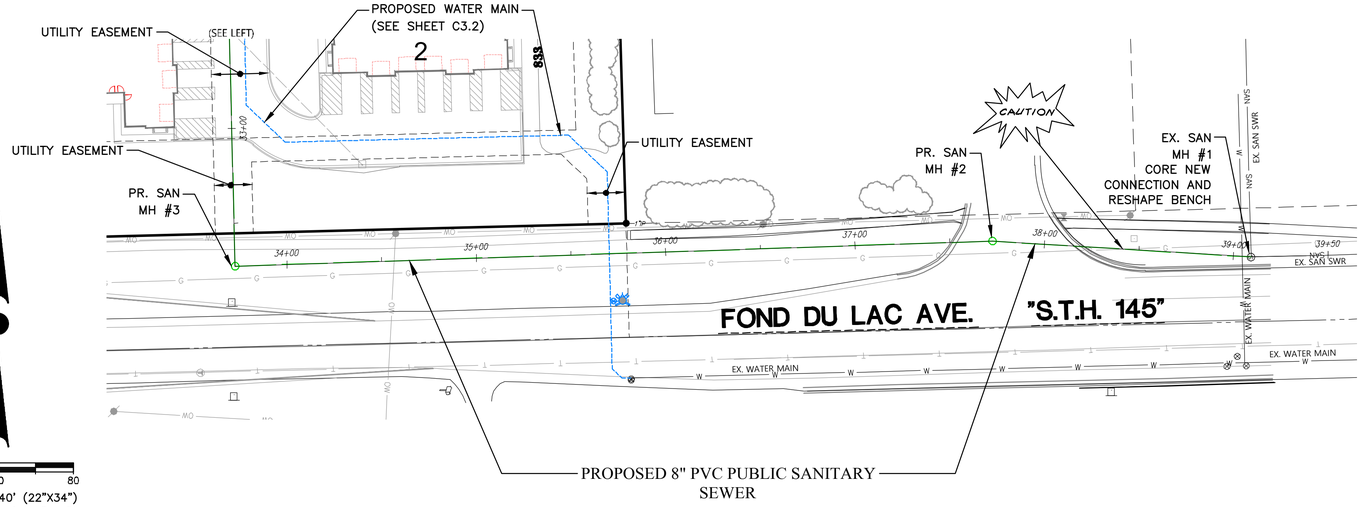

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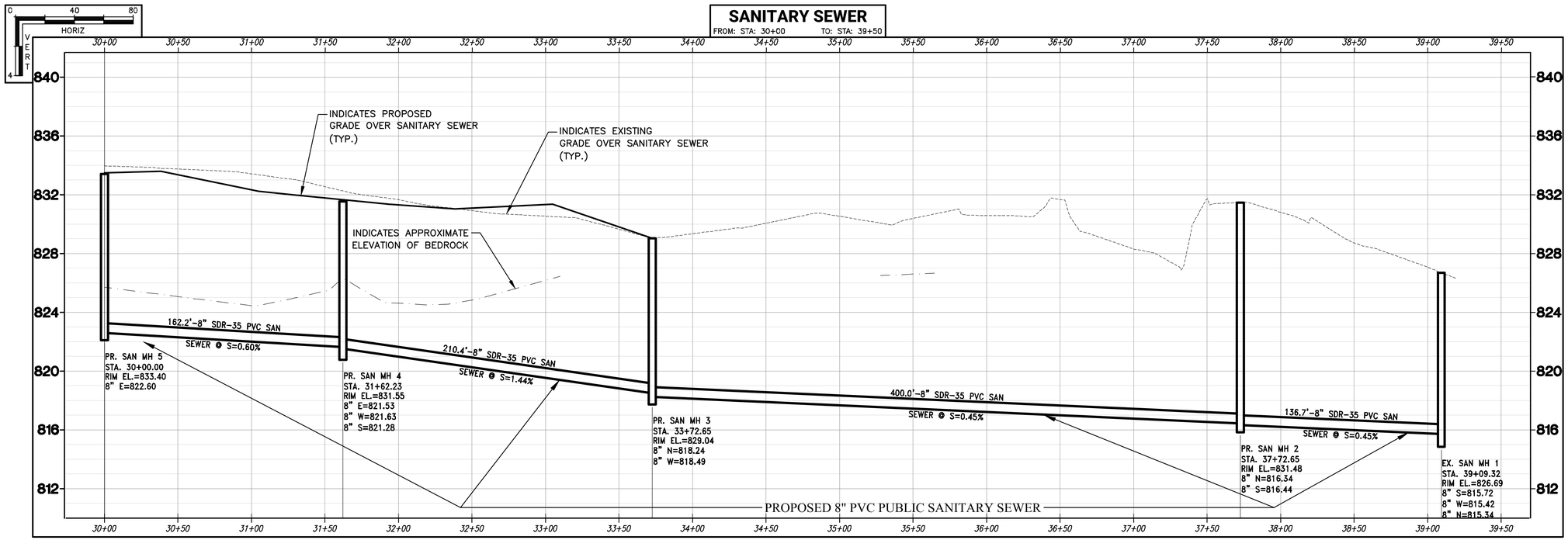

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PROJECT:
TOWN NINE APARTMENTS
VILLAGE OF GERMANTOWN, WISCONSIN

BY: PRE/3
3120 GATEWAY ROAD
BROOKFIELD, WI 53045

REVISION HISTORY

DATE	DESCRIPTION
07/13/26	INITIAL SUBMITTAL

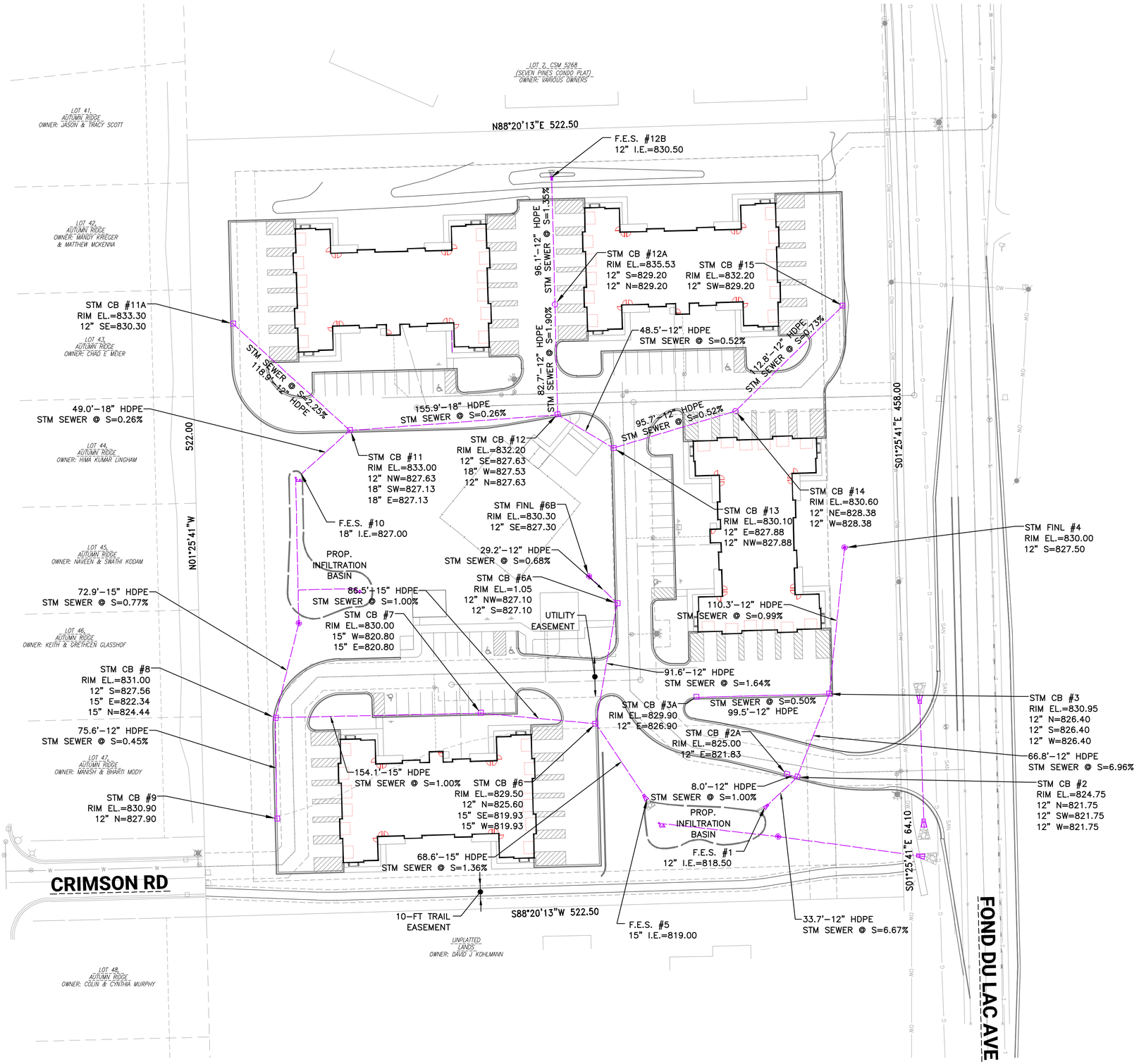
DATE:
JULY 13, 2026

JOB NUMBER:
24-46-1237

DESCRIPTION:
SANITARY SEWER
PLAN & PROFILE

SHEET
C3.3

X:\2024\24-46-1237 CRIMSON RD - GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CRIMSON ROAD_SAN&WAT_22X34.DWG



0 20 40 80
SCALE: 1" = 40' (22"X34")
SCALE: 1" = 80' (11"X17")

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.

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PROJECT:
TOWN NINE APARTMENTS
VILLAGE OF GERMANTOWN, WISCONSIN

BY: PRE/3
3120 GATEWAY ROAD
BROOKFIELD, WI 53045

REVISION HISTORY

DATE	DESCRIPTION
07/13/26	INITIAL SUBMITTAL

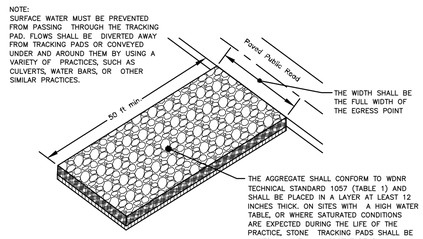
DATE:
JULY 13, 2026

JOB NUMBER:
24-46-1237

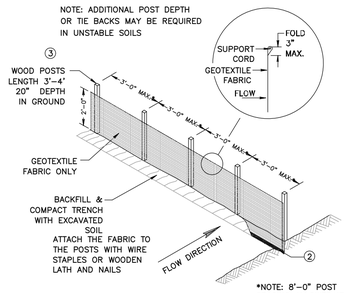
DESCRIPTION:
STORM SEWER SYSTEM PLAN

SHEET
C4.0

X:\2024\24-46-1237 CRIMSON RD - GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CRIMSON ROAD_STM_22X34.DWG

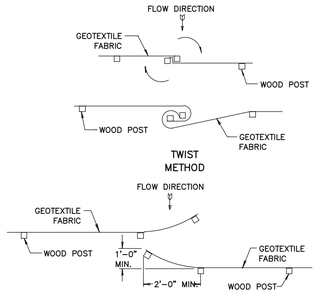


CONSTRUCTION ENTRANCE DETAIL
NO SCALE

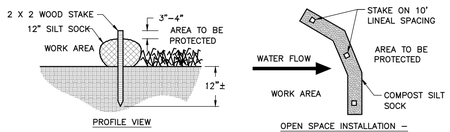


SILT FENCE

*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

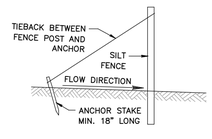


JOINING TWO LENGTHS OF SILT FENCE ⑤

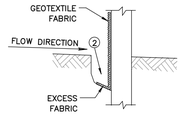


NOTES:
1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS
2. REFER TO MANUFACTURERS AND/OR SUPPLIERS. SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
3. ACTUAL LOCATION MAY BE FIELD ADJUSTED TO MINIMIZE DISTURBANCE TO EXISTING VEGETATION.
4. INSTALL EVERY 200' OR 2' GRADE DROP IN SWALES.

STRAW WATTLE DITCH CHECK INSTALLATION DETAIL
NO SCALE



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.

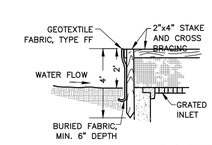
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1" X 1" OF OAK OR HICKORY.

④ FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

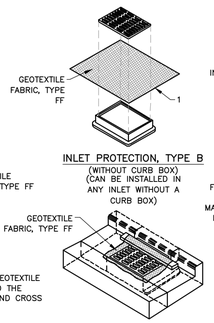
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

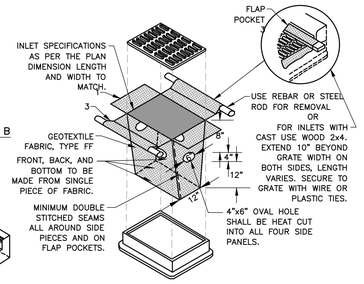
SILT FENCE INSTALLATION DETAIL
NO SCALE

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.



INLET PROTECTION, TYPE A





INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE 2)

GENERAL NOTES:

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX). AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES:

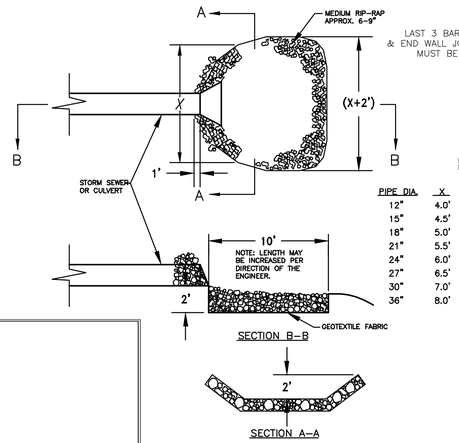
TYPE B & C
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OT OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

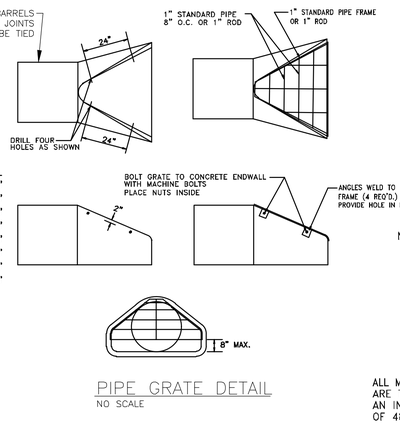
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION DETAIL
NO SCALE



PIPE DIA.	X
12"	4.0'
15"	4.5'
18"	5.0'
21"	5.5'
24"	6.0'
27"	6.5'
30"	7.0'
36"	8.0'

RIP-RAP DETAIL



PIPE GRATE DETAIL
NO SCALE

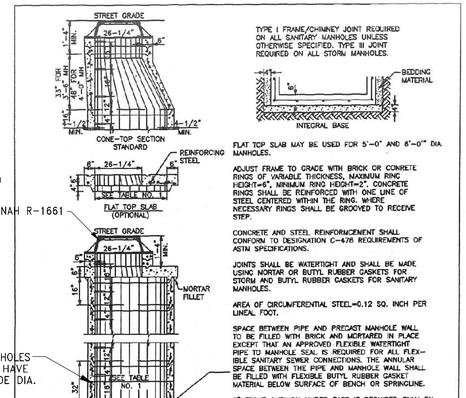
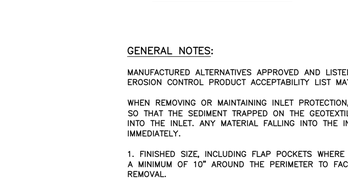


TABLE NO. 1		
PIPE DIA.	MANHOLE DIA.	WALL THICKNESS
8" THRU 27"	3'-6"	4 1/2"
30"	4'-0"	5"
36"	5'-0"	6"
42"	6'-0"	7"

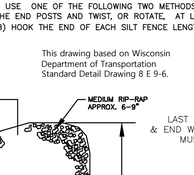
PRECAST MANHOLE	
NOT TO SCALE JAN. 2, 1992	FILE NO. 12

SANITARY MANHOLE DETAIL
NO SCALE

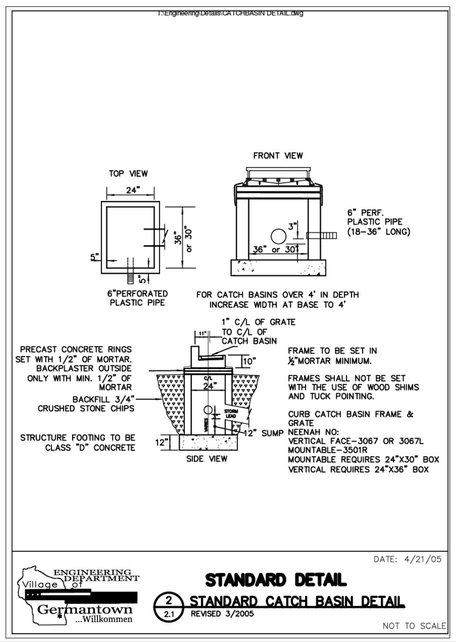
NOTES:
1. STRUCTURE SHALL BE 48" I.D. PRECAST CONCRETE WITH ECCENTRIC CONES, ASTM C478.
2. FLAT TOP SLABS TO RESIST H-20 LOADING.
3. FRAMES & COVERS: NEENAH R-1580, EAST JORDAN 11140EXHD, OR EQUAL, WITH TYPE B NON-ROCKING LID, STAMPED WITH THE WORD "SANITARY"; SELF-SEALING GASKETS; AND CONCEALED PICK HOLES.
4. A MAXIMUM OF 8" OF CONCRETE ADJUSTING RINGS MAY BE USED.
5. INTERNAL/EXTERNAL CHIMNEY SEALS: ADAPTOR, INC., NO SUBSTITUTES.
6. EXTERIOR JOINT PROTECTION: WRAPIDSEAL BY CCI PIPELINE SYSTEMS OR MACWRAP BY MARMAC CONSTRUCTION PRODUCTS.



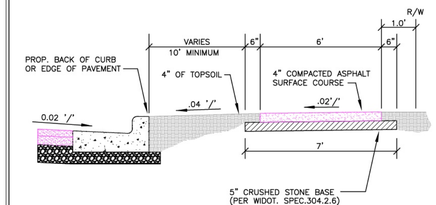
CONCRETE DUMPSTER PAD SECTION
NO SCALE



PRIVATE 18" VERTICAL FACE CURB & GUTTER DETAIL
NO SCALE



DATE: 4/21/05
ENGINEERING DEPARTMENT Village of Germantown ...Willkommen
STANDARD DETAIL
2 / 2.1 STANDARD CATCH BASIN DETAIL
REVISED 3/2005
NOT TO SCALE



NOTE: THE PROPOSED BACK OF PATH PAVEMENT WILL BE LOCATED 1.00' FROM THE EXISTING R/W LINE. CHANGES TO THIS LOCATION CAN BE DONE ONLY WITH PERMISSION OF THE VILLAGE ENGINEER.

ENGINEERING DEPARTMENT Village of Germantown ...Willkommen
STANDARD DETAIL
PEDESTRIAN PATH DETAIL-ASPHALT
NOT TO SCALE
REVISION DATE 9/28/2018 RCB

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PROJECT:
TOWN NINE APARTMENTS
VILLAGE OF GERMANTOWN, WISCONSIN
BY: PRE/3
3120 GATEWAY ROAD
BROOKFIELD, WI 53045

REVISION HISTORY

DATE	DESCRIPTION
07/13/26	INITIAL SUBMITTAL

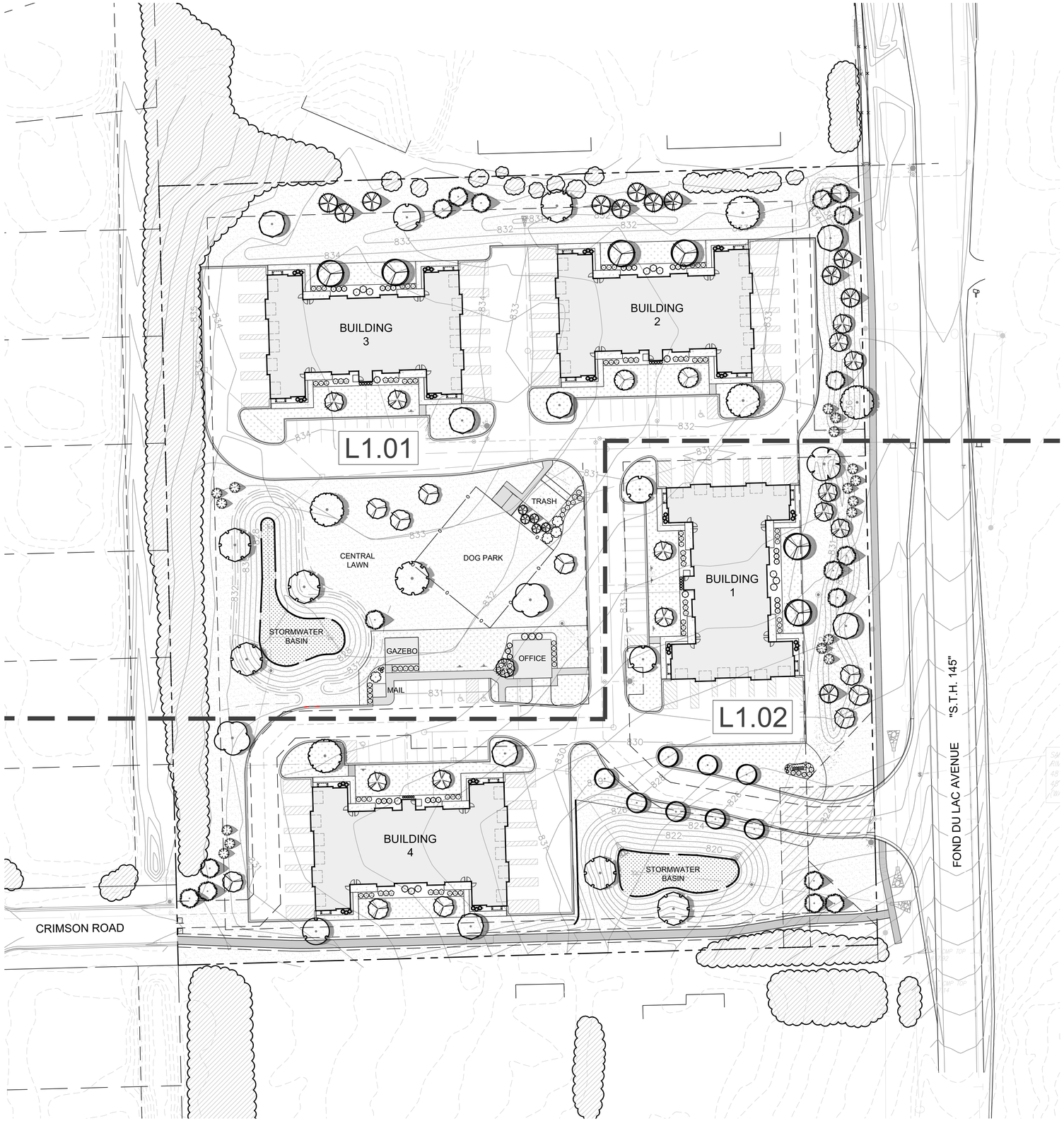
DATE:
JULY 13, 2026

JOB NUMBER:
24-46-1237

DESCRIPTION:
CONSTRUCTION NOTES & DETAILS

SHEET
C5.0

X:\2024\24-46-1237 CRIMSON RD - GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CRIMSON ROAD_CDV&DET_22X34.DWG



LANDSCAPE KEY

Site Trees / Shrubs 161

Deciduous Trees
(Linden, Maple, Elm, Oak, Catalpa)

Ornamental Trees
(Serviceberry, Musclewood, Crabapple, Tree Lilac)

Evergreen Trees
(Juniper, Eastern Red Cedar, Spruce, Pine)

Shrubs
(Hydrangea, Ninebark, Spirea, Lilac, Viburnum, Weigela, Yew)

Grasses / Perennials
(Feather Reed Grass, Northern Sea Oats Grass, Orn. Onion)

Parking Lot Trees 7

Deciduous Trees
(Linden, Maple, Elm)

Existing Tree Line

Lawn Sod

Lawn Seed

Stormwater Basin Seed Mix

LANDSCAPE REQUIREMENTS

Code Category	Measurement	Ratio	Requirement	Provided
Site Trees / Shrubs	48 Units	2 Trees or Shrubs / Unit	96 Trees or Shrubs	161 Trees & Shrubs
Parking Lot Trees	52 Stalls	1 Tree / 10 Stalls	5.2 Trees	7 Trees

GENERAL NOTES

- Plant beds to receive a 2-3" deep layer of decorative stone mulch.
- Tree Rings to receive a 2-3" deep layer of shredded hardwood mulch.
- Lawn areas to be seeded or sodded (per plan) with premium, commercial grade products; see notes.
- Stormwater Basin Seed Mix to be "Detention Basin / Bioswale Mix" shall be supplied by Prairie Nursery. Mix with a cover crop per supplier's recommendations.
- All plantings shall comply with standards as described in the American Standard of Nursery Stock - ANSI Z60.1 (Latest Version)

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255 North 21st Street,
Milwaukee, Wisconsin 53233
414.475.5554 • hecl.com

Project Name:
TOWN NINE APARTMENTS
Village of Germantown

Client:
PRE / 3
3120 Gateway Road
Brookfeild, WI 53045

Issuance:
2026-08-18 Village Submittal

Scale:
0 40 80 feet
1" = 40' @ 22" x 34"
N

Date: August 18th, 2026

Project Number:
26-1115.00

Sheet Name:
LANDSCAPE PLAN OVERALL

Sheet Number:
L1.0

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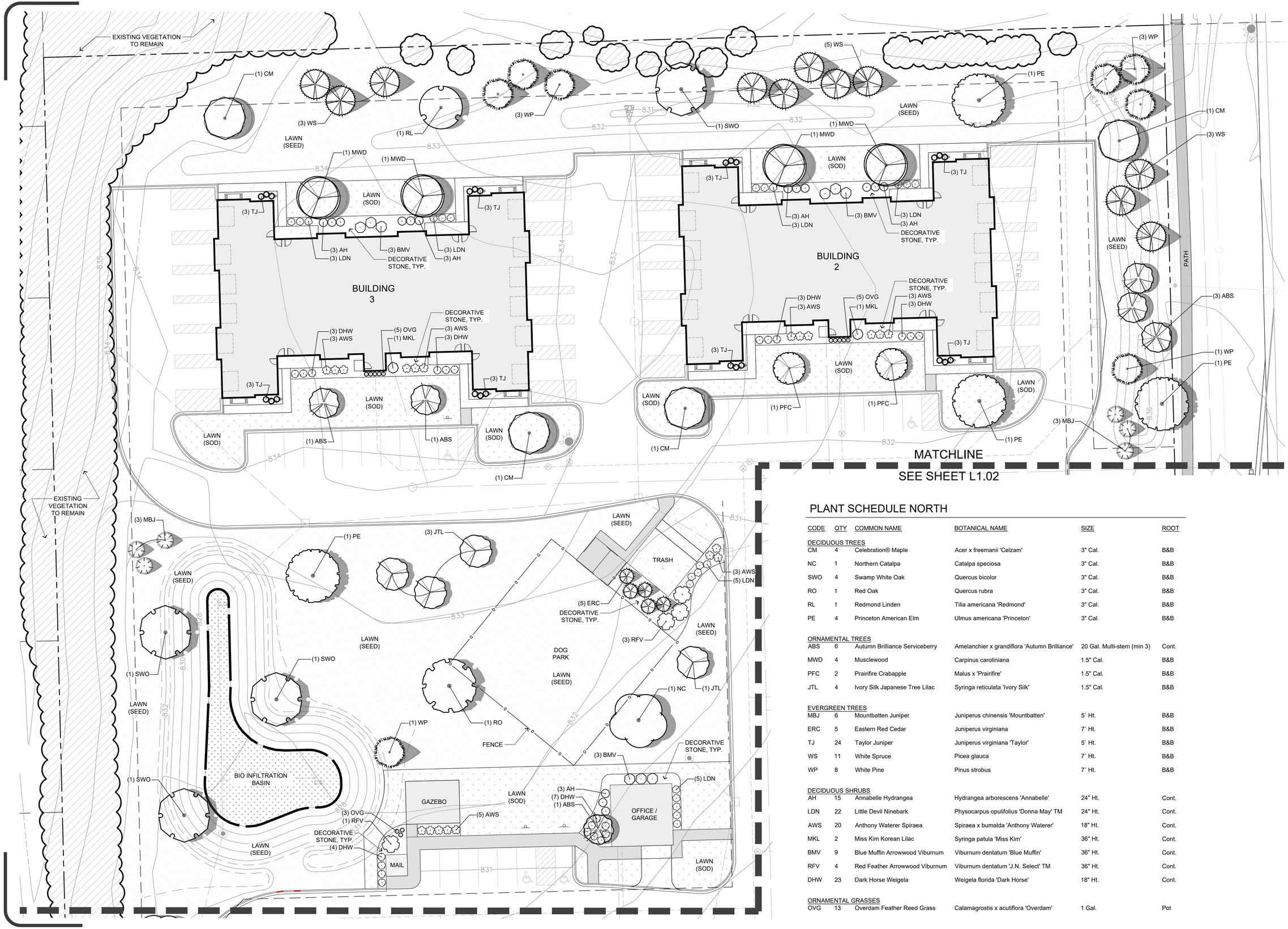

PLANT SCHEDULE NORTH

CODE	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT
DECIDUOUS TREES					
CM	4	Celebration® Maple	Acer x freemanii 'Celzam'	3" Cal.	B&B
NC	1	Northern Catalpa	Catalpa speciosa	3" Cal.	B&B
SWO	4	Swamp White Oak	Quercus bicolor	3" Cal.	B&B
RO	1	Red Oak	Quercus rubra	3" Cal.	B&B
RL	1	Redmond Linden	Tilia americana 'Redmond'	3" Cal.	B&B
PE	4	Princeton American Elm	Ulmus americana 'Princeton'	3" Cal.	B&B
ORNAMENTAL TREES					
ABS	6	Autumn Brilliance Serviceberry	Amelanchier x grandiflora 'Autumn Brilliance'	20 Gal. Multi-stem (min 3)	Cont.
MWD	4	Musclewood	Carpinus caroliniana	1.5" Cal.	B&B
PFC	2	Prairifire Crabapple	Malus x 'Prairifire'	1.5" Cal.	B&B
JTL	4	Ivory Silk Japanese Tree Lilac	Syringa reticulata 'Ivory Silk'	1.5" Cal.	B&B
EVERGREEN TREES					
MBJ	6	Mountbatten Juniper	Juniperus chinensis 'Mountbatten'	5` Ht.	B&B
ERC	5	Eastern Red Cedar	Juniperus virginiana	7` Ht.	B&B
TJ	24	Taylor Juniper	Juniperus virginiana 'Taylor'	5` Ht.	B&B
WS	11	White Spruce	Picea glauca	7` Ht.	B&B
WP	8	White Pine	Pinus strobus	7` Ht.	B&B
DECIDUOUS SHRUBS					
AH	15	Annabelle Hydrangea	Hydrangea arborescens 'Annabelle'	24" Ht.	Cont.
LDN	22	Little Devil Ninebark	Physocarpus opulifolius 'Donna May' TM	24" Ht.	Cont.
AWS	20	Anthony Waterer Spiraea	Spiraea x bumalda 'Anthony Waterer'	18" Ht.	Cont.
MKL	2	Miss Kim Korean Lilac	Syringa patula 'Miss Kim'	36" Ht.	Cont.
BMV	9	Blue Muffin Arrowwood Viburnum	Viburnum dentatum 'Blue Muffin'	36" Ht.	Cont.
RFV	4	Red Feather Arrowwood Viburnum	Viburnum dentatum 'J.N. Select' TM	36" Ht.	Cont.
DHW	23	Dark Horse Weigela	Weigela florida 'Dark Horse'	18" Ht.	Cont.
ORNAMENTAL GRASSES					
OVG	13	Overdam Feather Reed Grass	Calamagrostis x acutiflora 'Overdam'	1 Gal.	Pot

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Project Name:
TOWN NINE APARTMENTS
Village of Germantown

Client:
PRE / 3
3120 Gateway Road
Brookfeild, WI 53045

Issuance:

2026-08-18	Village Submittal

Scale:
0 20 40 feet
1" = 20' @ 22" x 34"
N

Date: August 18th, 2026

Project Number:
26-1115.00

Sheet Name:
LANDSCAPE PLAN NORTH

Sheet Number:
L1.1

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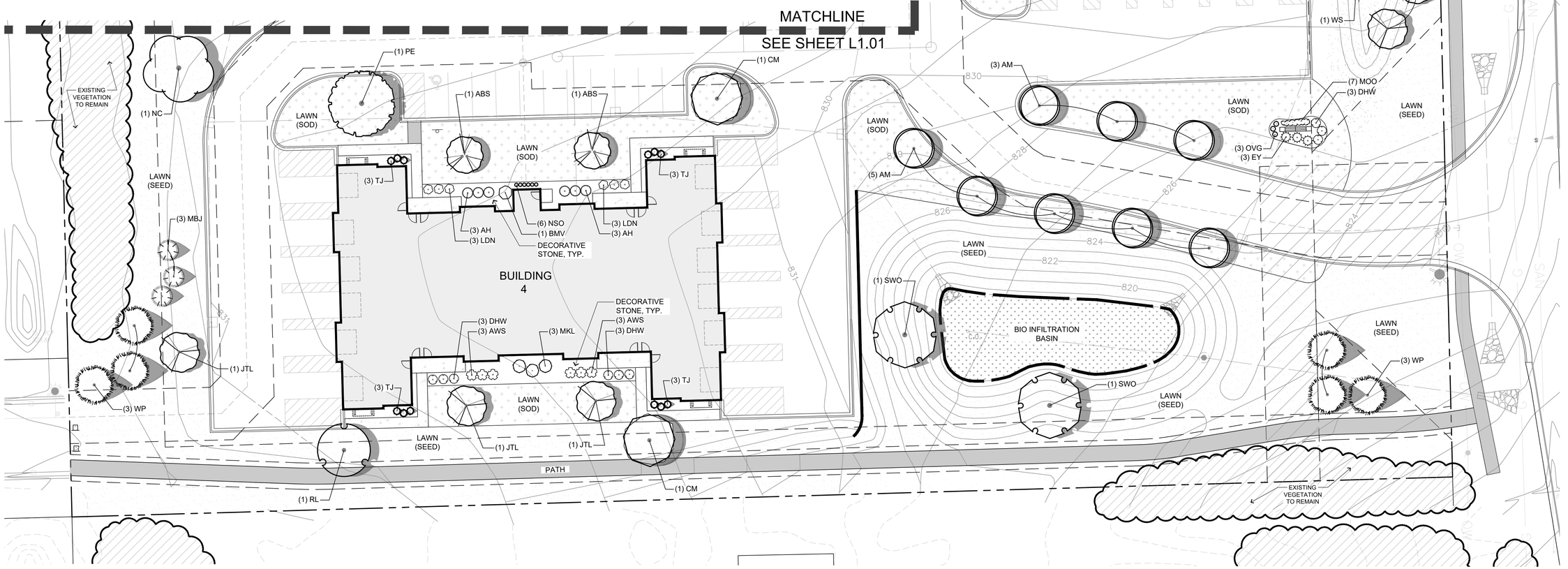
PLANT SCHEDULE SOUTH

CODE	QTY	COMMON NAME	BOTANICAL NAME	SIZE
DECIDUOUS TREES				
AM	8	Armstrong Freeman Maple	Acer x freemanii 'Armstrong'	3" Cal.
CM	3	Celebration® Maple	Acer x freemanii 'Celzam'	3" Cal.
NC	1	Northern Catalpa	Catalpa speciosa	3" Cal.
CHB	1	Common Hackberry	Celtis occidentalis	3" Cal.
SWO	2	Swamp White Oak	Quercus bicolor	3" Cal.
RL	3	Redmond Linden	Tilia americana 'Redmond'	3" Cal.
PE	1	Princeton American Elm	Ulmus americana 'Princeton'	3" Cal.
ORNAMENTAL TREES				
ABS	7	Autumn Brilliance Serviceberry	Amelanchier x grandiflora 'Autumn Brilliance'	20 Gal. Multi-stem (min 3)
MWD	2	Musclewood	Carpinus caroliniana	1.5" Cal.
JTL	6	Ivory Silk Japanese Tree Lilac	Syringa reticulata 'Ivory Silk'	1.5" Cal.
EVERGREEN TREES				
MBJ	11	Mountbatten Juniper	Juniperus chinensis 'Mountbatten'	5` Ht.
TJ	24	Taylor Juniper	Juniperus virginiana 'Taylor'	5` Ht.
WS	1	White Spruce	Picea glauca	7` Ht.
WP	9	White Pine	Pinus strobus	7` Ht.
DECIDUOUS SHRUBS				
AH	12	Annabelle Hydrangea	Hydrangea arborescens 'Annabelle'	24" Ht.
LDN	12	Little Devil Ninebark	Physocarpus opulifolius 'Donna May' TM	24" Ht.
AWS	12	Anthony Waterer Spiraea	Spiraea x bumalda 'Anthony Waterer'	18" Ht.
MKL	4	Miss Kim Korean Lilac	Syringa patula 'Miss Kim'	36" Ht.
BMV	4	Blue Muffin Arrowwood Viburnum	Viburnum dentatum 'Blue Muffin'	36" Ht.
DHW	15	Dark Horse Weigela	Weigela florida 'Dark Horse'	18" Ht.

CODE	QTY	COMMON NAME	BOTANICAL NAME	SIZE
EVERGREEN SHRUBS				
EY	3	Everlow Japanese Yew	Taxus x media 'Everlow'	24" Sprd.
ORNAMENTAL GRASSES				
OVG	8	Overdam Feather Reed Grass	Calamagrostis x acutiflora 'Overdam'	1 Gal.
NSO	6	Northern Sea Oats Grass	Chasmanthium latifolium	1 Gal.
PERENNIALS				
MOO	7	Millenium Ornamental Onion	Allium x 'Millenium'	4.5"



HARWOOD

civil · landscape architecture
structural · mechanical · electrical
plumbing / fire protection · security
lighting design · telecommunications

255 North 21st Street,
Milwaukee, Wisconsin 53233
414.475.5554 • hecl.com

Project Name:

TOWN NINE APARTMENTS

Village of Germantown

Client:

PRE / 3

3120 Gateway Road

Brookfeild, WI 53045

Issuance:

2026-08-18	Village Submittal

Scale:

0 20 40 feet

1" = 20' @ 22" x 34"

N

Date: August 18th, 2026

Project Number:

26-1115.00

Sheet Name:

LANDSCAPE PLAN SOUTH

Sheet Number:

L1.2

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LUMINAIRE SCHEDULE

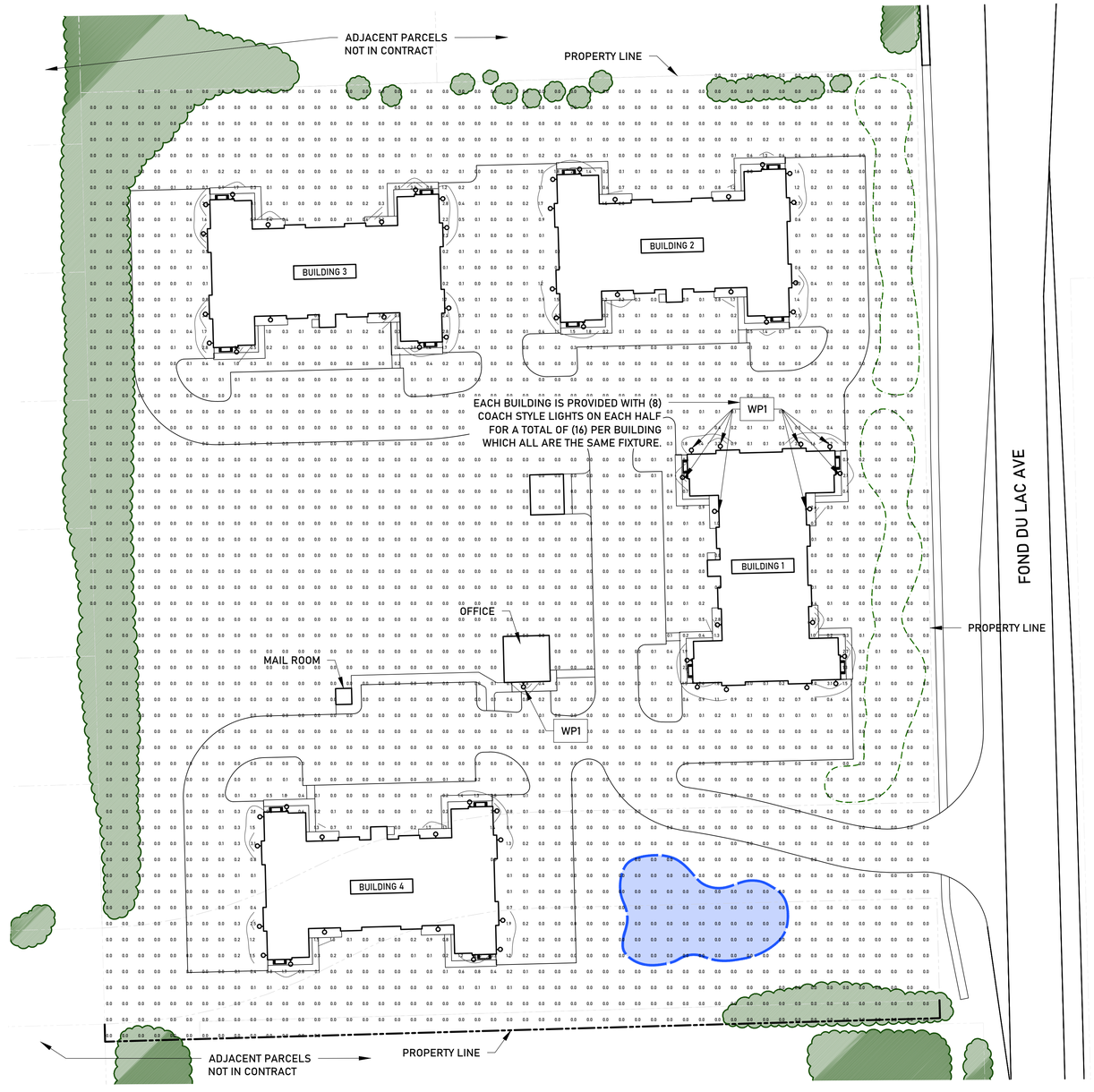
CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	VOLTS	NOTE 1
WP1		(1)	LED-FXBWL10/8XX/YY	ELECTRONIC	WALL	naturaLED	120V 1P 2W	ACTUAL FIXTURE FOR INSTALLATION: PATRIOT LIGHTING MODEL RHEMI MATTE BLACK SKU3561277

1. THE ABOVE FIXTURE IS THE CLOSEST THAT IS AVAILABLE THAT WAS FOUND TO REPRESENT THE ACTUAL FIXTURE WITH THE LIGHTING PATTERNS AND LUMEN OUTPUTS. SEE SCHEDULE FOR EXACT FIXTURE FOR INSTALLATION.

GENERAL PHOTOMETRIC SCHEDULE

AVERAGE FOOT-CANDLES	0.12
MAXIMUM FOOT-CANDLES	3.6
MINIMUM FOOT-CANDLES	0.0
MINIMUM TO MAXIMUM FC RATIO	0.00
MAXIMUM TO MINIMUM FC RATIO	3.58 / 0.00
AVERAGE TO MINIMUM FC RATIO	0.12 / 0.00

LIGHTING SPECIFICATIONS AND NOTES:
LIGHTING LEVELS AT PROPERTY LINES IS 0 FC.
THE PARTICULAR FIXTURES ARE INTENDED TO ILLUMINATE THE DIRECT FOOTPRINT OF THE BUILDINGS.



1 SCHEMATIC SITE LIGHTING PLAN
SCALE: 1" = 40'-0"

NORTH

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PROPOSED TOWN NINE APARTMENTS / GERMANTOWN

PROPOSED 12 UNIT BUILDING FOR PRE/3,LLC

GERMANTOWN, WISCONSIN
WASHINGTON COUNTY

⚠

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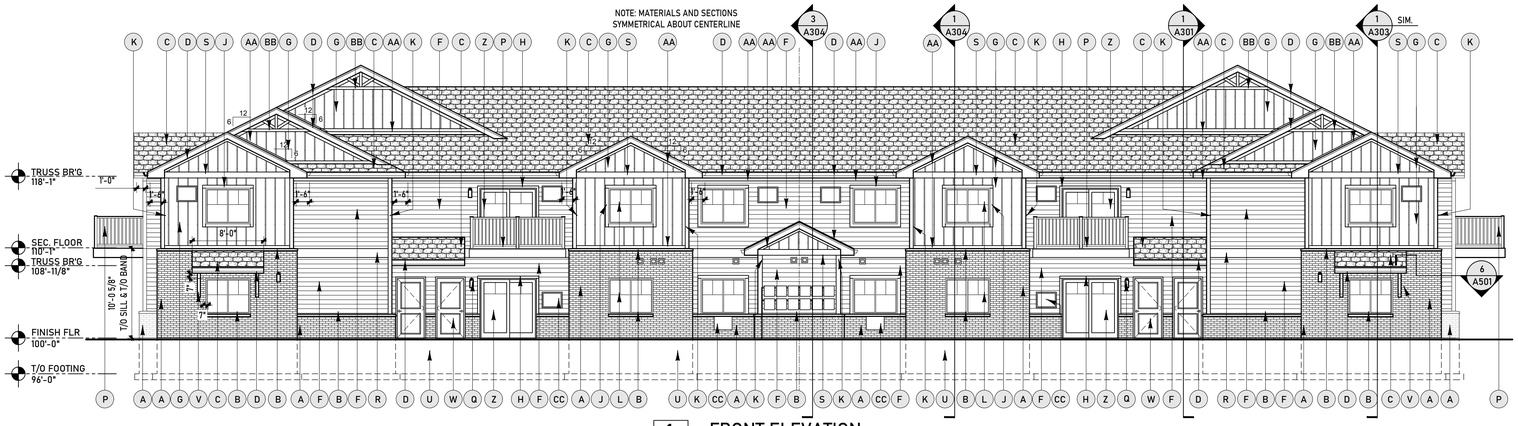
PROJECT #: 26-022

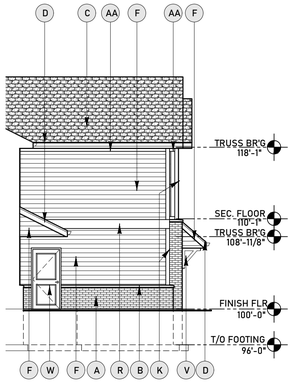
SITE LIGHTING

SLP101



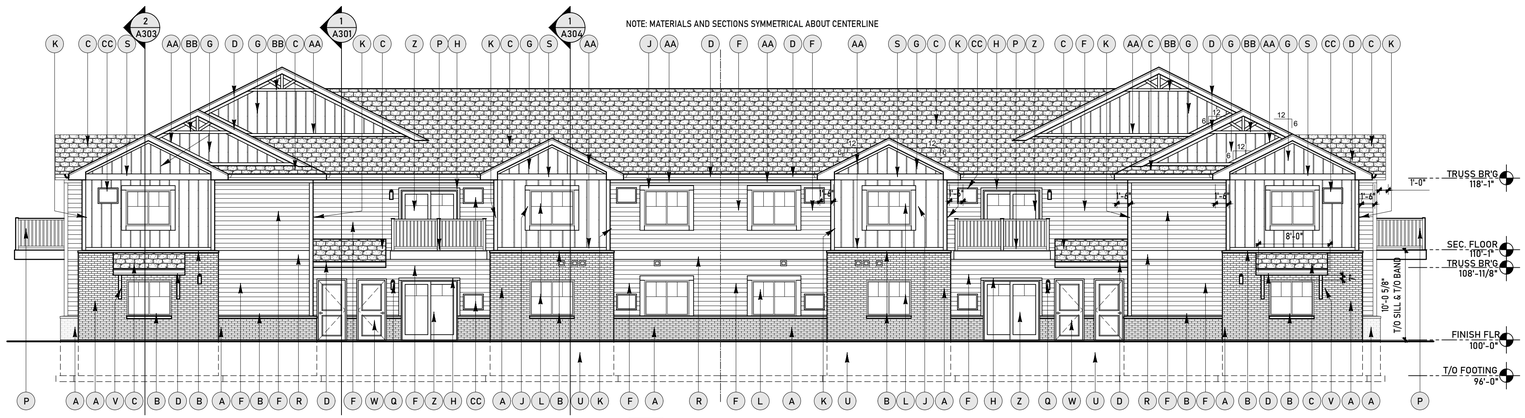
1 FRONT ELEVATION

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



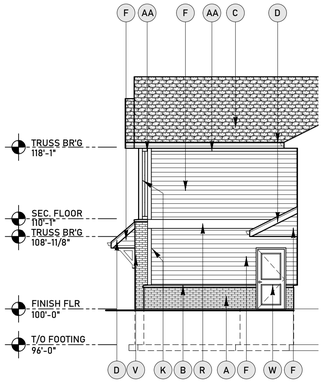
5 INT. SIDE ELEV.

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



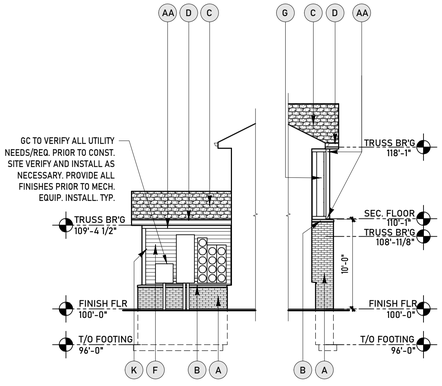
2 REAR ELEVATION

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



6 INT. SIDE ELEV.

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



7 MECH. SIDE ELEV.

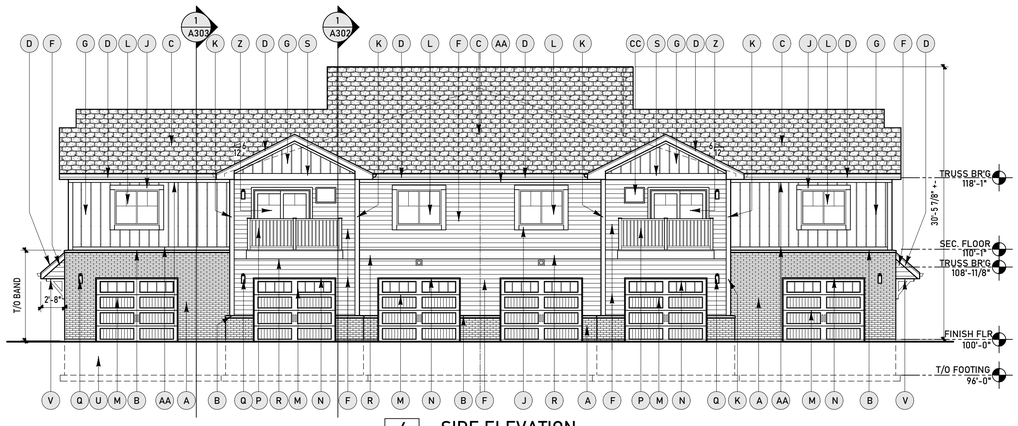
SCALE: 1/8" = 1'-0"

9 INT. SIDE ELEV.

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

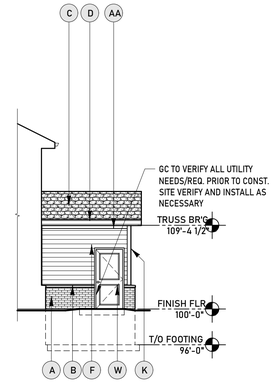
3 SIDE ELEVATION

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



4 SIDE ELEVATION

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



8 MECH. SIDE ELEV.

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

EXTERIOR FINISH SCHEDULE (X)				
KEY	MATERIAL	MANUFACTURER	COLOR/ SPECIFICATION	NOTES
A	FACE BRICK VENEER	SUMMIT BRICK CO. OR EQ.	KING SIZE	7
B	CUT LIMESTONE SILL	SUMMIT BRICK CO. OR EQ.	V.W.O	7
C	SHINGLE ROOFING	ATLAS PINNACLE	V.W.O	12
D	PREFINISHED MTL. FASCIA	PAC CLAD OR EQ.	WHITE	7,12
E	PREFINISHED MTL. GUTTERS		WHITE	7
F	HORIZONTAL LAP SIDING	LP SMART SIDE- DIAMOND KOTE	V.W.O	1,12
G	VERTICAL BOARD & BATTEN	LP SMART SIDE- DIAMOND KOTE	V.W.O	2,12
H	SIDING TRIM- DOORS	LP SMART SIDE- DIAMOND KOTE	4 X 5/4 PVC	3,12
J	SIDING TRIM - WINDOWS	LP SMART SIDE- DIAMOND KOTE	4 X 5/4 PVC	4,12
K	SIDING - BUILDING CORNERS	LP SMART SIDE- DIAMOND KOTE	V.W.O.	5,6,12
L	INSULATED WINDOWS	VORTEX OR EQ.	V.W.O.	7,12
M	INSULATED OVERHEAD DOOR		WHITE- SONOMA RANCH PANELS V.W.O	9,12
N	GARAGE DOOR FRAMES		WHITE- VINYL /BRICKMOULD V.W.O	7
P	VINYL PREFIN. RAILING SYS.	JAM SYSTEMS OR EQ.	PREFINISHED	2,11
Q	COACH STYLE FIXTURES	V.W.O	13" - MATTE BLACK	7
R	SIDING TRIM- BAND	AZEK - SMOOTH FIN.	12" - 5/4" PVC V.W.O	12
S	SIDING TRIM- BAND	AZEK - SMOOTH FIN.	8" - 5/4" PVC V.W.O	12
T	CONTINUOUS RIDGE VENTING	ATLAS	V.W.O	12
U	CONCRETE FOUNDATIONS			
V	DECORATIVE BRACKETS	FYPON # BKT25X27X3.5	WHITE	7,12
W	INSULATED ENTRY DOORS		V.W.O	7,12
X	PREFINISHED DOWNSPOUTS		V.W.O	8
Z	INSULATED PATIO DOORS		V.W.O	7,12
AA	SIDING TRIM- HORIZONTAL	LP SMART SIDE- DIAMOND KOTE	4" X 5/4" V.W.O.	12
BB	DECORATIVE BRACKETS	EKENA 72" X 18" X 4 X 4	WHITE	7,13
CC	A/C UNITS		V.W.O.	

GENERAL ELEVATION NOTES:	
1	SIDING CONTRACTOR TO PROVIDE DIAMOND KOTE BLOCKS FOR LIGHT FIXTURES, RECEPTACLES, PHOTOEYES, STROBE, BOILER SENSOR ETC. VERIFY SIZE WITH GC.
2	SIDING CONTRACTOR TO PROVIDE HOODED STYLE 4" DRYER DUCT VENTS W/FLAPPER AND HOODED STYLE 4" BATH EXHAUST VENTS TO MATCH ADJACENT SIDING COLOR. DIAMOND KOTE PRODUCTS TYP. PROVIDE SCREENS AT ALL VENTS IF NOT PROVIDED BY MANUF.
3	SIDING INSTALLER TO CONNECT BATH EXHAUST DUCT AND INSTALL SOFFIT GRILLE WITH MIDAMERICA MASTER EXHAUST VENT- WHITE COLLAR.
4	SIDING CONTRACTOR TO PROVIDE CLEAR EXTERIOR GRADE SEALANT AND CAULK ALONG LIMESTONE SILL, DOOR BRICKMOULD, DECK CONNECTIONS, RAILS AND TRIM (PER MANUF. REQ.) AS A MINIMUM.
5	SOFFIT CONTRACTOR IF DIFFERENT THAN SIDING CONTRACTOR SHALL PROVIDE SOLID SOFFIT MIN .3" IN EACH DIRECTION - AT ALL BATH EXHAUST & DRYER VENTS IN ALL SOFFITS.
6	CONTRACTOR SHALL PROVIDE PVC OR TREATED BLOCKING OVER TYVEK AND SHEATHING BEHIND BRACKET FOR INSTALLATION IN CULTURED STONE AREAS. CAULK AND SEALED

FINISH NOTES:	
1	HORIZONTAL SIDING: DIAMOND KOTE 3/8" X 8" LAP STYLE- VERIFY COLORS W/ OWNER.
2	VERTICAL SIDING: DIAMOND KOTE 3/8" NO GROVE SIDING W/ 3" BATTEN TRIM @ 16" O.C. VERIFY COLORS WITH OWNER.
3	PROVIDE 5/4 X 4" DIAMOND KOTE TRIM AT ALL PATIO DOORS TYP. VERIFY COLOR W/ OWNER.
4	PROVIDE 5/4 X 6" DIAMOND KOTE TRIMI AT ALL WINDOWS TYP. VERIFY COLOR W/OWNER.
5	PROVIDE 5/4 X 6" DIAMOND KOTE NAIL FIN OUTSIDE CORNERS TYP. VERIFY COLOR/ OWNER.
6	PROVIDE 5/4 X 3" DIAMOND KOTE NAIL FIN INSIDE CORNERS TYP. VERIFY COLOR W/OWNER.
7	VERIFY SPECIFIC BRAND W/ OWNER. INSTALL PER MANUFACTURES INSTRUCTIONS- NO EXCEPTIONS.

8	SITE VERIFY ALL DOWNSPOUT LOCATIONS & COORDINATE WITH SITE CIVIL FOR UNDERGROUND LEADERS AND COLLECTIONS IF ANY.
9	PROVIDE BLACK HANDLES AND STOCKBRIDGE IV (4 LITE) WINDOW INSERTS- V.W.O
10	MATCH OVERALL ROOF COLOR- INSTALL PER MANUF. REQUIREMENTS.
11	PRE-ENGINEERED BOLT ON RAILING & BALLUSTER SYSTEM. TESTED PER 2021 IBC BY MANUF.
12	VERIFY ALL CONDITIONS IN THE FIELD. INSTALL PER MANUFACTURES INSTRUCTIONS- NO EXCEPTIONS.
13	GABLE END DECORATIVE PVC BRACKET. PROVIDE 2X SOFFIT BLOCKING. VERIFY LOCATIONS WITH MANUFACTURE CUT SHEETS. 6:12 ROOF PITCH (8) PER BUILDING

LINEWORX ARCHITECTURE
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PRELIMINARY- NOT FOR CONSTRUCTION

PROPOSED TOWN NINE APARTMENTS / GERMANTOWN

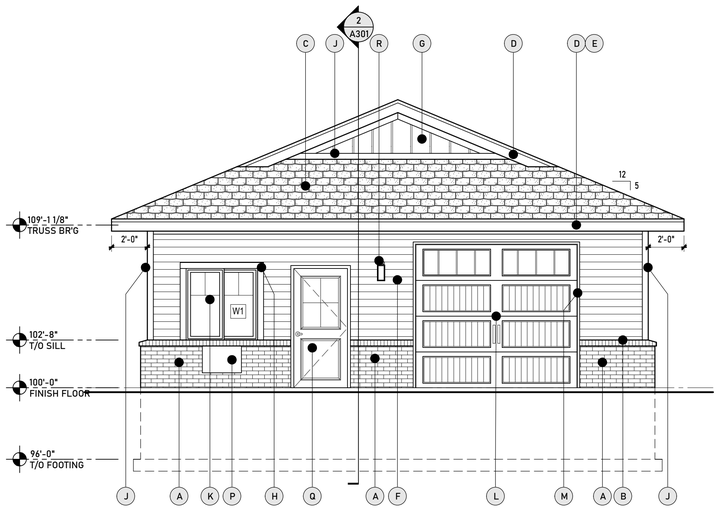
PROPOSED 12 UNIT BUILDING FOR PRE/3,LLC

GERMANTOWN, WISCONSIN
WASHINGTON COUNTY

CHECKED BY: SRW
ISSUE DATE: 7-9-26
PROJECT #: 26-022

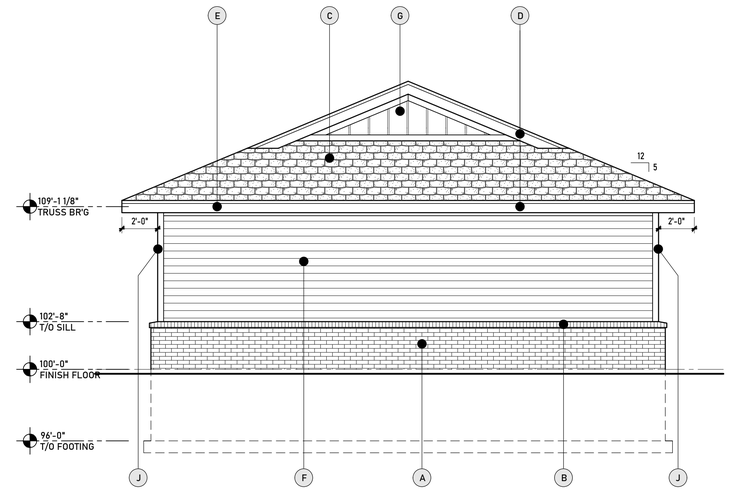
BUILDING ELEVATIONS

A201



1 WEST ELEVATION

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

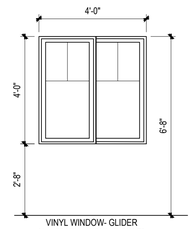


2 EAST ELEVATION

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

EXTERIOR FINISH SCHEDULE : (X)				
KEY	MATERIAL	MANUFACTURER	COLOR/ SPECIFICATION	NOTES
A	FACE BRICK VENEER	SUMMIT BRICK CO. OR EQ.	KING SIZE- V.W.O	1,2,6
B	BRICK ROWLOCK SILL	SUMMIT BRICK CO. OR EQ.	V.W.O	1,2,6
C	SHINGLE ROOFING	ATLAS PINNACLE	V.W.O	1,2
D	PREFINISHED MTL. FASCIA	PAC CLAD OR EQ.	WHITE	1,4
E	PREFINISHED MTL. GUTTERS	PAC CLAD OR EQ.	WHITE	1,5
F	HORIZONTAL VINYL SIDING	DIAMOND KOTE SMART SIDE	V.W.O	1,2
G	VERTICAL BOARD & BATT.	DIAMOND KOTE SMART SIDE	V.W.O	1,7
H	SIDING TRIM- WINDOWS	DIAMOND KOTE SMART SIDE	4" V.W.O	1,2
J	SIDING TRIM & CORNERS	DIAMOND KOTE SMART SIDE	4" V.W.O	1,2
K	INSULATED WINDOWS	VORTEX OR EQ.	WHITE	2,3,6
L	INSULATED OVERHEAD DR		WHITE-MATCH APTS.	2,7
M	GARAGE DOOR FRAME TRIM		WHITE- VINYL /BRICKMOULD	1,6
N	CONTINUOUS RIDGE VENTING	ATLAS PINNACLE	V.W.O	2,8
P	A/C UNITS/MECH		V.W.O	1,2,6
Q	INSULATED ENTRY DOORS		WHITE- VINYL/ BRICKMOULD TRIM	7
R	COACH LIGHT FIXTURE	MATCH APARTMENTS	V.W.O.	1,2,7

FINISH NOTES:	
1	VERIFY ALL CONDITIONS PRIOR TO CONST. W/ ALL TRADES
2	INSTALL PER MANUFACTURES INSTRUCTIONS- NO EXCEPTIONS.
3	SEE DETAILS AND SECTIONS FOR MATERIAL WIDTHS.
4	INCLUDES DRIP EDGE (WHITE), PROVIDE CENTER VENTED SOFFIT (WHITE)
5	SITE VERIFY ALL DOWNSPOUT LOCATIONS & COORDINATE WITH SITE CIVIL FOR UNDERGROUND LEADERS AND COLLECTIONS IF ANY.
6	VERIFY SPECIFIC BRAND AND INSTALLATION WITH OWNER/GC.
7	PROVIDE BLACK HANDLES AND STOCKBRIDGE IV (4 LITE) WINDOW INSERTS W/ FILM- V.W.O
8	MATCH OVERALL ROOF COLOR- INSTALL PER MANUF. REQUIREMENTS.

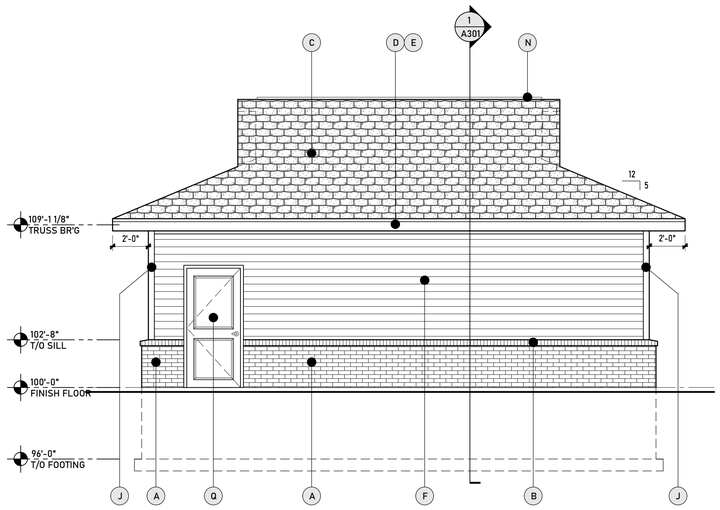


VINYL WINDOW- GLIDER
U = .28 MIN.- INSUL. "LOW-E"
DUAL PANE ARGON FILLED GLAZING. TYP.

W1

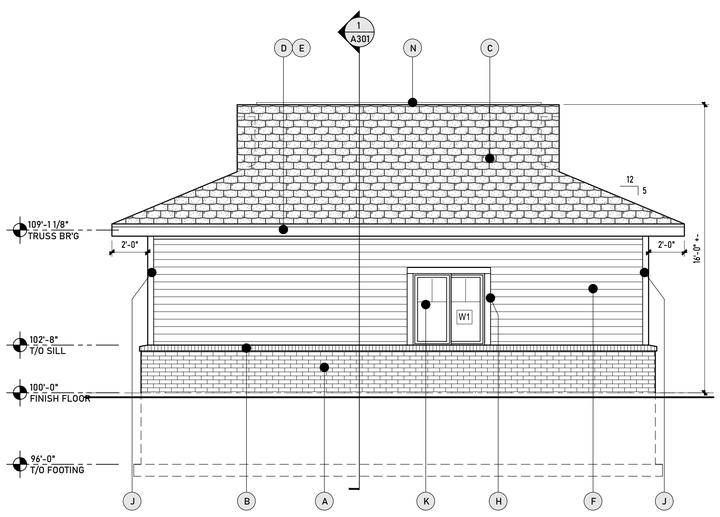
GENERAL NOTES:

1. DOWNSPOUTS AND GUTTERS- RUN TO REAR OR BACK OF BUILDING AWAY FROM GARAGE DOORS. VERIFY ON SITE COLLECTION TO STORM OR DISCHARGE TO GRADE.
2. PROVIDE A/C SLEEVE IN BUILDING FOR UNIT UNDER WINDOW. VERIFY R.O. WITH GC AND APPLIANCE SUPPLIER. CAULK AND SEAL WEATHERPROOF. PITCH TO DRAIN AWAY FROM BUILDING. VERIFY ALL CONDITIONS IN FIELD PRIOR TO CONSTRUCTION.



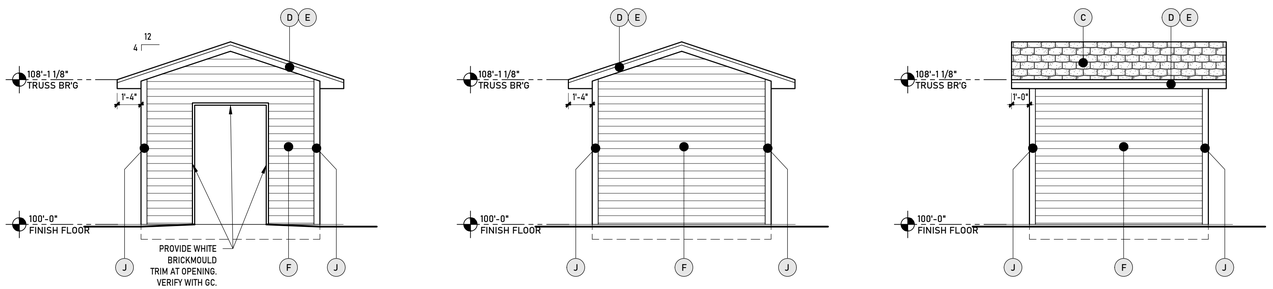
3 SOUTH ELEVATION

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



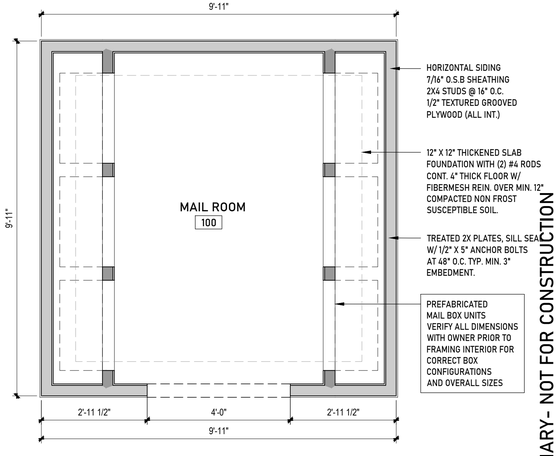
4 NORTH ELEVATION

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



5 MAIL ROOM- FRONT, REAR AND TYP. SIDE ELEVATIONS

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



6 MAIL ROOM FLOOR PLAN

SCALE: 1/2" = 1'-0"

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ARCHITECTURE

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PROPOSED TOWN NINE APARTMENTS / GERMANTOWN

PROPOSED OFFICE/MAINT. BUILDING & MAIL ROOM FOR PRE/3,LLC

GERMANTOWN, WISCONSIN
WASHINGTON COUNTY

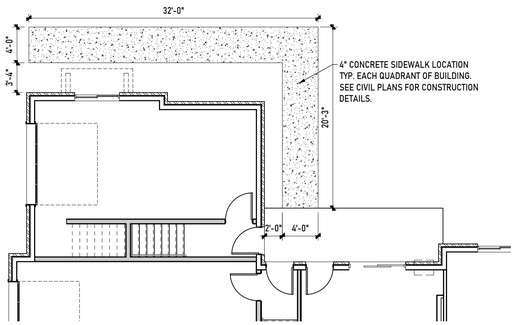
REVISIONS

CHECKED BY: SRW
ISSUE DATE: 7-9-26
PROJECT #: 26-022

PRELIMINARY- NOT FOR CONSTRUCTION

BUILDING ELEVATIONS

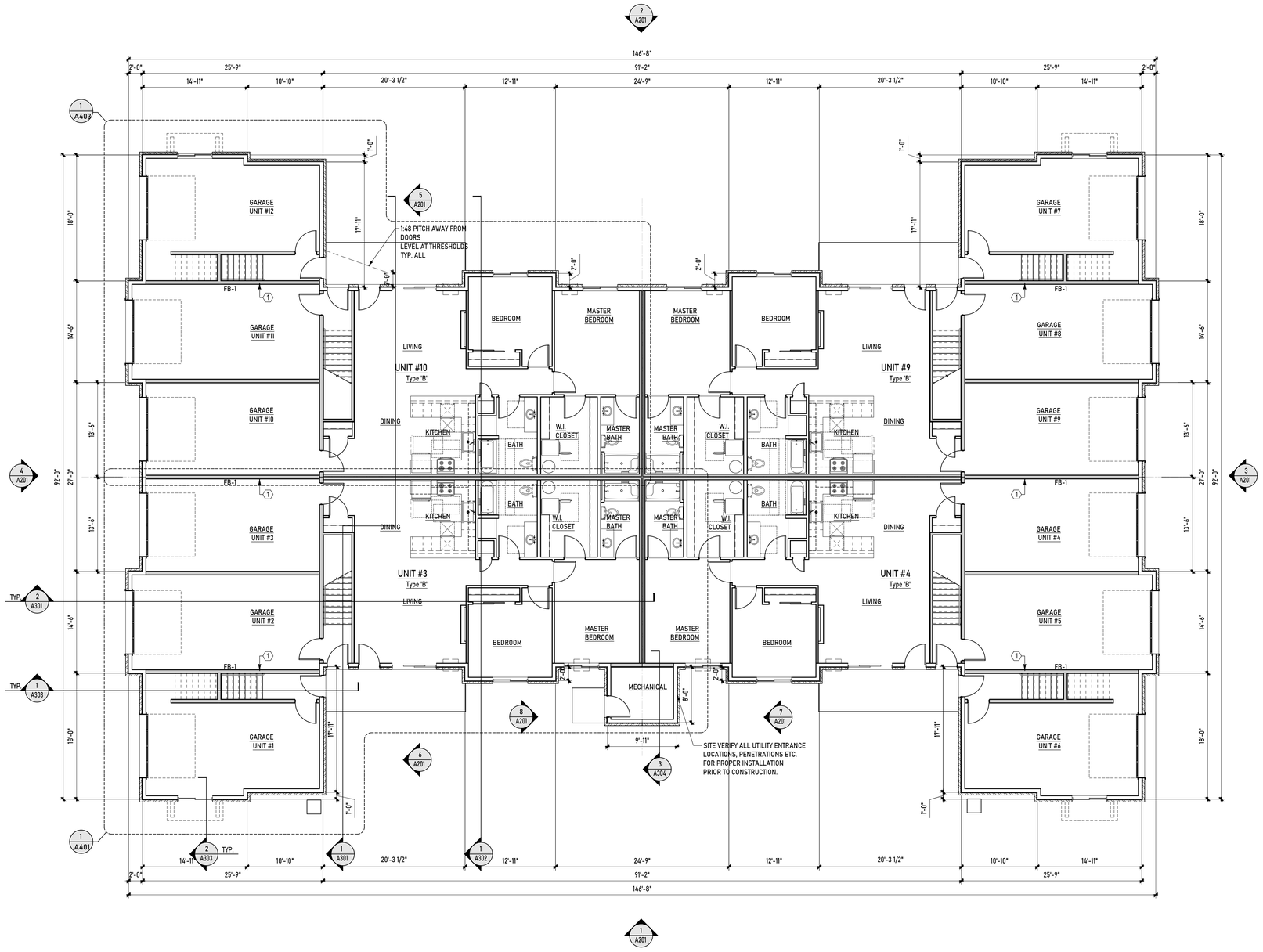
A201



2 TYP. QUADRANT SIDEWALK PLACEMENT PLAN

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

FIRST FLOOR PLAN CODED NOTES	
1	FB-1 = 1 HR FIRE BARRIER WALL UL DES U305 (SEE WALL TYPES) TO SEPARATE GARAGE FROM UNITS AND EA. OTHER. RUN TO UNDERSIDE OF FLOOR DECK ABOVE. TYP. SEE DETAILS



1 OVERALL FIRST FLOOR PLAN

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

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PROPOSED TOWN NINE APARTMENTS / GERMANTOWN

PROPOSED 12 UNIT BUILDING FOR PRE/3,LLC

GERMANTOWN, WISCONSIN
WASHINGTON COUNTY

REVISIONS

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CHECKED BY: SRW
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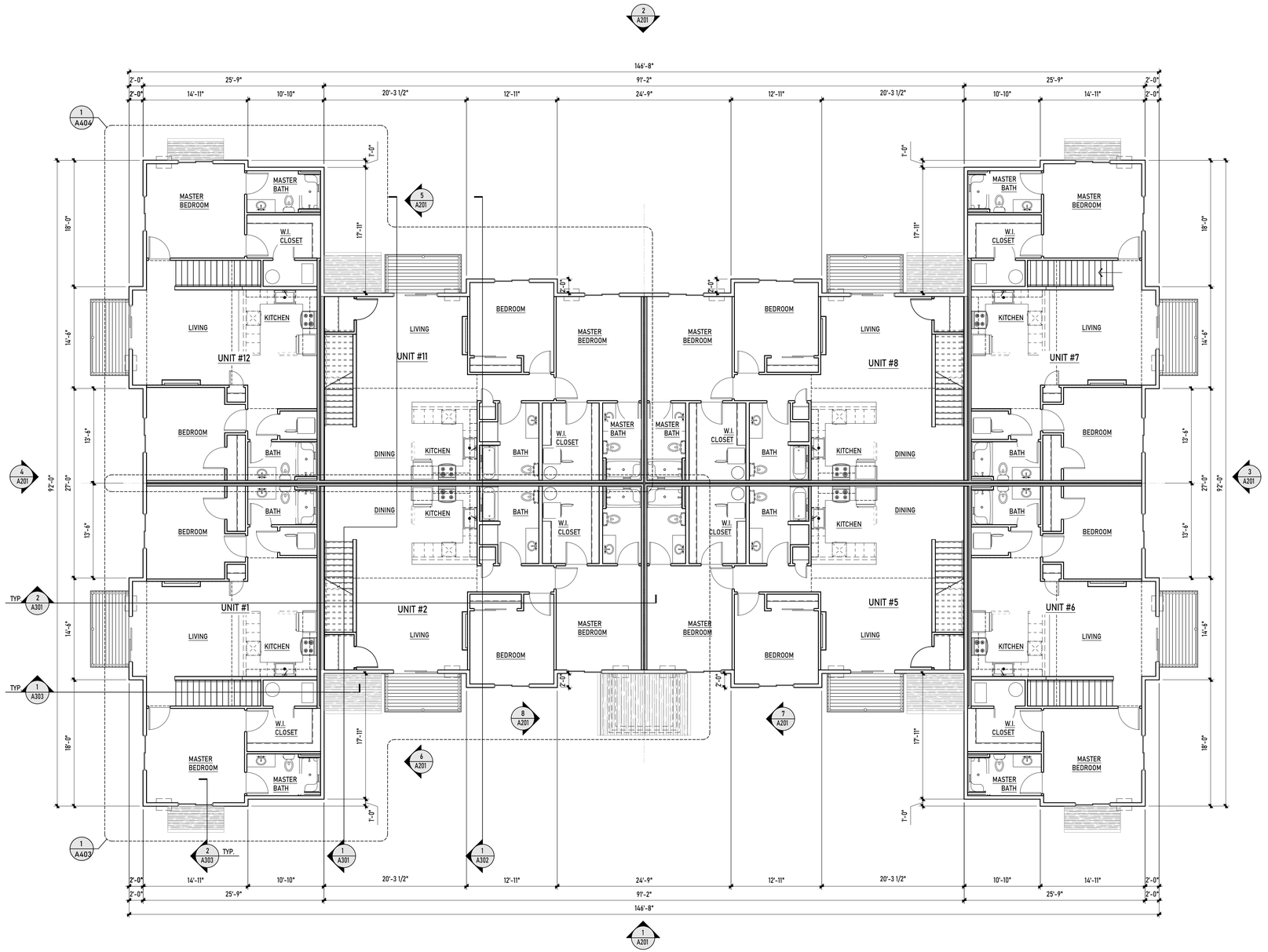
FIRST FLOOR PLAN

A101



1 OVERALL SECOND FLOOR PLAN

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

LINEWORX ARCHITECTURE

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PROPOSED TOWN NINE APARTMENTS

PROPOSED 12 UNIT BUILDING FOR PRE/3,LLC

GERMANTOWN, WISCONSIN
WASHINGTON COUNTY

REVISIONS

CHECKED BY: SRW
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SECOND FLOOR PLAN

A102

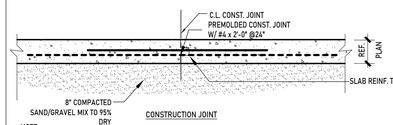
FOUNDATION SCHEDULE

MARK	SIZE	REINFORCING	REMARKS	NOTES
WF-1	10" CONCRETE WALL W/ 20" X 8" FOOT.	(2) #4 T & B- WALL/ (2) #4 CONT.- FOOT.	SEE SECTIONS FOR DETAILS	

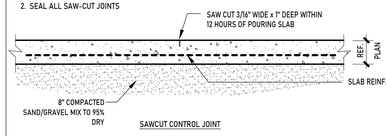
NOTES

1. ASSUMED BEARING PRESSURE OF 2000 PSF FOR THIS PROJECT.
2. 3500 PSI WALLS & FOOTINGS, 4000 PSI FLATWORK, 5-7% AIR ENTRAINED CONC MIX FOR CONC EXPOSED TO WEATHER.

CONSTRUCTION JOINT DETAILS



NOTE:
1. PROVIDE SAW-CUT WITHIN 12 HOURS OF SLAB CURING TO PREVENT ANY DAMAGING OF SLAB. PROVIDE JOINTS TO FORM 150 SQ. FT. AREAS MAXIMUM
2. SEAL ALL SAW-CUT JOINTS



CONSTRUCTION NOTES

ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH THE CURRENT PUBLICATIONS OF THE PORTLAND CEMENT ASSOC.
BEND ALL REINFORCING RODS AROUND ALL CORNERS AND INTO ALL INTERSECTING WALLS.
COORDINATE WITH ALL OTHER TRADES FOR THE INSTALLATION OF ALL ANCHORS, SLEEVES, HANGERS, INSERTS, OPENINGS & ETC.
REINFORCING STEEL SHALL BE ASTM-615 GRADE 60.
FABRICATION SHALL BE IN ACCORDANCE WITH CURRENT SPECIFICATIO OF THE AMERICAN CONCRETE INSTITUTE.
COORDINATE WITH ALL TRADES FOR LOCATIONS & SIZE OF ALL OPENIN IN FLOORS, WALLS, CEILINGS, & ROOF FOR MECH. EQUIPMENT & ETC.
STRUCTURAL STEEL SHALL BE ASTM DES. A36 IN ACCORDANCE W/ SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTIO
ALL BOLTS SHALL BE HIGH STRENGTH ASTM DES. A325F.
ALL WELDS SHALL BE FULL.
ALL STEEL SHALL BE CLEAN, NEW, & SHOP PRIMED.
ALL STEEL SHALL BE ERECTED TRUE & PLUMB.
VERIFY ALL EXISTING CONDITIONS ON JOB SITE BEFORE CONSTRUCTION
ALL BUILDING MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS.
CAULK ALL LOCATIONS WHERE DISSIMILAR MATERIALS MEET.
CONTRACTORS SHALL LOCATE ALL UTILITIES BEFORE CONSTRUCTION AND NOTIFY ARCHITECT & OWNER OF ANY INTERFERENCES.
CONTRACTORS SHALL PROVIDE ALL BARRIERS, BARRICADES, FENCES AND SAFETY EQUIPMENT AND PRECAUTIONS REQUIRED BY ALL CODES OR AGENCIES HAVING JURISDICTION OVER THE PROJECT.

FOUNDATION PLAN CODED NOTES

1	4" CONCRETE FLOOR W/ #10/#10 6X6 W.W.M. OVER 6 MIL VAPOR BARRIER OVER MIN. 8" COMPACTED GRANULAR FILL TO 95% MODIFIED PROCTOR.
2	NOT USED
3	PROVIDE CONCRETE FLOOR JOINTS AS PER DETAILS ABOVE. VERIFY LOCATIONS IN FIELD WITH GC & OWNER.
4	TYPICAL R-10 RIGID VERTICAL INSULATION AT ALL PERIMETER WALLS. SEE SECTIONS.
5	DEPRESS OVERHEAD DOOR LOCATION -8" TYPICAL FOR FLOOR POUR. VERIFY ALL DOOR WIDTHS AND OPENINGS WITH GC PRIOR TO CONST.
6	4" CONCRETE WALK/SLAB WITH #10/#10 6X6 W.W.M. OVER 8" MIN. COMPACTED GRANULAR FILL TO 95% MODIFIED PROCTOR. TYP. PITCH AWAY FROM BUILDING MAX 1:48. MAX. -1/2" AT DOORS.
7	SITE VERIFY LOCATIONS OF SERVICE DOORS AND THRESHOLD WIDTH AND HEIGHT. MAXIMUM TOTAL HEIGHT OF 1/2" FROM FLUSH WALK AT DOOR TO T/O THRESHOLD. PER ANSI 402.2.4

STRUCTURAL HEADER SCHEDULE (H)

MARK	SIZE	BEARING	KINGS	GRADE	NOTE
H1	(2) 2 X 8	1	1	SPF #1, #2	1
H2	(3) 2 X 10	2	1	SPF #1, #2	1

NOTES

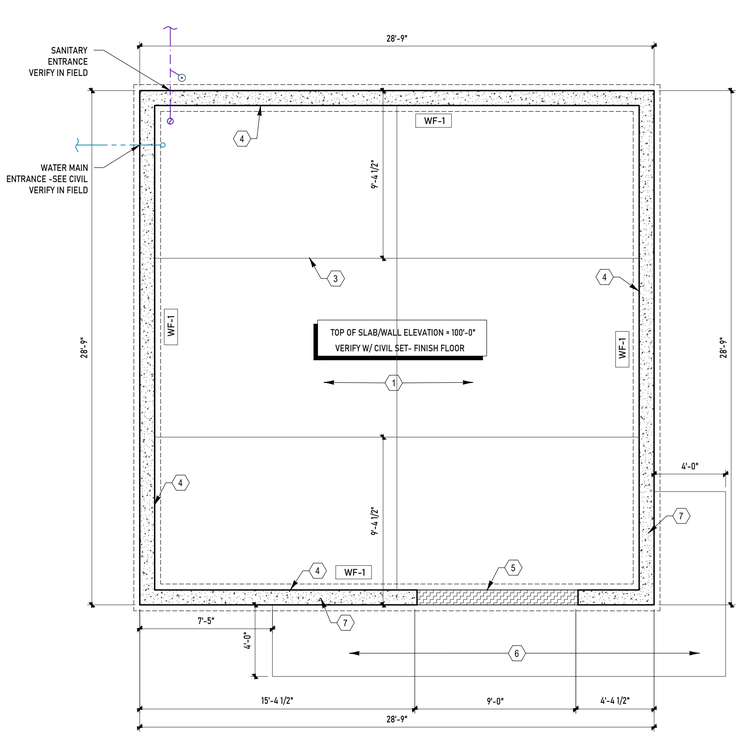
1. FASTEN MULIT PLY SPF LUMBER TOGETHER WITH 3 ROWS OF 10D NAILS @ 12" O.C. EA. PLY

GENERAL STRUCTURAL FASTENING PATTERNS

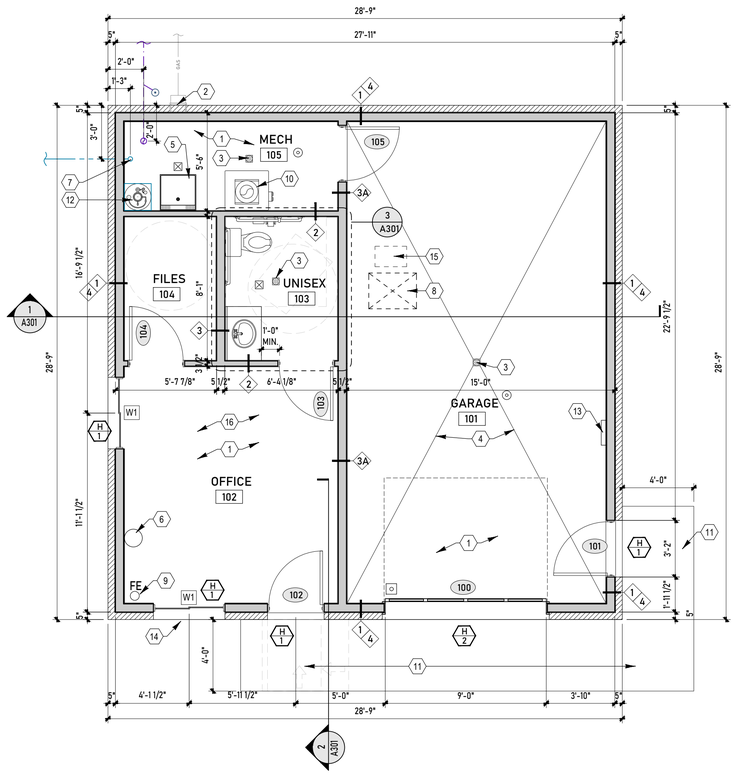
1	ALL NEW EXTERIOR WALLS WITH 1/2" APA RATED O.S.B. SHEATHING SHALL BE FASTENED TO STUDS WITH 8D NAILS @ 6" O.C. FIELD & EDGE TYPICAL.
2	ALL NEW ROOF SHEATHING SHALL BE 1/2" APA RATED O.S.B. W/ "H" CLIPS, FASTENED TO RAFTERS OR TRUSSES WITH 8D NAILS @ 6" O.C. FIELD & EDGE TYPICAL.
3	ALL HEADER NAILING PATTERNS SHALL BE INSTALLED PER SEE SCHEDULES.
4	ALL WOOD SHALL BE SPF #1 OR #2 UNLESS NOTED OTHERWISE.
5	USE 1/2" DIA. X 4 3/4" LONG AMERICAN ANCHOR BOLTS #1234AS AT MIN. 48" O.C. AND (1) AT EA. SIDE OF EA. OPENING TYP. ALL EXTERIOR WALLS ANCHORED TO CONCRETE. MINIMUM 3" EMBEDMENT OR 6" LONG SIMPSON TITEN ANCHORS AT SAME SPACING'S AND EMBEDMENT.

STRUCTURAL DESIGN PARAMETERS

BUILDING CODE	
WISCONSIN ADMINISTRATIVE CODE	
RISK CATEGORY	II
WIND CRITERIA	
V	115 MPH
EXP CAT.	C
INTERNAL PRESSURE COEF.	+/- 0.18
SNOW	
GROUND SNOW LOAD Pg=	30 PSF
DEAD & LIVE LOADS	
ROOF DEAD LOAD	18 PSF
ROOF LIVE LOAD	21 PSF
GEOTECHNICAL CRITERIA	
ALLOWABLE NET BEARING PRESSURE	2,000 PSF ASSUMED
SEISMIC CRITERIA	
SEISMIC IMPORTANCE FACTOR	1
RISK CATEGORY	II
S(DS)	0.0580
S (D1)	0.0560
SITE CLASS	D
SEISMIC FORCE RESISTING SYSTEM	SHEARWALLS & DIAPHRAGM+ BRACED AND SWAY FRAME



2 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



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

COMBUSTIBLE FINISH NOTES

ALL COMBUSTIBLE WALL FINISHES THROUGHOUT SPACE SHALL BE TESTED AND MEET REQUIREMENTS OF ASTM E 84 OR UL 723. ALL TESTED FINISHES ARE REQUIRED TO BE RATED BY THEIR FLAME SPREAD AND SMOKE DEVELOPED INDEX.
EGRESS CORRIDORS SHALL BE CLASS B -FLAME SPREAD OF 26-75
ALL OTHER ROOMS ETC.. SHALL BE CLASS C-FLAME SPREAD OF 76-200
OWNER AND IT'S CONTRACTOR SHALL PROVIDE NECESSARY DOCUMENTATION WHEN ASKED PROVING FINISH MATERIALS INDEED MEET ALL REQUIREMENTS OF THE WI. ADOPTED INTERNATIONAL BUILDING CODE AND ALL ITS AMENDMENTS.

INTERIOR LIGHTING REQ.

ENHANCED DIGITAL LIGHTING CONTROLS EFFICIENCY PACKAGE: INTERIOR LIGHTING HAS FOLLOWING ENHANCED LIGHTING CONTROLS IN ACCORDANCE WITH SECTION C405.2.2: LUMINAIRES CAPABLE OF CONTINUOUS DIMMING AND BEING ADDRESSED INDIVIDUALLY, <= 8 LUMINAIRES CONTROLLED IN COMBINATION IN A DAYLIGHT ZONE, DIGITAL CONTROL SYSTEM FOR FIXTURES, "SEQUENCE OF OPERATIONS" DOCUMENTATION, AND FUNCTIONAL TESTING PER SECTION C408.

ELECTRICAL CONTRACTOR SHALL PROVIDE ANY/ALL REQ. EMERGENCY LIGHTING, EXIT LIGHTS AND THE INSTALLATION THEREOF INCLUDING PHOTOMETRIC PLANS TO MEET ALL REQUIRED CODES IF REQUESTED BY BUILDING OFFICIAL. PER IBC 1008.

DOOR SCHEDULE:

DOOR# 101,102 EXTERIOR DOORS
SHALL BE 3'-0" X 6'-8" INSULATED DOOR AND FRAME. MIN. U-.20 TESTED FOR THE ASSEMBLY.
PROVIDE: 1 1/2" PAIR HINGES, SCHLAGE-LEVEL STYLE HANDLES, KEYED LOCKSET.
WEATHERSTRIPPING AND THRESHOLDS ALL PER IBC. VERIFY DOOR DESIGN W/OWNER.

DOOR# 103,104,105 INTERIOR DOORS
SHALL BE 3'-0" X 6'-8" WOOD DOOR AND HOLLOW METAL KNOCKDOWN FRAMES.
PROVIDE: 1 1/2" PAIR HINGES, SCHLAGE-LEVER STYLE HANDLES, PASSAGE LOCKSETS. (PROVIDE PRIVACY LOCKSET FOR TOILET ROOM.) VERIFY DOOR DESIGN W/OWNER.

DOOR # 100 - 9'-0" X 8'-0" OVERHEAD DOOR TO BE INSULATED SECTIONAL PANELS AND SHALL HAVE A TESTED ASSEMBLY RATING OF A MIN. U-.20 FOR THERMAL PERFORMANCE. SEE A201

GENERAL PLAN NOTES

GENERAL PROJECT NOTES:
-CONSTRUCTION IS TO BE IN COMPLIANCE WITH ALL GOVERNING CODES, ORDINANCES, & STANDARDS. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING & SUPERVISING ALL SAFETY PRECAUTIONS & PROGRAMS IN CONNECTION WITH THE PERFORMANCE OF THIS CONTRACT.
-HVAC, ELECTRICAL AND PLUMBING ARE TO BE DESIGN BUILD, COMPLYING W/ ALL LOCAL, STATE, & NATIONAL CODES, AND TO BE THE FULL RESPONSIBILITY OF THE CONTRACTOR, THE ARCHITECT ASSUMES NO LIABILITY.
-ALL HEATING EQUIPMENT TO BE SEALED COMBUSTION TYPE & DIRECT VENTING.
-ALL MECHANICAL, HVAC, ELECTRICAL, AND PLUMBING SYSTEMS & ALL EQUIPMENT TO BE MAINTAINED ACCORDING TO MANUFACTURE'S STANDARDS. BUILDING OWNER AND/OR BUILDING OCCUPANTS ASSUME FULL RESPONSIBILITY FOR MAINTENANCE AND OPERATION
-ALL MATERIALS, DETAILS, & INSTALLATION, SHALL BE IN ACCORDANCE WITH THE MANUFACTURES STANDARDS AND SPECIFICATIONS.
-ALL SUBCONTRACTORS SHALL BE RESPONSIBLE FOR LIMITING THE ACCUMULATION OF WASTE MATERIALS AND RUBBISH. WASTE MATERIALS SHALL BE REMOVED FROM THE PREMISES DAILY.
ALL DIMENSIONS AND EXISTING CONDITIONS ARE TO BE FIELD VERIFIED & ADJUSTED ACCORDINGLY. THE ARCHITECT SHALL BE NOTIFIED OF ANY VARIANCES BEFORE CONTRACTOR BEGINS OR PROCEEDS WITH ANY WORK.

GENERAL NOTES

GENERAL NOTES:
1. ALL INTERIOR DIMENSIONS ARE TO FROM STUD THICKNESS TO STUD THICKNESS. ALL EXTERIOR DIMENSIONS ARE TO INTERIOR OF EXISTING MASONRY WALLS. CONTRACTOR RESPONSIBLE PRIOR TO CONSTRUCTION TO VERIFY ANY/ALL DISCREPANCIES WITH OWNER.
2. (XX) CRITICAL DIMENSIONS TO BE HELD CLEAR.
3. INTERIOR DOORS TO BE LOCATED MAX. WITHIN 4"-6" OF CORNER TO ALLOW FOR TRIM. VERIFY WITH OWNER.
4. MOISTURE RESISTANT GYP. BD. ON ALL WET WALLS WHERE APPROPRIATE.
5. INSULATE ALL PLUMBING WALLS - TYP.
6. INSTALLATION OF ALL MECHANICAL EQUIPMENT SHALL COMPLY W/ ALL APPLICABLE CODES.
7. ALL PENETRATIONS THROUGH REQUIRED FIRE-RESISTIVE ASSEMBLIES SHALL BE PROTECTED PER CODE BY THE CONTRACTOR MAKING SAID PENETRATION.
8. ALL HEATING EQUIPMENT SHALL BE DIRECT VENTING & SEALED COMBUSTION UNITS. U.N.O.

GENERAL PLAN NOTES:
-CARE SHOULD BE TAKEN TO LEAVE EXISTING ITEMS UNDISTURBED AND STILL ACCOMMODATE WORK, EXISTING AREAS TO BE PROTECTED DURING CONSTRUCTION

CODED PLAN NOTES

1. 4" CONCRETE FLOOR WITH #10/#10 6X6 W.W.M. OVER 6 MIL VAPOR BARRIER OVER 8" MIN. COMPACTED GRANULAR FILL TO 95% MODIFIED PROCTOR. TYP.
2. GAS SERVICE LOCATION-VERIFY ALL REQ. WITH SERVICE PROVIDER.
3. 3" DIA. FLOOR DRAIN TO SANITARY LINE. VERIFY LOCATIONS IN FIELD. PROVIDE SEDIMENT BASKET.
4. SLOPE CONCRETE FLOOR TO DRAIN MAX 1:48 PITCH BELOW FINISH FLOOR AT END OF SLOPE PER CODE FOR ACCESSIBLE ROUTE.
5. 24" X 24" SERVICE MOP SINK WITH PROPER BACKFLOW PREVENTION PER CODE. PROVIDE FRP ON SIDE WALLS TO 48" ABOVE RIM, SEALED.
6. BOTTLED WATER UNIT WITH CUP DISPENSER BY OWNER.
7. WATER SERVICE RISER LOCATION. VERIFY WITH UTILITY SUPPLIER FOR FINAL LOCATION AND CONDITIONS.
8. 22" X 30" ATTIC ACCESS PANEL- SEE DETAIL.
9. FIRE EXTINGUISHER LOCATION. VERIFY ALL FINAL LOCATIONS WITH FIRE MARSHALL PRIOR TO CONSTRUCTION.
10. MECHANICAL EQUIPMENT ROOM. ALL HVAC AND PLUMBING FOR BUILDING ARE DESIGN BUILD. VERIFY WITH GC AND OWNER ALL TYPES OF SYSTEMS PROPOSED PRIOR TO CONSTRUCTION.
11. 4" CONCRETE WALK/SLAB WITH #10/#10 6X6 W.W.M. OVER 8" MIN. COMPACTED GRANULAR FILL TO 95% MODIFIED PROCTOR. TYP. PITCH AWAY FROM BUILDING MAX 1:48. FLUSH AT DOOR
12. 5 GALLON ELECTRIC WATER HEATER LOCATION WITH WATER METER BELOW. PROVIDE SHELF WITH 2X4 FRAME FASTENED TO WALLS W/ DRICORE PANEL AS SHELF. 44" CLEAR UNDER 2X4 FRAME. VERIFY EXACT LOCATION IN FIELD WITH OWNER.
13. GC TO VERIFY WITH EC FOR ELEC. SERVICE LOCATION. PROVIDE 60 AMP 120/240/1 PANEL. CONC. CONTRACTOR TO PROVIDE #4 ROD 12" ABOVE WALL ADJACENT TO SERVICE LOCATION FOR GROUNDING. COMPLY WITH CURRENT NEC.
14. THROUGH WALL A/C UNIT UNDER WINDOW. VERIFY ALL SPECS AND CONDITIONS IN FIELD FOR WEATHERPROOF INSTALLATION AND SEALS.
15. PROVIDE CEILING HUNG MODINE HEATER AND ALL RELATED EQUIP. FOR COMPLETE WORKING SYSTEM FOR GARAGE HEATING.
16. PROVIDE LVT FLOORING IN OFFICE, TOILET & FILE ROOM. CONC. FLOOR TO REMAIN IN GARAGE AND MECH.

WALL TYPES

1	6 1/2" ACTUAL	EXTERIOR WALL (ABOVE 2'-8") 2X6 STUDS @ 16" O.C WITH R-19 BATT INSULATION. INSTALL NEW 1/2" GYP BOARD ON INTERIOR SIDE OVER 4 MIL VAPOR BARRIER. EXTERIOR: PROVIDE 1/2" O.S.B. SHEATHING ON STUDS WITH TYVEK BUILDING WRAP WITH SIDING TO MATCH ADJACENT BUILDINGS.
2	4 1/2" ACTUAL	INTERIOR PARTITION WALL 2X4 STUDS @ 16" O.C. (WITH BATT INSULATION (VERIFY W/OWNER) TO CEILING, INSTALL 1/2" GYP. BD. FULL HGT. EA. SIDE TYP. (MRGB ON ALL SIDES OF INTERIOR WET WALLS)
3 3A	6 1/2" ACTUAL	INTERIOR PARTITION WALL 2X6 STUDS @ 16" O.C. (WITH BATT INSULATION (VERIFY W/OWNER) TO CEILING, INSTALL 1/2" GYP. BD. FULL HGT. EA. SIDE TYP. (MRGB ON ALL SIDES OF INTERIOR WET WALLS) 3A: USE 5/8" TYPE "X" GYP EA. SIDE
4	4 5/8" 11 1/8"	EXTERIOR WALL (UP TO 2'-8") 2X6 STUDS @ 16" O.C WITH R-19 BATT INSULATION. INSTALL NEW 1/2" GYP BOARD ON INTERIOR SIDE OVER 4 MIL VAPOR BARRIER. EXTERIOR: PROVIDE 1/2" O.S.B. SHEATHING ON STUDS WITH TYVEK BUILDING WRAP WITH 4" NOM. FACE BRICK VENEER TO MATCH OTHER BUILDINGS.

LEGEND

- BOTH SMOKE & CARBON MONOXIDE DETECTORS REQ. CARBON MONOXIDE DETECTOR SHALL BE CONNECTED TO BUILDINGS POWER SUPPLY AND HAVE BATTERY BACKUP. VERIFY WITH FIRE LOCAL MARSHALL
- EXHAUST FAN TO LIGHT SWITCH, TYP. ALL TOILETS AND SHOWERS, & MOP SINKS VERIFY WITH IMC.
- OVERHEAD DOOR OPENER. VERIFY TYPE WITH OWNER
- REMOTE HEAD EXIT LIGHT (EXTERIOR) VERIFY IF REQUIRED IN ADDITION TO ALL LOCATIONS WITH E.C. PER CODE

LINEWORX ARCHITECTURE
2052 Cottage Road
Little Suamico, WI. 54141
ph: 920.621.1133
info@lineworx.us

The Prime and/or subcontractors assumes all responsibility to ensure the accuracy, compliance with applicable statute(s), regulation(s) common building practices and local codes. All dimensions and specifications should be verified by client and/or contractor before actual construction begins. Architect,Engineer/Designer or subsidiaries assume no liability for changes and/or revisions made to plans by client and/or contractors. They may not be reproduced without written permission.

PROPOSED TOWN NINE APARTMENTS / GERMANTOWN

PROPOSED OFFICE/MAINT. BUILDING & MAIL ROOM FOR PRE/3,LLC

GERMANTOWN, WISCONSIN
WASHINGTON COUNTY

REVISIONS
1

PRELIMINARY- NOT FOR CONSTRUCTION

CHECKED BY: SRW
ISSUE DATE: 7-9-24
PROJECT #: 24-022

FOUND. PLAN
FLOOR PLAN

A101

SUMMIT BRICK & TILE
FINEST QUALITY SINCE 1902
Thirteenth and Erie Pueblo, Colorado 81002 719-542-8278

702TBL
CONCORDE
QUEEN SIZE

Seal

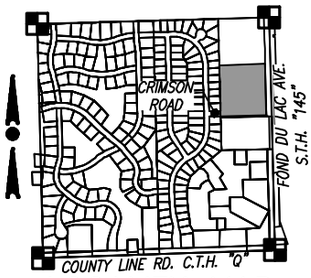
Cascade

Germantown

Cascade
Seal
White

CERTIFIED SURVEY MAP NO. _____

BEING A CONSOLIDATION OF ALL OF LOT 3, VACATED "CRIMSON ROAD" AND A PART OF OUTLOT 1 OF CERTIFIED SURVEY MAP NUMBER 5268, BEING LOCATED IN A PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 35, TOWN 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.



LOCALITY MAP:
S.E. 1/4 SEC. 35, T. 9 N., R. 20 E.
SCALE: 1"=2000'

OWNER:
PREMIERE REAL ESTATE MANAGEMENT, LLC,
3120 GATEWAY ROAD
BROOKFIELD, WI 53045
PHONE: 262-790-4560

PREPARED BY:
TRIO ENGINEERING, LLC
19035 W. CAPITOL DR., SUITE 200
BROOKFIELD, WI 53045
PHONE: 262-790-1480

NORTH
SCALE:1"=100'
0 50 100 200

E. 1/4 CORNER, SEC 35-9-20
WIS. STATE PLANE COORD. SYSTEM - SOUTH ZONE
FND. CONC. MON. W/BRASS CAP
N 442,966.45
E 2,479,554.66

FIRST ADDENDUM TO SEVEN PINES CONDOMINIUM
SECOND ADDENDUM TO SEVEN PINES CONDOMINIUM

S01°25'41"E 529.00
N88°20'13"E 522.50
S88°20'13"W 60.00
FND. 1" IRON PIPE
FND. 1" IRON PIPE

LOT 41
LOT 42
LOT 43
LOT 44
LOT 45
LOT 46
LOT 47
LOT 48
AUTUMN RIDGE
AUTUMN RIDGE

LEGEND:
- ■ – INDICATES Section Corner
- ○ – INDICATES "Set" 0.750" O.D. X 18" long reinforcing bar weighing 1.502 lbs. per lineal foot.
- ● – INDICATES "Found" Monumentation (See Survey)

582.10
N01°25'41"W
582.10
S01°25'41"E
(2121.42)
E. LINE, S.E. 1/4, SEC. 35-9-20 (S01°25'41"E 2650.42)
FOND DU LAC AVE. (S.T.H. "145") (PUBLIC R/W WIDTH VARIES)

LOT 3
C.S.M. #5268

LOT 1
304,146 S.F.
6.9822 Ac.

INDICATES NO ACCESS PERMITTED (PER C.S.M. #5268)

30'
EXISTING 30' WIDE DRAINAGE EASEMENT (PER "AUTUMN RIDGE")

60.00'

VACATED "CRIMSON ROAD" (PER RESOLUTION NO. _____)

PART OF OUTLOT 1
C.S.M. #5268

CRIMSON ROAD (60' R/W)

FND. 2" IRON PIPE

S88°20'13"W 522.50

PART OF OUTLOT 1
C.S.M. #5268

UNPLATTED LANDS

S.E. CORNER, SEC 35-9-20
WIS. STATE PLANE COORD. SYSTEM - SOUTH ZONE
FND. CONC. MON. W/BRASS CAP
N 440,317.10
E 2,479,620.70

NOTES:
- ALL BEARINGS ARE REFERENCED TO GRID NORTH OF THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD-83/2011), IN WHICH THE EAST LINE OF THE S.E. 1/4 OF SECTION 35, TOWN 9 NORTH, RANGE 20 EAST, BEARS N01°25'41"W.
- TELEPHONE LINES, ELECTRIC LINES, CABLE TELEVISION LINES, TELECOMMUNICATIONS LINES, AND OTHER SIMILAR UTILITY SERVICES SHALL BE PLACED UNDERGROUND UNLESS THE APPLICANT OR UTILITY CAN DEMONSTRATE THAT UNDERGROUNDING IS NOT FEASIBLE.

WISCONSIN
GRADY L. GOSSER
S-2972
MENOMONEE FALLS, WI
LAND SURVEYOR

DRAFTED THIS 13th DAY OF JULY, 2026
THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972

JOB NO. 24-46-1237
SHEET 1 OF 4

X:\2024\24-46-1237 Crimson Rd - Germantown\Drawings\Survey\CSM\530CSM01.dwg

CERTIFIED SURVEY MAP NO._____

BEING A CONSOLIDATION OF ALL OF LOT 3, VACATED "CRIMSON ROAD" AND A PART OF OUTLOT 1 OF CERTIFIED SURVEY MAP NUMBER 5268, BEING LOCATED IN A PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 35, TOWN 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

SURVEYOR'S CERTIFICATE:

STATE OF WISCONSIN)
)ss
COUNTY OF WAUKESHA)

I, Grady L. Gosser, Professional Land Surveyor, do hereby certify:

That I have surveyed, divided and mapped a consolidation of all of Lot 3, vacated “Crimson Road” and a Part of Outlot 1 of Certified Survey Map No. 5268, Recorded in the office of the Register of Deeds for Washington County on August 18, 2000, in Volume 37 of Certified Survey Maps, at Page 94 through 97 inclusive, as Document No. 863460, being located in a part of the Northeast 1/4 of the Southeast 1/4 of Section 35, Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

Said Parcel contains 304,146 Square Feet (or 6.9822 Acres) of land, more or less.

That I have made such survey, land division and map by the direction of **Premier Real Estate Management, LLC**, owner of said land.

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 applicable Land Division and Platting Regulations of the Village of Germantown in surveying, dividing and mapping the same.

Dated this_____ day of_____, 20_____.

_____

Grady L. Gosser, P.L.S.
Professional Land Surveyor, S-2972
TRIO ENGINEERING, LLC
19035 W. Capitol Drive, Suite 200
Brookfield, WI 53045
Phone: (262)790-1480

Drafted this 13th Day of JULY, 2026 Job. No. 24-46-1237
THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972 SHEET 2 OF 4
X:\2024\24-46-1237 Crimson Rd - Germantown\Documents\Survey\530-Certified Survey Map\CSM1.doc

CERTIFIED SURVEY MAP NO._____

BEING A CONSOLIDATION OF ALL OF LOT 3, VACATED "CRIMSON ROAD" AND A PART OF OUTLOT 1 OF CERTIFIED SURVEY MAP NUMBER 5268, BEING LOCATED IN A PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 35, TOWN 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

CORPORATE OWNER'S CERTIFICATE OF DEDICATION:

Premier Real Estate Management, 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 and mapped as represented on this map in accordance with the provisions of Chapter 236 of the Wisconsin Statutes, and the applicable Land Division and Platting Regulations of the Village of Germantown, this_____day of _____, 20 _____.

Premier Real Estate Management, LLC,

_____
Bob Murray, Executive Vice President

STATE OF WISCONSIN)
) ss
COUNTY OF)

Personally came before me this _____ day of _____, 20____, Bob Murray, Executive Vice President 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 Executive Vice President 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: _____

Drafted this 13th Day of JULY, 2026 Job. No. 24-46-1237
THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972 SHEET 4 OF 4
X:\2024\24-46-1237 Crimson Rd - Germantown\Documents\Survey\530-Certified Survey Map\CSM1.doc

CERTIFIED SURVEY MAP NO._____

BEING A CONSOLIDATION OF ALL OF LOT 3, VACATED "CRIMSON ROAD" AND A PART OF OUTLOT 1 OF CERTIFIED SURVEY MAP NUMBER 5268, BEING LOCATED IN A PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 35, TOWN 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

VILLAGE OF GERMANTOWN PLANNING COMMISSION APPROVAL:

This Certified Survey Map is hereby approved by the Planning Commission of the Village of Germantown on this _____ day of _____, 2026.

_____ _____

Robert A. Soderberg, Chairman Deborah J. Remich, Secretary

VILLAGE OF GERMANTOWN BOARD APPROVAL:

This Certified Survey Map, being a consolidation of all of Lot 3, vacated “Crimson Road” and a Part of Outlot 1 of Certified Survey Map No. 5268, Recorded in the office of the Register of Deeds for Washington County on August 18, 2000, in Volume 37 of Certified Survey Maps, at Page 94 through 97 inclusive, as Document No. 863460, being located in a part of the Northeast 1/4 of the Southeast 1/4 of Section 35, Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin, having been approved by the Planning Commission being the same, is hereby approved by the Village Board of Trustees of the Village of Germantown on this _____ day of _____, 2026.

_____ _____

Robert A. Soderberg, Village President Donna Ott, Village Clerk

Drafted this 13th Day of JULY, 2026 Job. No. 24-46-1237

THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972 SHEET 4 OF 4

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Crimson Apartments

W140 N9935 Fond du Lac Avenue
Village of Germantown, Wisconsin

Storm Water Management Plan

Prepared by:

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Brookfield, Wisconsin 53045
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Sound Stormwater Design LLC
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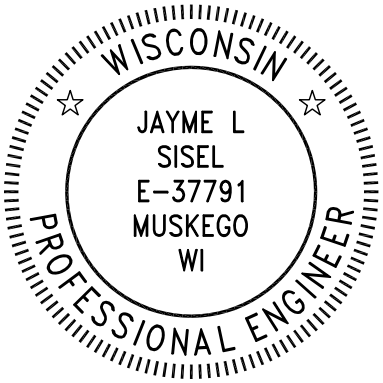

June 13, 2026

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Introduction

PRE/3 is a proposing a new multi-family residential development on a 6.99-acre parcel located at the address W140 N9935 Fond du Lac Avenue in the Village of Germantown, Washington County, Wisconsin.

This report documents the design computations for proposed conditions and presents a plan for stormwater management that meets the requirements of the Village of Germantown, the Milwaukee Metropolitan Sewerage District (MMSD), and the Wisconsin Department of Natural Resources (WDNR).

Owner/ Developer

The owner, developer, and responsible entity for installation and maintenance of the stormwater management practices:

PRE/3
3120 Gateway Road
Brookfield, Wisconsin 53045
Contact: Bob Murray
Email: Bob.Murray@pre-3.com
Phone: (414) 899-0214

Design Requirements

The following design standards have been used to develop the stormwater management plan for Crimson Apartments:

- Village of Germantown Stormwater Management Ordinance Chapter 27 Post-Construction Stormwater Management
- Milwaukee Metropolitan Sewerage District (MMSD) Chapter 13 Rules on Surface Water and Storm Water Runoff Management
- Wisconsin Department of Natural Resources (WDNR) Technical Standards, NR151, and NR216
- Summary of design requirements:
    - Runoff Management: MMSD Chapter 13 rules apply to proposed developments which will result in a net increase in impervious surface by more than 0.5 acres. Chapter 13 rules allow two methods for determination of the volume of detention required. The *Allowable Runoff Release Rate* method requires post-development peak release rates to be no more than 0.5 cfs per acre for the 100-year storm event and 0.15 cfs per acre for the 2-year event. The *Allowable Runoff Volume* method requires post-development runoff volume to be control to no greater than the pre-development runoff volume for both the 100-year and 2-year storm events during the critical time duration, as determined by MMSD for the applicable watershed.

- Water Quality (Total Suspended Solids): Reduce to the maximum extent practicable the total suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff management controls.
- Infiltration: For moderate impervious developments:
  - Infiltrate sufficient runoff volume so that the post-development infiltration volume is at least 75 percent of pre-development infiltration volume, based on an average annual rainfall.
  - No more than 2 percent of the post-construction site is required as an effective infiltration area.

Analysis Overview

The Stormwater Management Plan for the proposed development was prepared in accordance with all applicable Village of Germantown and WDNR requirements. Stormwater runoff conditions were analyzed for runoff volume, peak discharge rates, detention storage requirements, outlet control structures, and storm sewer system requirements.

Hydrologic modeling was completed using HydroCAD Version 10.10 software by HydroCAD Software Solutions. HydroCAD utilizes NRCS methodologies to generate runoff hydrographs and route flows through detention and treatment facilities. The software is capable of modeling individual drainage basins, combining hydrographs, and sizing detention basins and outlet control structures.

MSE3 rainfall distributions were used for modeling the 1, 2, 10 and 100-year, 24-hour storm events. The corresponding rainfall data used for modeling was taken from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation Frequency Tables for Wisconsin Counties and is shown in the following table.

TABLE 1
Design Rainfall Values

Storm Recurrence Interval	24-hour Rainfall Depths
1-year	2.35 inches
2-year	2.65 inches
10-year	3.82 inches
100-year	6.41 inches

Soil conditions at the site were determined using NRCS Soil Survey Maps for Washington County. The Soil Survey identifies the soils at the site as mostly Type C soils (Ozaukee silt loam) and Type C/D (Mequon silt loam). Based on this, a hydrologic soil group Type C was used to determine the runoff curve numbers for the site.

Pre-Development Watershed Description

The existing site is currently vacant and consists primarily of agricultural fields with limited wooded areas. Existing surface drainage generally flows from the northwest toward the southeast,

ultimately discharging to the roadside ditch along Fond du lac Avenue. The entire project site is located within the Menomonee River watershed.

Figure 2, Pre-Development Conditions Plan, shows the location of the project site, land cover types, drainage subareas and flow paths. The following table summarizes the results of the stormwater model for pre-development conditions. Detailed hydrological computations are included in Appendix A.

TABLE 2
Pre-Development Site Conditions

Subarea or Junction	Description	Total Area (acres)	Impervious Area (acres)	Time of Conc. (min.)	Peak Flow Rate (cfs)			
					1-year	2-year	10-year	100-year
1	Subarea	8.31	0.17	19	5.19	6.97	14.91	35.14
1L	**Pre-Development Outflow**	**8.31**	**0.17**	**-**	**5.19**	**6.97**	**14.91**	**35.14**

Post-Development Site Drainage Description

The proposed development consists of four multi-family buildings and surface parking areas.

Stormwater management for the Crimson Apartments development will be provided by two (2) bioretention basins. The proposed development plan will disturb approximately 6.8 acres and will result in a net increase of approximately 3.26 acres of impervious surface.

Figure 3, Post-Development Conditions Plan, shows the proposed land cover, grading, drainage boundaries, flow paths, and proposed site and stormwater management improvements. The following table summarizes the results of the hydrologic analysis for post-development conditions. Detailed hydrological computations are included in Appendix B.

TABLE 3
Post-Development Site Conditions

Subarea or Junction	Description	Total Area (acres)	Impervious Area (acres)	Time of Conc. (min.)	Peak Flow Rate (cfs)			
					1-year	2-year	10-year	100-year
1	Subarea	4.56	1.80	19	4.85	6.06	11.11	22.96
1B	Basin 1B	-	-	-	0.63	0.71	0.94	14.32
2	Subarea	2.97	1.38	22	3.29	4.05	7.20	14.42
2B	Basin 2B	-	-	-	0.50	0.53	2.03	25.66
3	Subarea	0.78	0.25	12	0.98	1.23	2.28	4.77
1L	**Post-Development Outflow**	**8.31**	**3.43**	**-**	**1.30**	**1.57**	**2.69**	**27.19**

Stormwater Detention Basin Design & Summary

Stormwater management for the site will be provided through two bioretention basins serving as the primary treatment practices. Routing analyses were performed for post-development conditions, and a summary of the detention system performance is provided in the following table. Detailed design calculations and basin details are included in Appendix B.

TABLE 4
Routing Analysis Summary

Bioretention Basin 1B

Basin Details:
Bottom elevation = 825.00
Top of engineered soil elevation = 827.00
Top of berm elevation = 832.50

Outlet Control:
3-inch diameter underdrain at I.E. 825.00
3-inch diameter orifice at I.E. 828.00
15-inch diameter outlet pipe at I.E. 825.00
10-foot spillway = 831.50

	1-year Storm	2-year Storm	10-year Storm	100-year Storm
Peak Inflow (cfs)	4.85	6.06	11.11	22.96
Peak Outflow (cfs)	0.63	0.71	0.94	14.32
Max Water Surface Elev.	828.70	829.14	830.70	831.50
Max Storage Volume (ac-ft)	0.18	0.23	0.47	0.63

Bioretention Basin 2B

Basin Details:
Bottom elevation = 816.50
Top of engineered soil elevation = 818.50
Top of berm elevation = 824.00

Outlet Control:
3-inch diameter underdrain at I.E. 816.50
21-inch diameter outlet pipe at I.E. 816.50
10-foot spillway = 823.00

	1-year Storm	2-year Storm	10-year Storm	100-year Storm
Peak Inflow (cfs)	3.68	4.50	7.91	27.46
Peak Outflow (cfs)	0.50	0.53	2.03	25.66
Max Water Surface Elev.	821.02	821.71	822.13	822.87
Max Storage Volume (ac-ft)	0.25	0.33	0.39	0.51

Volumetric Summaries

The stormwater management system has been designed to maintain post-development runoff volumes to no greater than pre-development runoff volumes for the 2 and 100-year, 24-hour design storm events. This is in accordance with the Village of Germantown; Chapter 27 stormwater criteria. The following table compares the results of the analysis from a volumetric standpoint, which is based upon MMSD's Menomonee River critical time period of 9.5 hours (hour 11.75 to 21.25).

TABLE 5
Comparison of Volumes

	Pre-Development		Post-Development
2-year	0.525 ac-ft	>	0.463 ac-ft
100-year	2.366 ac-ft	>	2.338 ac-ft

Water Quality

The Village of Germantown requires new development sites to achieve an 80 percent reduction in total suspended solids (TSS), based on an average annual rainfall as compared to no runoff management controls. Water quality performance was evaluated using winSLAMM Version 10.5.0, developed by Robert Pitt and John Voorhees.

The analysis indicates that the proposed bioretention basins and grass swale will remove approximately 81.6 percent of TSS from stormwater runoff. Detailed winSLAMM computations are included in Appendix C.

Infiltration

The Village of Germantown requires moderate impervious developments to infiltrate sufficient runoff volume so that the post-development infiltration volume is at least 75% of the pre-development infiltration volume, based on an average annual rainfall. However, no more than 2% of the project site is required as an effective infiltration area.

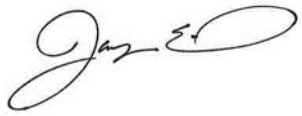
In accordance with Steps A and B of the WDNR Conservation Practice Standard 1002, *Site Evaluation for Stormwater Infiltration*, a preliminary site evaluation was completed to assess the feasibility of infiltration. Based on the initial subsurface soil investigations conducted to date, the site is anticipated to qualify for an exemption from the infiltration performance standard due to the presence of shallow bedrock. A geotechnical report, including detailed soil boring logs, will be submitted under separate cover upon completion to verify and document this determination.

Conclusion

The proposed development will maintain compliance with the Village of Germantown, MMSD, and the WDNR's requirements for control of stormwater quantity, quality, and infiltration. We request, on behalf of PRE/3, approval of this Stormwater Management Plan to allow for construction of the Crimson Apartments development.

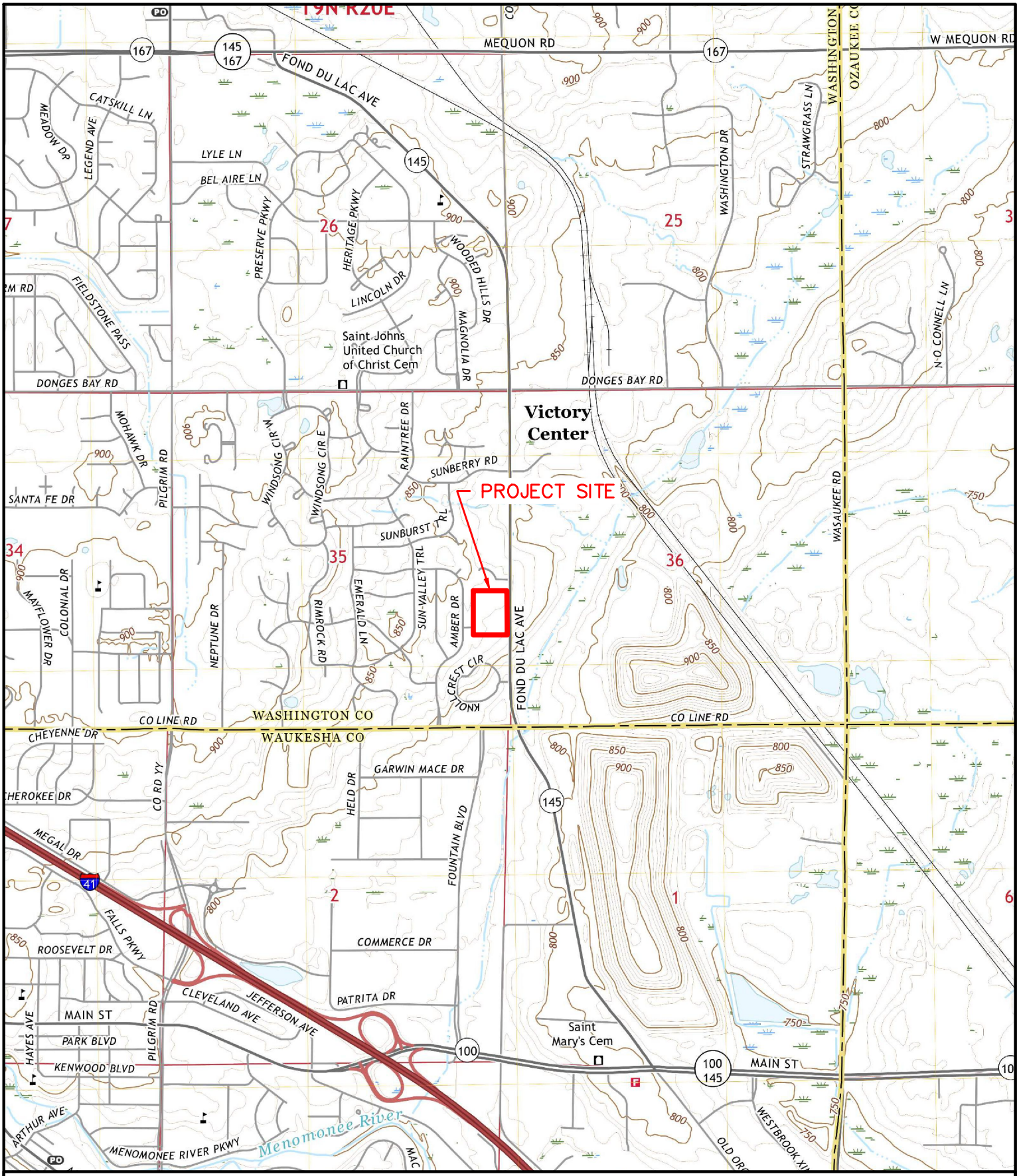
Prepared by:

SOUND STORMWATER DESIGN LLC



Jayme Sisel, P.E.

FIGURES



SITE LOCATION MAP

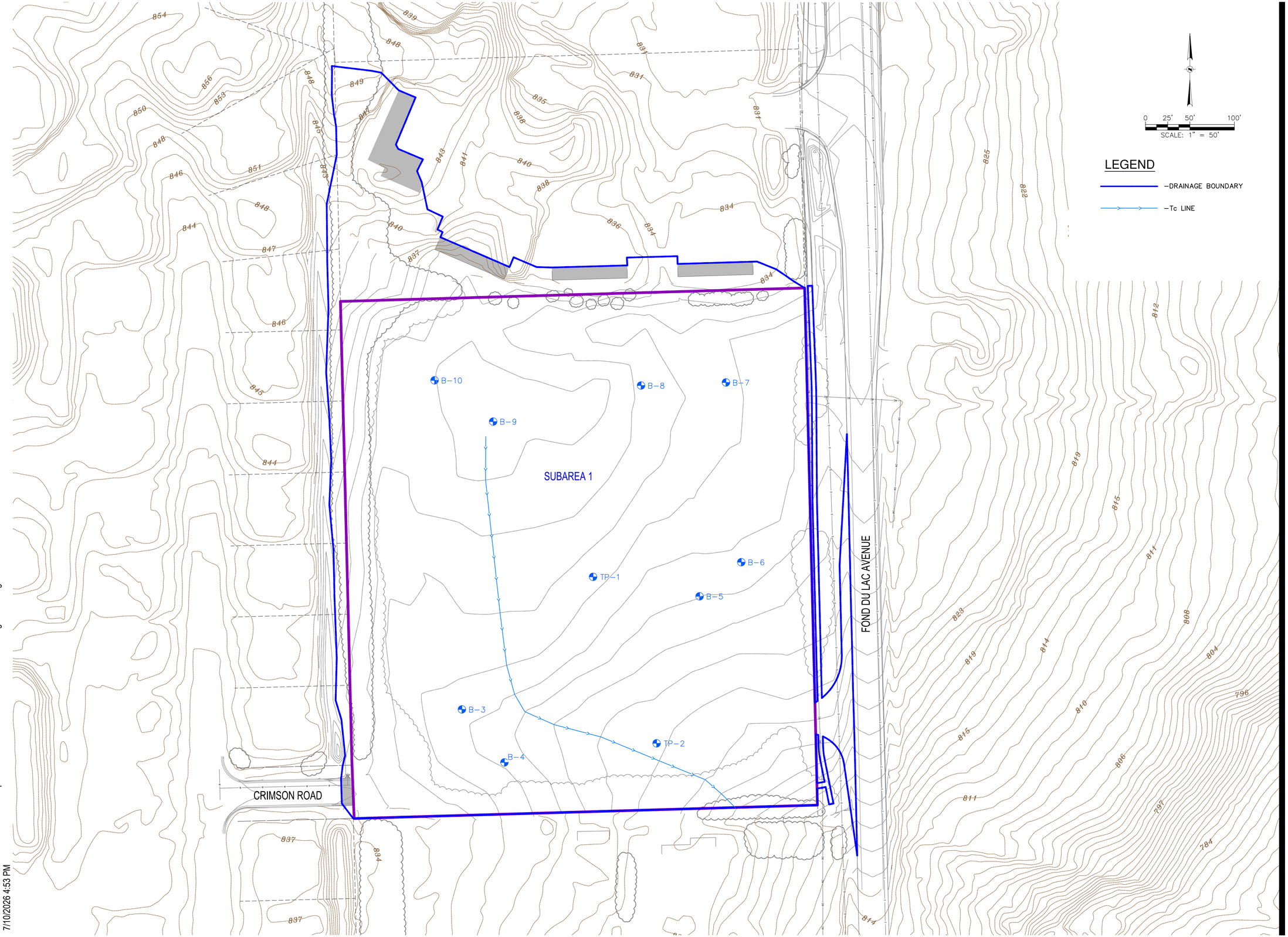
CRIMSON APARTMENTS

W140N9935 FOND DU LAC AVE

GERMANTOWN, WI

FIGURE 1

SOUND STORMWATER DESIGN



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SOUND STORMWATER DESIGN

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CLIENT:
PRE/3
3120 GATEWAY ROAD
BROOKFIELD, WISCONSIN 53045

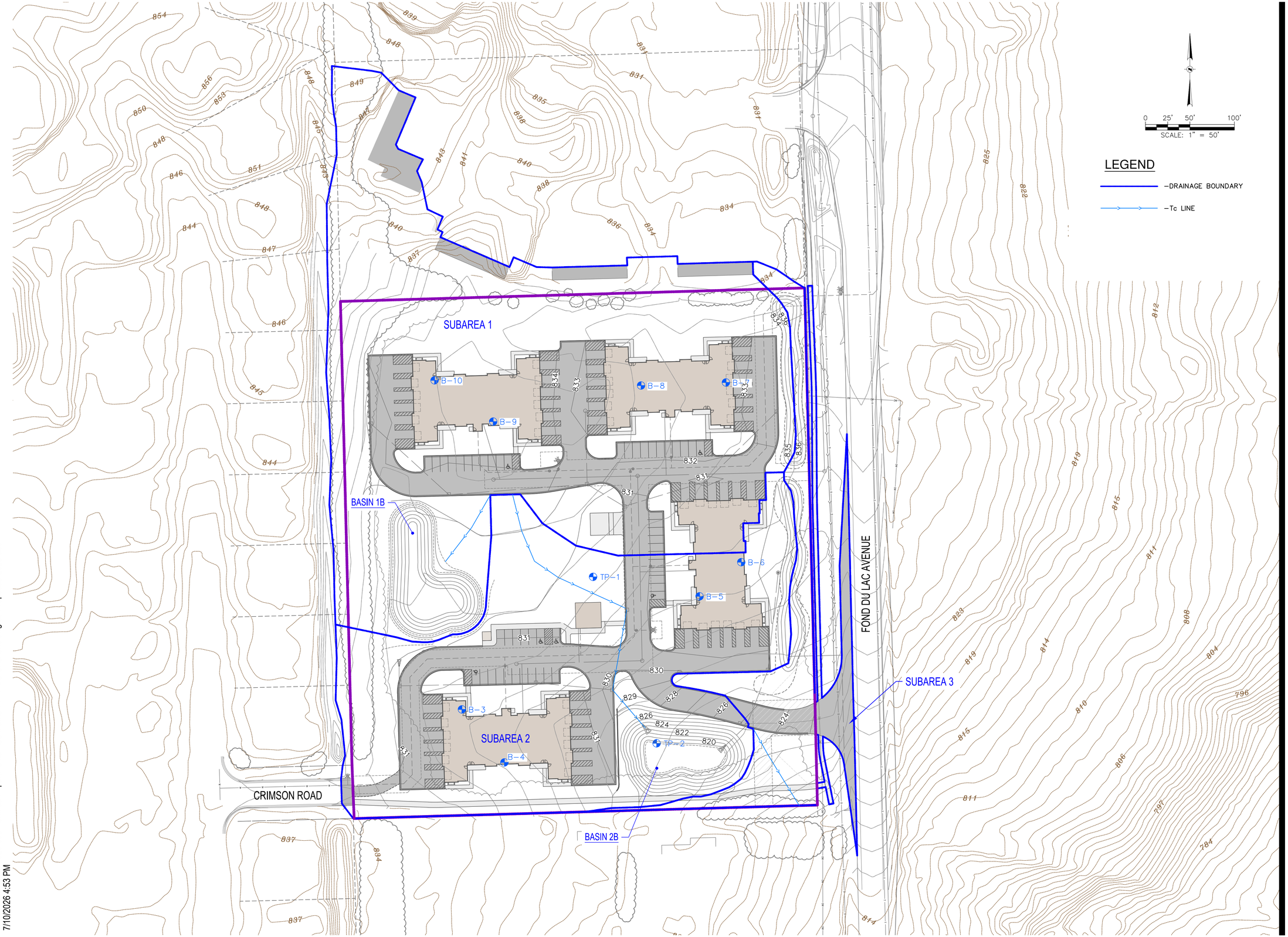
PROJECT TITLE:
CRIMSON APARTMENTS
W140 N9935 FOND DU LAC AVE
GERMANTOWN, WISCONSIN

DATE: 07-13-26

JOB NO: 2026-009

SHEET TITLE:
PRE-DEVELOPMENT CONDITIONS PLAN

FIGURE:
2



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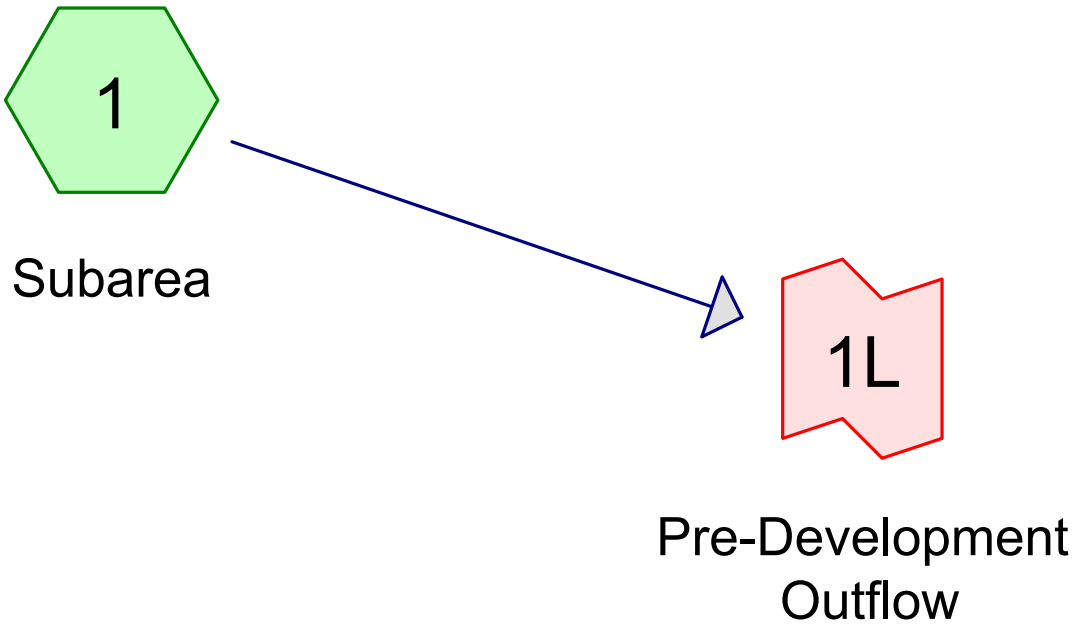
JOB NO: 2026-009

SHEET TITLE:
POST-DEVELOPMENT CONDITIONS PLAN

FIGURE:
3

APPENDIX A

Pre-Development Hydrologic Analysis



Subcat Reach Pond Link

Routing Diagram for Existing
Prepared by Sound Stormwater Design, Printed 7/10/2026
HydroCAD® 10.20-4c s/n 11025 © 2024 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 yr	MSE 24-hr	3	Default	24.00	1	2.35	2
2	2 yr	MSE 24-hr	3	Default	24.00	1	2.65	2
3	10 yr	MSE 24-hr	3	Default	24.00	1	3.82	2
4	100 yr	MSE 24-hr	3	Default	24.00	1	6.41	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.760	78	cropland (1)
0.170	98	offsite impervious (1)
0.510	74	offsite lawn (1)
0.200	74	row lawn (1)
1.670	70	woodland (1)
8.310	**76**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subarea Runoff Area=8.310 ac 2.05% Impervious Runoff Depth>0.60"
Flow Length=590' Tc=19.4 min CN=76 Runoff=5.19 cfs 0.419 af

Link 1L: Pre-DevelopmentOutflow Inflow=5.19 cfs 0.419 af
Primary=5.19 cfs 0.419 af

Total Runoff Area = 8.310 ac Runoff Volume = 0.419 af Average Runoff Depth = 0.60"
97.95% Pervious = 8.140 ac 2.05% Impervious = 0.170 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subarea Runoff Area=8.310 ac 2.05% Impervious Runoff Depth>0.79"
Flow Length=590' Tc=19.4 min CN=76 Runoff=6.97 cfs 0.544 af

Link 1L: Pre-DevelopmentOutflow Inflow=6.97 cfs 0.544 af
Primary=6.97 cfs 0.544 af

Total Runoff Area = 8.310 ac Runoff Volume = 0.544 af Average Runoff Depth = 0.79"
97.95% Pervious = 8.140 ac 2.05% Impervious = 0.170 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subarea Runoff Area=8.310 ac 2.05% Impervious Runoff Depth>1.60"
Flow Length=590' Tc=19.4 min CN=76 Runoff=14.91 cfs 1.108 af

Link 1L: Pre-DevelopmentOutflow Inflow=14.91 cfs 1.108 af
Primary=14.91 cfs 1.108 af

Total Runoff Area = 8.310 ac Runoff Volume = 1.108 af Average Runoff Depth = 1.60"
97.95% Pervious = 8.140 ac 2.05% Impervious = 0.170 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subarea Runoff Area=8.310 ac 2.05% Impervious Runoff Depth>3.73"
Flow Length=590' Tc=19.4 min CN=76 Runoff=35.14 cfs 2.584 af

Link 1L: Pre-DevelopmentOutflow Inflow=35.14 cfs 2.584 af
Primary=35.14 cfs 2.584 af

Total Runoff Area = 8.310 ac Runoff Volume = 2.584 af Average Runoff Depth = 3.73"
97.95% Pervious = 8.140 ac 2.05% Impervious = 0.170 ac

Summary for Subcatchment 1: Subarea

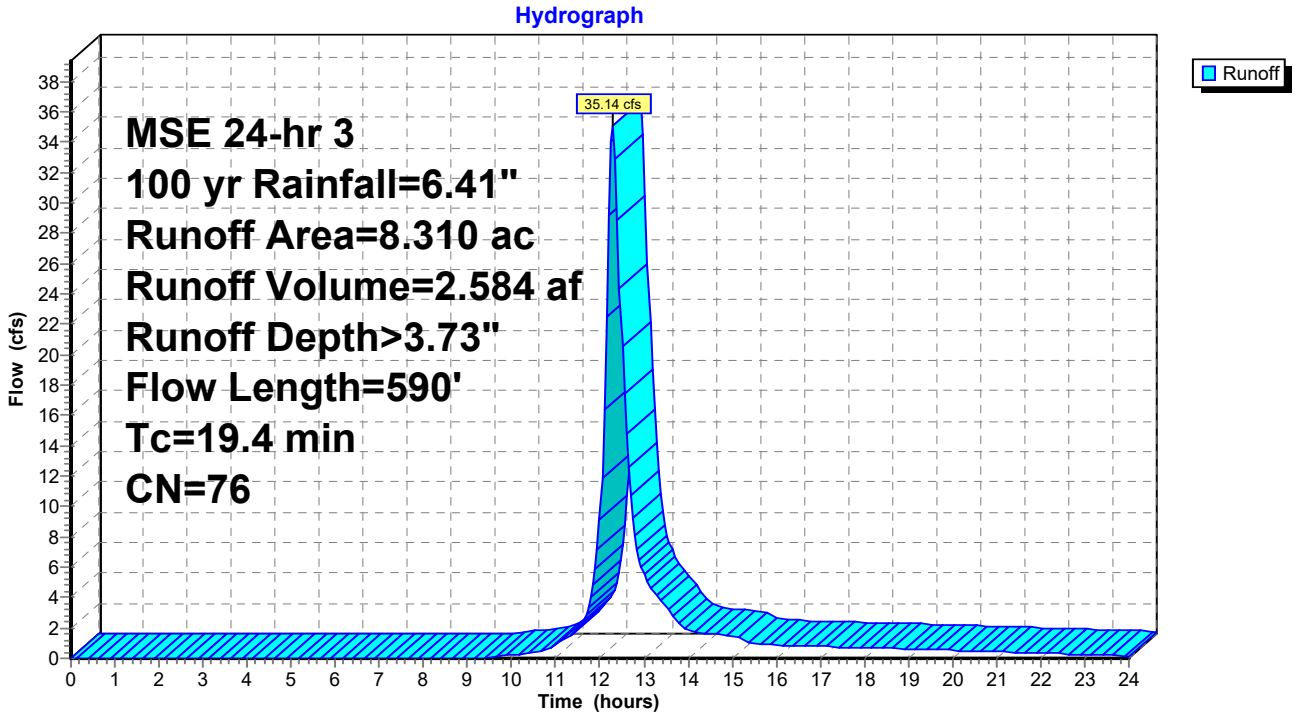
Runoff = 35.14 cfs @ 12.29 hrs, Volume= 2.584 af, Depth> 3.73"
Routed to Link 1L : Pre-Development Outflow

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

	Area (ac)	CN	Description
*	0.170	98	offsite impervious
*	0.510	74	offsite lawn
*	5.760	78	cropland
*	1.670	70	woodland
*	0.200	74	row lawn
	8.310	76	Weighted Average
	8.140		97.95% Pervious Area
	0.170		2.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0100	0.11		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.65"
1.7	160	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.0	330	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.4	590	Total			

Subcatchment 1: Subarea

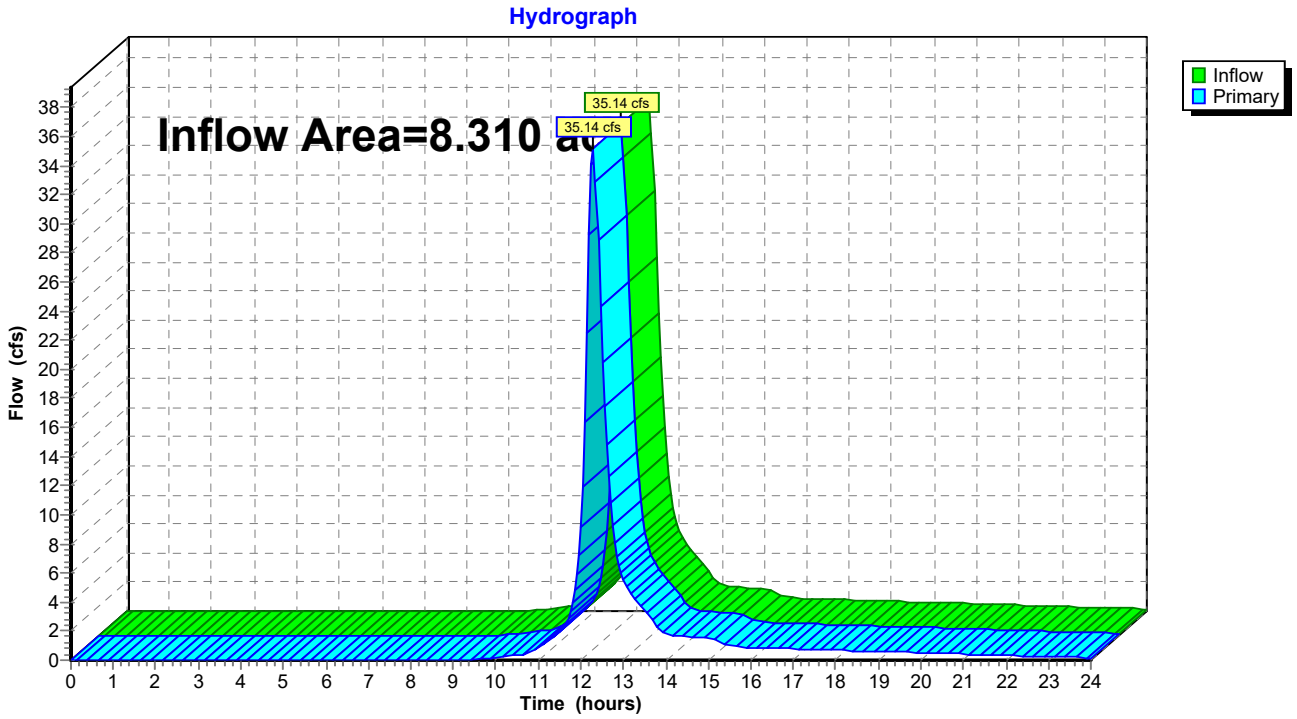


Summary for Link 1L: Pre-Development Outflow

Inflow Area = 8.310 ac, 2.05% Impervious, Inflow Depth > 3.73" for 100 yr event
Inflow = 35.14 cfs @ 12.29 hrs, Volume= 2.584 af
Primary = 35.14 cfs @ 12.29 hrs, Volume= 2.584 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 1L: Pre-Development Outflow



Events for Subcatchment 1: Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.35	5.19	0.419	0.60
2 yr	2.65	6.97	0.544	0.79
10 yr	3.82	14.91	1.108	1.60
100 yr	**6.41**	**35.14**	**2.584**	**3.73**

Events for Link 1L: Pre-Development Outflow

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 yr	5.19	5.19	**0.00**
2 yr	6.97	6.97	0.00
10 yr	14.91	14.91	0.00
100 yr	**35.14**	**35.14**	0.00

Hydrograph for Link 1L: Pre-Development Outflow

Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)
0.00	0.000	2.60	0.000	5.20	0.000	7.80	0.000
0.05	0.000	2.65	0.000	5.25	0.000	7.85	0.000
0.10	0.000	2.70	0.000	5.30	0.000	7.90	0.000
0.15	0.000	2.75	0.000	5.35	0.000	7.95	0.000
0.20	0.000	2.80	0.000	5.40	0.000	8.00	0.000
0.25	0.000	2.85	0.000	5.45	0.000	8.05	0.000
0.30	0.000	2.90	0.000	5.50	0.000	8.10	0.000
0.35	0.000	2.95	0.000	5.55	0.000	8.15	0.000
0.40	0.000	3.00	0.000	5.60	0.000	8.20	0.000
0.45	0.000	3.05	0.000	5.65	0.000	8.25	0.000
0.50	0.000	3.10	0.000	5.70	0.000	8.30	0.000
0.55	0.000	3.15	0.000	5.75	0.000	8.35	0.000
0.60	0.000	3.20	0.000	5.80	0.000	8.40	0.000
0.65	0.000	3.25	0.000	5.85	0.000	8.45	0.000
0.70	0.000	3.30	0.000	5.90	0.000	8.50	0.000
0.75	0.000	3.35	0.000	5.95	0.000	8.55	0.000
0.80	0.000	3.40	0.000	6.00	0.000	8.60	0.000
0.85	0.000	3.45	0.000	6.05	0.000	8.65	0.000
0.90	0.000	3.50	0.000	6.10	0.000	8.70	0.000
0.95	0.000	3.55	0.000	6.15	0.000	8.75	0.000
1.00	0.000	3.60	0.000	6.20	0.000	8.80	0.000
1.05	0.000	3.65	0.000	6.25	0.000	8.85	0.000
1.10	0.000	3.70	0.000	6.30	0.000	8.90	0.000
1.15	0.000	3.75	0.000	6.35	0.000	8.95	0.000
1.20	0.000	3.80	0.000	6.40	0.000	9.00	0.000
1.25	0.000	3.85	0.000	6.45	0.000	9.05	0.000
1.30	0.000	3.90	0.000	6.50	0.000	9.10	0.000
1.35	0.000	3.95	0.000	6.55	0.000	9.15	0.000
1.40	0.000	4.00	0.000	6.60	0.000	9.20	0.000
1.45	0.000	4.05	0.000	6.65	0.000	9.25	0.000
1.50	0.000	4.10	0.000	6.70	0.000	9.30	0.000
1.55	0.000	4.15	0.000	6.75	0.000	9.35	0.000
1.60	0.000	4.20	0.000	6.80	0.000	9.40	0.000
1.65	0.000	4.25	0.000	6.85	0.000	9.45	0.000
1.70	0.000	4.30	0.000	6.90	0.000	9.50	0.000
1.75	0.000	4.35	0.000	6.95	0.000	9.55	0.000
1.80	0.000	4.40	0.000	7.00	0.000	9.60	0.000
1.85	0.000	4.45	0.000	7.05	0.000	9.65	0.000
1.90	0.000	4.50	0.000	7.10	0.000	9.70	0.000
1.95	0.000	4.55	0.000	7.15	0.000	9.75	0.000
2.00	0.000	4.60	0.000	7.20	0.000	9.80	0.000
2.05	0.000	4.65	0.000	7.25	0.000	9.85	0.000
2.10	0.000	4.70	0.000	7.30	0.000	9.90	0.000
2.15	0.000	4.75	0.000	7.35	0.000	9.95	0.000
2.20	0.000	4.80	0.000	7.40	0.000	10.00	0.000
2.25	0.000	4.85	0.000	7.45	0.000	10.05	0.000
2.30	0.000	4.90	0.000	7.50	0.000	10.10	0.000
2.35	0.000	4.95	0.000	7.55	0.000	10.15	0.000
2.40	0.000	5.00	0.000	7.60	0.000	10.20	0.000
2.45	0.000	5.05	0.000	7.65	0.000	10.25	0.000
2.50	0.000	5.10	0.000	7.70	0.000	10.30	0.000
2.55	0.000	5.15	0.000	7.75	0.000	10.35	0.000

Hydrograph for Link 1L: Pre-Development Outflow (continued)

Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)
10.40	0.000	13.00	0.308	15.60	0.437	18.20	0.486
10.45	0.000	13.05	0.314	15.65	0.438	18.25	0.487
10.50	0.000	13.10	0.319	15.70	0.439	18.30	0.488
10.55	0.000	13.15	0.325	15.75	0.440	18.35	0.488
10.60	0.000	13.20	0.330	15.80	0.441	18.40	0.489
10.65	0.000	13.25	0.334	15.85	0.442	18.45	0.490
10.70	0.000	13.30	0.339	15.90	0.443	18.50	0.491
10.75	0.000	13.35	0.343	15.95	0.445	18.55	0.492
10.80	0.000	13.40	0.347	16.00	0.446	18.60	0.492
10.85	0.000	13.45	0.352	16.05	0.447	18.65	0.493
10.90	0.000	13.50	0.355	16.10	0.448	18.70	0.494
10.95	0.000	13.55	0.359	16.15	0.449	18.75	0.495
11.00	0.000	13.60	0.363	16.20	0.450	18.80	0.495
11.05	0.000	13.65	0.366	16.25	0.451	18.85	0.496
11.10	0.000	13.70	0.369	16.30	0.452	18.90	0.497
11.15	0.000	13.75	0.372	16.35	0.453	18.95	0.498
11.20	0.000	13.80	0.374	16.40	0.454	19.00	0.498
11.25	0.000	13.85	0.376	16.45	0.455	19.05	0.499
11.30	0.000	13.90	0.379	16.50	0.456	19.10	0.500
11.35	0.000	13.95	0.381	16.55	0.457	19.15	0.501
11.40	0.000	14.00	0.383	16.60	0.458	19.20	0.501
11.45	0.000	14.05	0.385	16.65	0.458	19.25	0.502
11.50	0.000	14.10	0.387	16.70	0.459	19.30	0.503
11.55	0.000	14.15	0.389	16.75	0.460	19.35	0.503
11.60	0.000	14.20	0.391	16.80	0.461	19.40	0.504
11.65	0.000	14.25	0.393	16.85	0.462	19.45	0.505
11.70	0.000	14.30	0.395	16.90	0.463	19.50	0.505
11.75	0.001	14.35	0.397	16.95	0.464	19.55	0.506
11.80	0.001	14.40	0.399	17.00	0.465	19.60	0.507
11.85	0.002	14.45	0.400	17.05	0.466	19.65	0.507
11.90	0.004	14.50	0.402	17.10	0.467	19.70	0.508
11.95	0.006	14.55	0.404	17.15	0.468	19.75	0.509
12.00	0.009	14.60	0.406	17.20	0.469	19.80	0.509
12.05	0.015	14.65	0.408	17.25	0.470	19.85	0.510
12.10	0.024	14.70	0.410	17.30	0.471	19.90	0.511
12.15	0.039	14.75	0.412	17.35	0.472	19.95	0.511
12.20	0.060	14.80	0.413	17.40	0.472	20.00	0.512
12.25	0.086	14.85	0.415	17.45	0.473	20.05	0.512
12.30	0.115	14.90	0.417	17.50	0.474	20.10	0.513
12.35	0.143	14.95	0.419	17.55	0.475	20.15	0.514
12.40	0.168	15.00	0.421	17.60	0.476	20.20	0.514
12.45	0.190	15.05	0.422	17.65	0.477	20.25	0.515
12.50	0.209	15.10	0.424	17.70	0.478	20.30	0.516
12.55	0.226	15.15	0.426	17.75	0.479	20.35	0.516
12.60	0.240	15.20	0.427	17.80	0.479	20.40	0.517
12.65	0.253	15.25	0.429	17.85	0.480	20.45	0.517
12.70	0.264	15.30	0.430	17.90	0.481	20.50	0.518
12.75	0.273	15.35	0.431	17.95	0.482	20.55	0.518
12.80	0.282	15.40	0.433	18.00	0.483	20.60	0.519
12.85	0.289	15.45	0.434	18.05	0.484	20.65	0.520
12.90	0.296	15.50	0.435	18.10	0.484	20.70	0.520
12.95	0.302	15.55	0.436	18.15	0.485	20.75	0.521

Hydrograph for Link 1L: Pre-Development Outflow (continued)

Time (hours)	Primary-Volume (acre-feet)
20.80	0.521
20.85	0.522
20.90	0.522
20.95	0.523
21.00	0.523
21.05	0.524
21.10	0.524
21.15	0.525
21.20	0.525
21.25	0.526
21.30	0.526
21.35	0.527
21.40	0.527
21.45	0.528
21.50	0.528
21.55	0.529
21.60	0.529
21.65	0.529
21.70	0.530
21.75	0.530
21.80	0.531
21.85	0.531
21.90	0.532
21.95	0.532
22.00	0.532
22.05	0.533
22.10	0.533
22.15	0.534
22.20	0.534
22.25	0.534
22.30	0.535
22.35	0.535
22.40	0.535
22.45	0.536
22.50	0.536
22.55	0.537
22.60	0.537
22.65	0.537
22.70	0.538
22.75	0.538
22.80	0.538
22.85	0.538
22.90	0.539
22.95	0.539
23.00	0.539
23.05	0.540
23.10	0.540
23.15	0.540
23.20	0.541
23.25	0.541
23.30	0.541
23.35	0.541
23.40	0.542
23.45	0.542
23.50	0.542
23.55	0.542
23.60	0.542
23.65	0.543
23.70	0.543
23.75	0.543
23.80	0.543
23.85	0.544
23.90	0.544
23.95	0.544
24.00	**0.544**

Hydrograph for Link 1L: Pre-Development Outflow

Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)
0.00	0.000	2.60	0.000	5.20	0.000	7.80	0.000
0.05	0.000	2.65	0.000	5.25	0.000	7.85	0.000
0.10	0.000	2.70	0.000	5.30	0.000	7.90	0.000
0.15	0.000	2.75	0.000	5.35	0.000	7.95	0.000
0.20	0.000	2.80	0.000	5.40	0.000	8.00	0.000
0.25	0.000	2.85	0.000	5.45	0.000	8.05	0.000
0.30	0.000	2.90	0.000	5.50	0.000	8.10	0.000
0.35	0.000	2.95	0.000	5.55	0.000	8.15	0.000
0.40	0.000	3.00	0.000	5.60	0.000	8.20	0.000
0.45	0.000	3.05	0.000	5.65	0.000	8.25	0.000
0.50	0.000	3.10	0.000	5.70	0.000	8.30	0.000
0.55	0.000	3.15	0.000	5.75	0.000	8.35	0.000
0.60	0.000	3.20	0.000	5.80	0.000	8.40	0.000
0.65	0.000	3.25	0.000	5.85	0.000	8.45	0.000
0.70	0.000	3.30	0.000	5.90	0.000	8.50	0.000
0.75	0.000	3.35	0.000	5.95	0.000	8.55	0.000
0.80	0.000	3.40	0.000	6.00	0.000	8.60	0.000
0.85	0.000	3.45	0.000	6.05	0.000	8.65	0.000
0.90	0.000	3.50	0.000	6.10	0.000	8.70	0.000
0.95	0.000	3.55	0.000	6.15	0.000	8.75	0.000
1.00	0.000	3.60	0.000	6.20	0.000	8.80	0.000
1.05	0.000	3.65	0.000	6.25	0.000	8.85	0.000
1.10	0.000	3.70	0.000	6.30	0.000	8.90	0.000
1.15	0.000	3.75	0.000	6.35	0.000	8.95	0.000
1.20	0.000	3.80	0.000	6.40	0.000	9.00	0.000
1.25	0.000	3.85	0.000	6.45	0.000	9.05	0.000
1.30	0.000	3.90	0.000	6.50	0.000	9.10	0.000
1.35	0.000	3.95	0.000	6.55	0.000	9.15	0.000
1.40	0.000	4.00	0.000	6.60	0.000	9.20	0.000
1.45	0.000	4.05	0.000	6.65	0.000	9.25	0.000
1.50	0.000	4.10	0.000	6.70	0.000	9.30	0.000
1.55	0.000	4.15	0.000	6.75	0.000	9.35	0.001
1.60	0.000	4.20	0.000	6.80	0.000	9.40	0.001
1.65	0.000	4.25	0.000	6.85	0.000	9.45	0.001
1.70	0.000	4.30	0.000	6.90	0.000	9.50	0.001
1.75	0.000	4.35	0.000	6.95	0.000	9.55	0.002
1.80	0.000	4.40	0.000	7.00	0.000	9.60	0.002
1.85	0.000	4.45	0.000	7.05	0.000	9.65	0.003
1.90	0.000	4.50	0.000	7.10	0.000	9.70	0.003
1.95	0.000	4.55	0.000	7.15	0.000	9.75	0.004
2.00	0.000	4.60	0.000	7.20	0.000	9.80	0.004
2.05	0.000	4.65	0.000	7.25	0.000	9.85	0.005
2.10	0.000	4.70	0.000	7.30	0.000	9.90	0.006
2.15	0.000	4.75	0.000	7.35	0.000	9.95	0.007
2.20	0.000	4.80	0.000	7.40	0.000	10.00	0.007
2.25	0.000	4.85	0.000	7.45	0.000	10.05	0.008
2.30	0.000	4.90	0.000	7.50	0.000	10.10	0.009
2.35	0.000	4.95	0.000	7.55	0.000	10.15	0.010
2.40	0.000	5.00	0.000	7.60	0.000	10.20	0.011
2.45	0.000	5.05	0.000	7.65	0.000	10.25	0.012
2.50	0.000	5.10	0.000	7.70	0.000	10.30	0.013
2.55	0.000	5.15	0.000	7.75	0.000	10.35	0.015

Hydrograph for Link 1L: Pre-Development Outflow (continued)

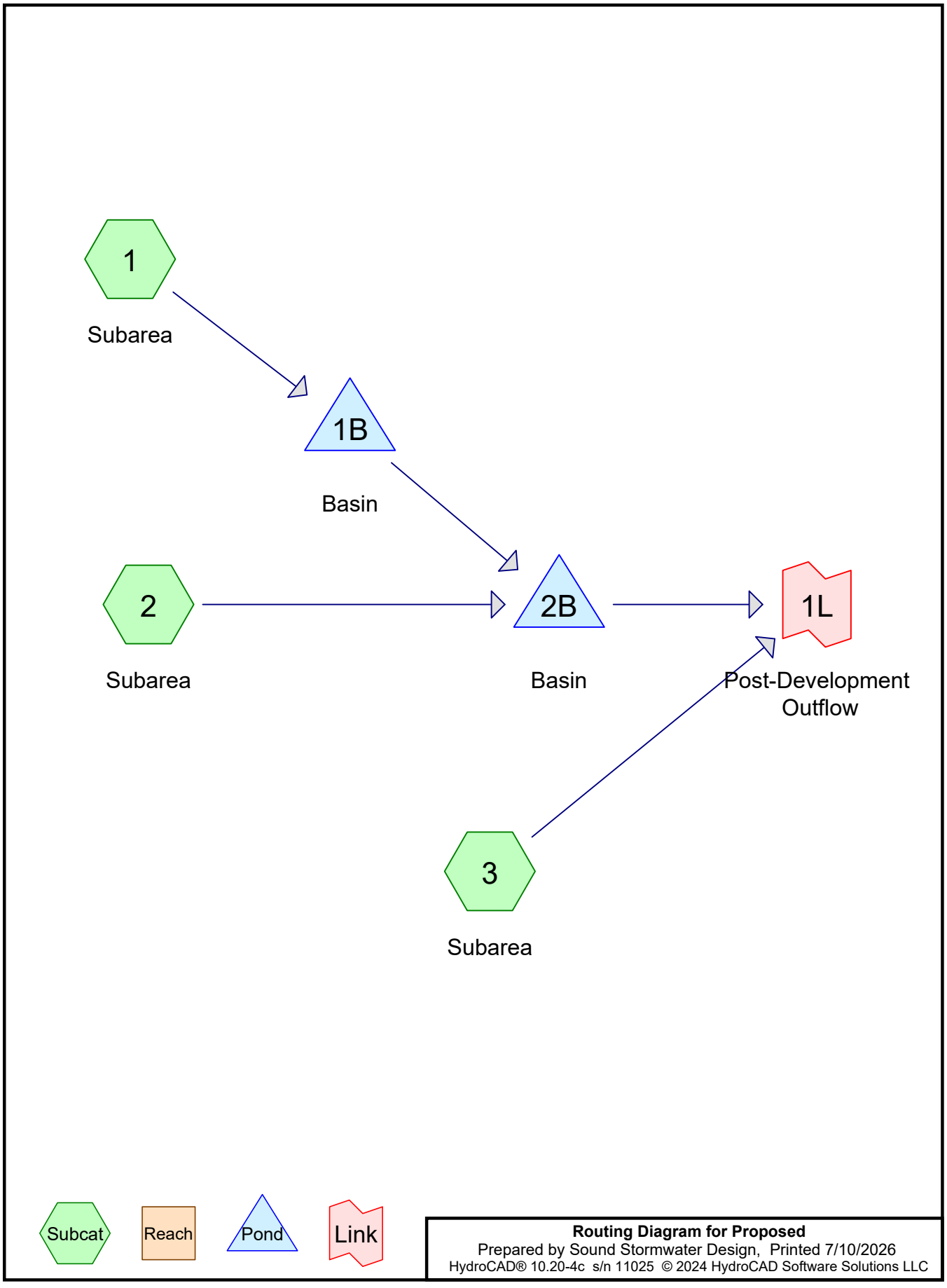
Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)
10.40	0.016	13.00	1.746	15.60	2.216	18.20	2.386
10.45	0.017	13.05	1.768	15.65	2.220	18.25	2.389
10.50	0.019	13.10	1.789	15.70	2.224	18.30	2.392
10.55	0.020	13.15	1.808	15.75	2.227	18.35	2.395
10.60	0.022	13.20	1.827	15.80	2.231	18.40	2.397
10.65	0.023	13.25	1.844	15.85	2.235	18.45	2.400
10.70	0.025	13.30	1.861	15.90	2.238	18.50	2.403
10.75	0.027	13.35	1.878	15.95	2.242	18.55	2.406
10.80	0.029	13.40	1.893	16.00	2.246	18.60	2.408
10.85	0.032	13.45	1.908	16.05	2.249	18.65	2.411
10.90	0.035	13.50	1.922	16.10	2.253	18.70	2.413
10.95	0.038	13.55	1.936	16.15	2.256	18.75	2.416
11.00	0.042	13.60	1.949	16.20	2.260	18.80	2.419
11.05	0.046	13.65	1.960	16.25	2.263	18.85	2.421
11.10	0.050	13.70	1.971	16.30	2.267	18.90	2.424
11.15	0.055	13.75	1.981	16.35	2.270	18.95	2.426
11.20	0.060	13.80	1.991	16.40	2.274	19.00	2.429
11.25	0.066	13.85	1.999	16.45	2.277	19.05	2.431
11.30	0.072	13.90	2.007	16.50	2.281	19.10	2.434
11.35	0.079	13.95	2.015	16.55	2.284	19.15	2.436
11.40	0.086	14.00	2.022	16.60	2.288	19.20	2.439
11.45	0.093	14.05	2.030	16.65	2.291	19.25	2.441
11.50	0.102	14.10	2.037	16.70	2.294	19.30	2.443
11.55	0.110	14.15	2.044	16.75	2.298	19.35	2.446
11.60	0.120	14.20	2.051	16.80	2.301	19.40	2.448
11.65	0.130	14.25	2.058	16.85	2.304	19.45	2.450
11.70	0.142	14.30	2.065	16.90	2.308	19.50	2.453
11.75	0.156	14.35	2.072	16.95	2.311	19.55	2.455
11.80	0.173	14.40	2.079	17.00	2.314	19.60	2.457
11.85	0.193	14.45	2.086	17.05	2.317	19.65	2.460
11.90	0.217	14.50	2.092	17.10	2.320	19.70	2.462
11.95	0.247	14.55	2.099	17.15	2.324	19.75	2.464
12.00	0.284	14.60	2.106	17.20	2.327	19.80	2.466
12.05	0.334	14.65	2.112	17.25	2.330	19.85	2.469
12.10	0.401	14.70	2.119	17.30	2.333	19.90	2.471
12.15	0.494	14.75	2.125	17.35	2.336	19.95	2.473
12.20	0.615	14.80	2.132	17.40	2.339	20.00	2.475
12.25	0.755	14.85	2.138	17.45	2.342	20.05	2.477
12.30	0.900	14.90	2.145	17.50	2.345	20.10	2.479
12.35	1.036	14.95	2.151	17.55	2.349	20.15	2.481
12.40	1.156	15.00	2.157	17.60	2.352	20.20	2.483
12.45	1.256	15.05	2.164	17.65	2.355	20.25	2.485
12.50	1.341	15.10	2.170	17.70	2.358	20.30	2.487
12.55	1.413	15.15	2.176	17.75	2.360	20.35	2.489
12.60	1.474	15.20	2.182	17.80	2.363	20.40	2.491
12.65	1.526	15.25	2.187	17.85	2.366	20.45	2.493
12.70	1.571	15.30	2.192	17.90	2.369	20.50	2.495
12.75	1.609	15.35	2.196	17.95	2.372	20.55	2.497
12.80	1.642	15.40	2.200	18.00	2.375	20.60	2.499
12.85	1.672	15.45	2.204	18.05	2.378	20.65	2.501
12.90	1.699	15.50	2.208	18.10	2.381	20.70	2.503
12.95	1.723	15.55	2.212	18.15	2.384	20.75	2.505

Hydrograph for Link 1L: Pre-Development Outflow (continued)

Time (hours)	Primary-Volume (acre-feet)
20.80	2.507
20.85	2.508
20.90	2.510
20.95	2.512
21.00	2.514
21.05	2.515
21.10	2.517
21.15	2.519
21.20	2.521
21.25	2.522
21.30	2.524
21.35	2.525
21.40	2.527
21.45	2.529
21.50	2.530
21.55	2.532
21.60	2.533
21.65	2.535
21.70	2.536
21.75	2.538
21.80	2.539
21.85	2.541
21.90	2.542
21.95	2.543
22.00	2.545
22.05	2.546
22.10	2.548
22.15	2.549
22.20	2.550
22.25	2.551
22.30	2.553
22.35	2.554
22.40	2.555
22.45	2.556
22.50	2.558
22.55	2.559
22.60	2.560
22.65	2.561
22.70	2.562
22.75	2.563
22.80	2.564
22.85	2.565
22.90	2.566
22.95	2.567
23.00	2.568
23.05	2.569
23.10	2.570
23.15	2.571
23.20	2.572
23.25	2.573
23.30	2.574
23.35	2.575
23.40	2.576
23.45	2.577
23.50	2.577
23.55	2.578
23.60	2.579
23.65	2.580
23.70	2.580
23.75	2.581
23.80	2.582
23.85	2.582
23.90	2.583
23.95	2.584
24.00	**2.584**

APPENDIX B

Post-Development Hydrologic Analysis


1
Subarea
1B
Basin
2
Subarea
2B
Basin
1L
Post-Development
Outflow
3
Subarea
Subcat
Reach
Pond
Link
Routing Diagram for Proposed
Prepared by Sound Stormwater Design, Printed 7/10/2026
HydroCAD® 10.20-4c s/n 11025 © 2024 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 yr	MSE 24-hr	3	Default	24.00	1	2.35	2
2	2 yr	MSE 24-hr	3	Default	24.00	1	2.65	2
3	10 yr	MSE 24-hr	3	Default	24.00	1	3.82	2
4	100 yr	MSE 24-hr	3	Default	24.00	1	6.41	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.260	98	impervious (1, 2, 3)
3.530	74	lawn (1, 2, 3)
0.170	98	offsite impervious (1, 2)
0.480	74	offsite lawn (1, 2)
0.460	70	offsite woodland (1, 2)
0.410	70	woodland (1, 2, 3)
8.310	**83**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subarea Runoff Area=4.560 ac 39.47% Impervious Runoff Depth>0.94"
Flow Length=90' Slope=0.0100 '/' Tc=19.0 min CN=83 Runoff=4.85 cfs 0.358 af

Subcatchment2: Subarea Runoff Area=2.970 ac 46.46% Impervious Runoff Depth>1.06"
Flow Length=345' Slope=0.0100 '/' Tc=22.2 min CN=85 Runoff=3.29 cfs 0.262 af

Subcatchment3: Subarea Runoff Area=0.780 ac 32.05% Impervious Runoff Depth>0.89"
Flow Length=100' Slope=0.0400 '/' Tc=11.9 min CN=82 Runoff=0.98 cfs 0.058 af

Pond 1B: Basin Peak Elev=828.70' Storage=0.180 af Inflow=4.85 cfs 0.358 af
Outflow=0.63 cfs 0.356 af

Pond 2B: Basin Peak Elev=821.02' Storage=0.250 af Inflow=3.68 cfs 0.618 af
Outflow=0.50 cfs 0.472 af

Link 1L: Post-DevelopmentOutflow Inflow=1.30 cfs 0.530 af
Primary=1.30 cfs 0.530 af

Total Runoff Area = 8.310 ac Runoff Volume = 0.678 af Average Runoff Depth = 0.98"
58.72% Pervious = 4.880 ac 41.28% Impervious = 3.430 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subarea Runoff Area=4.560 ac 39.47% Impervious Runoff Depth>1.17"
Flow Length=90' Slope=0.0100 '/' Tc=19.0 min CN=83 Runoff=6.06 cfs 0.444 af

Subcatchment2: Subarea Runoff Area=2.970 ac 46.46% Impervious Runoff Depth>1.30"
Flow Length=345' Slope=0.0100 '/' Tc=22.2 min CN=85 Runoff=4.05 cfs 0.321 af

Subcatchment3: Subarea Runoff Area=0.780 ac 32.05% Impervious Runoff Depth>1.11"
Flow Length=100' Slope=0.0400 '/' Tc=11.9 min CN=82 Runoff=1.23 cfs 0.072 af

Pond 1B: Basin Peak Elev=829.14' Storage=0.233 af Inflow=6.06 cfs 0.444 af
Outflow=0.71 cfs 0.440 af

Pond 2B: Basin Peak Elev=821.71' Storage=0.334 af Inflow=4.50 cfs 0.761 af
Outflow=0.53 cfs 0.515 af

Link 1L: Post-DevelopmentOutflow Inflow=1.57 cfs 0.587 af
Primary=1.57 cfs 0.587 af

Total Runoff Area = 8.310 ac Runoff Volume = 0.837 af Average Runoff Depth = 1.21"
58.72% Pervious = 4.880 ac 41.28% Impervious = 3.430 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subarea Runoff Area=4.560 ac 39.47% Impervious Runoff Depth>2.13"
Flow Length=90' Slope=0.0100 '/' Tc=19.0 min CN=83 Runoff=11.11 cfs 0.809 af

Subcatchment2: Subarea Runoff Area=2.970 ac 46.46% Impervious Runoff Depth>2.29"
Flow Length=345' Slope=0.0100 '/' Tc=22.2 min CN=85 Runoff=7.20 cfs 0.568 af

Subcatchment3: Subarea Runoff Area=0.780 ac 32.05% Impervious Runoff Depth>2.05"
Flow Length=100' Slope=0.0400 '/' Tc=11.9 min CN=82 Runoff=2.28 cfs 0.133 af

Pond 1B: Basin Peak Elev=830.70' Storage=0.474 af Inflow=11.11 cfs 0.809 af
Outflow=0.94 cfs 0.733 af

Pond 2B: Basin Peak Elev=822.13' Storage=0.391 af Inflow=7.91 cfs 1.301 af
Outflow=2.03 cfs 0.943 af

Link 1L: Post-DevelopmentOutflow Inflow=2.69 cfs 1.076 af
Primary=2.69 cfs 1.076 af

Total Runoff Area = 8.310 ac Runoff Volume = 1.510 af Average Runoff Depth = 2.18"
58.72% Pervious = 4.880 ac 41.28% Impervious = 3.430 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subarea Runoff Area=4.560 ac 39.47% Impervious Runoff Depth>4.47"
Flow Length=90' Slope=0.0100 '/' Tc=19.0 min CN=83 Runoff=22.96 cfs 1.698 af

Subcatchment2: Subarea Runoff Area=2.970 ac 46.46% Impervious Runoff Depth>4.68"
Flow Length=345' Slope=0.0100 '/' Tc=22.2 min CN=85 Runoff=14.42 cfs 1.159 af

Subcatchment3: Subarea Runoff Area=0.780 ac 32.05% Impervious Runoff Depth>4.36"
Flow Length=100' Slope=0.0400 '/' Tc=11.9 min CN=82 Runoff=4.77 cfs 0.284 af

Pond 1B: Basin Peak Elev=831.50' Storage=0.629 af Inflow=22.96 cfs 1.698 af
Outflow=14.32 cfs 1.551 af

Pond 2B: Basin Peak Elev=822.87' Storage=0.506 af Inflow=27.46 cfs 2.711 af
Outflow=25.66 cfs 2.335 af

Link 1L: Post-DevelopmentOutflow Inflow=27.19 cfs 2.619 af
Primary=27.19 cfs 2.619 af

Total Runoff Area = 8.310 ac Runoff Volume = 3.141 af Average Runoff Depth = 4.54"
58.72% Pervious = 4.880 ac 41.28% Impervious = 3.430 ac

Summary for Subcatchment 1: Subarea

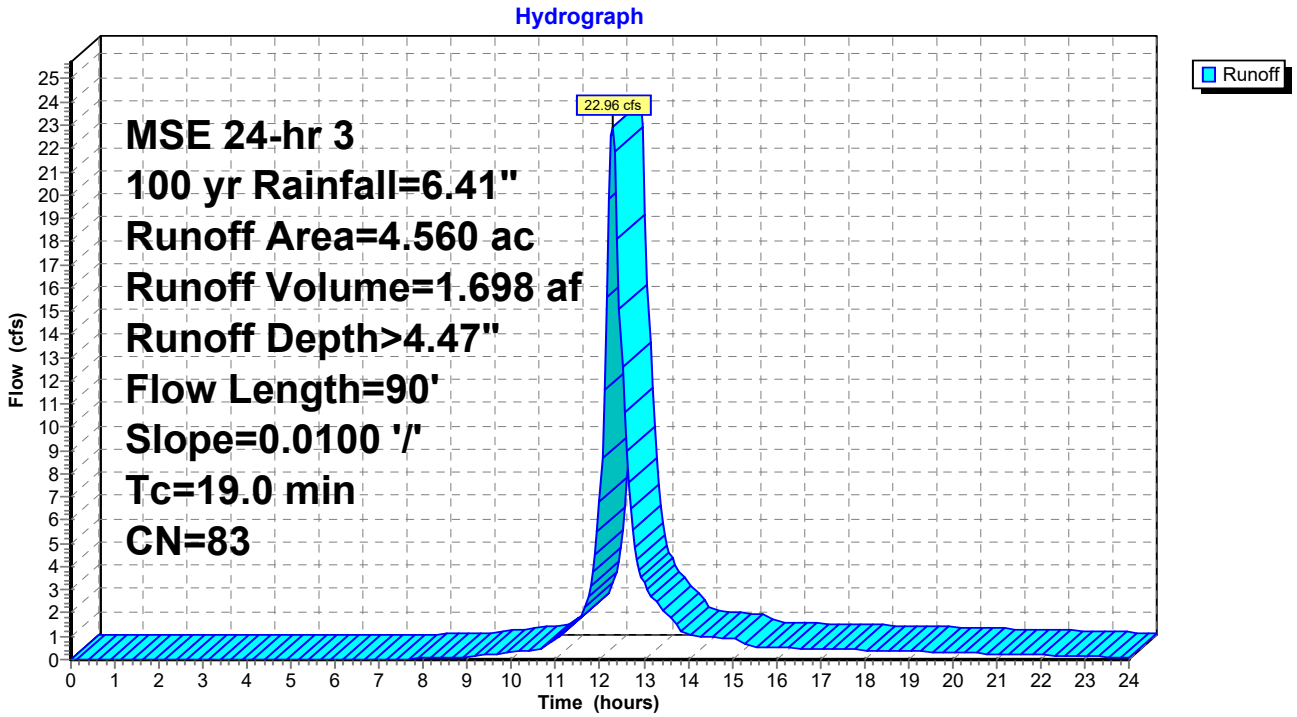
Runoff = 22.96 cfs @ 12.28 hrs, Volume= 1.698 af, Depth> 4.47"
Routed to Pond 1B : Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

	Area (ac)	CN	Description
*	1.640	98	impervious
*	0.160	98	offsite impervious
*	1.570	74	lawn
*	0.440	74	offsite lawn
*	0.300	70	woodland
*	0.450	70	offsite woodland
	4.560	83	Weighted Average
	2.760		60.53% Pervious Area
	1.800		39.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.0	90	0.0100	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"

Subcatchment 1: Subarea



Summary for Subcatchment 2: Subarea

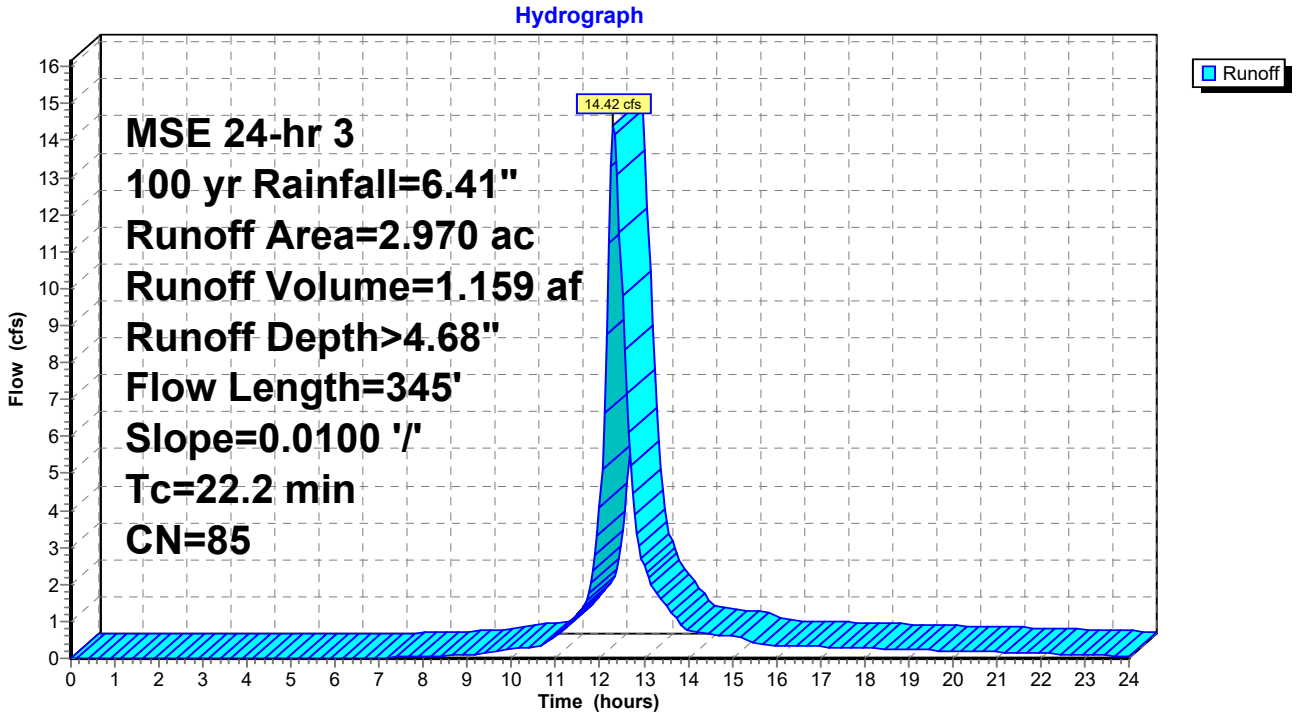
Runoff = 14.42 cfs @ 12.32 hrs, Volume= 1.159 af, Depth> 4.68"
Routed to Pond 2B : Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

	Area (ac)	CN	Description
*	1.370	98	impervious
*	0.010	98	offsite impervious
*	1.460	74	lawn
*	0.040	74	offsite lawn
*	0.080	70	woodland
*	0.010	70	offsite woodland
	2.970	85	Weighted Average
	1.590		53.54% Pervious Area
	1.380		46.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0100	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"
1.0	95	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	150		5.00		**Direct Entry, pipe**
22.2	345	Total			

Subcatchment 2: Subarea



Summary for Subcatchment 3: Subarea

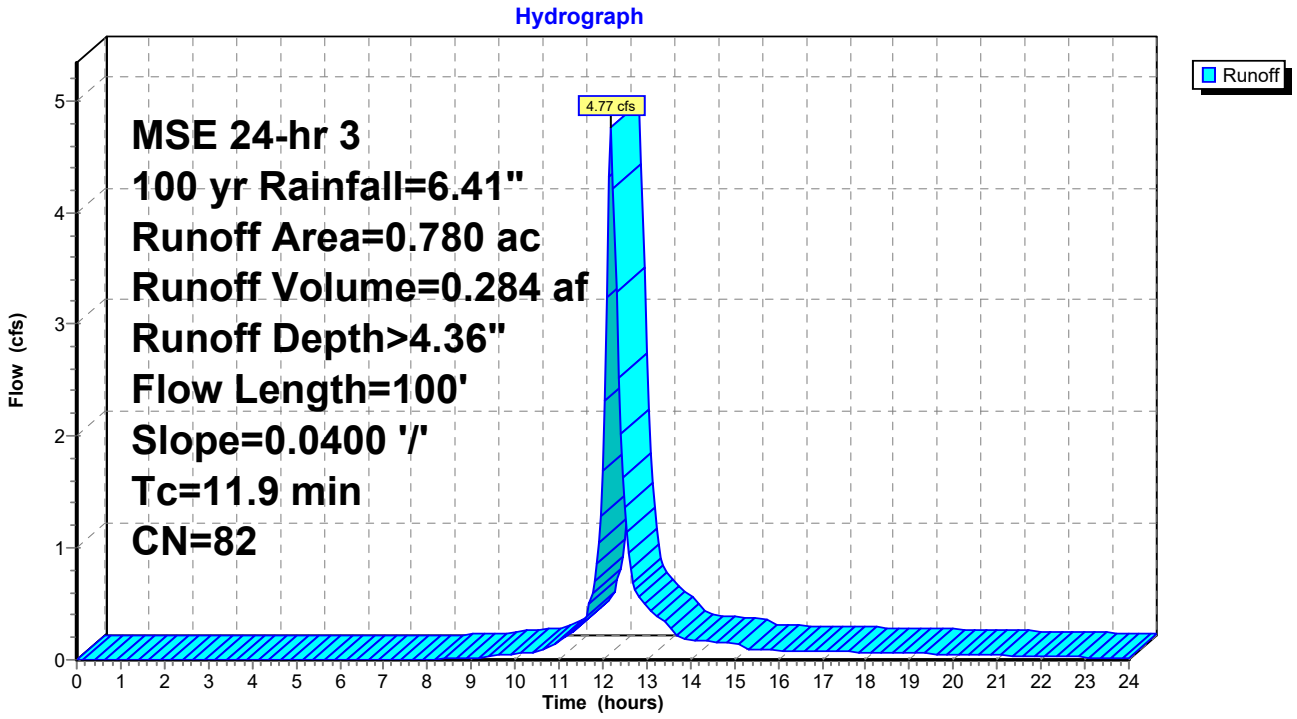
Runoff = 4.77 cfs @ 12.20 hrs, Volume= 0.284 af, Depth> 4.36"
Routed to Link 1L : Post-Development Outflow

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.41"

	Area (ac)	CN	Description
*	0.250	98	impervious
*	0.500	74	lawn
*	0.030	70	woodland
	0.780	82	Weighted Average
	0.530		67.95% Pervious Area
	0.250		32.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	100	0.0400	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.65"

Subcatchment 3: Subarea



Summary for Pond 1B: Basin

Inflow Area = 4.560 ac, 39.47% Impervious, Inflow Depth > 4.47" for 100 yr event
Inflow = 22.96 cfs @ 12.28 hrs, Volume= 1.698 af
Outflow = 14.32 cfs @ 12.47 hrs, Volume= 1.551 af, Atten= 38%, Lag= 11.2 min
Primary = 14.32 cfs @ 12.47 hrs, Volume= 1.551 af
Routed to Pond 2B : Basin

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 831.50' @ 12.47 hrs Surf.Area= 0.210 ac Storage= 0.629 af

Plug-Flow detention time= 154.5 min calculated for 1.548 af (91% of inflow)
Center-of-Mass det. time= 117.4 min (915.6 - 798.2)

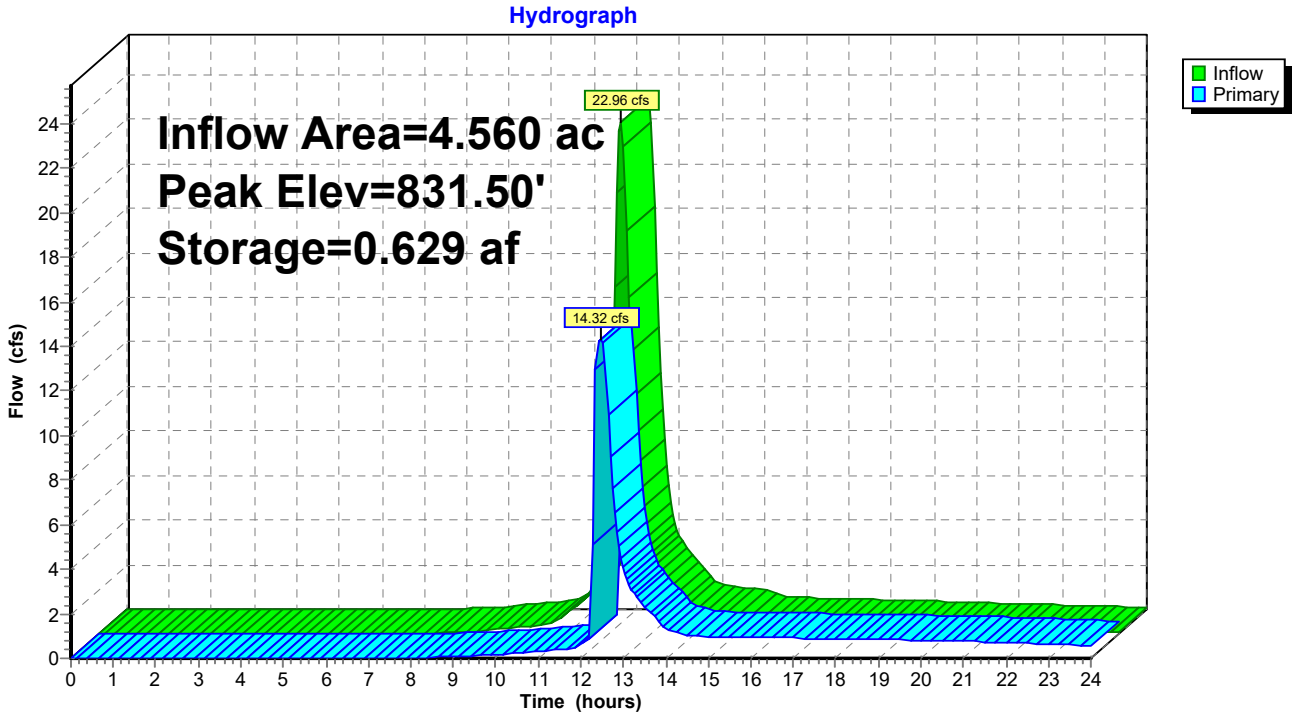
Volume	Invert	Avail.Storage	Storage Description
#1	825.00'	0.862 af	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
825.00	0.060	0.0	0.000	0.000	0.060
826.00	0.060	30.0	0.018	0.018	0.064
827.00	0.060	30.0	0.018	0.036	0.068
828.00	0.090	100.0	0.074	0.110	0.099
829.00	0.120	100.0	0.105	0.215	0.129
830.00	0.160	100.0	0.140	0.355	0.170
831.00	0.190	100.0	0.175	0.529	0.201
832.00	0.230	100.0	0.210	0.739	0.241
832.50	0.260	100.0	0.122	0.862	0.272

Device	Routing	Invert	Outlet Devices
#1	Primary	825.00'	**15.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 825.00' / 824.50' S= 0.0077 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	825.00'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	828.00'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	830.80'	**36.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=14.31 cfs @ 12.47 hrs HW=831.49' TW=822.86' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 14.31 cfs @ 11.66 fps)
  ├─**2=Orifice** (Passes < 0.60 cfs potential flow)
  ├─**3=Orifice** (Passes < 0.43 cfs potential flow)
  └─**4=Grate** (Passes < 17.80 cfs potential flow)

Pond 1B: Basin



Summary for Pond 2B: Basin

Inflow Area = 7.530 ac, 42.23% Impervious, Inflow Depth > 4.32" for 100 yr event
Inflow = 27.46 cfs @ 12.38 hrs, Volume= 2.711 af
Outflow = 25.66 cfs @ 12.47 hrs, Volume= 2.335 af, Atten= 7%, Lag= 5.3 min
Primary = 25.66 cfs @ 12.47 hrs, Volume= 2.335 af
Routed to Link 1L : Post-Development Outflow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 822.87' @ 12.47 hrs Surf.Area= 0.166 ac Storage= 0.506 af

Plug-Flow detention time= 95.3 min calculated for 2.335 af (86% of inflow)
Center-of-Mass det. time= 29.9 min (894.8 - 864.9)

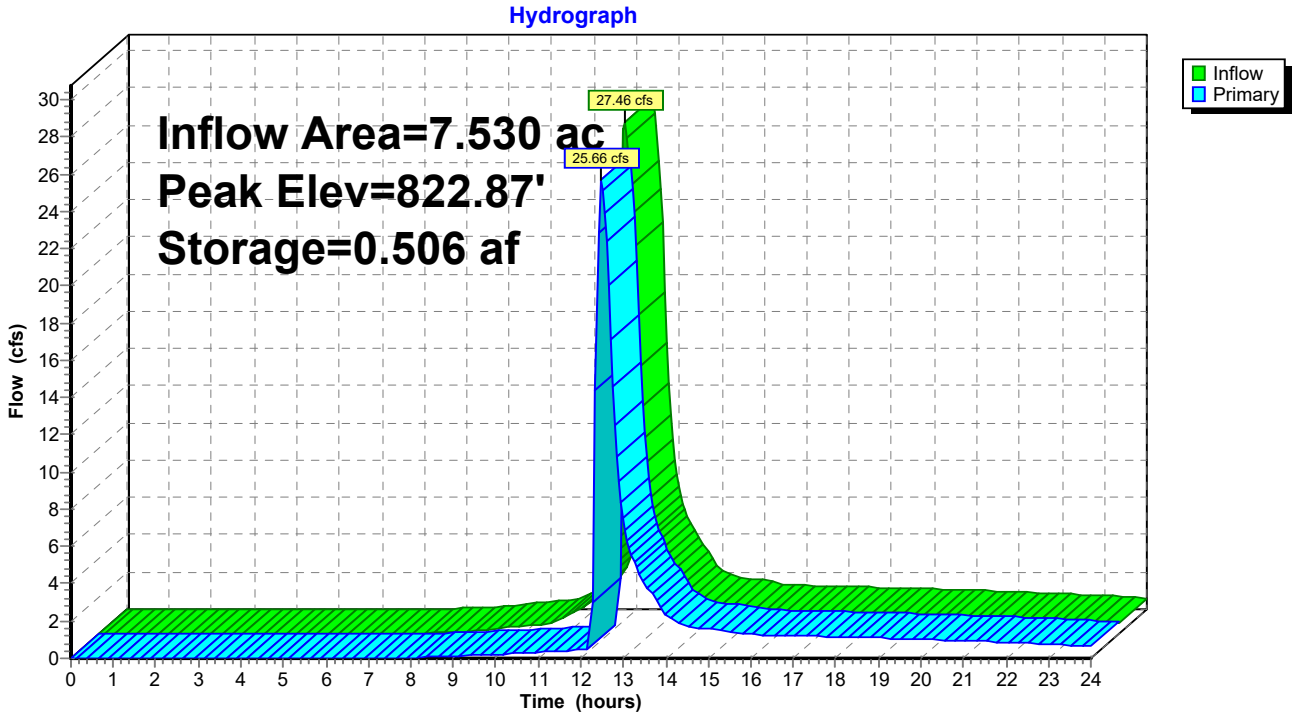
Volume	Invert	Avail.Storage	Storage Description
#1	816.50'	0.712 af	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
816.50	0.060	0.0	0.000	0.000	0.060
817.50	0.060	30.0	0.018	0.018	0.064
818.50	0.060	30.0	0.018	0.036	0.068
819.50	0.080	100.0	0.070	0.106	0.089
820.00	0.090	100.0	0.042	0.148	0.099
821.00	0.110	100.0	0.100	0.248	0.120
822.00	0.140	100.0	0.125	0.373	0.150
823.00	0.170	100.0	0.155	0.528	0.181
824.00	0.200	100.0	0.185	0.712	0.212

Device	Routing	Invert	Outlet Devices
#1	Primary	816.50'	**21.0" Round Culvert** L= 135.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 816.50' / 816.00' S= 0.0037 '/' Cc= 0.900 n= 0.011, Flow Area= 2.41 sf
#2	Device 1	816.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	822.00'	**36.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=25.32 cfs @ 12.47 hrs HW=822.86' TW=0.00' (Dynamic Tailwater)
↑ **1=Culvert** (Passes 25.32 cfs of 25.46 cfs potential flow)
↑ **2=Orifice** (Orifice Controls 0.59 cfs @ 12.03 fps)
3=Grate (Weir Controls 24.73 cfs @ 3.04 fps)

Pond 2B: Basin

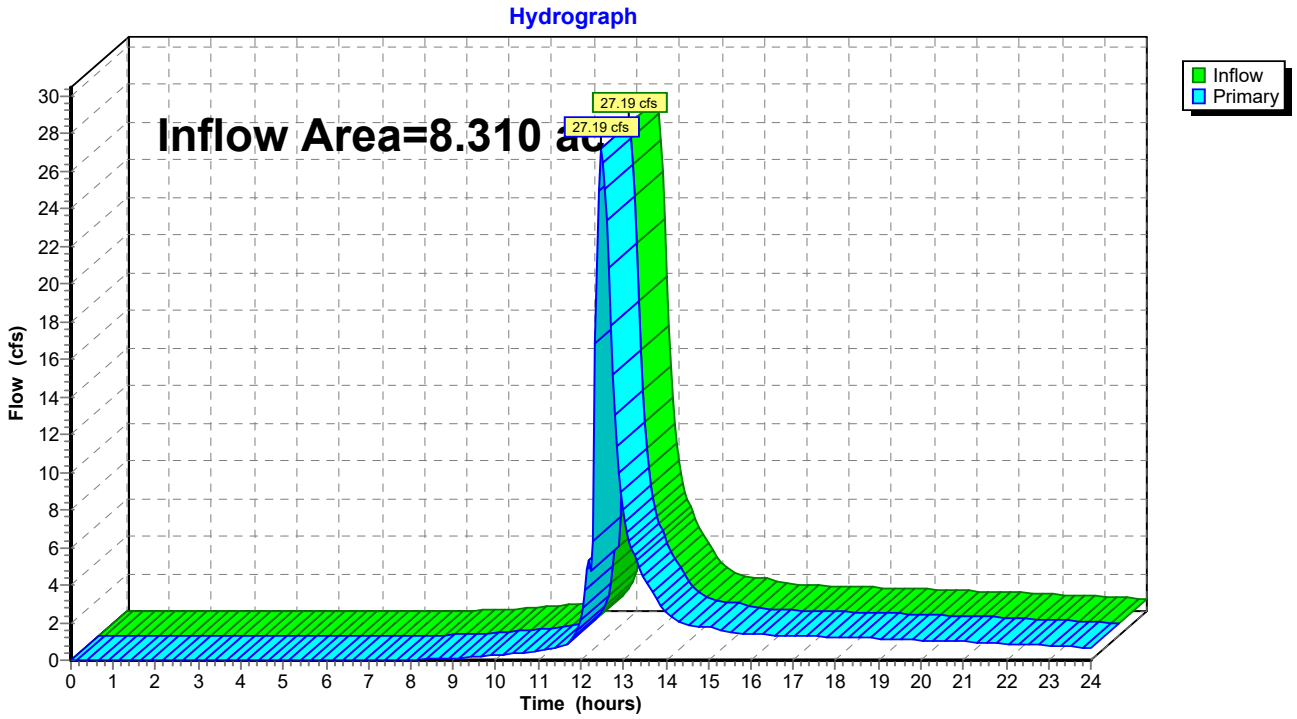


Summary for Link 1L: Post-Development Outflow

Inflow Area = 8.310 ac, 41.28% Impervious, Inflow Depth > 3.78" for 100 yr event
Inflow = 27.19 cfs @ 12.46 hrs, Volume= 2.619 af
Primary = 27.19 cfs @ 12.46 hrs, Volume= 2.619 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 1L: Post-Development Outflow



Events for Subcatchment 1: Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.35	4.85	0.358	0.94
2 yr	2.65	6.06	0.444	1.17
10 yr	3.82	11.11	0.809	2.13
100 yr	**6.41**	**22.96**	**1.698**	**4.47**

Events for Subcatchment 2: Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.35	3.29	0.262	1.06
2 yr	2.65	4.05	0.321	1.30
10 yr	3.82	7.20	0.568	2.29
100 yr	**6.41**	**14.42**	**1.159**	**4.68**

Events for Subcatchment 3: Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.35	0.98	0.058	0.89
2 yr	2.65	1.23	0.072	1.11
10 yr	3.82	2.28	0.133	2.05
100 yr	**6.41**	**4.77**	**0.284**	**4.36**

Events for Pond 1B: Basin

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
1 yr	4.85	0.63	828.70	0.180
2 yr	6.06	0.71	829.14	0.233
10 yr	11.11	0.94	830.70	0.474
100 yr	**22.96**	**14.32**	**831.50**	**0.629**

Events for Pond 2B: Basin

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
1 yr	3.68	0.50	821.02	0.250
2 yr	4.50	0.53	821.71	0.334
10 yr	7.91	2.03	822.13	0.391
100 yr	**27.46**	**25.66**	**822.87**	**0.506**

Events for Link 1L: Post-Development Outflow

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 yr	1.30	1.30	**0.00**
2 yr	1.57	1.57	0.00
10 yr	2.69	2.69	0.00
100 yr	**27.19**	**27.19**	0.00

Hydrograph for Link 1L: Post-Development Outflow

Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)
0.00	0.000	2.60	0.000	5.20	0.000	7.80	0.000
0.05	0.000	2.65	0.000	5.25	0.000	7.85	0.000
0.10	0.000	2.70	0.000	5.30	0.000	7.90	0.000
0.15	0.000	2.75	0.000	5.35	0.000	7.95	0.000
0.20	0.000	2.80	0.000	5.40	0.000	8.00	0.000
0.25	0.000	2.85	0.000	5.45	0.000	8.05	0.000
0.30	0.000	2.90	0.000	5.50	0.000	8.10	0.000
0.35	0.000	2.95	0.000	5.55	0.000	8.15	0.000
0.40	0.000	3.00	0.000	5.60	0.000	8.20	0.000
0.45	0.000	3.05	0.000	5.65	0.000	8.25	0.000
0.50	0.000	3.10	0.000	5.70	0.000	8.30	0.000
0.55	0.000	3.15	0.000	5.75	0.000	8.35	0.000
0.60	0.000	3.20	0.000	5.80	0.000	8.40	0.000
0.65	0.000	3.25	0.000	5.85	0.000	8.45	0.000
0.70	0.000	3.30	0.000	5.90	0.000	8.50	0.000
0.75	0.000	3.35	0.000	5.95	0.000	8.55	0.000
0.80	0.000	3.40	0.000	6.00	0.000	8.60	0.000
0.85	0.000	3.45	0.000	6.05	0.000	8.65	0.000
0.90	0.000	3.50	0.000	6.10	0.000	8.70	0.000
0.95	0.000	3.55	0.000	6.15	0.000	8.75	0.000
1.00	0.000	3.60	0.000	6.20	0.000	8.80	0.000
1.05	0.000	3.65	0.000	6.25	0.000	8.85	0.000
1.10	0.000	3.70	0.000	6.30	0.000	8.90	0.000
1.15	0.000	3.75	0.000	6.35	0.000	8.95	0.000
1.20	0.000	3.80	0.000	6.40	0.000	9.00	0.000
1.25	0.000	3.85	0.000	6.45	0.000	9.05	0.000
1.30	0.000	3.90	0.000	6.50	0.000	9.10	0.000
1.35	0.000	3.95	0.000	6.55	0.000	9.15	0.000
1.40	0.000	4.00	0.000	6.60	0.000	9.20	0.000
1.45	0.000	4.05	0.000	6.65	0.000	9.25	0.000
1.50	0.000	4.10	0.000	6.70	0.000	9.30	0.000
1.55	0.000	4.15	0.000	6.75	0.000	9.35	0.000
1.60	0.000	4.20	0.000	6.80	0.000	9.40	0.000
1.65	0.000	4.25	0.000	6.85	0.000	9.45	0.000
1.70	0.000	4.30	0.000	6.90	0.000	9.50	0.000
1.75	0.000	4.35	0.000	6.95	0.000	9.55	0.000
1.80	0.000	4.40	0.000	7.00	0.000	9.60	0.000
1.85	0.000	4.45	0.000	7.05	0.000	9.65	0.000
1.90	0.000	4.50	0.000	7.10	0.000	9.70	0.000
1.95	0.000	4.55	0.000	7.15	0.000	9.75	0.000
2.00	0.000	4.60	0.000	7.20	0.000	9.80	0.000
2.05	0.000	4.65	0.000	7.25	0.000	9.85	0.000
2.10	0.000	4.70	0.000	7.30	0.000	9.90	0.000
2.15	0.000	4.75	0.000	7.35	0.000	9.95	0.000
2.20	0.000	4.80	0.000	7.40	0.000	10.00	0.000
2.25	0.000	4.85	0.000	7.45	0.000	10.05	0.000
2.30	0.000	4.90	0.000	7.50	0.000	10.10	0.000
2.35	0.000	4.95	0.000	7.55	0.000	10.15	0.000
2.40	0.000	5.00	0.000	7.60	0.000	10.20	0.000
2.45	0.000	5.05	0.000	7.65	0.000	10.25	0.000
2.50	0.000	5.10	0.000	7.70	0.000	10.30	0.000
2.55	0.000	5.15	0.000	7.75	0.000	10.35	0.000

Hydrograph for Link 1L: Post-Development Outflow (continued)

Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)
10.40	0.000	13.00	0.088	15.60	0.211	18.20	0.331
10.45	0.000	13.05	0.091	15.65	0.214	18.25	0.333
10.50	0.000	13.10	0.093	15.70	0.216	18.30	0.336
10.55	0.000	13.15	0.096	15.75	0.218	18.35	0.338
10.60	0.000	13.20	0.098	15.80	0.220	18.40	0.340
10.65	0.000	13.25	0.101	15.85	0.223	18.45	0.342
10.70	0.000	13.30	0.103	15.90	0.225	18.50	0.345
10.75	0.000	13.35	0.106	15.95	0.227	18.55	0.347
10.80	0.000	13.40	0.108	16.00	0.230	18.60	0.349
10.85	0.000	13.45	0.111	16.05	0.232	18.65	0.352
10.90	0.000	13.50	0.113	16.10	0.234	18.70	0.354
10.95	0.000	13.55	0.116	16.15	0.237	18.75	0.356
11.00	0.000	13.60	0.118	16.20	0.239	18.80	0.358
11.05	0.000	13.65	0.121	16.25	0.241	18.85	0.361
11.10	0.000	13.70	0.123	16.30	0.243	18.90	0.363
11.15	0.000	13.75	0.125	16.35	0.246	18.95	0.365
11.20	0.001	13.80	0.128	16.40	0.248	19.00	0.367
11.25	0.001	13.85	0.130	16.45	0.250	19.05	0.370
11.30	0.001	13.90	0.132	16.50	0.253	19.10	0.372
11.35	0.001	13.95	0.134	16.55	0.255	19.15	0.374
11.40	0.002	14.00	0.137	16.60	0.257	19.20	0.377
11.45	0.002	14.05	0.139	16.65	0.260	19.25	0.379
11.50	0.003	14.10	0.141	16.70	0.262	19.30	0.381
11.55	0.003	14.15	0.144	16.75	0.264	19.35	0.383
11.60	0.004	14.20	0.146	16.80	0.267	19.40	0.386
11.65	0.004	14.25	0.148	16.85	0.269	19.45	0.388
11.70	0.005	14.30	0.151	16.90	0.271	19.50	0.390
11.75	0.006	14.35	0.153	16.95	0.273	19.55	0.392
11.80	0.007	14.40	0.155	17.00	0.276	19.60	0.395
11.85	0.009	14.45	0.158	17.05	0.278	19.65	0.397
11.90	0.010	14.50	0.160	17.10	0.280	19.70	0.399
11.95	0.012	14.55	0.162	17.15	0.283	19.75	0.401
12.00	0.014	14.60	0.165	17.20	0.285	19.80	0.404
12.05	0.017	14.65	0.167	17.25	0.287	19.85	0.406
12.10	0.021	14.70	0.169	17.30	0.290	19.90	0.408
12.15	0.027	14.75	0.172	17.35	0.292	19.95	0.410
12.20	0.034	14.80	0.174	17.40	0.294	20.00	0.413
12.25	0.040	14.85	0.176	17.45	0.297	20.05	0.415
12.30	0.045	14.90	0.179	17.50	0.299	20.10	0.417
12.35	0.050	14.95	0.181	17.55	0.301	20.15	0.419
12.40	0.054	15.00	0.184	17.60	0.303	20.20	0.422
12.45	0.057	15.05	0.186	17.65	0.306	20.25	0.424
12.50	0.061	15.10	0.188	17.70	0.308	20.30	0.426
12.55	0.064	15.15	0.191	17.75	0.310	20.35	0.428
12.60	0.067	15.20	0.193	17.80	0.313	20.40	0.431
12.65	0.070	15.25	0.195	17.85	0.315	20.45	0.433
12.70	0.073	15.30	0.197	17.90	0.317	20.50	0.435
12.75	0.075	15.35	0.200	17.95	0.319	20.55	0.437
12.80	0.078	15.40	0.202	18.00	0.322	20.60	0.440
12.85	0.080	15.45	0.204	18.05	0.324	20.65	0.442
12.90	0.083	15.50	0.207	18.10	0.326	20.70	0.444
12.95	0.086	15.55	0.209	18.15	0.329	20.75	0.446

Hydrograph for Link 1L: Post-Development Outflow (continued)

Time (hours)	Primary-Volume (acre-feet)
20.80	0.449
20.85	0.451
20.90	0.453
20.95	0.455
21.00	0.457
21.05	0.460
21.10	0.462
21.15	0.464
21.20	0.466
21.25	0.469
21.30	0.471
21.35	0.473
21.40	0.475
21.45	0.477
21.50	0.480
21.55	0.482
21.60	0.484
21.65	0.486
21.70	0.488
21.75	0.491
21.80	0.493
21.85	0.495
21.90	0.497
21.95	0.499
22.00	0.502
22.05	0.504
22.10	0.506
22.15	0.508
22.20	0.510
22.25	0.512
22.30	0.515
22.35	0.517
22.40	0.519
22.45	0.521
22.50	0.523
22.55	0.525
22.60	0.528
22.65	0.530
22.70	0.532
22.75	0.534
22.80	0.536
22.85	0.538
22.90	0.540
22.95	0.543
23.00	0.545
23.05	0.547
23.10	0.549
23.15	0.551
23.20	0.553
23.25	0.555
23.30	0.557
23.35	0.560
23.40	0.562
23.45	0.564
23.50	0.566
23.55	0.568
23.60	0.570
23.65	0.572
23.70	0.574
23.75	0.576
23.80	0.578
23.85	0.580
23.90	0.582
23.95	0.585
24.00	**0.587**

Hydrograph for Link 1L: Post-Development Outflow

Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)
0.00	0.000	2.60	0.000	5.20	0.000	7.80	0.001
0.05	0.000	2.65	0.000	5.25	0.000	7.85	0.001
0.10	0.000	2.70	0.000	5.30	0.000	7.90	0.001
0.15	0.000	2.75	0.000	5.35	0.000	7.95	0.001
0.20	0.000	2.80	0.000	5.40	0.000	8.00	0.001
0.25	0.000	2.85	0.000	5.45	0.000	8.05	0.001
0.30	0.000	2.90	0.000	5.50	0.000	8.10	0.001
0.35	0.000	2.95	0.000	5.55	0.000	8.15	0.002
0.40	0.000	3.00	0.000	5.60	0.000	8.20	0.002
0.45	0.000	3.05	0.000	5.65	0.000	8.25	0.002
0.50	0.000	3.10	0.000	5.70	0.000	8.30	0.002
0.55	0.000	3.15	0.000	5.75	0.000	8.35	0.002
0.60	0.000	3.20	0.000	5.80	0.000	8.40	0.003
0.65	0.000	3.25	0.000	5.85	0.000	8.45	0.003
0.70	0.000	3.30	0.000	5.90	0.000	8.50	0.003
0.75	0.000	3.35	0.000	5.95	0.000	8.55	0.004
0.80	0.000	3.40	0.000	6.00	0.000	8.60	0.004
0.85	0.000	3.45	0.000	6.05	0.000	8.65	0.004
0.90	0.000	3.50	0.000	6.10	0.000	8.70	0.005
0.95	0.000	3.55	0.000	6.15	0.000	8.75	0.005
1.00	0.000	3.60	0.000	6.20	0.000	8.80	0.006
1.05	0.000	3.65	0.000	6.25	0.000	8.85	0.006
1.10	0.000	3.70	0.000	6.30	0.000	8.90	0.007
1.15	0.000	3.75	0.000	6.35	0.000	8.95	0.007
1.20	0.000	3.80	0.000	6.40	0.000	9.00	0.008
1.25	0.000	3.85	0.000	6.45	0.000	9.05	0.008
1.30	0.000	3.90	0.000	6.50	0.000	9.10	0.009
1.35	0.000	3.95	0.000	6.55	0.000	9.15	0.009
1.40	0.000	4.00	0.000	6.60	0.000	9.20	0.010
1.45	0.000	4.05	0.000	6.65	0.000	9.25	0.011
1.50	0.000	4.10	0.000	6.70	0.000	9.30	0.011
1.55	0.000	4.15	0.000	6.75	0.000	9.35	0.012
1.60	0.000	4.20	0.000	6.80	0.000	9.40	0.013
1.65	0.000	4.25	0.000	6.85	0.000	9.45	0.013
1.70	0.000	4.30	0.000	6.90	0.000	9.50	0.014
1.75	0.000	4.35	0.000	6.95	0.000	9.55	0.015
1.80	0.000	4.40	0.000	7.00	0.000	9.60	0.016
1.85	0.000	4.45	0.000	7.05	0.000	9.65	0.017
1.90	0.000	4.50	0.000	7.10	0.000	9.70	0.018
1.95	0.000	4.55	0.000	7.15	0.000	9.75	0.019
2.00	0.000	4.60	0.000	7.20	0.000	9.80	0.020
2.05	0.000	4.65	0.000	7.25	0.000	9.85	0.021
2.10	0.000	4.70	0.000	7.30	0.000	9.90	0.022
2.15	0.000	4.75	0.000	7.35	0.000	9.95	0.023
2.20	0.000	4.80	0.000	7.40	0.000	10.00	0.024
2.25	0.000	4.85	0.000	7.45	0.000	10.05	0.025
2.30	0.000	4.90	0.000	7.50	0.000	10.10	0.026
2.35	0.000	4.95	0.000	7.55	0.000	10.15	0.027
2.40	0.000	5.00	0.000	7.60	0.000	10.20	0.028
2.45	0.000	5.05	0.000	7.65	0.000	10.25	0.030
2.50	0.000	5.10	0.000	7.70	0.000	10.30	0.031
2.55	0.000	5.15	0.000	7.75	0.000	10.35	0.032

Hydrograph for Link 1L: Post-Development Outflow (continued)

Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)	Time (hours)	Primary-Volume (acre-feet)
10.40	0.034	13.00	1.271	15.60	1.878	18.20	2.159
10.45	0.035	13.05	1.301	15.65	1.884	18.25	2.164
10.50	0.036	13.10	1.329	15.70	1.890	18.30	2.169
10.55	0.038	13.15	1.355	15.75	1.895	18.35	2.174
10.60	0.039	13.20	1.379	15.80	1.901	18.40	2.179
10.65	0.041	13.25	1.403	15.85	1.907	18.45	2.184
10.70	0.043	13.30	1.424	15.90	1.913	18.50	2.189
10.75	0.044	13.35	1.445	15.95	1.918	18.55	2.194
10.80	0.046	13.40	1.465	16.00	1.924	18.60	2.199
10.85	0.048	13.45	1.484	16.05	1.930	18.65	2.204
10.90	0.050	13.50	1.502	16.10	1.935	18.70	2.208
10.95	0.052	13.55	1.519	16.15	1.941	18.75	2.213
11.00	0.054	13.60	1.535	16.20	1.947	18.80	2.218
11.05	0.056	13.65	1.551	16.25	1.952	18.85	2.223
11.10	0.058	13.70	1.566	16.30	1.958	18.90	2.228
11.15	0.061	13.75	1.579	16.35	1.963	18.95	2.233
11.20	0.063	13.80	1.592	16.40	1.969	19.00	2.237
11.25	0.065	13.85	1.605	16.45	1.974	19.05	2.242
11.30	0.068	13.90	1.616	16.50	1.980	19.10	2.247
11.35	0.070	13.95	1.627	16.55	1.985	19.15	2.251
11.40	0.073	14.00	1.638	16.60	1.991	19.20	2.256
11.45	0.076	14.05	1.647	16.65	1.996	19.25	2.261
11.50	0.079	14.10	1.657	16.70	2.002	19.30	2.266
11.55	0.081	14.15	1.666	16.75	2.007	19.35	2.270
11.60	0.085	14.20	1.675	16.80	2.013	19.40	2.275
11.65	0.088	14.25	1.683	16.85	2.018	19.45	2.279
11.70	0.092	14.30	1.692	16.90	2.024	19.50	2.284
11.75	0.096	14.35	1.700	16.95	2.029	19.55	2.289
11.80	0.100	14.40	1.708	17.00	2.034	19.60	2.293
11.85	0.106	14.45	1.716	17.05	2.040	19.65	2.298
11.90	0.112	14.50	1.724	17.10	2.045	19.70	2.302
11.95	0.119	14.55	1.732	17.15	2.050	19.75	2.307
12.00	0.128	14.60	1.740	17.20	2.056	19.80	2.311
12.05	0.139	14.65	1.747	17.25	2.061	19.85	2.316
12.10	0.154	14.70	1.755	17.30	2.066	19.90	2.320
12.15	0.174	14.75	1.762	17.35	2.072	19.95	2.325
12.20	0.196	14.80	1.770	17.40	2.077	20.00	2.329
12.25	0.216	14.85	1.777	17.45	2.082	20.05	2.334
12.30	0.242	14.90	1.785	17.50	2.087	20.10	2.338
12.35	0.312	14.95	1.792	17.55	2.093	20.15	2.342
12.40	0.415	15.00	1.799	17.60	2.098	20.20	2.347
12.45	0.526	15.05	1.806	17.65	2.103	20.25	2.351
12.50	0.636	15.10	1.813	17.70	2.108	20.30	2.355
12.55	0.739	15.15	1.820	17.75	2.113	20.35	2.360
12.60	0.836	15.20	1.827	17.80	2.119	20.40	2.364
12.65	0.922	15.25	1.834	17.85	2.124	20.45	2.368
12.70	0.995	15.30	1.841	17.90	2.129	20.50	2.372
12.75	1.058	15.35	1.847	17.95	2.134	20.55	2.377
12.80	1.112	15.40	1.853	18.00	2.139	20.60	2.381
12.85	1.159	15.45	1.860	18.05	2.144	20.65	2.385
12.90	1.201	15.50	1.866	18.10	2.149	20.70	2.389
12.95	1.237	15.55	1.872	18.15	2.154	20.75	2.393

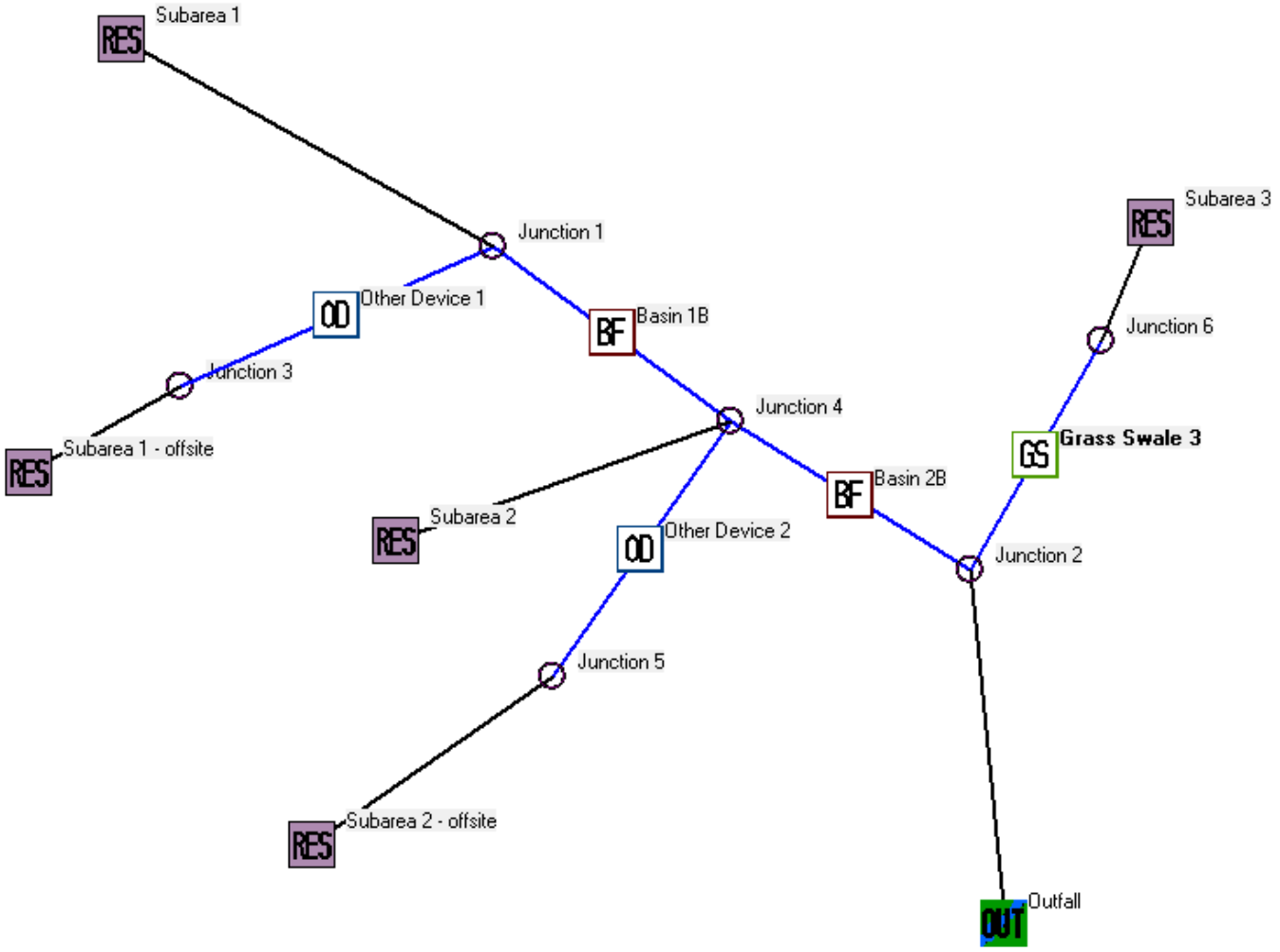
Hydrograph for Link 1L: Post-Development Outflow (continued)

Time (hours)	Primary-Volume (acre-feet)
20.80	2.398
20.85	2.402
20.90	2.406
20.95	2.410
21.00	2.414
21.05	2.418
21.10	2.422
21.15	2.426
21.20	2.430
21.25	2.434
21.30	2.438
21.35	2.442
21.40	2.446
21.45	2.450
21.50	2.453
21.55	2.457
21.60	2.461
21.65	2.465
21.70	2.469
21.75	2.473
21.80	2.476
21.85	2.480
21.90	2.484
21.95	2.487
22.00	2.491
22.05	2.495
22.10	2.498
22.15	2.502
22.20	2.506
22.25	2.509
22.30	2.513
22.35	2.516
22.40	2.520
22.45	2.523
22.50	2.527
22.55	2.530
22.60	2.533
22.65	2.537
22.70	2.540
22.75	2.543
22.80	2.547
22.85	2.550
22.90	2.553
22.95	2.557
23.00	2.560
23.05	2.563
23.10	2.566
23.15	2.569
23.20	2.572
23.25	2.575
23.30	2.579
23.35	2.582
23.40	2.585
23.45	2.588
23.50	2.591
23.55	2.594
23.60	2.596
23.65	2.599
23.70	2.602
23.75	2.605
23.80	2.608
23.85	2.611
23.90	2.613
23.95	2.616
24.00	**2.619**

APPENDIX C

Treatment Analysis

Treatment Analysis - Proposed



SLAMM for Windows Version 10.5.0
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Data file name: C:\Data\Jobs\2026\2026-009 - Crimson Apartments - Germantown - TRIO\Project_Information\Calcs\SLAMM\Proposed.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-10-2026 Time of run: 15:17:45
Total Area Modeled (acres): 8.310
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	308108	-	102.9	1979	-
Outfall Total with Controls:	280919	8.82%	20.77	364.2	81.60%
Annualized Total After Outfall Controls:	284821			369.3	

Data file name: C:\Data\Jobs\2026\2026-009 - Crimson Apartments - Germantown - TRIO\Project_Information\Calcs\SLAMM\Proposed.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/05/69   Study period ending date: 12/31/69
Start of Winter Season: 12/06   End of Winter Season: 03/28
Date: 07-10-2026   Time: 15:17:53
Site information:

LU# 1 - Residential: Subarea 1   Total area (ac): 3.510
     1 - Roofs 1: 0.560 ac.   Pitched   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     13 - Paved Parking 1: 0.980 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     31 - Sidewalks 1: 0.100 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     45 - Large Landscaped Areas 1: 1.570 ac.   Normal Clayey   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     57 - Undeveloped Areas 1: 0.300 ac.   Normal Clayey   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Residential: Subarea 2   Total area (ac): 2.910
     1 - Roofs 1: 0.380 ac.   Pitched   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     13 - Paved Parking 1: 0.850 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     31 - Sidewalks 1: 0.140 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     45 - Large Landscaped Areas 1: 1.460 ac.   Normal Clayey   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     57 - Undeveloped Areas 1: 0.080 ac.   Normal Clayey   Low Density   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Residential: Subarea 1 - offsite   Total area (ac): 1.050
     1 - Roofs 1: 0.160 ac.   Pitched   Disconnected   Normal Clayey   Low Density   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     51 - Small Landscaped Areas 1: 0.440 ac.   Normal Clayey   Low Density   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     57 - Undeveloped Areas 1: 0.450 ac.   Normal Clayey   Low Density   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Residential: Subarea 3   Total area (ac): 0.780
     25 - Driveways 1: 0.190 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     31 - Sidewalks 1: 0.060 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     45 - Large Landscaped Areas 1: 0.500 ac.   Normal Clayey   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     57 - Undeveloped Areas 1: 0.030 ac.   Normal Clayey   Low Density   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

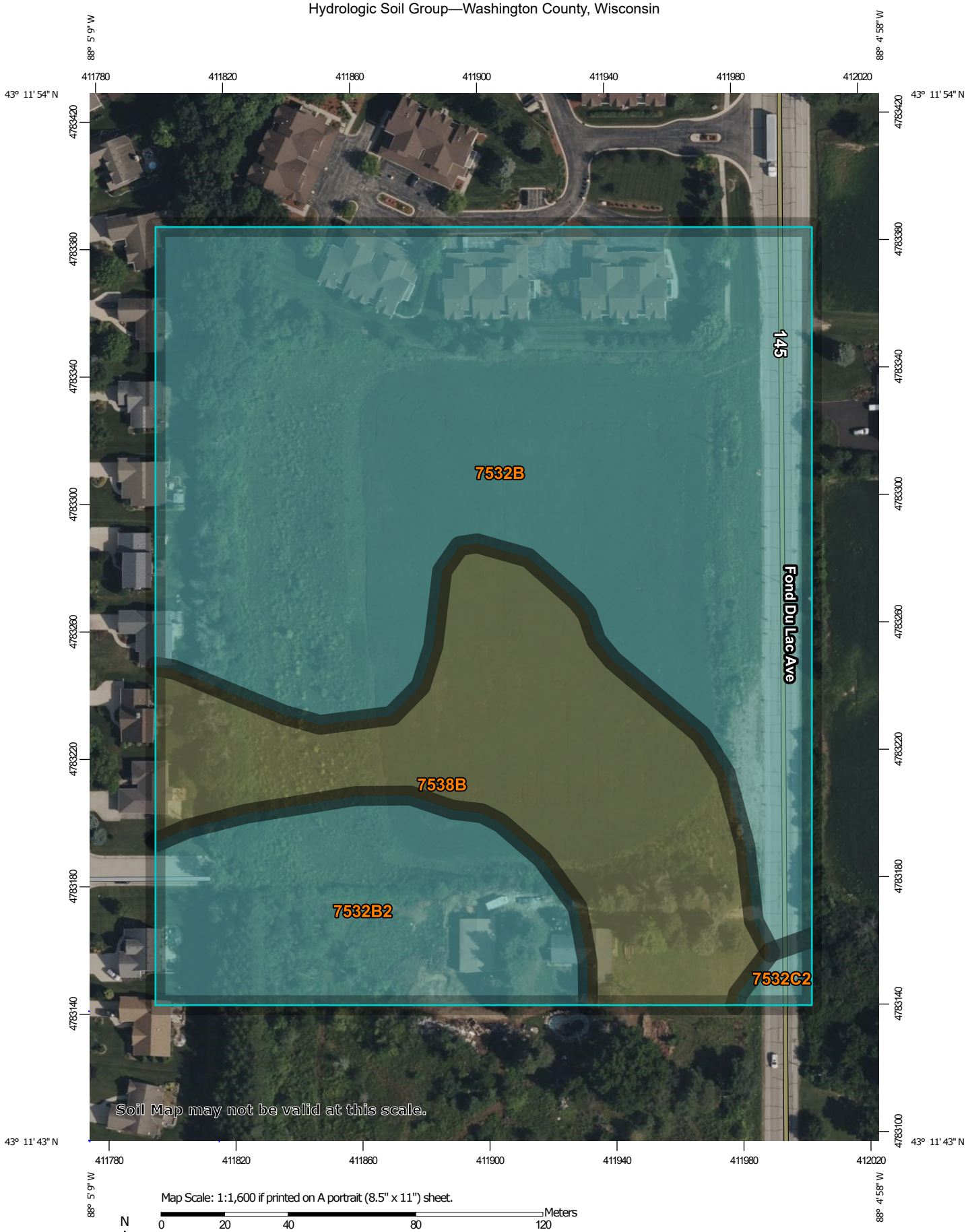
LU# 5 - Residential: Subarea 2 - offsite   Total area (ac): 0.060
     37 - Streets 1: 0.010 ac.   Smooth   Street Length = 0.0028 mi   Street Width = 29.46429 ft   Street Edges = 2
            Default St. Dirt Accum.   Annual Winter Load = 2500 lbs   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     51 - Small Landscaped Areas 1: 0.040 ac.   Normal Clayey   Low Density   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     57 - Undeveloped Areas 1: 0.010 ac.   Normal Clayey   Low Density   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

```
Control Practice 1:  Other Device CP# 1 (DS) - Other Device 1
   Fraction of drainage area served by device (ac) = 1.00
   Particulate Concentration reduction fraction = 1.00
   Filterable Concentration reduction fraction = 1.00
   Runoff volume reduction fraction = 0

Control Practice 2:  Other Device CP# 2 (DS) - Other Device 2
   Fraction of drainage area served by device (ac) = 1.00
   Particulate Concentration reduction fraction = 1.00
   Filterable Concentration reduction fraction = 1.00
   Runoff volume reduction fraction = 0

Control Practice 3:  Biofilter CP# 1 (DS) - Basin 1B
   1.  Top area (square feet) =  11229
   2.  Bottom aea (square feet) =  2735
   3.  Depth (ft):   7.5
   4.  Biofilter width (ft) - for Cost Purposes Only:   10
   5.  Infiltration rate (in/hr) =  0.07
   6.  Random infiltration rate generation?  No
   7.  Infiltration rate fraction (side):   0.001
   8.  Infiltration rate fraction (bottom):   1
   9.  Depth of biofilter that is rock filled (ft) 0
   10.  Porosity of rock filled volume =  0
   11.  Engineered soil infiltration rate:   3.6
   12.  Engineered soil depth (ft) =  2
   13.  Engineered soil porosity =  0.27
   14. Percent solids reduction due to flow through engineered soil =  80
   15. Biofilter peak to average flow ratio =  3.8
   16. Number of biofiltration control devices =  1
   17. Particle size distribution file:  Not needed - calculated by program
   18. Initial water surface elevation (ft):   0
        Soil Data                        Soil Type Fraction in Eng. Soil
       User-Defined Media Type                1.000
        Saturation water content (Porosity) =   0
        Field capacity (fraction) =   0
        Permanent Wilting Point (fraction) =   0
        Infiltration rate (in/hr) =   3.6
        Biofilter Outlet/Discharge Characteristics:
       Outlet type:  Broad Crested Weir
               1.  Weir crest length (ft):   10
               2.  Weir crest width (ft):   10
               3.  Height of datum to bottom of weir opening:   6.5
       Outlet type:  Surface Discharge Pipe
               1.  Surface discharge pipe outlet diameter (ft):   0.25
               2.  Pipe invert elevation above datum (ft):   3
               3.  Number of surface pipe outlets:   1
       Outlet type:  Drain Tile/Underdrain
               1.  Underdrain outlet diameter (ft):   0.25
               2.  Invert elevation above datum (ft):   0
               3.  Number of underdrain outlets:   1

Control Practice 4:  Biofilter CP# 2 (DS) - Basin 2B
```

```
   1.  Top area (square feet) =  8685
   2.  Bottom aea (square feet) =  2401
   3.  Depth (ft):   7.5
   4.  Biofilter width (ft) - for Cost Purposes Only:   10
   5.  Infiltration rate (in/hr) =  0.07
   6.  Random infiltration rate generation?  No
   7.  Infiltration rate fraction (side):   0.001
   8.  Infiltration rate fraction (bottom):   1
   9.  Depth of biofilter that is rock filled (ft) 0
   10.  Porosity of rock filled volume =  0
   11.  Engineered soil infiltration rate:   3.6
   12.  Engineered soil depth (ft) =  2
   13.  Engineered soil porosity =  0.27
   14. Percent solids reduction due to flow through engineered soil =  80
   15. Biofilter peak to average flow ratio =  3.8
   16. Number of biofiltration control devices =  1
   17. Particle size distribution file:  Not needed - calculated by program
   18. Initial water surface elevation (ft):   0
        Soil Data                        Soil Type Fraction in Eng. Soil
       User-Defined Media Type                1.000
        Saturation water content (Porosity) =   0
        Field capacity (fraction) =   0
        Permanent Wilting Point (fraction) =   0
        Infiltration rate (in/hr) =   3.6
        Biofilter Outlet/Discharge Characteristics:
       Outlet type:  Broad Crested Weir
              1.  Weir crest length (ft):   10
              2.  Weir crest width (ft):   10
              3.  Height of datum to bottom of weir opening:   6.5
       Outlet type:  Vertical Stand Pipe
              1.  Stand pipe diameter (ft):   3
              2.  Stand pipe height above datum (ft):   5.5
       Outlet type:  Drain Tile/Underdrain
              1.  Underdrain outlet diameter (ft):   0.25
              2.  Invert elevation above datum (ft):   0
              3.  Number of underdrain outlets:   1

Control Practice 5:  Grass Swale CP# 1 (DS) - Grass Swale 3
   Total drainage area (acres)= 0.780
   Fraction of drainage area served by swales (ac) = 0.50
   Swale density (ft/ac) = 551.28
   Total swale length (ft) = 430
   Average swale length to outlet (ft)= 120
   Typical bottom width (ft) = 2.0
   Typical swale side slope (_H:1V) = 10.0
   Typical longitudinal slope (ft.H/ft.V) = 0.010
   Swale retardance factor:  C
   Typical grass height (in) = 6.0
   Swale dynamic infiltration rate (in/hr)= 0.035
   Typical swale depth (ft) for cost analysis (optional) = 0.0
   Particle size distribution file name: Not needed - calculated by program
   Use total swale length instead of swale density for infiltration calculations:  True
```

APPENDIX D

Soil Survey



Map Scale: 1:1,600 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 25, Sep 10, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 4, 2022—Sep 13, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
7532B	Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes	C	7.5	60.2%
7532B2	Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes, eroded	C	1.9	15.5%
7532C2	Ozaukee silt loam, high carbonate substratum, 6 to 12 percent slopes, eroded	C	0.1	0.7%
7538B	Mequon silt loam, 1 to 3 percent slopes	C/D	3.0	23.5%
Totals for Area of Interest			**12.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

TECHNICAL MEMORANDUM

Date: June 18, 2026

Prepared for: Emily McFarland – VP Development & Administration
PRE/3

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

Subject: **Multi-Family Development TIA – Germantown, WI**

INTRODUCTION & DEVELOPMENT PLAN

A 48-unit multi-family development is proposed to be constructed on a nearly seven-acre parcel west of Fond du Lac Avenue (STH 145) in the Village of Germantown, Wisconsin. The site is situated just south of the Seven Pines Condominium development and will have access directly to Fond du Lac Avenue (STH 145). The location of the development site with respect to the surrounding roadway system is shown on Exhibit 1 at the end of this report. The development site plan is on Exhibit 2.

This traffic impact analysis (TIA) report was prepared to document the existing and future build AM & PM peak hour traffic volumes and traffic operations at the study intersections along Fond du Lac Avenue (STH 145).

STUDY AREA

The individual study intersections evaluated in this TIA are:

- Fond du Lac Avenue (STH 145) & Knollcrest Circle
- Fond du Lac Avenue (STH 145) & Proposed Site Access

Fond du Lac Avenue (STH 145) is a two-lane north/south undivided Minor Arterial with a 45-mph speed limit and a Wisconsin Department of Transportation (WisDOT) 2016 annual average daily traffic (AADT) of 5,000 vehicles per day (vpd) to the north of the study area. Knollcrest Circle is a two-lane circular roadway providing access to a multi-family development south of the proposed development site. Knollcrest Circle has a 25-mph speed limit and a divided, boulevard-style approach to the intersection with Fond du Lac Avenue (STH 145). The geometrics, traffic control, available annual average daily traffic (AADT), and intersection spacing of the study intersections are on Exhibit 3.

EXISTING & FUTURE TRAFFIC VOLUMES

Existing Traffic Volumes

TADI collected weekday turning movement counts at the Fond du Lac Avenue (STH 145)/Knollcrest Circle intersection on April 15, 2026. Traffic counts were collected from 6:00-9:00 a.m. and from 3:00-6:00 p.m. The peak traffic hours during these counts were determined to occur from 7:15-8:15 a.m. (AM peak hour) and from 4:15-5:15 p.m. (PM peak hour). The traffic counts were compiled for these peak hours and are shown on Exhibit 4. The full traffic count data is in Appendix A.

New Development Trips

The trip generation and trip distribution for the proposed residential development is shown below in Table 1. The trip generation is based on fitted curve equations published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 12th Edition*. Based on ITE, the 48 multi-family units generate 390 trips during a typical weekday, with 30 trips in the AM peak hour and 30 trips in the PM peak hour.

Table 1. Site Trip Generation

Land Use	ITE Code	Independent Variable/Size	Weekday Daily	AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
Multifamily Housing (Low-Rise) (Not Close to Rail Transit)	220	48 Units	390 FCE	5 (24%)	25 (76%)	30 FCE	20 (62%)	10 (38%)	30 FCE
Total New Trips			**390**	**5**	**25**	**30**	**20**	**10**	**30**

The distribution of these trips to the study area roadways was estimated based on the distribution of residential trips to/from the Fond du Lac Avenue (STH 145)/Knollcrest Circle intersection and on access to major roadways and freeway interchange access in the greater area. Based on these factors, 70% of the new development trips were assigned to/from the south on Fond du Lac Avenue (STH 145) and 30% were assigned to/from the north. The trip distribution and traffic assignment is on Exhibit 5.

Build Traffic Volumes

The multi-family development new trips were added to the Existing traffic volumes to generate the Build traffic volumes shown on Exhibit 6.

PEAK HOUR TRAFFIC OPERATIONS & QUEUES

The study intersections were analyzed using the Synchro 12 traffic analysis model (outputs based on the *Highway Capacity Manual, 7th 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 descriptions for signalized and unsignalized intersections are in Table 2.

Table 2. 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

Existing Traffic Operations

The Existing traffic volumes were evaluated with the existing geometrics and traffic control at the Fond du Lac Avenue (STH 145)/Knollcrest Circle intersection. During the peak hours, all movements at this intersection operate at LOS C or better, with very low (zero vehicle) 95th percentile queues. The peak hour LOS, delays, and 95th percentile queues for the Existing condition are shown in Table 3. The corresponding Synchro capacity analysis worksheets are in Appendix B.

Table 3. Existing Traffic Peak Hour Operating Conditions

Intersection	Peak Hour	Metric	Intersection Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
		Lanes->	*1*	-	*1*	-			*<1*	-		-	*1*	*1*	
Fond du Lac Avenue (STH 145) & Knollcrest Circle *Stop Sign Control (EB)*	AM	LOS	B	-	B	-			A	-		-	*	*	A
		Delay	13.7	-	10.8	-			8.4	-		-	*	*	0.2
		Queue	0'	-	0'	-			0'	-		-	*	*	
	PM	LOS	C	-	B	-			A	-		-	*	*	A
		Delay	15.4	-	10.4	-			8.1	-		-	*	*	0.2
		Queue	0'	-	0'	-			0'	-		-	*	8'	

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement. Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

Build Traffic Operations

The Build traffic operations were evaluated with the Build traffic volumes and existing geometrics and traffic control at the Fond du Lac Avenue (STH 145)/Knollcrest Circle intersection. Per WisDOT requirements provided in an April 2, 2026 letter (Appendix C), the

proposed site access to Fond du Lac Avenue (STH 145) was evaluated with a separate southbound right-turn lane and northbound left-turn lane/bypass lane on Fond du Lac Avenue (STH 145) and a single shared left-turn/right-turn lane with stop sign control on the site access approach.

The peak hour LOS, delays, and 95th percentile queues for the Build condition are shown in Table 4. The corresponding Synchro capacity analysis worksheets are in Appendix D. As shown, all movements at the study intersections continue to operate at LOS C or better during the peak hours. Delay increases are insignificant at the Fond du Lac Avenue (STH 145)/ Knollcrest Circle intersection with the additional traffic from the multi-family development.

Table 4. Build Traffic Peak Hour Operating Conditions

Intersection	Peak Hour	Metric	Intersection Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Fond du Lac Avenue (STH 145) & Knollcrest Circle *Stop Sign Control (EB)*	*Lanes->*		*1*	-	*1*	-			*<1*		-	-	*1*	*1*	
	AM	LOS	B	-	B	-			A		-	-	*	*	A
		Delay	14.1	-	10.9	-			8.4		-	-	*	*	0.2
		Queue	0'	-	0'	-			0'		-	-	*	*	
	PM	LOS	C	-	B	-			A		-	-	*	*	A
		Delay	15.7	-	10.4	-			8.1		-	-	*	*	0.2
		Queue	0'	-	0'	-			0'		-	-	*	8'	
Fond du Lac Avenue (STH 145) & Site Access *Stop Sign Control (EB)*	*Lanes->*		*<1>*			-			*1*	*1*	-	-	*1*	*1*	
	AM	LOS	B			-			A	*	-	-	*	*	A
		Delay	11.6			-			8.4	*	-	-	*	*	0.6
		Queue	5'			-			0'	*	-	-	*	*	
	PM	LOS	B			-			A	*	-	-	*	*	A
		Delay	13.1			-			8.1	*	-	-	*	*	0.4
		Queue	5'			-			0'	*	-	-	*	*	

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement; (< or >) indicates a shared lane movement. Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

RECOMMENDTIONS & CONCLUSIONS

Based on the analysis, the study intersections on Fond du Lac Avenue (STH 145) operate acceptably with full buildout of the proposed multi-family development. As required by WisDOT, the following geometrics and traffic control are recommended at the proposed site access to Fond du Lac Avenue (STH 145) (also shown on Exhibit 7). No changes are recommended at the Fond du Lac Avenue (STH 145)/Knollcrest Circle intersection.

- Construct the site access to Fond du Lac Avenue (STH 145) with a single shared left-turn/right-turn lane and stop sign control. *This site access replaces a future extension of Crimson Road to Fond du Lac Avenue (STH 145). Per WisDOT, the platted Crimson Road right-of-way will need to be discontinued per Wisconsin Statute 66.1003.*
- Install a northbound left-turn bypass lane on Fond du Lac Avenue (STH 145) per WisDOT FDM Standards. Alternatively, install a northbound left-turn lane with 300 feet of storage plus proper taper.
- Install a southbound right-turn lane on Fond du Lac Avenue (STH 145) with 175 feet of storage plus proper taper.

TADI
TRAFFIC ANALYSIS & DESIGN, INC.
3646: 06-18-26

N
NOT TO SCALE

EXHIBIT 1
PROJECT LOCATION MAP

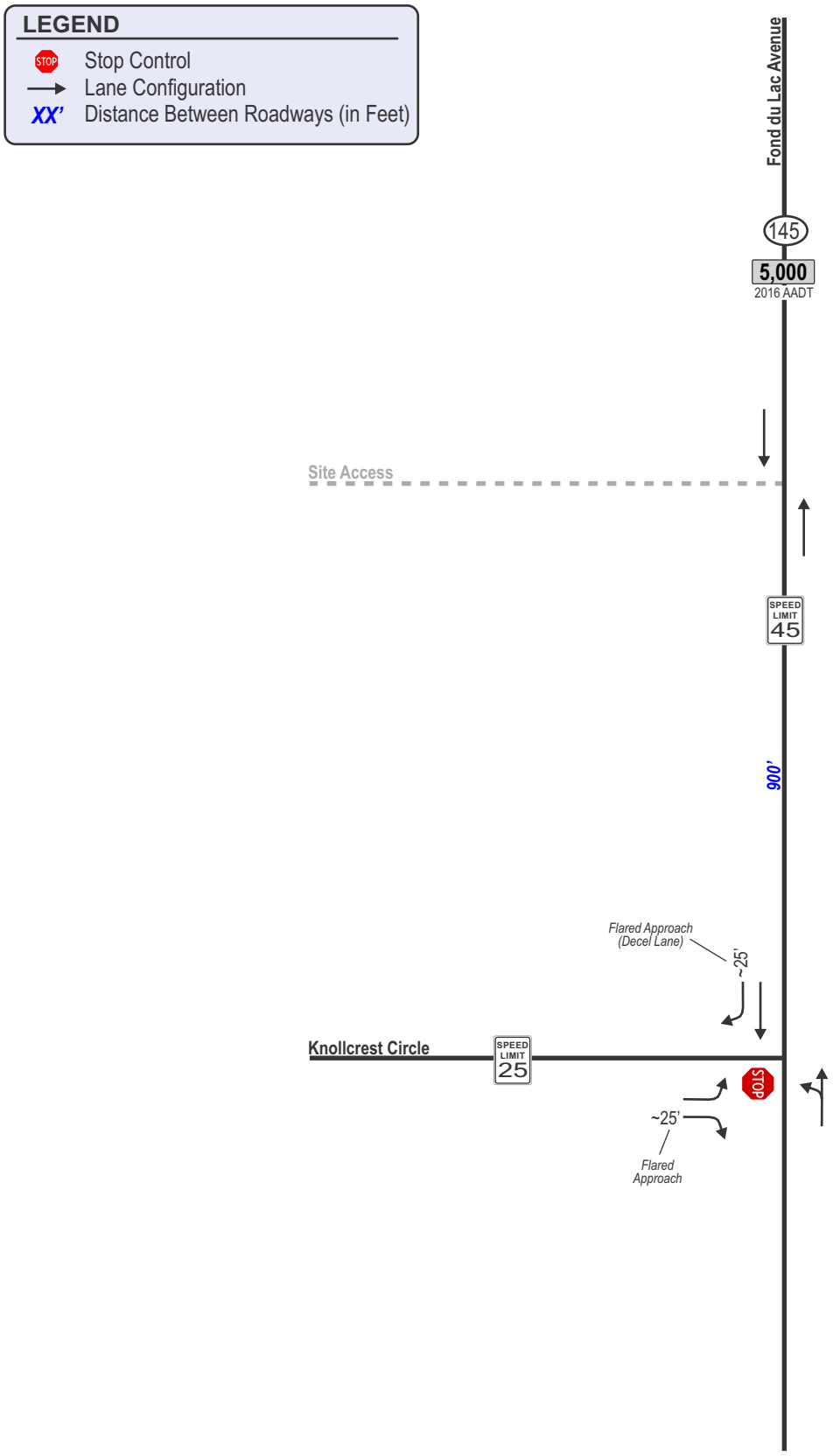
MULTI-FAMILY DEVELOPMENT TIA - GERMANTOWN, WI

TRAFFIC ANALYSIS & DESIGN, INC.
3646: 06-18-26

N
NOT TO SCALE

EXHIBIT 2
CONCEPTUAL SITE PLAN

MULTI-FAMILY DEVELOPMENT TIA - GERMANTOWN, WI



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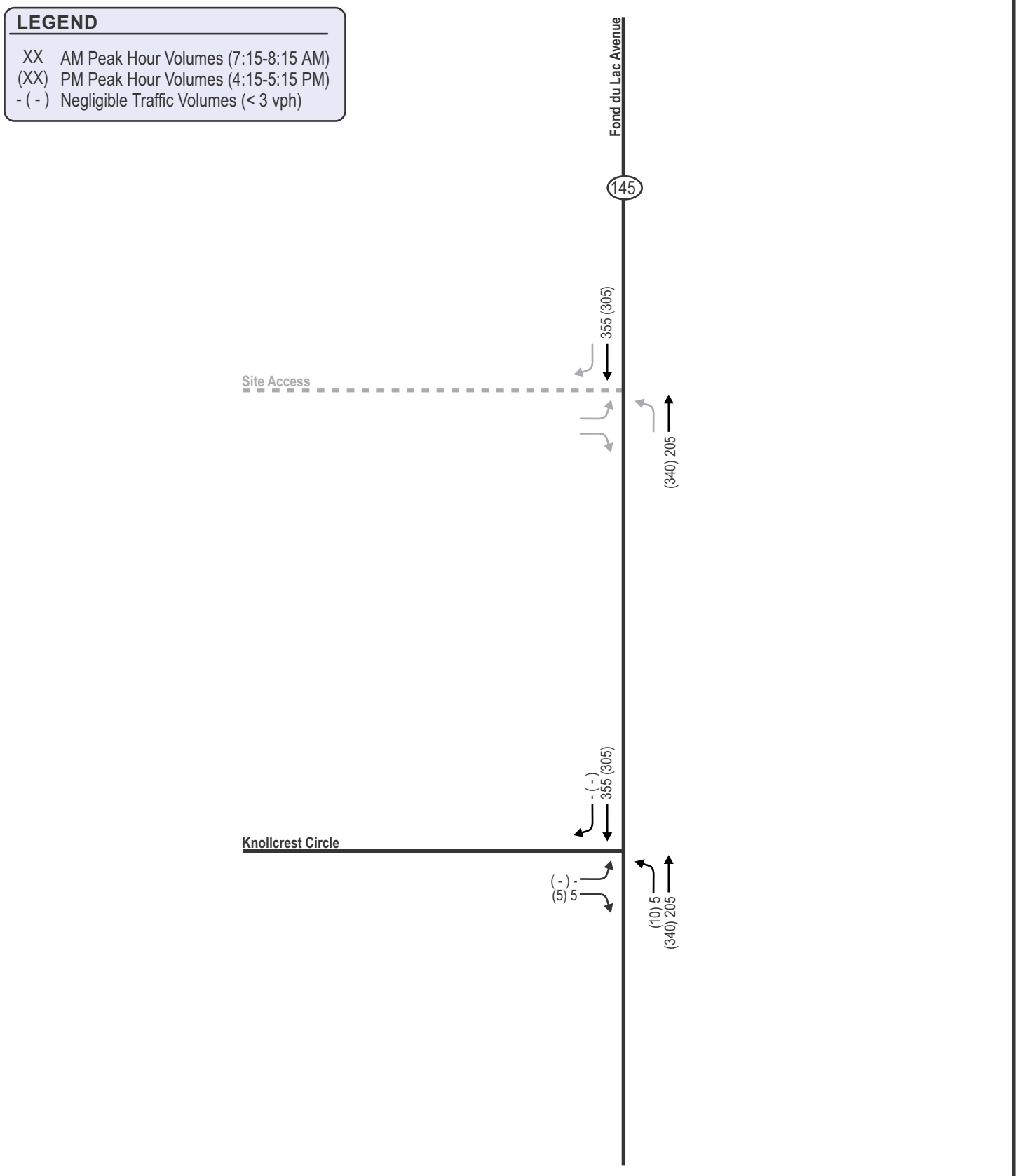
N
NOT TO SCALE

EXHIBIT 3
EXISTING TRANSPORTATION SYSTEM

MULTI-FAMILY DEVELOPMENT TIA - GERMANTOWN, WI



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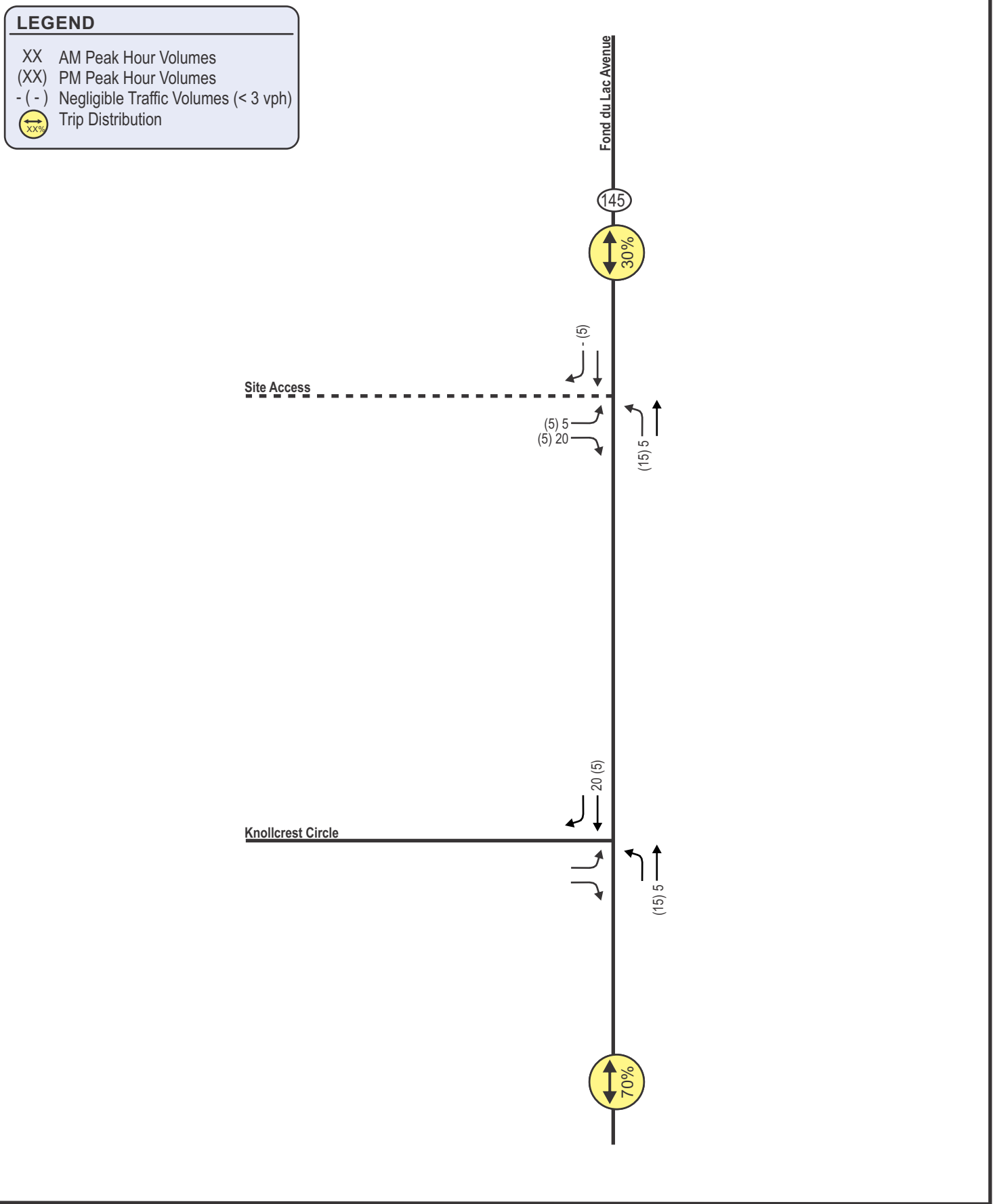
N
NOT TO SCALE

EXHIBIT 4
EXISTING TRAFFIC VOLUMES

MULTI-FAMILY DEVELOPMENT TIA - GERMANTOWN, WI



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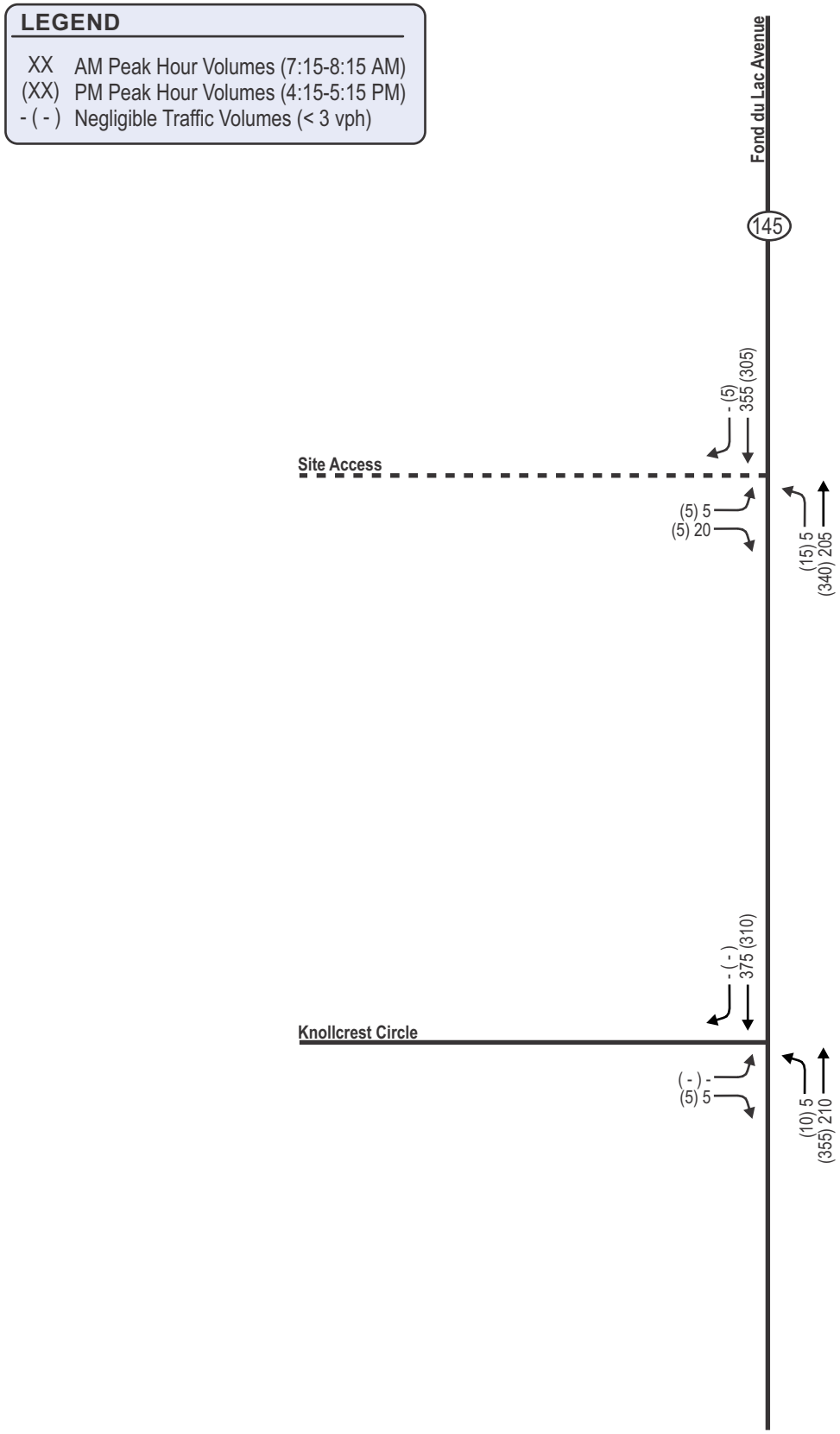
N
NOT TO SCALE

EXHIBIT 5
SITE TRIP DISTRIBUTION & TRAFFIC ASSIGNMENT

MULTI-FAMILY DEVELOPMENT TIA - GERMANTOWN, WI



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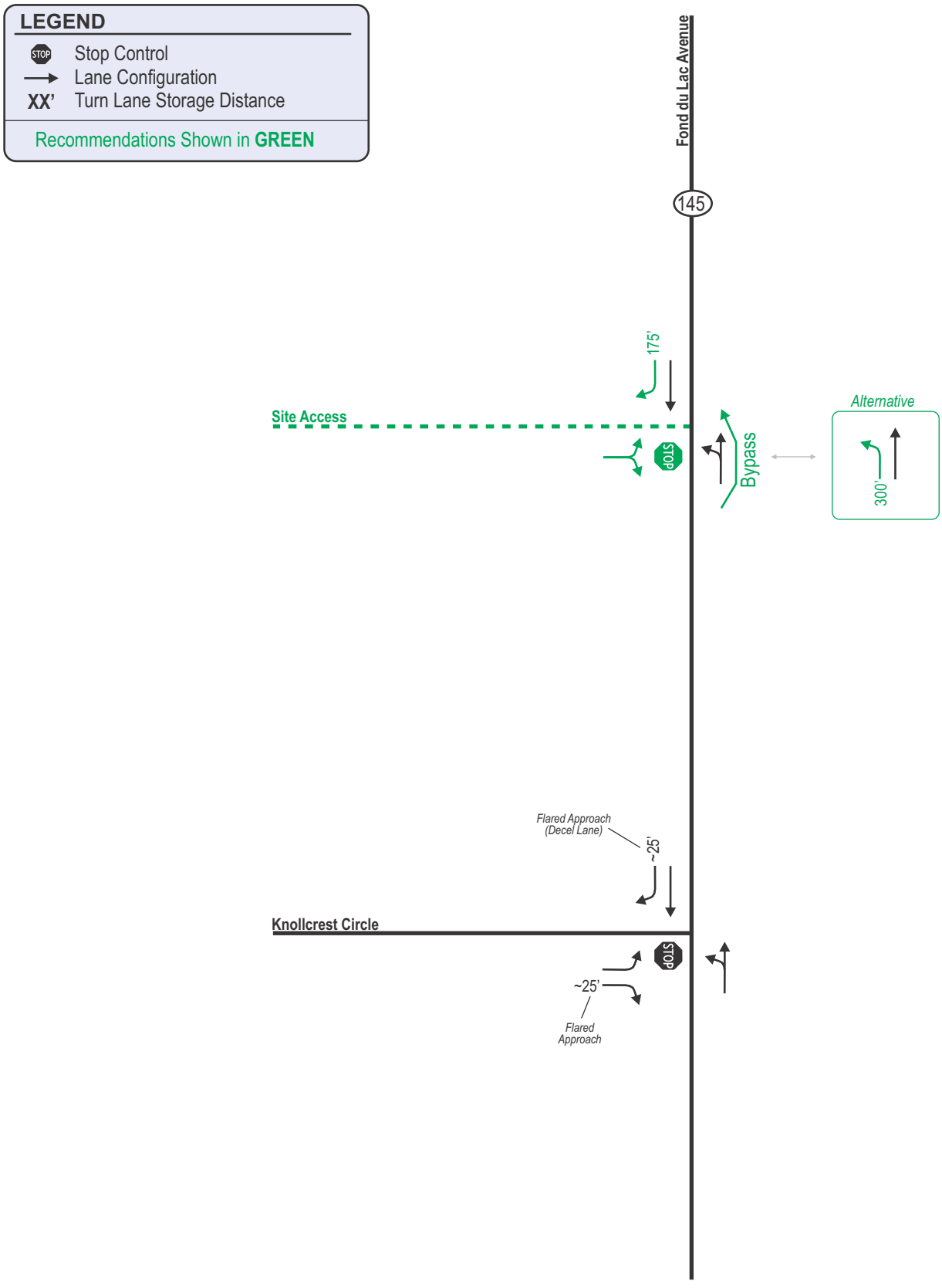
3646: 06-18-26

N
NOT TO SCALE

EXHIBIT 6
BUILD TRAFFIC VOLUMES

MULTI-FAMILY DEVELOPMENT TIA - GERMANTOWN, WI



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3646: 06-18-26

EXHIBIT 7
RECOMMENDATIONS

MULTI-FAMILY DEVELOPMENT TIA - GERMANTOWN, WI

APPENDIX A

TRAFFIC COUNTS

Intersection Traffic Volume Report

Count Basics	Version 2026.03		Page 1 of 13
Start Date:	Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Major St: **STH 145 - Fond du Lac Ave**
Minor St: **Knollcrest Circle**
Intersection of: ***STH 145 - Fond du Lac Ave & Knollcrest Circle***

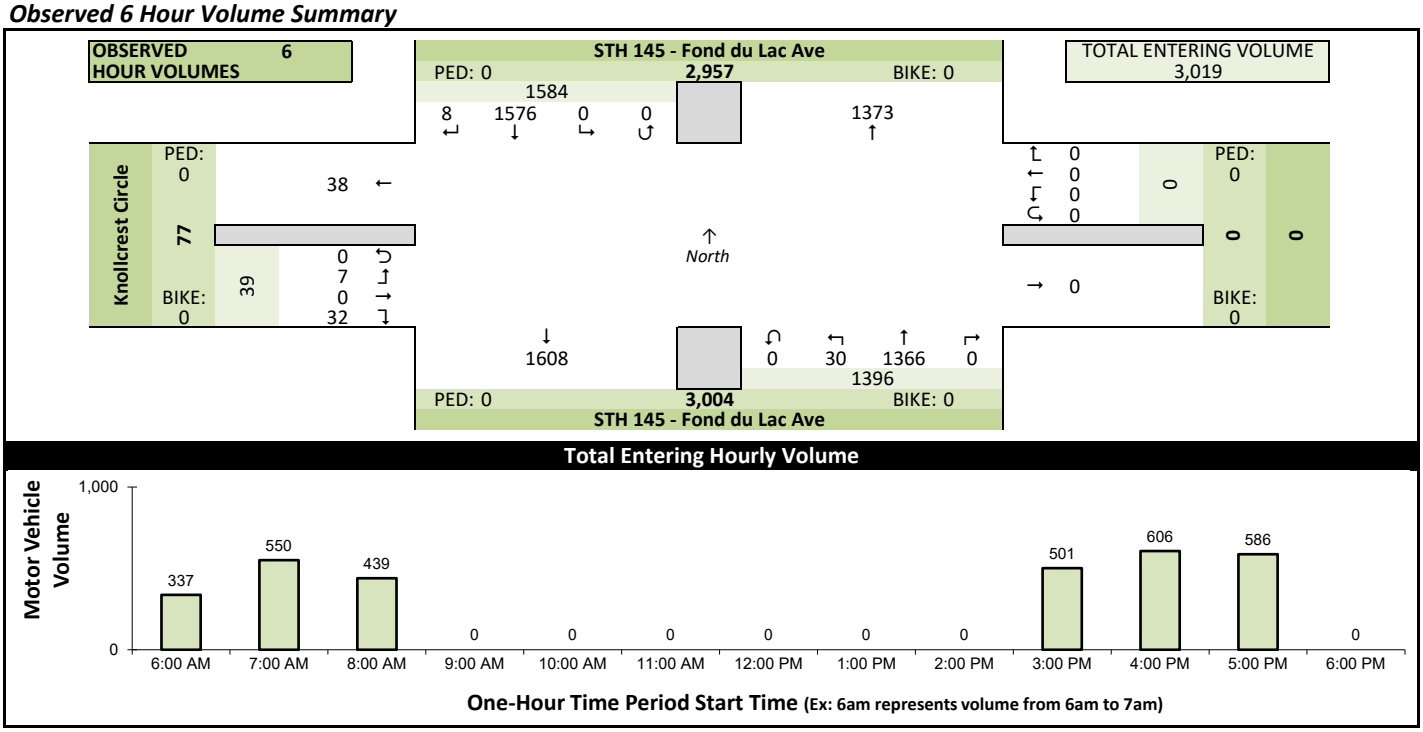
Site Information

Municipality	Village of Germantown		
County	66 - Washington	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	STH 145 - Fond du Lac Ave		
East Leg	0		
South Leg	STH 145 - Fond du Lac Ave		
West Leg	Knollcrest Circle		
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		

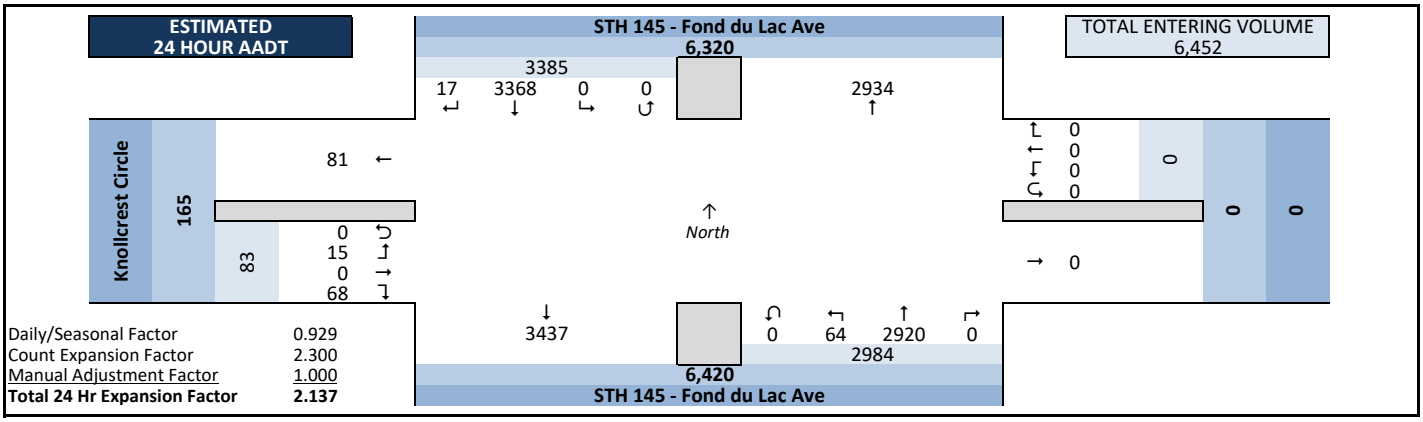
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-06:00 PM				
1st Day of Count	Wednesday, April 15, 2026			Weather	
AM Peak Period	Wednesday, April 15, 2026			Clear & Dry	
Midday Peak Period				0	
PM Peak Period	Wednesday, April 15, 2026			Cloudy & Dry	
Calculated Peak Hours					
	AM	7:15-8:15am	MD	PM	4:15-5:15pm
Peak Hours Selected for Analysis					
	AM	7:15-8:15am	MD	PM	4:15-5:15pm
Daily/Seasonal Adjustment Group	(1) Non-Interstate Low Truck %				
Count Expansion Group	(1) Non-Interstate Low Truck %				
Daily/Seasonal Adjustment Factor	0.929	Count Expansion Factor	2.300		
Company Name	TADI			Manual Adj.	1.000
Observers	AM Peak Period	Lee Oestreich			
	Midday Peak Period	0			
	PM Peak Period	Jane Fait			
Comments	Wis DOT Daily & Seasonal Factors are final for 2012 through 2025, and 2026 reports use 2025 final factors.				

Observed 6 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

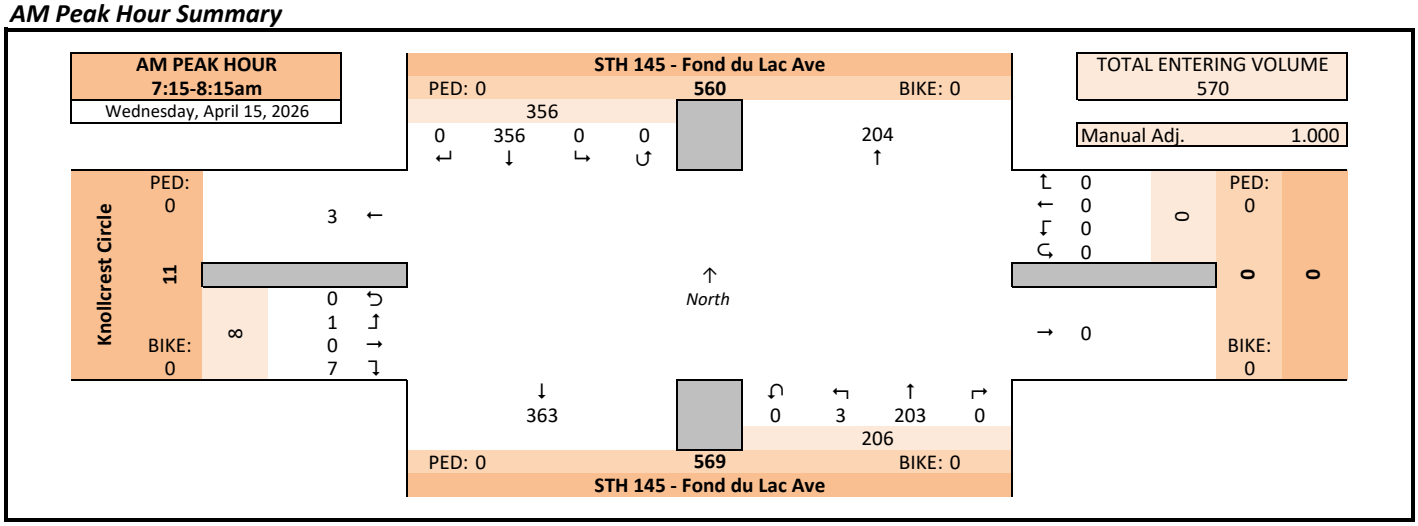
Peak Hour Volume Graphical Summary

Count Basics			*Page 2 of 13*
Start Date:	Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

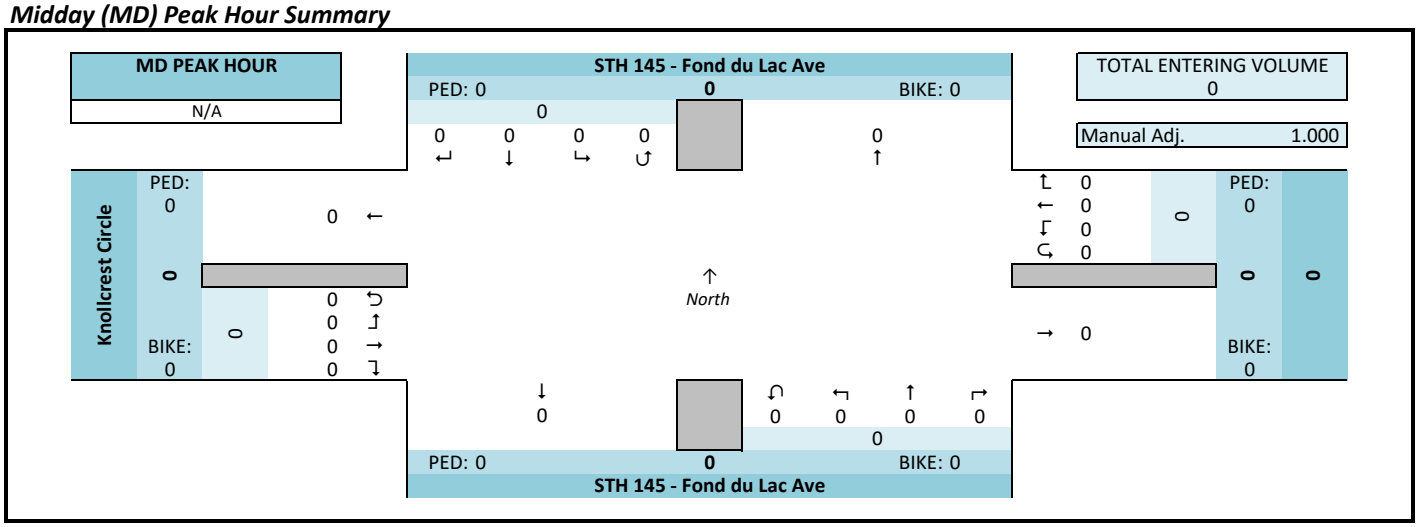
All Motor Vehicles

STH 145 - Fond du Lac Ave & Knollcrest Circle

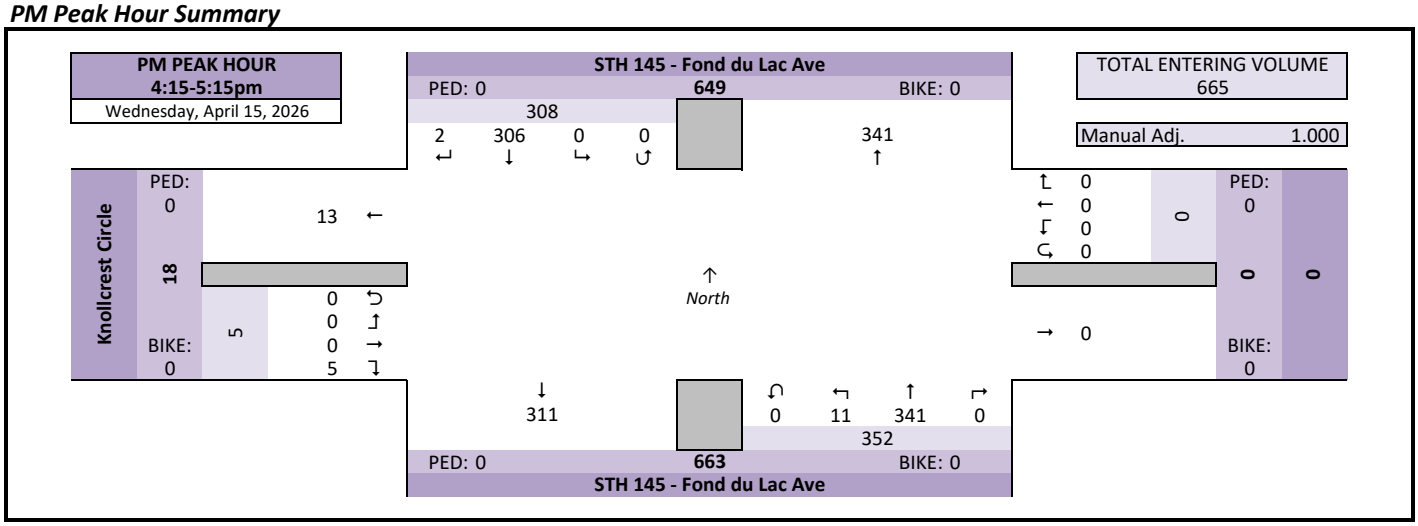
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

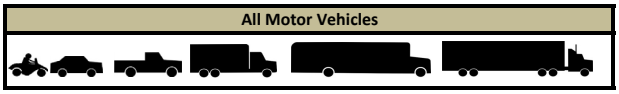


Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Peak Hour Volume Summary

STH 145 - Fond du Lac Ave & Knollcrest Circle



Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, April 15, 2026		From North					From East					From South					From West					
	AM Peak Hour	STH 145 - Fond du Lac Ave					0					STH 145 - Fond du Lac Ave					Knollcrest Circle					
	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	7:15 AM	0	86	0	0	86	0	0	0	0	0	0	40	0	0	40	3	0	0	0	3	129
	7:30 AM	0	99	0	0	99	0	0	0	0	0	0	36	1	0	37	2	0	0	0	2	138
	7:45 AM	0	98	0	0	98	0	0	0	0	0	0	71	0	0	71	0	0	1	0	1	170
	8:00 AM	0	73	0	0	73	0	0	0	0	0	0	56	2	0	58	2	0	0	0	2	133
	Peak Hour Volume	0	356	0	0	356	0	0	0	0	0	0	203	3	0	206	7	0	1	0	8	570
	Rounded Hourly Volume	0	355	0	0	355	0	0	0	0	0	0	205	5	0	210	5	0	0	0	5	570
	% Single Unit Trucks	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0	10.7	0.0	0.0	0.0	0.0	0.0	7.7
	% Heavy Trucks	0.0	2.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	2.8
	% Trucks (Total)	0.0	8.7	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	14.1	0.0	0.0	0.0	0.0	0.0	10.5
	Peak Hour Factor (PHF)	0.00	0.90	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.37	0.00	0.73	0.58	0.00	0.25	0.00	0.67	0.84

N/A		From North					From East					From South					From West					
	MD Peak Hour	STH 145 - Fond du Lac Ave					0					STH 145 - Fond du Lac Ave					Knollcrest Circle					
	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

Wednesday, April 15, 2026		From North					From East					From South					From West					
	PM Peak Hour	STH 145 - Fond du Lac Ave					0					STH 145 - Fond du Lac Ave					Knollcrest Circle					
	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	4:15 PM	0	79	0	0	79	0	0	0	0	0	0	76	5	0	81	2	0	0	0	2	162
	4:30 PM	2	60	0	0	62	0	0	0	0	0	0	65	4	0	69	1	0	0	0	1	132
	4:45 PM	0	78	0	0	78	0	0	0	0	0	0	91	1	0	92	0	0	0	0	0	170
	5:00 PM	0	89	0	0	89	0	0	0	0	0	0	109	1	0	110	2	0	0	0	2	201
	Peak Hour Volume	2	306	0	0	308	0	0	0	0	0	0	341	11	0	352	5	0	0	0	5	665
	Rounded Hourly Volume	0	305	0	0	305	0	0	0	0	0	0	340	10	0	350	5	0	0	0	5	660
	% Single Unit Trucks	0.0	5.6	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	3.5
	% Heavy Trucks	0.0	1.6	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.1
	% Trucks (Total)	0.0	7.2	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	4.5
	Peak Hour Factor (PHF)	0.25	0.86	0.00	0.00	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.55	0.00	0.80	0.62	0.00	0.00	0.00	0.62	0.83

Peak Hour Pedestrian and Bicyclist Volumes

Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike
		STH 145 - Fond du Lac Ave			0			STH 145 - Fond du Lac Ave			Knollcrest Circle			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Volume
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	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
	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	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	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
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Hourly Volume Summary - Motor Vehicle Data

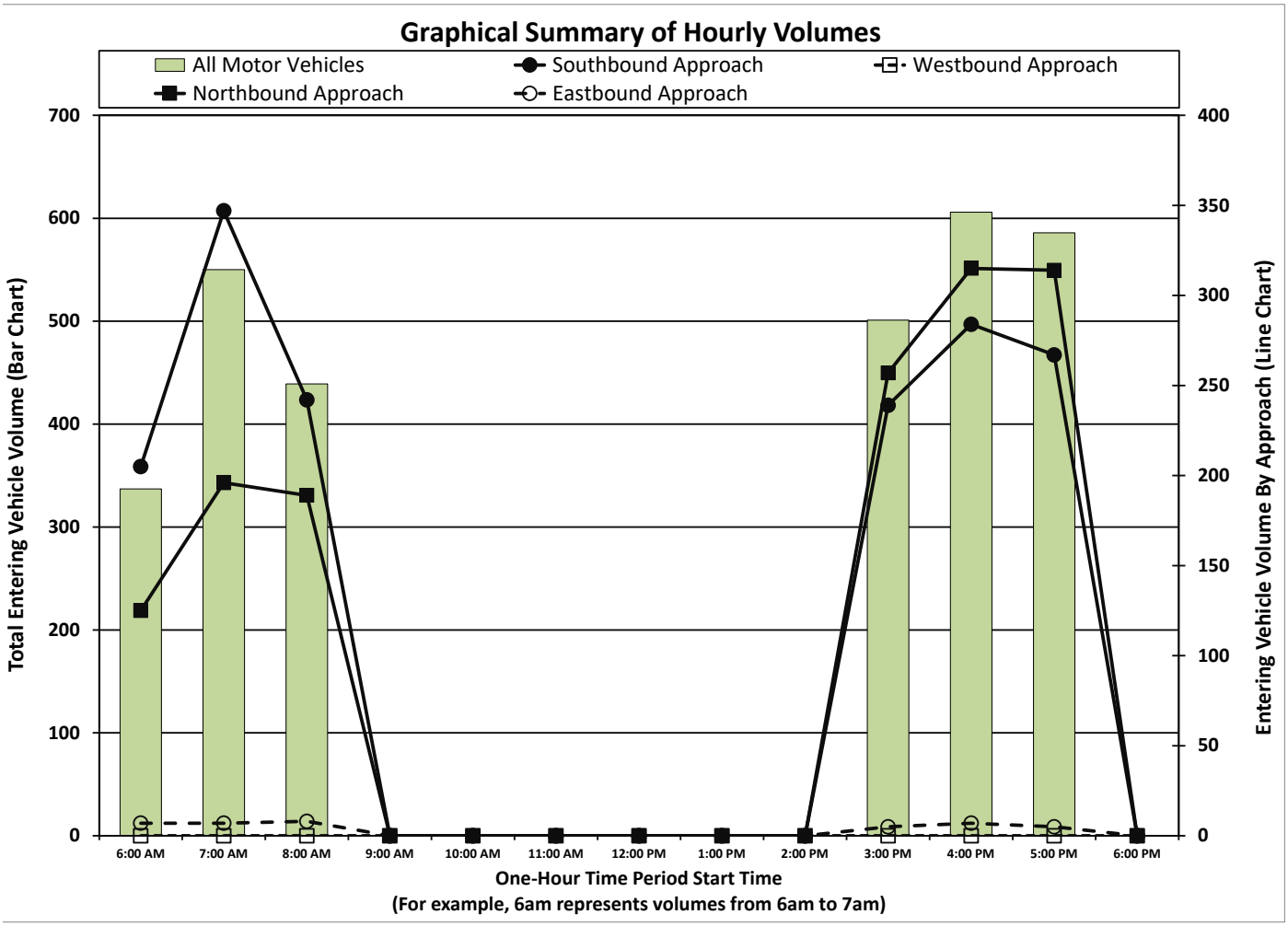
STH 145 - Fond du Lac Ave & Knollcrest Circle

Count Basics			*Page 4 of 13*
Start Date:	Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

All Motor Vehicles

One-Hour Motor Vehicle Data

One-Hour Time Period Start Time		From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					Total Vehicle Volume	Directional Volume Totals E/W	Directional Volume Totals N/S
		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	6:00 AM	0	205	0	0	205	0	0	0	0	0	0	124	1	0	125	6	0	1	0	7	337	7	330
AM	7:00 AM	0	347	0	0	347	0	0	0	0	0	0	195	1	0	196	6	0	1	0	7	550	7	543
AM	8:00 AM	0	242	0	0	242	0	0	0	0	0	0	182	7	0	189	7	0	1	0	8	439	8	431
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:00 AM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
MD	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	3	236	0	0	239	0	0	0	0	0	0	253	4	0	257	4	0	1	0	5	501	5	496
PM	4:00 PM	4	280	0	0	284	0	0	0	0	0	0	302	13	0	315	5	0	2	0	7	606	7	599
PM	5:00 PM	1	266	0	0	267	0	0	0	0	0	0	310	4	0	314	4	0	1	0	5	586	5	581
PM	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals		8	1576	0	0	1584	0	0	0	0	0	0	1366	30	0	1396	32	0	7	0	39	3019	39	2980



Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

STH 145 - Fond du Lac Ave & Knollcrest Circle

Count Basics		*Page 5 of 13*
Start Date: Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

All Motor Vehicles

15-Minute Motor Vehicle Data

	15-Minute Time Period Start Time	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					15-Min Totals	Hourly Sum	PHF
		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	37	0	0	37	0	0	0	0	0	0	26	0	0	26	0	0	0	0	0	63	337	0.73
	6:15 AM	0	48	0	0	48	0	0	0	0	0	0	32	0	0	32	1	0	1	0	2	82	387	0.84
	6:30 AM	0	50	0	0	50	0	0	0	0	0	0	25	0	0	25	2	0	0	0	2	77	434	0.84
	6:45 AM	0	70	0	0	70	0	0	0	0	0	0	41	1	0	42	3	0	0	0	3	115	495	0.90
	7:00 AM	0	64	0	0	64	0	0	0	0	0	0	48	0	0	48	1	0	0	0	1	113	550	0.81
	7:15 AM	0	86	0	0	86	0	0	0	0	0	0	40	0	0	40	3	0	0	0	3	129	570	0.84
	7:30 AM	0	99	0	0	99	0	0	0	0	0	0	36	1	0	37	2	0	0	0	2	138	550	0.81
	7:45 AM	0	98	0	0	98	0	0	0	0	0	0	71	0	0	71	0	0	1	0	1	170	509	0.75
	8:00 AM	0	73	0	0	73	0	0	0	0	0	0	56	2	0	58	2	0	0	0	2	133	439	0.83
	8:15 AM	0	63	0	0	63	0	0	0	0	0	0	43	2	0	45	1	0	0	0	1	109		
	8:30 AM	0	56	0	0	56	0	0	0	0	0	0	39	1	0	40	1	0	0	0	1	97		
	8:45 AM	0	50	0	0	50	0	0	0	0	0	0	44	2	0	46	3	0	1	0	4	100		
	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	59	0	0	60	0	0	0	0	0	0	76	1	0	77	2	0	1	0	3	140	501	0.89
	3:15 PM	1	63	0	0	64	0	0	0	0	0	0	67	1	0	68	0	0	0	0	0	132	503	0.89
	3:30 PM	0	59	0	0	59	0	0	0	0	0	0	55	2	0	57	1	0	0	0	1	117	533	0.82
	3:45 PM	1	55	0	0	56	0	0	0	0	0	0	55	0	0	55	1	0	0	0	1	112	548	0.85
	4:00 PM	2	63	0	0	65	0	0	0	0	0	0	70	3	0	73	2	0	2	0	4	142	606	0.89
	4:15 PM	0	79	0	0	79	0	0	0	0	0	0	76	5	0	81	2	0	0	0	2	162	665	0.83
	4:30 PM	2	60	0	0	62	0	0	0	0	0	0	65	4	0	69	1	0	0	0	1	132	649	0.81
	4:45 PM	0	78	0	0	78	0	0	0	0	0	0	91	1	0	92	0	0	0	0	0	170	633	0.79
	5:00 PM	0	89	0	0	89	0	0	0	0	0	0	109	1	0	110	2	0	0	0	2	201	586	0.73
	5:15 PM	1	63	0	0	64	0	0	0	0	0	0	79	1	0	80	1	0	1	0	2	146		
	5:30 PM	0	58	0	0	58	0	0	0	0	0	0	56	2	0	58	0	0	0	0	0	116		
	5:45 PM	0	56	0	0	56	0	0	0	0	0	0	66	0	0	66	1	0	0	0	1	123		
	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		8	1576	0	0	1584	0	0	0	0	0	0	1366	30	0	1396	32	0	7	0	39	3019		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period Start Time	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					Total Hourly Volume	PHF
		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	7:15 AM	0	356	0	0	356	0	0	0	0	0	0	203	3	0	206	7	0	1	0	8	570	0.84
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	4:15 PM	2	306	0	0	308	0	0	0	0	0	0	341	11	0	352	5	0	0	0	5	665	0.83

Intersection Traffic Volume Report

15-Minute Automobile Data

Count Basics			*Page 6 of 13*
Start Date:	Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

STH 145 - Fond du Lac Ave & Knollcrest Circle

Automobiles (Cars, Light Trucks, & Motorcycles)

15-Minute Automobile Data

	15-Minute Time Period	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					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	35	0	0	35	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	56	315
	6:15 AM	0	43	0	0	43	0	0	0	0	0	0	30	0	0	30	1	0	1	0	2	75	363
	6:30 AM	0	46	0	0	46	0	0	0	0	0	0	25	0	0	25	2	0	0	0	2	73	401
	6:45 AM	0	67	0	0	67	0	0	0	0	0	0	40	1	0	41	3	0	0	0	3	111	457
	7:00 AM	0	61	0	0	61	0	0	0	0	0	0	42	0	0	42	1	0	0	0	1	104	502
	7:15 AM	0	78	0	0	78	0	0	0	0	0	0	32	0	0	32	3	0	0	0	3	113	510
	7:30 AM	0	91	0	0	91	0	0	0	0	0	0	35	1	0	36	2	0	0	0	2	129	484
	7:45 AM	0	91	0	0	91	0	0	0	0	0	0	64	0	0	64	0	0	1	0	1	156	438
	8:00 AM	0	65	0	0	65	0	0	0	0	0	0	43	2	0	45	2	0	0	0	2	112	364
	8:15 AM	0	54	0	0	54	0	0	0	0	0	0	30	2	0	32	1	0	0	0	1	87	
	8:30 AM	0	47	0	0	47	0	0	0	0	0	0	34	1	0	35	1	0	0	0	1	83	
	8:45 AM	0	42	0	0	42	0	0	0	0	0	0	34	2	0	36	3	0	1	0	4	82	
	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	54	0	0	55	0	0	0	0	0	0	64	1	0	65	2	0	1	0	3	123	433
	3:15 PM	1	48	0	0	49	0	0	0	0	0	0	61	0	0	61	0	0	0	0	0	110	439
	3:30 PM	0	53	0	0	53	0	0	0	0	0	0	51	2	0	53	0	0	0	0	0	106	482
	3:45 PM	1	42	0	0	43	0	0	0	0	0	0	50	0	0	50	1	0	0	0	1	94	506
	4:00 PM	2	54	0	0	56	0	0	0	0	0	0	66	3	0	69	2	0	2	0	4	129	571
	4:15 PM	0	72	0	0	72	0	0	0	0	0	0	74	5	0	79	2	0	0	0	2	153	635
	4:30 PM	2	58	0	0	60	0	0	0	0	0	0	65	4	0	69	1	0	0	0	1	130	619
	4:45 PM	0	71	0	0	71	0	0	0	0	0	0	87	1	0	88	0	0	0	0	0	159	601
	5:00 PM	0	83	0	0	83	0	0	0	0	0	0	107	1	0	108	2	0	0	0	2	193	563
	5:15 PM	1	58	0	0	59	0	0	0	0	0	0	75	1	0	76	1	0	1	0	2	137	
	5:30 PM	0	55	0	0	55	0	0	0	0	0	0	55	2	0	57	0	0	0	0	0	112	
	5:45 PM	0	55	0	0	55	0	0	0	0	0	0	65	0	0	65	1	0	0	0	1	121	
	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		8	1423	0	0	1431	0	0	0	0	0	0	1250	29	0	1279	31	0	7	0	38	2748	

Peak Hour Automobile Volume Summary

	Hourly Time Period	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					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
AM	7:15 AM	0	325	0	0	325	0	0	0	0	0	0	174	3	0	177	7	0	1	0	8	510
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	4:15 PM	2	284	0	0	286	0	0	0	0	0	0	333	11	0	344	5	0	0	0	5	635

Intersection Traffic Volume Report

15-Minute Single Unit (SU) Truck & Bus Data

STH 145 - Fond du Lac Ave & Knollcrest Circle

Count Basics		*Page 7 of 13*
Start Date: Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6	Non-Holiday	No Special Events

Single Unit (SU) Trucks & Buses

15-Minute Single Unit (SU) Truck & Bus Data

	15-Minute Time Period Start Time	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					15-Min Totals	Hourly Sum
		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	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5	14
	6:15 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4	12
	6:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	18
	6:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	22
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	33
	7:15 AM	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	10	44
	7:30 AM	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	7	47
	7:45 AM	0	7	0	0	7	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	13	48
	8:00 AM	0	5	0	0	5	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	14	47
	8:15 AM	0	6	0	0	6	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	13	
	8:30 AM	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	8	
	8:45 AM	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	12	
	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	2	0	0	2	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	12	56
	3:15 PM	0	12	0	0	12	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	18	55
	3:30 PM	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	10	44
	3:45 PM	0	12	0	0	12	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	16	34
	4:00 PM	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	11	28
	4:15 PM	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	7	23
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
	4:45 PM	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	10	25
	5:00 PM	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	6	17
	5:15 PM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7	
	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	
	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	110	0	0	110	0	0	0	0	0	0	83	1	0	84	1	0	0	0	1	195	
SU Truck %age:		0.0%	7.0%	0.0%	0.0%	6.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	3.3%	0.0%	6.0%	3.1%	0.0%	0.0%	0.0%	2.6%	6.5%	

Peak Hour Single Unit (SU) Truck & Buses Volume Summary

	Hourly Time Period Start Time	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					Total Hourly Volume
		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	7:15 AM	0	22	0	0	22	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	44
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	4:15 PM	0	17	0	0	17	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	23

Intersection Traffic Volume Report

15-Minute Semi-Truck Data

STH 145 - Fond du Lac Ave & Knollcrest Circle

Count Basics			*Page 8 of 13*
Start Date:	Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Semi-Trucks

15-Minute Semi-Truck Data

	15-Minute Time Period Start Time	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					15-Min Totals	Hourly Sum
		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	2	0	0	2	0	0	0	0	0	2	8
	6:15 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	12
	6:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15
	6:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16
	7:00 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6	15
	7:15 AM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6	16
	7:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	19
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	23
	8:00 AM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7	28
	8:15 AM	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	9	
	8:30 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6	
	8:45 AM	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	6	
	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	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5	12
	3:15 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4	9
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	7
	3:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	8
	4:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	7
	4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
	4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
	5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	6
	5:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
	5:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	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	43	0	0	43	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	76	
emi Truck %age:		0.0%	2.7%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	

Peak Hour Semi-Truck Volume Summary

	Hourly Time Period Start Time	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					Total Hourly Volume
		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	7:15 AM	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	16
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	4:15 PM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Data

Count Basics			*Page 9 of 13*
Start Date:	Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

STH 145 - Fond du Lac Ave & Knollcrest Circle

15-Minute Heavy Vehicle Data

15-Minute Time Period		From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					15-Min Totals	Hourly 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	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	7	22
	6:15 AM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7	24
	6:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	33
	6:45 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4	38
	7:00 AM	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	9	48
	7:15 AM	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	16	60
	7:30 AM	0	8	0	0	8	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	9	66
	7:45 AM	0	7	0	0	7	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	14	71
	8:00 AM	0	8	0	0	8	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	21	75
	8:15 AM	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	22	
	8:30 AM	0	9	0	0	9	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	14	
	8:45 AM	0	8	0	0	8	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	18	
	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	5	0	0	5	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	17	68
	3:15 PM	0	15	0	0	15	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	22	64
	3:30 PM	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	11	51
	3:45 PM	0	13	0	0	13	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	18	42
	4:00 PM	0	9	0	0	9	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	13	35
	4:15 PM	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	9	30
	4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	30
	4:45 PM	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	11	32
	5:00 PM	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	8	23
	5:15 PM	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	9	
	5:30 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4	
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	
	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	153	0	0	153	0	0	0	0	0	0	116	1	0	117	1	0	0	0	1	271	
otal Truck %age:		0.0%	9.7%	0.0%	0.0%	9.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.5%	3.3%	0.0%	8.4%	3.1%	0.0%	0.0%	0.0%	2.6%	9.0%	

Peak Hour Heavy Vehicle Volume Summary

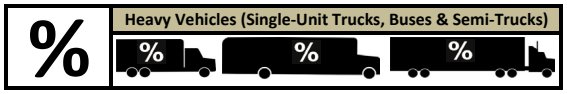
Hourly Time Period		From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					Total Hourly Volume
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM	7:15 AM	0	31	0	0	31	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	60
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	4:15 PM	0	22	0	0	22	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	30

Intersection Traffic Volume Report

15-Minute Heavy Vehicle Percentages

Count Basics			*Page 10 of 13*
Start Date:	Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

STH 145 - Fond du Lac Ave & Knollcrest Circle



15-Minute Heavy Vehicle Percentages

	15-Minute Time Period Start Time	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					Total Heavy Vehicle Percent	Hourly Heavy Vehicle Percent
		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	5.4	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	19.2	0.0	0.0	19.2	0.0	0.0	0.0	0.0	0.0	11.1	6.5
	6:15 AM	0.0	10.4	0.0	0.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	8.5	6.2
	6:30 AM	0.0	8.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	7.6
	6:45 AM	0.0	4.3	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	3.5	7.7
	7:00 AM	0.0	4.7	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	8.0	8.7
	7:15 AM	0.0	9.3	0.0	0.0	9.3	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	12.4	10.5
	7:30 AM	0.0	8.1	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	6.5	12.0
	7:45 AM	0.0	7.1	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	9.9	0.0	0.0	9.9	0.0	0.0	0.0	0.0	0.0	8.2	13.9
	8:00 AM	0.0	11.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	23.2	0.0	0.0	22.4	0.0	0.0	0.0	0.0	0.0	15.8	17.1
	8:15 AM	0.0	14.3	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	30.2	0.0	0.0	28.9	0.0	0.0	0.0	0.0	0.0	20.2	
	8:30 AM	0.0	16.1	0.0	0.0	16.1	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	14.4	
	8:45 AM	0.0	16.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	22.7	0.0	0.0	21.7	0.0	0.0	0.0	0.0	0.0	18.0	
	9:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	8.5	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	15.8	0.0	0.0	15.6	0.0	0.0	0.0	0.0	0.0	12.1	13.6
	3:15 PM	0.0	23.8	0.0	0.0	23.4	0.0	0.0	0.0	0.0	0.0	0.0	9.0	100.0	0.0	10.3	0.0	0.0	0.0	0.0	0.0	16.7	12.7
	3:30 PM	0.0	10.2	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0	7.0	100.0	0.0	0.0	0.0	100.0	9.4	9.6
	3:45 PM	0.0	23.6	0.0	0.0	23.2	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	16.1	7.7
	4:00 PM	0.0	14.3	0.0	0.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	9.2	5.8
	4:15 PM	0.0	8.9	0.0	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	5.6	4.5
	4:30 PM	0.0	3.3	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	4.6
	4:45 PM	0.0	9.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	6.5	5.1
	5:00 PM	0.0	6.7	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	4.0	3.9
	5:15 PM	0.0	7.9	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	6.2	
	5:30 PM	0.0	5.2	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	3.4	
	5:45 PM	0.0	1.8	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	1.6	
	6:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Totals		0.0	9.7	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	8.5	3.3	0.0	8.4	3.1	0.0	0.0	0.0	2.6	9.0	

Semi Truck Percentage: 2.52%

Peak Hour Heavy Vehicle Percentages Summary

	Hourly Time Period Start Time	From North (↓) STH 145 - Fond du Lac Ave					From East (←) 0					From South (↑) STH 145 - Fond du Lac Ave					From West (→) Knollcrest Circle					Hourly Heavy Vehicle Percent
		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	7:15 AM	0.0	8.7	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	14.1	0.0	0.0	0.0	0.0	0.0	10.5
MD	12:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PM	4:15 PM	0.0	7.2	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	4.5

Intersection Traffic Volume Report

15-Minute Pedestrian and Bicyclist Data

STH 145 - Fond du Lac Ave & Knollcrest Circle

Count Basics			*Page 11 of 13*
Start Date:	Wednesday, April 15, 2026	Weekday	Schools in Session
Total Number of Hours Counted: 6		Non-Holiday	No Special Events

Pedestrians and Bicyclists

15-Minute Pedestrian and Bicyclist Data

	15-Minute	Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach				
	Time Period	STH 145 - Fond du Lac Ave			0			STH 145 - Fond du Lac Ave			Knollcrest Circle			15-Min	Hourly
	Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Totals	Sum
AM Peak Period	6:00 AM	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
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 AM	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	
	9:30 AM	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	
Midday Peak Period	10:00 AM	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	
	10:30 AM	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	
	11:00 AM	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	
	11:30 AM	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	
	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	
	1:00 PM	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	
	1:30 PM	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	
PM Peak Period	2:00 PM	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	
	2:30 PM	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	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:00 PM	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	
	6:30 PM	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	
	7:00 PM	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	
	7:30 PM	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	
	8:00 PM	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	
	8:30 PM	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	
	9:00 PM	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	
	9:30 PM	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	
Totals		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

Special Pedestrians

Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementry School Age Children	x					
Visually Impaired (white cane/help	x					
Elderly/Disabled (except wheelcha	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

APPENDIX B

SYNCHRO TRAFFIC ANALYSIS

Existing Traffic

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	5	5	205	355	1
Future Vol, veh/h	1	5	5	205	355	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	-	25
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	14	14	9	9
Mvmt Flow	1	6	6	244	423	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	679	423	424	0	-	0
Stage 1	423	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.24	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.326	-	-	-
Pot Cap-1 Maneuver	417	631	1074	-	-	-
Stage 1	661	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	415	631	1074	-	-	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	787	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.25	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	43	-	415	631	-	-
HCM Lane V/C Ratio	0.006	-	0.003	0.009	-	-
HCM Ctrl Dly (s/v)	8.4	0	13.7	10.8	-	-
HCM Lane LOS	A	A	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	5	10	340	305	1
Future Vol, veh/h	1	5	10	340	305	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	-	25
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	7	7
Mvmt Flow	1	6	12	410	367	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	801	367	369	0	-	0
Stage 1	367	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	354	678	1190	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	349	678	1190	-	-	-
Mov Cap-2 Maneuver	349	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.19	0.23	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	51	-	349	678	-	-
HCM Lane V/C Ratio	0.01	-	0.003	0.009	-	-
HCM Ctrl Dly (s/v)	8.1	0	15.4	10.4	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

APPENDIX C

WISDOT REQUIRED IMPROVEMENTS LETTER

Division of Transportation System Development
Southeast Regional Office
141 N.W. Barstow Street
P.O. Box 798
Waukesha, WI 53187-0798

Tony Evers, Governor
Kristina Boardman, Secretary
Internet: www.dot.wisconsin.gov

Telephone: (262) 548-5903
Facsimile (FAX): (262) 548-5662

E-Mail: waukesha.dtd@dot.wi.gov

April 2, 2026

KEVIN DRISCOLL
VILLAGE OF GERMANTOWN
N112 W17001 MEQUON ROAD
GERMANTOWN WI 53022-0337

Subject: Log #294 – Development Submittal
Victory Place
WIS145
1700 Feet North of County Q
Washington County

Dear Mr. Driscoll:

We have reviewed the initial information forwarded for the subject development. The Wisconsin Department of Transportation (WisDOT) will not require a Traffic Impact Analysis (TIA) to be performed for the Victory Place development. The attached lists the improvements that are to be constructed as a result of this development.

The development can now proceed to the Department's Permit Process. The permit plans will require design preparation (please see attached plan requirements). **All permits will be issued to the maintaining authority and the design consultant will need to forward permit plans for review and submittal.**

If you have any questions regarding traffic issues, please contact the undersigned at (262) 548-6707. Please direct any questions regarding the Trans 233 process to Kolin Erickson at (262) 548-5882 or Robert Elkin at (262) 548-8704. Kevin Koehnke, Permit Coordinator (262) 548-5891, will process any necessary permits. Also, please reference the identification log number (#294) when forwarding all correspondence.

Sincerely,

Art Baumann, P.E.
Traffic Operations Engineer

Cc: Tony Barth / Brian Roper / Robert Elkin / Tom Boyke, WisDOT
Sue King / Kevin Koehnke / Kolin Erickson, WisDOT
Karen Martens / Tom Heydel / Alena DeGrado, WisDOT
Matthew Mortwedt / Jeff Retzlaff, Village of Germantown
John Bieberitz, TADi

Attachment

Project: Log #294 – Victory Place Development
WIS 145 1700 feet north of County Q, Washington County
Review Unit: Traffic Operations
Reviewer: Art Baumann – SE Region
Date: April 2, 2026

Improvement Measures

General Notes

Design

1) Contact the WisDOT permit coordinator (Kevin Koehnke at 262-548-5891 prior to plan submittal to identify the plans that are required and obtain any supplemental design guidelines. Incomplete submittals will be returned without review.
2) The design for the improvements at all WisDOT intersections shall be prepared in accordance with the FDM requirements for design and plan preparation. The design shall accommodate the appropriate design and check vehicles per the FDM. All lanes are to be a minimum of 12 feet in width, unless otherwise specified (final width to be determined during design). All left turn lanes *should* be opposing. All necessary drainage, utility, signage and pavement marking improvements shall be provided. The signing plan (separate plan sheets from other roadway improvement plan sheets) shall include sign details and signs that require moving.
3) For questions regarding signing or pavement marking, please contact Karen Martens at Karen.Martens@dot.wi.gov or (262) 548-6892.
4) For questions regarding work zone traffic control plans please contact the permit coordinator.

Multimodal Accommodations

1) Bike and pedestrian accommodations shall be provided in accordance with the FDM and ADA requirements as listed below. Please contact Alena DeGrado, WisDOT Pedestrian/Bicycle Facilities Coordinator, at (262) 548-6724 or Alena.DeGrado@dot.wi.gov with questions regarding pedestrian/bicycle accommodations.
2) Install bicycle accommodations between the travel lane and all new exclusive right turn lanes. Install bicycle accommodations along all new bypass lanes unless agreed to otherwise by WisDOT. Bicycle accommodations shall also be installed along all travel lanes that are being reconstructed and have shoulders 6 feet in width or greater.
3) Any sidewalks and curb ramps impacted by road improvements shall be restored. Improvements that meet the Americans with Disabilities Act (ADA) definition of an “alteration” will require curb ramp improvements. This includes sidewalks at intersections and those adjacent to roadways.
4) All impacted multimodal accommodations (bike, pedestrian, transit, etc.) shall be restored with the reconstruction of any intersection radii.

Right of Way

1) A party other than the WisDOT shall acquire any required right-of-way for the improvements.

Utilities

1) Utility coordination may be the responsibility of the municipality/developer consultant representative) constructing the work.
2) Utility relocations that occur as a result of this work may not be covered under Wisconsin Administrative Rule TRANS 220. The municipality/developer (or their consultant representative) requesting the work shall be responsible for all costs associated with the needed relocation of any utility facility as a result of the work.

Access

1) WisDOT will allow one access point to WIS 145 to be located where the currently platted Crimson Road right-of-way intersects WIS 145. Cross access shall be provided for the benefit of the parcel to the south to allow them to use the proposed development access.
2) **The municipality/developer (or their consultant representative) shall be responsible for notifying any offsite property or business owners whose access or operations will be impacted as a result of the proposed development. The municipality/developer shall provide the department with written documentation verifying that all impacted property or business owners have been contacted prior to permit submittal.**

Build Improvements

The following improvements shall be designed, constructed and paid for by the Developer prior to the development opening.

WIS 145 & Development Access

1) Install a northbound left-turn bypass lane per WisDOT FDM Standards. If a bypass lane is not determined to be feasible to be constructed, a northbound left turn lane with a storage length of 300 feet and proper taper can be installed instead.
2) Install a southbound right-turn lane with a storage length of 175 feet and proper taper length.
3) The platted Crimson Road right-of-way will need to be discontinued per Wisconsin Statute 66.1003 if the development is to proceed as shown on the plans provided.

APPENDIX D

SYNCHRO TRAFFIC ANALYSIS

Build Traffic

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	5	5	210	375	1
Future Vol, veh/h	1	5	5	210	375	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	-	25
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	14	14	9	9
Mvmt Flow	1	6	6	250	446	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	708	446	448	0	-	0
Stage 1	446	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.24	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.326	-	-	-
Pot Cap-1 Maneuver	401	612	1052	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	398	612	1052	-	-	-
Mov Cap-2 Maneuver	398	-	-	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.46	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	42	-	398	612	-	-
HCM Lane V/C Ratio	0.006	-	0.003	0.01	-	-
HCM Ctrl Dly (s/v)	8.4	0	14.1	10.9	-	-
HCM Lane LOS	A	A	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	20	5	205	355	1
Future Vol, veh/h	5	20	5	205	355	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	14	14	9	9
Mvmt Flow	6	24	6	244	423	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	679	423	424	0	-	0
Stage 1	423	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.24	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.326	-	-	-
Pot Cap-1 Maneuver	417	631	1074	-	-	-
Stage 1	661	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	415	631	1074	-	-	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	787	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.64	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1074	-	572	-	-
HCM Lane V/C Ratio	0.006	-	0.052	-	-
HCM Ctrl Dly (s/v)	8.4	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	5	10	355	310	1
Future Vol, veh/h	1	5	10	355	310	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	25	-	-	-	25
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	7	7
Mvmt Flow	1	6	12	428	373	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	825	373	375	0	-	0
Stage 1	373	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	342	673	1184	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	641	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	338	673	1184	-	-	-
Mov Cap-2 Maneuver	338	-	-	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	641	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.28	0.22	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	49	-	338	673	-	-
HCM Lane V/C Ratio	0.01	-	0.004	0.009	-	-
HCM Ctrl Dly (s/v)	8.1	0	15.7	10.4	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	15	340	305	5
Future Vol, veh/h	5	5	15	340	305	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	7	7
Mvmt Flow	6	6	18	410	367	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	813	367	373	0	-	0
Stage 1	367	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	348	678	1185	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	343	678	1185	-	-	-
Mov Cap-2 Maneuver	343	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	645	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.13	0.34	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1185	-	455	-	-
HCM Lane V/C Ratio	0.015	-	0.026	-	-
HCM Ctrl Dly (s/v)	8.1	-	13.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
1027 W St Paul Ave
Milwaukee WI, WI 53233

Tony Evers, Governor
Karen Hyun, Ph.D., Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

7/13/2026 **WIC-SE-2026-67-01822**

Oneida Total Integrated Enterprises
Scott Horzen
1033 N. Mayfair Road, Suite 200
Milwaukee, WI 53226

RE: Wetland Delineation Confirmation for “W140 N9935 Fond du Lac Ave Wetland Delineation” located in NE 1/4 of SE 1/4, Section 35, Township 09 North, Range 20 E, Village of Germantown, Washington County.

Dear Scott Horzen,

We have reviewed the wetland delineation report from Oneida Total Integrated Enterprises/Oneida Total Integrated Enterprises, prepared for the above-mentioned site. This letter serves as confirmation that the wetland boundaries shown on the enclosed wetland delineation figure are acceptable. This finding is based upon a detailed report review and interview with the delineator. Any filling or grading in these areas may require Department approvals. This Department wetland confirmation is valid for five years. Be sure to send a copy of the report, as well as any approved revisions, to the U.S. Army Corps of Engineers.

In order to comply with s., 23.321, Wis. Stats., please email the Department a polygon shapefile of the delineated wetland boundaries in the project area. Please do not include other data such as parcel boundaries, project limits, wetland graphic representation symbols, etc. If internal upland polygons are present in a wetland polygon, then please label as UPLAND. Please use State Plane Projection for the shapefile data and display most recent aerial photos. If a different projection system is used, clearly indicate the projection. In your email, please include a brief description of each wetland plant community (e.g., wet meadow, floodplain forest, etc.). Please send these data to Calvin Lawrence, email: calvin.lawrence@wisconsin.gov , phone 608-266-0756.

If you are planning development on the property, you must avoid take of endangered and threatened species or obtain an incidental take authorization to comply with the state's Endangered Species Law. To ensure compliance, submit an endangered resources review Form 1700-047, available at https://dnr.wi.gov/topic/ERReview/Review.html , and the DNR Endangered

Resources (ER) Program will provide a review response letter identifying any endangered and threatened species and any conditions that must be followed to address potential incidental take.

You are also responsible for obtaining any other local, state, tribal, or federal permits that are required before starting your project. Note that U.S. Army Corps of Engineers and local zoning authorization for work in floodplains or shorelands may also be required for your project.

If you have questions, please contact me, your local Wetland Identification Specialist, Kara Brooks, by email at kara.brooks@wisconsin.gov.

Sincerely,

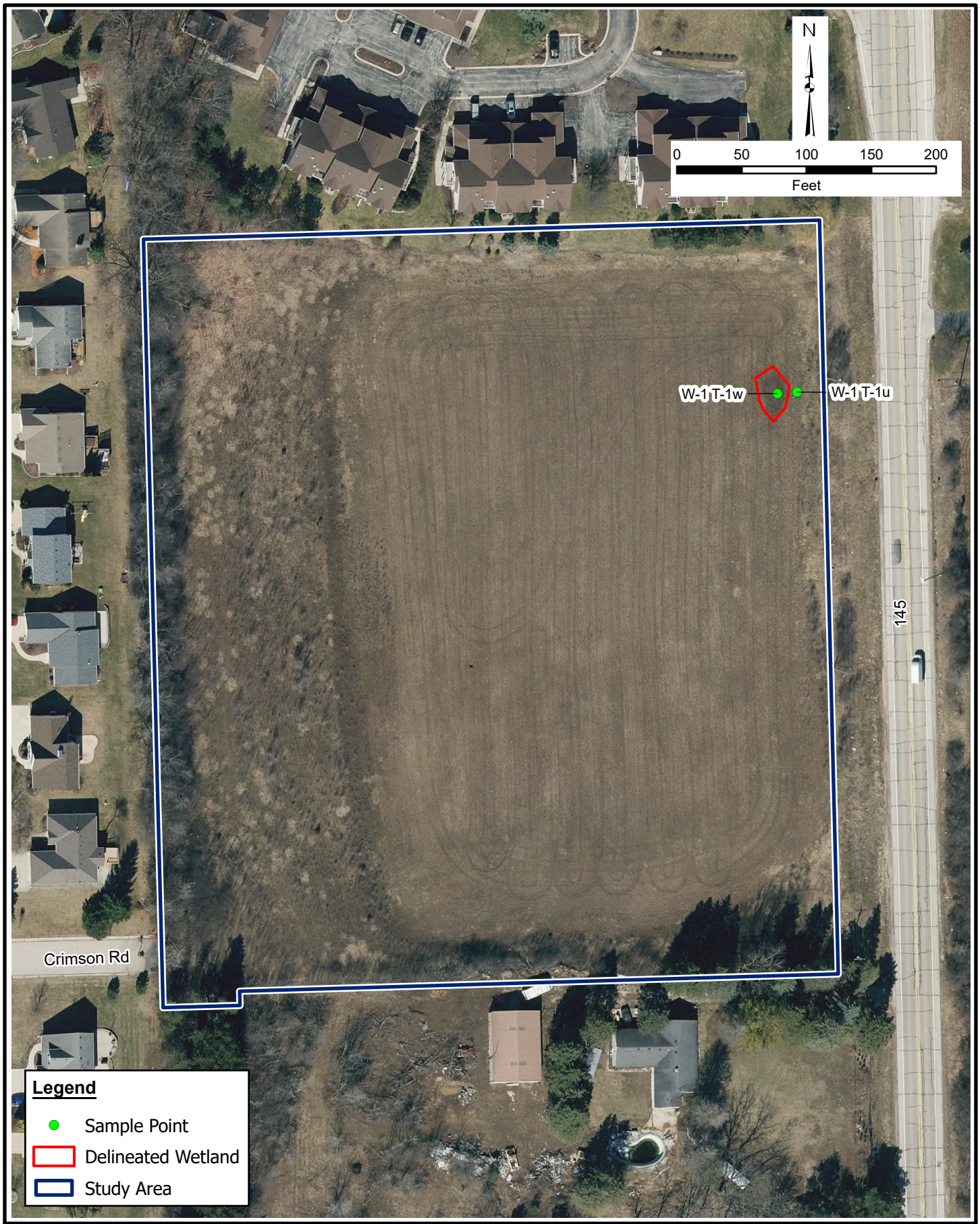
Kara Brooks
Wetland Identification Specialist

Enclosed:

Wetland Delineation Figure

Email CC:

Kyle Zibung, USACE Project Manager
Scott Horzen, Oneida Total Integrated Enterprises



ONEIDA Total Integrated Enterprises

FIGURE 2
STUDY AREA LIMITS MAP

W140 N9935 Fond du Lac Ave
Germantown
Washington County, Wisconsin

5/14/2026 X:\OESC GIS - Documents\MultiFamily_Dev_Germantown\Pro\MultiFam_Dev_Germantown_Wetland_Delin.aprx\Figure 2 - Study Area Limits

To: Tim Zimmerman, Director of Public Works

CC: Jeff Retzlaff Village Planner

From: Bob Beilfuss, PLS

Date: July 20, 2026

Re: Town 9 Apartments CSM

Tim,

Here are my review comments for the Town 9 Apartments CSM received 7/13/2026.

Certified Survey Map

Applicant or Owner: Victory Place, LLC
Address: 840 S. Main Street #100
Fond du Lac, Wisconsin
Tax Key No. GNTV 354978 and 354963

Land Surveyor/Firm: Grady L. Gosser, PLS, Trio Engineering, LLC

Review Comments are based on the CSM Review Checklist approved 4/9/2025:

1. A 3"x 3" square in the upper right-hand corner of Sheet 1 is to be left blank for the County recording information. This reserved area is in addition to the areas needed for sheet borders. (per Washington County Register of Deeds Office)

2. The provided legend does not indicate the PLSS monument type and size and needs to be provided.

3. Add the current building setback lines for Lot 1 mapped, dimensioned per current zoning code. Include a date stamp for the current zoning code being used.

4. The third sheet of the document is miss-labeled "Sheet 4 of 4" and should read Sheet 3 of 4.

5. The Corporate Owners Certificate indicates a Dedication and there is no dedication indicated on Sheet 1. This title needs to remove the word "Dedication".

6. No additional comments.

Document Approval and Recording

For this CSM to be approved by the Village Board and recorded at the Washington County Register of Deeds, the document must be provided to the Village Clerk's office in a completed format including all original signatures of the owner and lending institution, original seals of the professional land surveyor on the recordable media the Wednesday prior to the scheduled Village Board meeting.

This includes the CADD file.

Any documents or digital files not submitted by the due date or contain outstanding technical review comments that have not be addressed, will be moved to the next scheduled Village Board meeting agenda.

Document Submittals and Data Conversion

As of October 2005, the Village of Germantown requires a digital copy of all Certified Survey Maps, Condominium Plats and Subdivision Plats in addition to the documents as required by Wisconsin Statute and Village Ordinances as part of the land division approval.

The model space of the drawing will be done in Wisconsin State Plane Coordinate System, South Zone (NAD 1983 datum 2011 Adjustment) and the Grid Bearing basis.

Prior to Recording the Certified Survey Map or Subdivision Plat
The professional land surveyor is responsible for submitting a copy of the AutoCAD drawing file (.dwg) of the document in version 2025 via email to the Village Surveyor for mapping purposes.

All digital professional land surveyor seals and signatures will be purged from the digital copy prior to submittal.

Sincerely,
Point Land Surveying & Mapping

Bob Beilfuss

Bob Beilfuss, P.L.S.
Principle

Professional Land Surveying and Mapping Services
W174 N9467 Joper Road, Menomonee Falls, Wisconsin, 53051
262-250-8003 office *pointlandsurveying@gmail.com* *email*

Engineering Department Memorandum

To : Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : Timothy Zimmerman, Director of Public Works

Date : August 26, 2026

Re : Town 9 Apartments – Review #1

Items Reviewed:

1. Civil Plan Set Dated: 07/13/2026
2. Stormwater Management Plans Dated: 06/13/2026

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. The project will require DSPS plumbing and infiltration system review and approval. Please provide a copy of the DSPS approval prior to engineering approval
5. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
6. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
7. Utility permits and permits for work within the ROW are required. Contact the Village engineering department to obtain permits.
8. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

Water Utility Comments

1. Sheet C5.0,Missing Germantown's Hydrant profile standard detail
2. Sheets C3.0 and C3.1 add a gate valve at the connection point in 145, 12" to 8".
3. Not seeing any reference on the plan and profile view that the connection is to a 12" in 145 the plan is saying 8" reference. Our GIS says it is a 12" PVC but not sure and north of the Seven Pines condos our GIS says HDPE watermain is in place contractor should expose prior to connecting to verify material.
4. Sheet C3.0, missing the dashed easement north and south on the west side of watermain and east and west on the north side of watermain by buildings 2 and 3.

5. Sheet C3.1 missing the dashed easement between buildings 1 and 2, north side of watermain.
6. Sheet A101 is indicating a Mechanical room, I am guessing this is for the meter manifold room? Unless I am missing it, not seeing any specification per our Developers Manual that I can comment on. Floor drain, heating, lighting, individual meter manifold not installed behind any plumbed devices etc.
7. Add (2) 8" gate valves south and west of 8" T at Sta 12+60ish near MH #5, make correction to plan and profile.
8. Sheet C3.0 is only calling out for Sanitary green wire, add watermain and laterals Blue wire. Add the water lateral is to be terminated on the outside of the building according to Village Spec.
9. Sheet C3.0, under water main notes third bullet down says laterals are to be 1 ½" Poly, the plan call out arrow shows for 1 ¼" on Sheet C3.1please correct and clarify.
10. Sheet C3.2, remove the grade reference numbers that are going through "Proposed 6" PVC Public Water Main".
11. Precon is required after submittals have all been approved.

Wastewater Utility Comments

1. Design manhole pitch per development handbook.
2. Include Germantown standard detail for sanitary manholes.
3. Remove reference to private sanitary.

Stormwater Management Plan

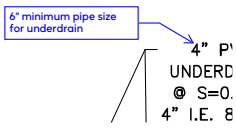
1. Plans show test pit and soil boring locations. Provide boring and test pit logs and DSPS soil evaluation forms.
2. Report notes that the site is exempt from infiltration requirements due to high bedrock but basins are using infiltration to meet the requirements. Add bedrock elevation to basin details and confirm required separation distance is met.
3. Plans note an infiltration
4. Area 1 appears to overflow to basin 2B. Adjust calcs to reflect that the 100 year event won't go to basin 1b or revise grading so this area overflows to basin 1B.

Stormwater Management Plan

5. See attached plan comment list.

Plans.pdf Markup Summary

Callout (16)



Subject: Callout
Page Label: Pond Plans and Details
Author: BMS1
Date: 8/26/2026 10:35:56 AM
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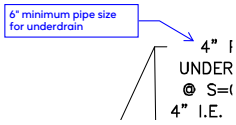
Layer:
Space:

6" minimum pipe size for underdrain



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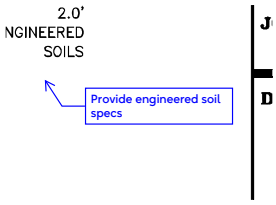
6" minimum pipe size for underdrain



Subject: Callout
Page Label: Pond Plans and Details
Author: BMS1
Date: 8/25/2026 1:55:03 PM
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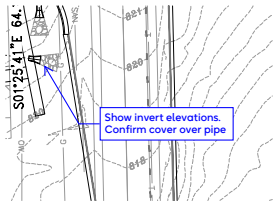
Provide engineered soil specs



Subject: Callout
Page Label: Master Grading
Author: BMS1
Date: 8/25/2026 1:57:00 PM
Status:
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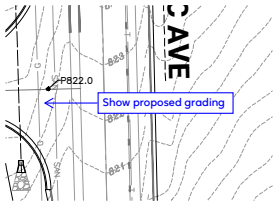
Space:

Show invert elevations. Confirm cover over pipe



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Date: 8/25/2026 1:56:42 PM
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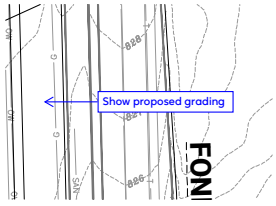
Show proposed grading



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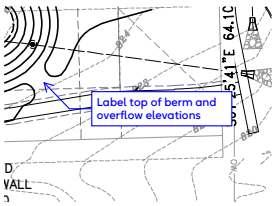
Show proposed grading



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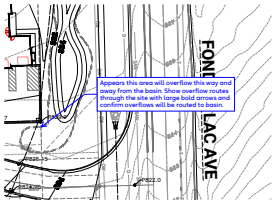
Label top of berm and overflow elevations



Subject: Callout
Page Label: Master Grading
Author: BMS1
Date: 8/25/2026 2:24:48 PM
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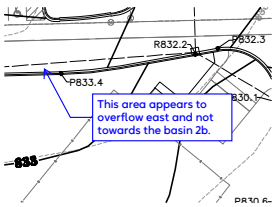
Appears this area will overflow this way and away from the basin. Show overflow routes through the site with large bold arrows and confirm overflows will be routed to basin.



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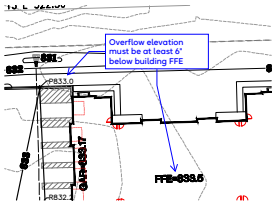
This area appears to overflow east and not towards the basin 2b.



Subject: Callout
Page Label: Master Grading
Author: BMS1
Date: 8/25/2026 3:25:02 PM
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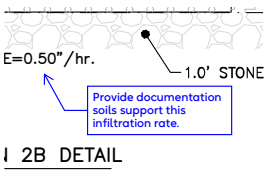
Overflow elevation must be at least 6" below building FFE



Subject: Callout
Page Label: Pond Plans and Details
Author: BMS1
Date: 8/26/2026 10:23:17 AM
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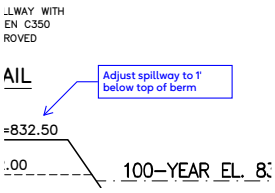
Provide documentation soils support this infiltration rate.



Subject: Callout
Page Label: Pond Plans and Details
Author: BMS1
Date: 8/26/2026 10:27:39 AM
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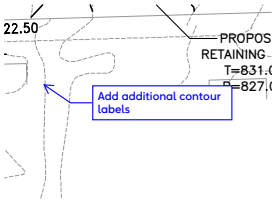
Adjust spillway to 1' below top of berm



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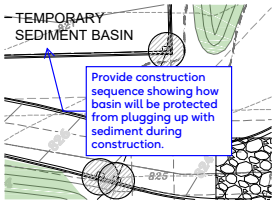
Add additional contour labels



Subject: Callout
Page Label: Erosion Control Plan
Author: BMS1
Date: 8/26/2026 10:30:58 AM
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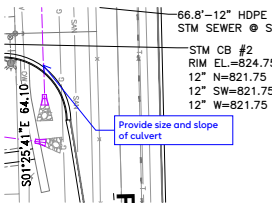
Provide construction sequence showing how basin will be protected from plugging up with sediment during construction.



Subject: Callout
Page Label: 11
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Status:
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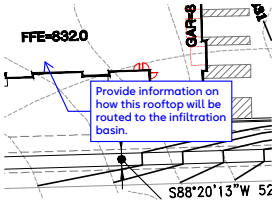
Provide size and slope of culvert



Subject: Callout
Page Label: Master Grading
Author: BMS1
Date: 8/26/2026 10:33:34 AM
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Provide information on how this rooftop will be routed to the infiltration basin.

STATE OF WISCONSIN VILLAGE OF GERMANTOWN WASHINGTON COUNTY

ORDINANCE NO. 04-2026

AN ORDINANCE TO AMEND THE OFFICIAL ZONING MAP OF THE VILLAGE OF GERMANTOWN ZONING CODE

WHEREAS, the Village of Germantown has adopted a Zoning Code under the authority granted by Wis. Stats. 61.35 and 62.23(7); and

WHEREAS, the Plan Commission held a public hearing on February 9, 2026, to consider the petition by Premier Real Estate Management LLC, agent for Victory Place LLC, owner of an approximately 7-acre property located at W140 N9895 Fond du Lac Avenue, proposing to rezone the property from the I: Institutional Zoning District to the Rm-2: Multi-Family Residential Zoning District and found the request to be consistent with the Village's 2050 Comprehensive Plan; and

WHEREAS, the Plan Commission forwarded a recommendation to approve the proposed rezoning to the Village Board to be considered at the Board meeting on March 2, 2026;

NOW, THEREFORE, the Village Board of the Village of Germantown, Wisconsin, do ordain as follows:

SECTION I

That the zoning map of the Village of Germantown is amended by rezoning from the I: Institutional Zoning District to the Rm-2: Multi-Family Residential Zoning District the following described property:

Property Description :
6.98 acres located on Fond du Lac Avenue and Crimson Road including Tax Parcels GTNV_354963 and GTNV_354978

BEING ALL OF LOT 3, A PART OF OUTLOT 1, AND A PLATTED RIGHT-OF-WAY OF "CRIMSON ROAD" ALL ON CERTIFIED SURVEY MAP NUMBER 5268, LOCATED IN THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 35, TOWN 9 NORTH, RANGE 20 EAST, VILLAGE OF GERMANTOWN, COUNTY OF WASHINGTON, STATE OF WISCONSIN, NOW BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST 1 /4 SECTION, THENCE SOUTH 01°25'41" EAST ALONG THE EAST LINE OF SAID SOUTHEAST 1/4 SECTION, 529.00 FEET TO A POINT; THENCE SOUTH 88°20'13" WEST 60.00 FEET THE NORTHEAST CORNER OF LOT 3 OF SAID CERTIFIED SURVEY MAP NUMBER 5268 AND THE WEST RIGHT-OF-WAY OF "FOND DU LAC AVENUE (STATE HIGHWAY "145")" AND THE PLACE OF BEGINNING OF LANDS HEREINAFTER DESCRIBED; THENCE SOUTH 01°25'41" EAST ALONG SAID WEST LINE, 582.10 FEET TO A POINT; THENCE SOUTH 88°20'13" WEST 522.50 FEET TO A POINT ON THE EAST LINE OF "AUTUMN RIDGE" A SUBDIVISION OF RECORD; THENCE NORTH 01°25'41" WEST ALONG SAID EAST LINE, 582.10 FEET TO A POINT ON THE NORTH LINE OF SAID LOT 3; THENCE NORTH 88°20'13" EAST ALONG SAID NORTH LINE, 522.50 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION. CONTAINING 304,146 SQUARE FEET (OR 6.9822 ACRES) OF LAND, MORE OR LESS.

SECTION II

The terms and provisions of this ordinance are severable. Should any term or provision of this ordinance be found to be invalid by a court of competent jurisdiction, the remaining terms and provisions shall remain in full force and effect.

SECTION III

All ordinances or parts of ordinances contravening the terms of this ordinance are hereby to that extent repealed.

SECTION IV

This ordinance shall take effect and be in full force upon its passage and the day after its publication.

Adopted: March 2, 2026

Robert A. Soderberg, Village President

ATTEST:

Donna Ott, Village Clerk

Approved as to form:

Brian C. Sajdak, Village Attorney

Published: 03/11/2026

MEETING:	**REGULAR MEETING OF THE PLAN COMMISSION**
DATE AND TIME:	**Monday, February 9, 2026 6:30 PM**
LOCATION:	**Germantown Village Hall Board Room** **N112 W17001 Mequon Road**

MINUTES

I. **CALL TO ORDER:** *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*

II. **ROLL CALL:**

Committee Members Warren, Shadid, Tarantino, Williams and Ewert were all present. Committee Members Soderberg and Henk were absent excused. Also present were Community Development Director Retzlaff, Associate Planner Yanke and Administrative Coordinator Remich (both via Webex).

Motion: Appoint Trustee Warren as Chairman Pro Tem
Motioned By: William Shadid
Seconded By: Josh Tarantino
Yes: Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 5, No 0, Abstained 0)

III. **CITIZEN INPUT/PUBLIC APPEARANCE:** *(Please be advised per 19.84(2) that information and comment will be received from the public. It is the policy of this municipality that public input be limited to a four (4) minute period per person with a time extension granted at the discretion of the Chairperson. Be advised that there may be limited discussion of the information received but no action will be taken under public comments.) Comments that may be injurious to village personnel or other individuals will not be allowed.*

Citizens that spoke included:
Melanie Smythe who lives on Cedar Lane.
Sarah Larson who lives on Butternut Road.

IV. **MEETING MINUTES:**

A. PC Minutes 1-12-26

Motion: Approve as presented
Motioned By: William Shadid
Seconded By: Josh Tarantino
Yes: Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 5, No 0, Abstained 0)

V. NEW BUSINESS:

A. Premier Real Estate Management, LLC, Agent for Victory Place, LLC, Property Owner. Application for Rezoning 6.87 acres from the I: Institutional Zoning District to the Rm-2: Multiple-Family Residential Zoning District for a 48-unit multi-family residential development located on Fond du Lac Avenue and Crimson Road (approximately W140 N9889 Fond du Lac Avenue) in the Victory Center Corridor. (PUBLIC HEARING & ACTION)

Director Retzlaff reviewed the history of multifamily proposals that have been brought to the Plan Commission for this location, with the last one being in 2024 which was denied due to the density. Retzlaff gave a brief summary of the current proposal and stated that this plan is consistent with the 2050 plan for the Victory Center Corridor and is an acceptable use. Retzlaff introduced Emily McFarland and Josh Kenitzer from PRE/3 Development. McFarland went over the background of PRE/3 and gave a review of their proposal and layout, which included four, 12-unit buildings totaling 48 homes each with 2-bedrooms and bathrooms, an attached garage with an onsite management office. The entrance to the development will be off Fond du Lac Avenue. Their goal is to begin construction in 2026 with home rentals to begin by the Fall of 2027. The density of the proposed project is in the 6.8/acre range, which is lower than the allowed density. Retzlaff went over the Village's housing ratio, financial and school district impacts and the potential for a bicycle/walking path through the development. He also stated that the Crimson Road extension if not critical to the local road system and could be abandoned.

Chairman Warren opened the Public Hearing at 7:08pm.
Residents that spoke included:
Jo Landry who lives on Knollcrest Circle was against the proposal due to the increased traffic, crime, noise and thinks property values will go down.
Todd Steiner who lives on Fond du Lac Avenue was against the proposal because he doesn't want any rentals, only owner-occupied homes.
Kim Glasshof who lives on Amber Drive is also against the proposal for the same reasons as Todd Steiner.
Chairman Warren closed the Public Hearing at 7:20pm.

Discussion Followed.
Plan Commission members' were positive about the lower density, private roads, walking path, onsite management and enhanced landscaping. Retzlaff stated that there is no Village ordinance that mandates only owner-occupied developments are allowed. And he stated that no other types of development for this property have been brought forward to the Plan Commission other than multifamily in years. McFarland stated they submitted references, and they have similar products in many of our surrounding communities. They encourage residents to drive by those developments and reach out to those references. Kenitzer stated they maintain all their properties and do not outsource their property management. Tenants are signed to 12-month leases and continue with month-to-month after that, a security deposit is required, and they perform background and criminal checks on prospective tenants. Commissioners feel that multifamily is an important part of a healthy community, single family housing in this corridor just doesn't work.

Staff recommends approval of this request to rezone the 7-acre Victory Place LLC property from the I: Institutional to the Rm-3: Multi-Family Residential Zoning District for purposes of developing a 48-unit multifamily residential community subject to the following conditions:

1. The final arrangement of buildings, parking, access and internal circulation, stormwater management facilities, public & private utilities, landscaping & lighting, sidewalks, pedestrian paths, and other amenities, the final number, density, and type of buildings and dwelling units, building architecture and materials, emergency vehicle access, and all other features of the development will be determined through the site development and building plan review and approval process. Detailed site development and building plans shall be submitted for review and approval by the Plan Commission pursuant to Section 17.43 of the Zoning Code prior to the issuance of any permits authorizing construction. Said plans shall be generally consistent with the Proposed Site Plan dated December 16, 2025, and conceptual elevations and renderings submitted in the rezoning application in terms of the number and layout of buildings and dwelling units, architecture and materials, access intersection and internal street layout.
2. A certified survey map (CSM) is required to combine the two parcels that comprise the Victory Place LLC property (GTNV_354978 & 354963) and memorialize the right-of-way vacation of Crimson Road through and adjacent to the property. Said CSM shall be submitted for Village approval prior to or concurrent with Site Development & Building Plan approval.
3. If the Village does not require the developer to construct the Crimson Road extension to Fond du Lac Ave/STH145 and agrees to vacate the Crimson Road right-of-way through the property, the developer shall:
    - Work cooperatively with the Village and pay all costs associated with said right-of-way vacation;
    - Accommodate any/all utility connections deemed necessary by the Village to/from the existing segment of Crimson Road;
    - Provide emergency access to/from the existing Crimson Road at the southwest corner of the property if deemed necessary by the Village as part of the site development and building plan approval process. The design of said emergency access to be reviewed and approved by the Village Engineer in cooperation with the Village Fire Department;
    - Include in the detailed site development plans a pedestrian/bicycle path to be installed along the southern property line starting at the existing Crimson Road segment west of the PRE/3 property and then across and through the multifamily development to connect to the required sidewalk along the west side of Fond du Lac Avenue. The design of said pedestrian/bicycle path to be reviewed and approved by the Village Engineer in cooperation with the Village Parks & Recreation Department;
4. As deemed necessary through the site development and building plan approval process, the developer will be required to enter into a Development Agreement with the Village pursuant to section 17.43 of the Zoning Code to address the responsibility for and timing of public and private improvements, including but not limited to the installation of water and sewer utilities, landscaping and street

trees, storm water management facilities, roadway & intersection improvements, pedestrian path & sidewalk, and any other provision(s) deemed necessary by the Village. Unless otherwise provided for in the Development Agreement, all development shall meet and comply with all applicable Village Code requirements and design standards for public improvements, including the construction of sidewalk adjacent to and the full length of property frontage along Fond du Lac Avenue.

5. Fond du Lac Avenue/STH 145 is under WisDOT access jurisdiction. A traffic impact analysis (TIA) shall be prepared to assess potential traffic impact on the abutting street system and the potential need for intersection improvements on Fond du Lac Ave/STH145. Said TIA to be prepared and submitted prior to or concurrent with Village Site Development & Building Plan review.

Motion: Approve as presented
Motioned By: William Shadid
Seconded By: Josh Tarantino
Yes: Robert Warren, Robert Williams, Josh Tarantino
No: William Shadid, Russell Ewert
Abstain: None
Motion Passed (Yes 3, No 2, Abstained 0)

B. Bradley Jansen, Agent and Prospective Owner for Rao Farms, LLC, Property Owner. Application to amend/transfer Conditional Use Permit No. 6-12 for the "Operation of a Commercial Stable and Horse Boarding Facility" pursuant to Section 17.13(2)(jj) of the Village Zoning Code from property located at N136W21238-21342 Bonniwell Road. (PUBLIC HEARING & ACTION)

Director Retzlaff stated that Brad Jansen, the applicant and prospective owner of the property, has applied for a CUP to allow the operation of a commercial stable and horse boarding facility at the location. Although the write-up included in the packet indicated this is a transfer of an existing CUP that was issued for the same use back in 2012 to the current owner, the Village will actually be issuing a new CUP to the applicant if approved as the existing CUP had a condition that it's non-transferable. The only change from the existing operation proposed by the applicant under a new CUP is an increase in the maximum number of horses allowed to be kept on site, from 12 to 18 horses for the commercial operation.

Chairman Warren opened the Public Hearing at 8pm.
No residents came forward to speak.
Chairman Warren closed the Public Hearing at 8:01pm.

Staff recommends approval of a Conditional Use Permit to allow for the operation of a commercial stable and horse boarding facility at N136W21238-21342 Bonniwell Road, subject to the following conditions:

1. The uses and activities allowed on the property shall be limited to those uses and activities specified in the Conditional Use Permit (CUP) application documents received January 5, 2026. Days and hours of operation shall be limited to those specified in the CUP documents submitted to the Village.

2. The total number of horses allowed to be kept on site at any one time that are not owned by the property owner shall not exceed eighteen (18). Hours of operation shall be Monday to Sunday 7AM– 7PM.
3. All manure shall be disposed of in a manner that does not create a nuisance affecting adjacent and/or nearby property owners. The spreading of manure on site or on adjacent land shall be in accordance with accepted practices and all applicable DNR regulations.
4. The owner/operator is responsible for reporting any significant changes in the type, intensity, amount, or location of the land uses and activities, days and hours of operation, size or location or other operational characteristics of said uses and activities authorized under this CUP to the Village Zoning Administrator.
5. If the use, activities and/or operation subject of this permit fall out of conformity with the conditions herein, or, where there is a change in the nature, character, intensity or extent of the activities or uses which cause problems or harmful effects that were not anticipated at the time of approval of this CUP, the Conditional Use Permit (CUP) may be modified or terminated by the Village Board by the amendment to or addition of conditions after public hearing thereon.
6. All temporary and permanent exterior signs require a permit and shall comply with all current sign regulations. Off-premises advertising and directional signage is regulated by the Village and requires a permit if/when allowed.
7. All future site improvements, including all building, parking area, landscaping, stormwater management facilities, signage, exterior lighting, and any other improvements made to or on the property that are necessary for the land uses and activities authorized under this CUP shall be submitted for review and approval by the Village through the Zoning Permit or Site Plan application process as determined by the Village Zoning Administrator. If required, Site Plan review and approval will include Plan Commission review and approval.
8. Pursuant to Section 17.47 of the Zoning Code, if the Village observes and/or receives complaints regarding negative impacts associated with and/or created by business-related activities conducted on the property, including but not limited to noise, dust or other airborne materials, the Property Owner/Operator shall work with the Village to identify the source of such impact(s), evaluate alternative mitigation measures, and implement a mutually-agreeable solution to mitigating the impact(s).
9. This Conditional Use Permit (CUP) shall be non-transferable. In the event there is a change in the owner/operator of the commercial stable and horse boarding facility for which this CUP was issued, this CUP shall become null and void. If the owner/operator wants to operate a commercial stable and horse boarding facility, a new CUP would have to be obtained pursuant to Sections 17.13 and 17.42 of the Zoning Code to operate said business from this property.

Motion: Approve as presented
Motioned By: William Shadid
Seconded By: Josh Tarantino
Yes: Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None

Abstain: None
Motion Passed (Yes 5, No 0, Abstained 0)

C. Lisa Burck, Innovative Signs, Agent for Truck Country of WI, Inc. property owner; N128 W21795 Holy Hill Road; Sign Application for wall and monument signage. (ACTION)

Director Retzlaff reviewed the sign proposal for wall and monument signage, including a monument sign on the southwest corner of the property along the highway as well as multiple wall signs. The proposed wall signs are code compliant. There is a provision in the zoning code that provides for taller monument signs due to topographical challenges, allowing up to a maximum height of 75' but cannot be more than 25' higher topographically than the highest roadway within 200' of the sign location. The overall size can be increased up to 144' sqft per side or 288' sqft on all sides. This property sits very low, so this sign would need to be taller to be seen from the freeway, but cannot be higher than the elevation of the nearby off-ramp. They are requesting an increase in height of the sign from 10' to 50'. There are six criteria for discretionary allowances to be used by the Plan Commission to determine allowance. Retzlaff introduced Jamie Dieman and Brian Harrigan with Innovative Signs, who stated that they proposed the taller monument sign due to the site and visibility for truck traffic. Retzlaff stated that within 200' of this proposed sign is the Hwy 41 off ramp and that elevation is 975'. The code states that you can't be 25' higher than that top elevation and the proposed sign is at 999', so it is allowable. You won't be seeing a large portion of that sign, you will see the top sections and maybe 1 or 2 of the lower support sections.
Discussion Followed. Concerns included the brightness and timing on the digital portion of the sign and whether the sign meets all six (6) criteria specified in the Village code that would allow for the Plan Commission to approve.

Staff recommends approval of the proposed wall and monument sign package for Truck Country USA located at N128W21795 Holy Hill Road, subject to the following conditions:

1. The Plan Commission determines that the criteria under Section 17.50(g) are or can be met by the Truck Country sign proposal.
2. The Plan Commission determines that the proposed monument sign base, comprised of two pylons covered with aluminum shrouds, are code compliant and acceptable.
3. Applicant/owner shall obtain an electrical permit(s) from Building Inspection Services prior to sign installation.
4. Owner shall provide information required under 17.46(7)(h) and necessary to determine compliance with the electronic message center operational requirements.

Motion: Approve as presented
Motioned By: William Shadid
Seconded By: Russell Ewert
Yes: Robert Warren, William Shadid, Josh Tarantino, Russell Ewert
No: Robert Williams

Abstain: None
Motion Passed (Yes 4, No 1, Abstained 0)

D. Status Report on Village Center District Community Engagement Program (CEP)

Director Retzlaff updated the Plan Commission on the Village Center District Community Engagement Program. He stated that SRF gave a presentation of the engagement program to the Village Board on Feb. 2nd and one major change was made to the timeline, extending it out 1 month into July to allow for one of the pop-up events being held on July 4th. The program will include one community online and hard copy survey, an interactive mapping portal that will allow people to view and comment on various aspects of the project, a dedicated project website, email and social media postings and notifications along with traditional press releases, two focus group meetings with interest groups and two pop-up events. The Village Board also received a schedule of items that could be added as time goes on throughout the process. No additions were made but if we get to the point where we think we want to add another pop-up event or survey, we can do so. The original scope was to focus on the three properties already owned by the Village, but they voted to expand the scope to include the west main street properties. We will keep the Plan Commission apprised as we move forward on progress and activities.

VI. ANNOUNCEMENTS:

None.

VII. ADJOURNMENT:

Chairman Warren adjourned the meeting at 9:09pm.

MEETING:	**REGULAR MEETING OF THE VILLAGE BOARD**
DATE AND TIME:	**Monday, March 2, 2026 7:00 PM**
LOCATION:	**Germantown Village Hall Board Room** **N112 W17001 Mequon Road**

MINUTES

I. CALL TO ORDER: *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*

Village President Bob Soderberg Called the Village Board meeting to order at 7:08 PM.

II. ROLL CALL:

Present: Trustee Robert Warren, Trustee Meg Cutts, Trustee David Baum, Trustee Jan Miller, Trustee Kristen Borst, Trustee Jolene Pieper, Trustee Rick Miller, Trustee Terri Kaminski, Village President Bob Soderberg
Also Present: Village Administrator Steve Kreklow, Village Attorney Brian Sajdak, Village Clerk Donna Ott, Community Development Director Jeff Retzlaff

III. PLEDGE OF ALLEGIANCE / MOMENT OF SILENCE:

IV. PRESIDENT'S REPORT:

Village President Soderberg shared that the Village's 2024 Annual Comprehensive Financial Report was awarded the Government Finance Officers' Association Certificate of Excellence in Financial Reporting, that Firefighter Craig Rossman (Germantown Fire Department) was presented the Firefighter/EMT of the Year award from VFW Post 9202, and that Sergeant Cody Farnsworth (Germantown Police Department) was recognized by VFW Post 9202 as Officer of the Year. He also welcomed new Police Officer Taylor Weiss to Germantown.

He continued to speak regarding the Germantown Area Chamber of Commerce Candidates Forum on March 11th, and items on tonight's Village Board agenda.

Finally, he read aloud a proclamation recognizing Village Administrator Kreklow and thanking him for his service to the Village of Germantown.

V. ANNOUNCEMENTS OF FORTHCOMING EVENTS OF PUBLIC INTEREST / COMMITTEE AND DEPARTMENT REPORTS:

Trustee Kaminski announced the upcoming Public Works & Highways Committee

meeting on March 4, 2026, at 5:30 PM.

Trustee Rick Miller announced the upcoming General Government & Finance Committee meeting on March 16, 2026, at 5:30 PM.

Trustee Cutts announced the upcoming Public Safety Committee meeting on April 9, 2026, at 6:00 PM.

Trustee Jan Miller announced the upcoming Economic Development Commission meeting on March 10, 2026, at 6:00 PM, the upcoming Senior Advisory Committee meeting on March 5, 2026, at 1:30 PM, and the upcoming Tree Advisory Board meeting on March 5, 2026, at 5:30 PM.

VI. **CITIZEN INPUT:** *(Please be advised per 19.84(2) that information and comment will be received from the public. It is the policy of this municipality that public input be limited to a four (4) minute period per person with a time extension granted at the discretion of the Chairperson. Be advised that there may be limited discussion of the information received but no action will be taken under public comments.) Comments that may be injurious to village personnel or other individuals will not be allowed.*

Lynne Schauer Bednarz (W156N10121 Pawnee Ct) spoke regarding the Village budget.

Norman Berger (W141N9978 Seven Pines Way) spoke regarding Village garbage pickup.

Melanie Smythe (N140W17938 Cedar Ln) spoke regarding vacant positions and New Business Item F (Retention Bonuses for Certain Department Heads).

Scott Hefle (W159N10514 Old Farm Rd) spoke regarding Unfinished Business Item A (IGA with Washington County Related to a $750,000 Forgivable Loan to Flamingo Marine).

Charles Krueger (W140N9766 Fond du Lac Ave) spoke regarding additional apartments being built in Germantown.

VII. **CONSENT AGENDA:**

Motion: Approve as presented
Motioned By: Meg Cutts
Seconded By: Jan Miller

Trustee Baum requested to split the question.

A. Meeting Minutes: February 16, 2026 (ACTION)

On consideration of Item A:

Yes: Robert Warren, Meg Cutts, David Baum, Jan Miller, Kristen Borst, Jolene Pieper, Rick Miller, Terri Kaminski, Bob Soderberg
No: None
Abstain: None

Motion Carried by Voice Vote (Yes 9, No 0, Abstained 0)

B. Approve Contract for Ballfield Fencing (ACTION)

On consideration of Item B:
Yes: Robert Warren, Meg Cutts, Jan Miller, Kristen Borst, Rick Miller, Terri Kaminski, Bob Soderberg
No: David Baum, Jolene Pieper
Abstain: None

Motion Carried by Roll Call Vote (Yes 7, No 2, Abstained 0)

VIII. UNFINISHED BUSINESS:

A. Intergovernmental Agreement with Washington County Related to a $750,000 forgivable loan to Flamingo Marine. (ACTION)

Village Administrator Kreklow and Christian Tscheschlok of Economic Development Washington County (EDWC) provided details on this item.

Motion: Approve as presented
Motioned By: Jolene Pieper
Seconded By: David Baum

Yes: Robert Warren, Meg Cutts, David Baum, Kristen Borst, Jolene Pieper, Rick Miller, Terri Kaminski, Bob Soderberg
No: Jan Miller
Abstain: None

Motion Carried by Roll Call Vote (Yes 8, No 1, Abstained 0)

IX. PUBLIC HEARINGS:

X. NEW BUSINESS:

A. Premier Real Estate Management, LLC, Agent for Victory Place, LLC, Property Owner. Ordinance for Rezoning approximately 7 acres from the I: Institutional Zoning District to the Rm-2: Multiple-Family Residential Zoning District for a 48-unit multi-family residential development located on Fond du Lac Avenue and Crimson Road (approximately W140 N9889 Fond du Lac Avenue) in the Victory Center Corridor. (ACTION)

Community Development Director Retzlaff, with Emily McFarland and Joshua Kenitzer, the representatives for Premier Real Estate Management, LLC, provided information for this item.

Motion: Approve as presented
Motioned By: David Baum
Seconded By: Robert Warren

Yes: Robert Warren, David Baum, Rick Miller, Terri Kaminski, Bob Soderberg
No: Meg Cutts, Jan Miller, Kristen Borst, Jolene Pieper
Abstain: None

Motion Carried by Voice Vote (Yes 5, No 4, Abstained 0)

B. Bradley Jansen, Agent and Prospective Owner for Rao Farms, LLC, Property Owner. Application for a Conditional Use Permit for the "Operation of a Commercial Stable and Horse Boarding Facility" pursuant to Section 17.13(2)(jj) of the Village Zoning Code from property located at N136W21238-21342 Bonniwell Road. (ACTION)

Motion: Approve as presented
Motioned By: Jolene Pieper
Seconded By: David Baum

Yes: Robert Warren, Meg Cutts, David Baum, Jan Miller, Kristen Borst, Jolene Pieper, Rick Miller, Terri Kaminski, Bob Soderberg
No: None
Abstain: None

Motion Carried by Voice Vote (Yes 9, No 0, Abstained 0)

C. An Ordinance Amending Section 1.379(2) Of The Germantown Municipal Code Relating To The Membership Of The Economic Development Commission. (ACTION)

Motion: Approve as presented
Motioned By: Terri Kaminski
Seconded By: Rick Miller

Yes: Robert Warren, Meg Cutts, Jan Miller, Kristen Borst, Rick Miller, Terri Kaminski, Bob Soderberg
No: David Baum, Jolene Pieper
Abstain: None

Motion Carried by Voice Vote (Yes 7, No 2, Abstained 0)

D. 4th of July -- Report and Discussion (ACTION)

Motion: Appoint Trustee Jan Miller to head up the 4th of July Committee, with Trustee Kaminski serving in an advisory role
Motioned By: Jolene Pieper
Seconded By: David Baum

Yes: Robert Warren, Meg Cutts, David Baum, Jan Miller, Kristen Borst, Jolene Pieper, Rick Miller, Terri Kaminski, Bob Soderberg
No: None
Abstain: None

Motion Carried by Voice Vote (Yes 9, No 0, Abstained 0)

E. Update on Recruiting for Village Administrator and Director of Public Works. (ACTION)

Village Administrator Kreklow and Jay Shambeau of Innovative Public Advisors provided information on this item.

Motion: Approve the Village Administrator position description and hiring range
Motioned By: Jolene Pieper
Seconded By: David Baum

Yes: Robert Warren, Meg Cutts, David Baum, Jan Miller, Kristen Borst, Jolene Pieper, Rick Miller, Terri Kaminski, Bob Soderberg
No: None
Abstain: None

Motion Carried by Voice Vote (Yes 9, No 0, Abstained 0)

F. Retention bonuses for Certain Department Heads. The Village Board may convene into closed session pursuant to Wis. Stat. § 19.85(1)(c) for the purpose of considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility and then may reconvene into open session to take such action as it deems appropriate. (ACTION)

Motion: Enter into Closed Session at 9:22 PM
Motioned By: David Baum
Seconded By: Jolene Pieper

Yes: Robert Warren, Meg Cutts, David Baum, Jan Miller, Kristen Borst, Jolene Pieper, Rick Miller, Terri Kaminski, Bob Soderberg
No: None
Abstain: None

Motion Carried by Roll Call Vote (Yes 9, No 0, Abstained 0)

Motion: Return to Open Session at 9:49 PM
Motioned By: Jolene Pieper
Seconded By: David Baum

Yes: Robert Warren, Meg Cutts, David Baum, Jan Miller, Kristen Borst, Jolene Pieper, Rick Miller, Terri Kaminski, Bob Soderberg
No: None
Abstain: None

Motion Carried by Voice Vote (Yes 9, No 0, Abstained 0)

Motion: Direct staff to proceed as discussed in Closed Session with respect to retention bonuses
Motioned By: Jolene Pieper
Seconded By: Terri Kaminski

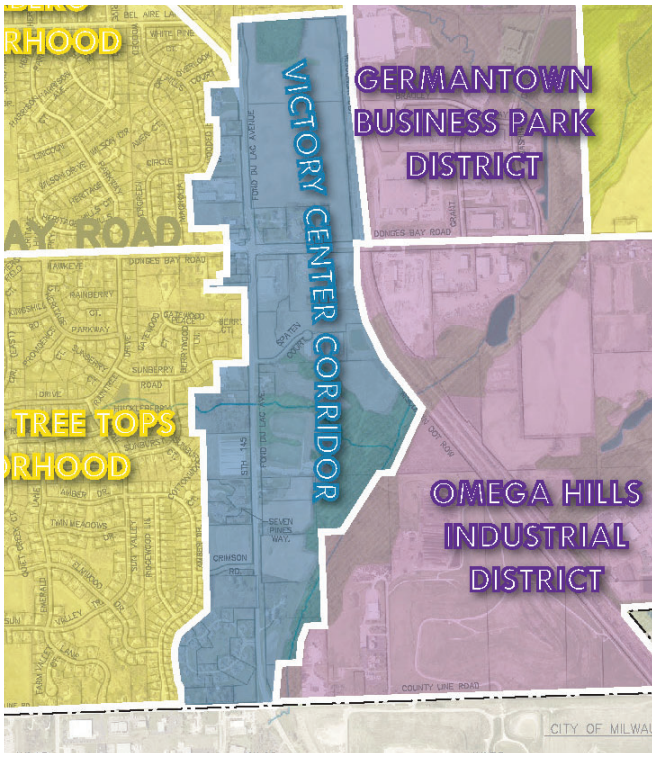
Yes: Robert Warren, Meg Cutts, Kristen Borst, Jolene Pieper, Rick Miller, Terri Kaminski, Bob Soderberg
No: David Baum, Jan Miller
Abstain: None

Motion Carried by Roll Call Vote (Yes 7, No 2, Abstained 0)

XI. ADJOURNMENT:

Village President Soderberg adjourned the Village Board meeting at 9:50 PM.

Victory Center CORRIDOR



GENERAL CHARACTER

The Victory Center Corridor is predominantly a mixed-use commercial corridor with service-oriented uses, including auto and truck repair services, personal storage uses, a local bar, and a coffee shop. Sports Specialists, a wholesaler of fishing equipment, has a large warehouse near the Donges Bay @ Fond du Lac Ave intersection.

A portion of the corridor is in Tax Incremental district (TID) No. 4, including approximately 60 acres of vacant land east of Fond du Lac Ave.

SPECIAL FEATURES

Transportation The Victory Center corridor includes land abutting a portion of Fond Du Lac Avenue (STH 145) from the Country Aire Drive intersection south to County Line Road. The corridor is bounded on the east by the WSOR railroad, Nor-X-Way Channel and Omega Hills landfill.

Environmental, Natural & Agricultural The Nor-X-Way Channel and associated secondary environmental corridor is located along the eastern edge of the corridor.

Public Park, Education, Safety & Utility The Germantown School District office is in the corridor. The FC Wisconsin soccer organization has play and practice fields at their facility on the east side of Fond du Lac Ave. The corridor is served by Village sewer and water.

Historical & Cultural The Victory Center, also known as "Kuhberg", was one of seven unincorporated hamlets within what is now the Village of Germantown.

PREFERRED FUTURE LAND USE

Victory Center Corridor

Preferred Future Land Uses												Enviro Corr.	SSA	Preferred Site Design			Maximum Density (residential uses)
Existing Uses (+ existing non-conforming zoning) See NOTE 5 for details	Residential: Single Family	Residential: Two to Four Family	Residential: Multi-family / Senior	Mixed-Use: Commercial / Residential	Mixed-Use: Commercial / Industrial	Commercial (includes "Activity Centers")	Institutional	Open Space & Recreational	Mineral Extraction	Industrial	Agricultural / Hobby Farming / Agribusiness	Contains an Environmental Corridor?	Sewered? (Y/N/Partial)	Traditional Neighborhood	Suburban Subdivision	Conservation Subdivision**	Dwelling Units / Acre See NOTE 4 for details
A	A	A	A	A	A	D	A	A	u	A	u	Yes	Yes	D	U	U	SF: 2.9 units/ac 2-4F: 6 units/ac MF: 10 units/ac

The Victory Center corridor is intended to further develop as a mixed-use area with commercial, mixed-use commercial, institutional, and residential development in a traditional or conservation design pattern with average single-family densities of 2.2 to 2.9 DU's/acre on 15-20,000 sqft lots, two- to four-family densities up to 6 DU's/acre, and multi-family densities up to 10.0 DU's/acre.

Future commercial uses are desirable including retail, office and other service-oriented uses. Industrial uses are also acceptable in those areas currently zoned M-1 and/or located within the TID No. 4 boundary.

D =	**Desirable** – These uses should be encouraged because they are consistent with, support, and enhance the desired character of the area.
A =	**Allowable** – These uses are generally considered appropriate for the area, but may require additional consideration and/or specific modification or developed features to be compatible with other uses in the area.
u =	**Undesirable** – These uses should not be encouraged but may still be acceptable for the area under special circumstances.

See all notes on page 42.

Community Growth & Projections Report

June 2, 2025

Germantown SCHOOL DISTRICT

MDR
MDROFFERS CONSULTING

ACKNOWLEDGEMENTS

Board of Education

Russell Ewert, President
Eric Brown, Vice President
Michael Loth, Treasurer
Tom Barney, Clerk
Kimberly Higginbotham
Jeff Voyer
Tracy Pawlak

Administrative Support

Dr. Chris Reuter, Superintendent
Brittany Altendorf, Director of Business & Auxiliary Services

Consultants

MDRoffers Consulting
Project Management and Planning
www.mdroffers.com

Special thanks to the officials and staff from municipalities in the GSD and local real estate professionals for their contributions to this report.

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I. INTRODUCTION AND SUMMARY

A. PURPOSE AND OVERVIEW

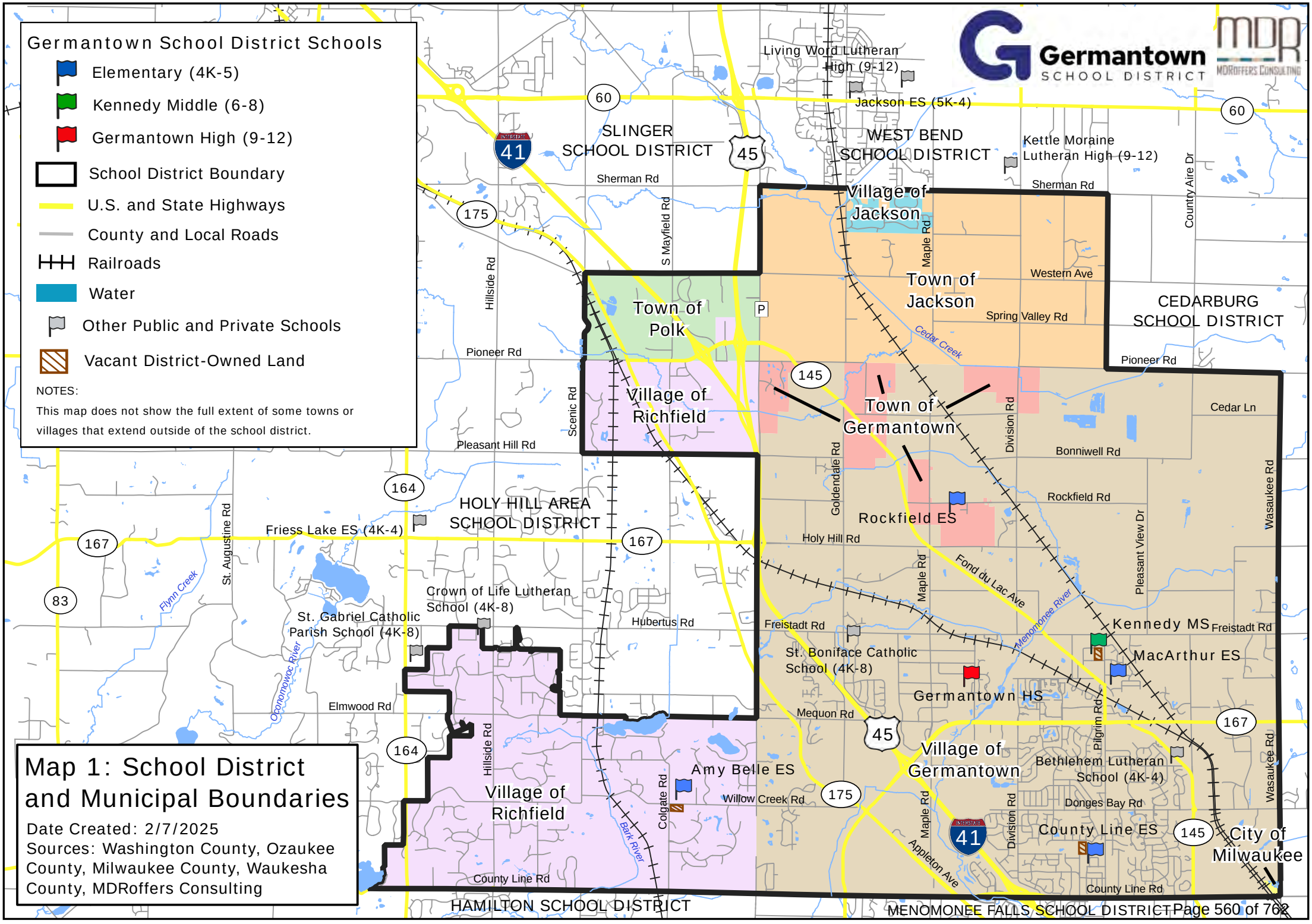
The Germantown School District (GSD) is a public school district in southern Washington County, Wisconsin (see Map 1). As of the 2024-25 academic year, the GSD educates approximately 3,800 grade 4K-12 students across four elementary schools, one middle school, and one high school.

This Community Growth & Projections Report will assist the GSD to understand the impact of future residential development and demographic change on future student enrollment, where in the GSD enrollment change may occur, and how enrollment projections compare with current school configurations and capacities. As a result, the Report may inform the GSD's long-range school facility planning combined with other efforts beyond the Report's scope, such as a building condition assessment.

The process to complete this Community Growth & Projections Report included:

- Review of demographic and enrollment trends for different grade levels and geographic areas within the GSD.
- Review of recent, pending, and potential residential development proposals.
- Analysis of local land use plans, utility systems, intergovernmental agreements, and housing and economic trends.
- Engagement with municipal planning staff and local real estate professionals on community growth trends and prospects.
- Projections of future housing growth and demographic changes.
- Projections of GSD student enrollment by small geographic area ("neighborhood"), school, and grade grouping.

This Report features housing unit and GSD student enrollment projections in four periods: through 2027 (for '27-'28 school year), from 2028 to 2030 (for '30-'31 school year), from 2031 to 2035 (for '35-'36 school year), and from 2036 to 2040 (for '40-'41 school year). The projections are broken down by 75 different "neighborhoods," as depicted on Map 2. Enrollment projections are compared to the capacities of the GSD's schools, which were provided by GSD staff.


Germantown School District Schools
Elementary (4K-5)
Kennedy Middle (6-8)
Germantown High (9-12)
School District Boundary
U.S. and State Highways
County and Local Roads
Railroads
Water
Other Public and Private Schools
Vacant District-Owned Land
NOTES:
This map does not show the full extent of some towns or villages that extend outside of the school district.
Germantown SCHOOL DISTRICT
MDR MDRoffers Consulting
Map 1: School District and Municipal Boundaries
Date Created: 2/7/2025
Sources: Washington County, Ozaukee County, Milwaukee County, Waukesha County, MDRoffers Consulting
Living Word Lutheran High (9-12)
Jackson ES (5K-4)
SLINGER SCHOOL DISTRICT
WEST BEND SCHOOL DISTRICT
Kettle Moraine Lutheran High (9-12)
Village of Jackson
Town of Jackson
Town of Polk
Village of Richfield
Town of Germantown
CEDARBURG SCHOOL DISTRICT
HOLY HILL AREA SCHOOL DISTRICT
Friess Lake ES (4K-4)
Crown of Life Lutheran School (4K-8)
St. Gabriel Catholic Parish School (4K-8)
Rockfield ES
St. Boniface Catholic School (4K-8)
Kennedy MS
MacArthur ES
Germantown HS
Village of Germantown
Bethlehem Lutheran School (4K-4)
Amy Belle ES
Village of Richfield
County Line ES
City of Milwaukee
HAMILTON SCHOOL DISTRICT
MENOMONEE FALLS SCHOOL DISTRICT
Sherman Rd
Pioneer Rd
Pleasant Hill Rd
Holy Hill Rd
Freistadt Rd
Hubertus Rd
Elmwood Rd
Mequon Rd
Willow Creek Rd
County Line Rd
Bonniwell Rd
Rockfield Rd
Cedar Ln
Western Ave
Spring Valley Rd
Donges Bay Rd
Appleton Ave
Fond du Lac Ave
Hillside Rd
S Mayfield Rd
Scenic Rd
Maple Rd
Goldendale Rd
Division Rd
Pleasant View Dr
Wasaukee Rd
Pilgrim Rd
Country Aire Dr
St. Augustine Rd
Flynn Creek
Oconomowoc River
Cedar Creek
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Bark River
Colgate Rd
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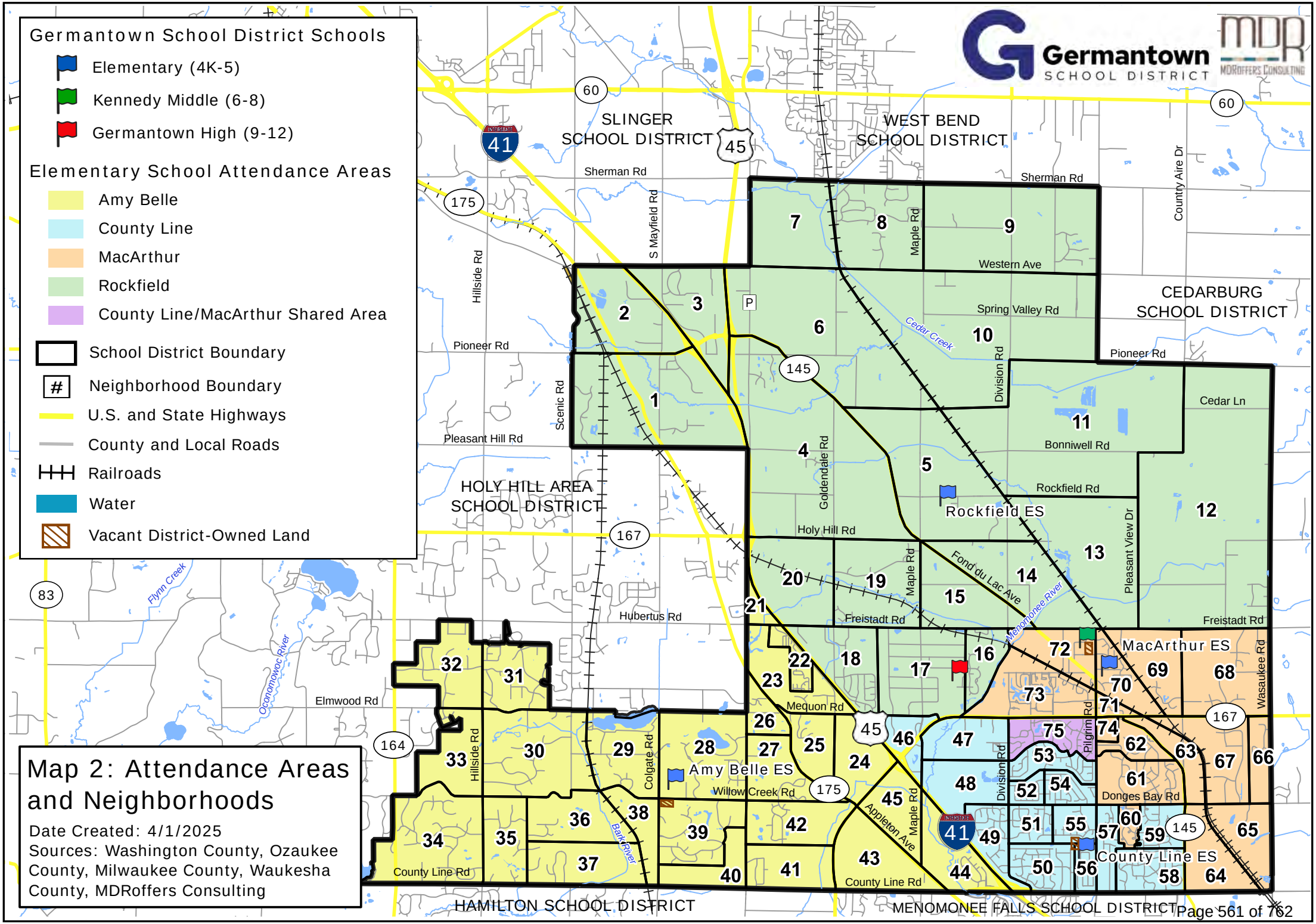
Germantown School District Schools
Elementary (4K-5)
Kennedy Middle (6-8)
Germantown High (9-12)
Elementary School Attendance Areas
Amy Belle
County Line
MacArthur
Rockfield
County Line/MacArthur Shared Area
School District Boundary
Neighborhood Boundary
U.S. and State Highways
County and Local Roads
Railroads
Water
Vacant District-Owned Land
Germantown SCHOOL DISTRICT
MDR MDRoffers Consulting
SLINGER SCHOOL DISTRICT
WEST BEND SCHOOL DISTRICT
CEDARBURG SCHOOL DISTRICT
HOLY HILL AREA SCHOOL DISTRICT
HAMILTON SCHOOL DISTRICT
MENOMONEE FALLS SCHOOL DISTRICT
Rockfield ES
Amy Belle ES
MacArthur ES
County Line ES
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Spring Valley Rd
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Freistadt Rd
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Colgate Rd
Bark River
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Map 2: Attendance Areas and Neighborhoods
Date Created: 4/1/2025
Sources: Washington County, Ozaukee County, Milwaukee County, Waukesha County, MDRoffers Consulting

B. STATISTICAL SUMMARY

1. In September 2024, the GSD educated 3,812 students in grades 4K-12. Elementary school (grade 4K-5) enrollment was 1,661 students, middle school (grade 6-8) enrollment was 865 students, and high school (grade 9-12) enrollment was 1,286 students.
2. Total GSD enrollment decreased by 45 students between the 2014-15 and 2024-25 school years. This slight decrease occurred even with 4K programming being introduced in the 2022 academic year. Without, GSD enrollment would have decreased by 212 students, or 5 percent, over the past decade.
3. Since 2014-15, grade 5K-5 enrollment decreased by 91 students or 6 percent, middle school enrollment (grades 6-8) decreased by 5 students or 1 percent, and high school enrollment (grades 9-12) decreased by 116 students or 8 percent.
4. Births in the GSD remained relatively stable over the past decade, with between 320 to 330 births per year. This is after a significant *decrease* in the number of births in the late-2000s and early-2010s, which correlated to the decrease in grade 5K-12 student population.
5. From 2010 to 2020, most of the total population increase in the GSD was in the age 65 year and older group. As these populations continue to age and move on, their homes may transition to new families with children. The timing and extent of this turnover will depend in part on other available housing options in the community, interest rates, and housing costs.
6. For its projections the consultant generally utilized a student generation ratio of 0.61 GSD grade 4K-12 students per each newer single-family home, which is fairly typical among similarly positioned school districts. This student generation ratio was discovered through a consultant analysis comparing March 2025 student addresses with the addresses of newer single-family homes permitted over the past few years. The actual ratio used varied somewhat by neighborhood based on factors such as proximity to schools and housing price and other characteristics.
7. The consultant also found that the limited amount of newer multiple-family development in the GSD generates an average of 0.11 GSD 4K-12 students-per-unit—or about one additional student for every 10 new multiple-family units. This figure is higher than most comparable school districts, driven by both the small sample size and the fact that it includes a recent multiple family development with a number of 3-bedroom units. Using statistics from other area communities like Mequon and Cedarburg, the consultant anticipates that future multiple-family housing in Germantown will generate students at a rate of around 0.06 GSD students-per-unit—but this varied a bit by neighborhood and anticipated housing type and size.

C. HOUSING UNIT PROJECTIONS SUMMARY

1. The consultant has prepared its housing unit growth projections at a transitional period for Germantown. Regionally and nationally, the community is confronting a significant housing shortage and demand, at times battling higher interest rates and housing costs. Locally, the Village of Germantown in 2022 adopted a new Comprehensive Plan that appeared to open the community to additional housing options and densities. Leadership changes and community reaction in the past few months may be causing at least a partial return to prior policies. For example, the consultant understands that the Village may now be considering a cap in the number or percentage of multiple-family units permitted per year. The consultant endeavored to prepare as accurate of projections as practical in this unsettled context.
2. With the above as a qualifier, the consultant projects construction of 2,140 new housing units within the GSD by 2040. This is an average of 138 new units per year—greater than the average of 84 new units per year over the past decade but similar to levels of residential development in the 2000s.
3. The consultant's housing unit projections include single-family homes, duplex units, and multiple-family units, including senior-restricted housing. The consultant anticipates that around 44 percent of projected housing units in the GSD between 2025 and 2040 will be new single-family homes, which have the highest levels of student generation per unit. Emerging Village of Germantown policy shifts might increase this percentage, but it is already higher than recent experience in comparable districts and 47 percent of that Village's housing units were single-family homes over the past decade.
4. Most new housing development in the GSD is expected to be in the Village of Germantown, where the consultant projects just over 1,700 new housing units through 2040. This 107-unit average per year is somewhat higher than the 71-unit average over the past decade, but similar to the Village's residential building activity in the 2000s.
5. The most significant projected housing growth is along Highway 167/Mequon Road and Freistadt Road, in neighborhoods 69, 73, and 74 on Map 2. Growth in neighborhood 69 is anticipated to be driven by single-family housing development while neighborhoods 73 and 74 are projected for mostly townhouse and apartment development.
6. The consultant projects that 556 new single-family homes will be built in the Village of Germantown, an average of 36 new single-family homes per year, which is similar to the average of the past decade of 34 new single-family homes per year as subdivisions like Heritage Park North, Harvest Hills, Wrenwood, and Wrenwood North have quickly built out.

7. The consultant projects 210 new housing units expanding in the Village of Jackson portion of the GSD through 2040, all of which are projected to be new single-family homes. This is an average of 14 new single-family homes built per year through 2040—similar to the average contribution from Jackson over the past decade.
8. The consultant projects 187 new housing units in the Village of Richfield portion of the GSD through 2040, the majority of which will be new single-family homes. Most parts of Richfield within the GSD have already built out, with a few exceptions.
9. Over 40 percent of all new housing units are projected to be built in the current MacArthur Elementary School attendance area, about 30 percent are projected to be built in the current Amy Belle Elementary School attendance area, and 15 percent and 12 percent are projected to be built in the current Rockfield and County Line Elementary School attendance areas respectively. The projected housing mix in different current attendance area varies (i.e., single- to multiple-family), which significantly influences anticipated student generation from that new housing.

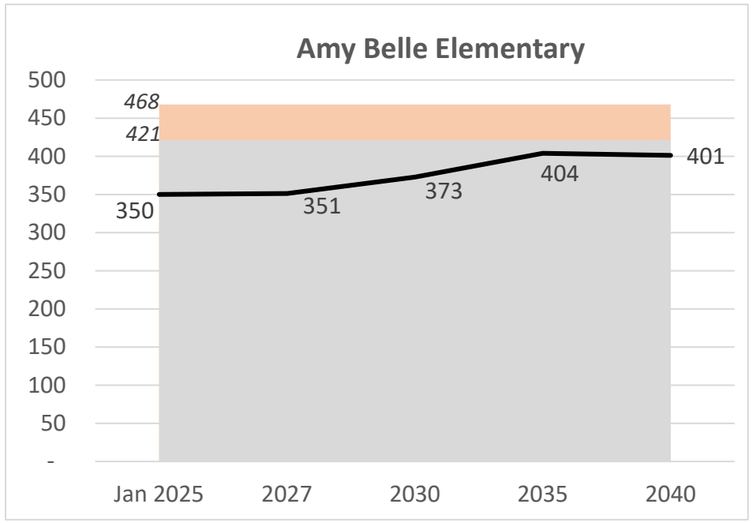
D. STUDENT ENROLLMENT PROJECTIONS SUMMARY

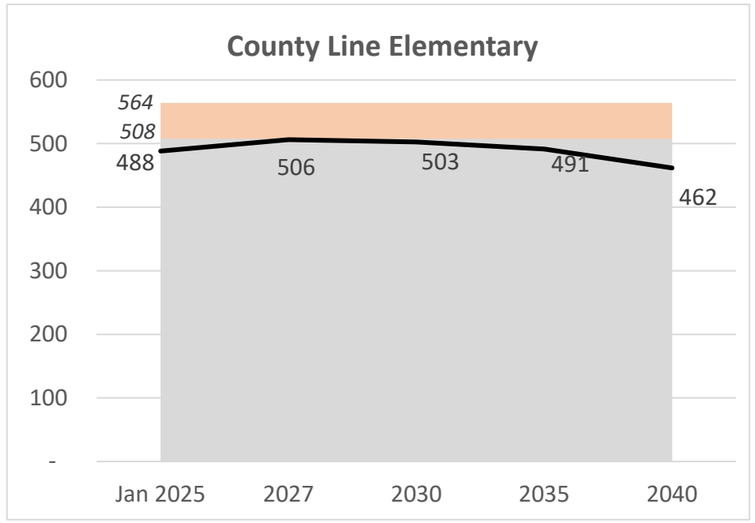
1. Between January 2025 and 2040, the consultant projects an increase of 148 4K-12 resident students enrolled in GSD schools based on its assessment of most likely housing and demographic changes. The consultant projects grade 4K-5 resident enrollment to increase by 129 students, grade 6-8 resident enrollment to increase by 21 students, and grade 9-12 resident enrollment to decrease by 2 students.
2. By 2040 and without any attendance area changes, the consultant projects GSD resident enrollment at MacArthur Elementary School to increase by 73 students, resident enrollment at Amy Belle Elementary School to increase by 51 students, resident enrollment at Rockfield Elementary School to increase by 31 students, and resident enrollment at County Line Elementary School to *decrease* by 26 students.
3. The consultant projects that the *combined* 4K-5 resident enrollment at the GSD's four elementary schools will remain below the *combined* maximum capacity of the four elementary school buildings through 2040. Though the consultant was not involved in capacity calculations, maximum elementary school capacity is often around 10 percent greater than functional or comfortable capacity. Without changes in attendance areas, building capacities, or other factors, enrollment at MacArthur Elementary is projected to exceed 90 percent of that building's capacity by around 2035 and enrollment at Rockfield Elementary School is projected to exceed 90 percent of its capacity by 2040. Projected enrollment at County Line is expected

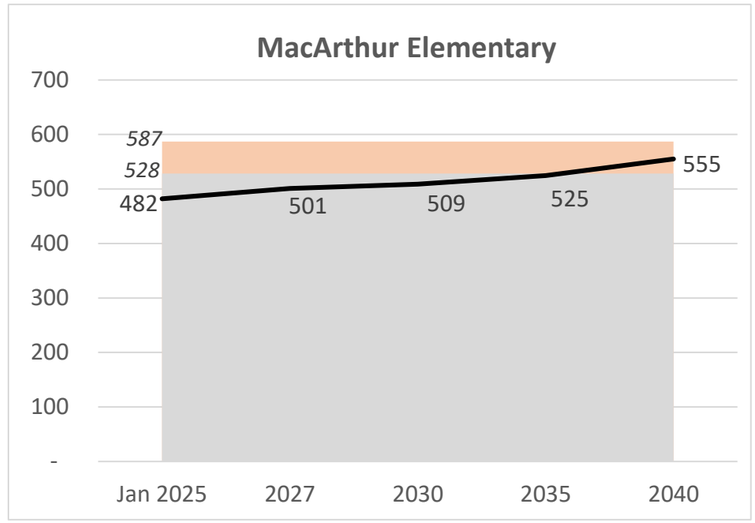
to exceed 90 percent of that building's capacity through around 2030, then decrease below 90 percent through the remainder of the 2030s.

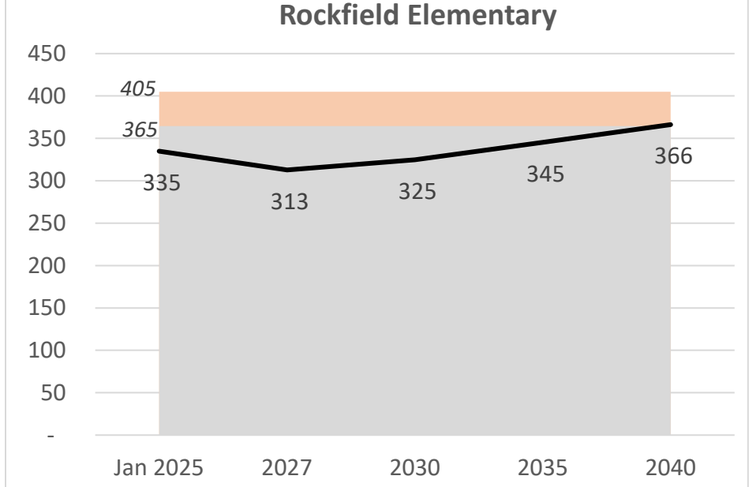
4. The consultant projects Kennedy Middle School (grade 6-8) resident enrollment will increase by 21 students between January 2025 and 2040—totaling 860 grade 6-8 students by 2040. Middle school enrollment is projected to decrease over the next few years due to current larger middle school classes being replaced by generally smaller current elementary classes. GSD resident grade 6-8 enrollment is projected to remain well below the maximum building capacity of Kennedy Middle School through 2040.
5. The consultant projects Germantown High School (grade 9-12) resident enrollment will decrease by 2 students by 2040. High School enrollment is projected to remain stable over the next few years, as large middle school classes enter, but then decrease in the late-2020s and early-2030s as generally smaller current elementary classes enter high school. Grade 9-12 enrollment is expected to remain well below the maximum capacity of the Germantown High School building through 2040, even if current levels of open-enrollment-in were continued.
6. The above projected grade GSD resident enrollment increases are driven by expected modest increases in new housing development and (in the 2020s at least) births. Were the GSD to have *no* new housing development through 2040, projected GSD resident 4K-12 enrollment would have instead *decreased* by around 420 students. In contrast, were the GSD to have housing development more in line with the Village's 2022 Comprehensive Plan—as opposed to emerging Village policy shifts or reversions—projected GSD resident 4K-12 enrollment would have instead increased by around 280 students. Both alternative scenarios are in contrast with the consultant's "most likely" 15-year 4K-12 enrollment increase of 148 students.
7. Several options could be explored to address projected capacity constraints at the elementary school level in the late-2030s, particularly at MacArthur Elementary but also Rockfield Elementary. These include elementary attendance area shifts, additional attendance "flex" neighborhoods, elementary school expansions or replacements, construction of a fifth elementary school, or even potentially shifting 5th grade students to the middle school level with expansion or replacement there. Further exploration of these options is beyond the scope of this Report. Also, comparing enrollment projections to current building capacities is only one factor to consider in long-range facilities planning. Other factors include basic goals and parameters (e.g., maximum school and class sizes), interest and tolerances for attendance area or grade grouping changes, the suitability for older buildings to operate efficiently and serve modern educational needs, existing building expansion opportunities and constraints, the suitability of different potential sites for new or expanded schools, the relative costs of different options to address needs, and the GSD's financial picture including its borrowing capacity.

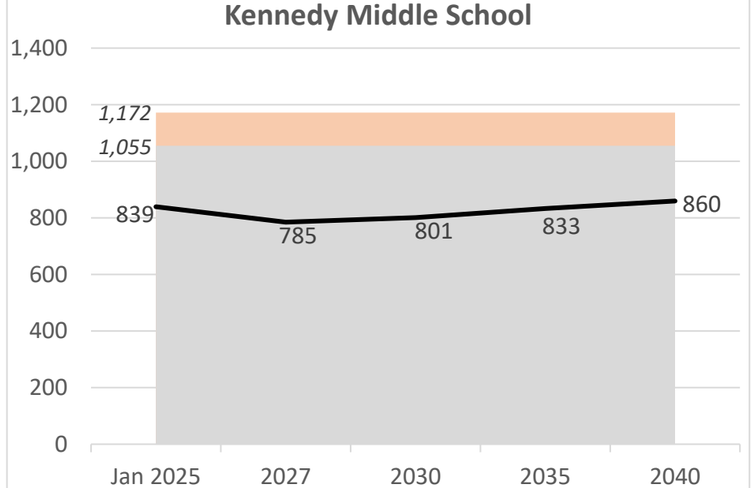
Projected GSD Resident Enrollment vs. Building Capacity at Current GSD Schools

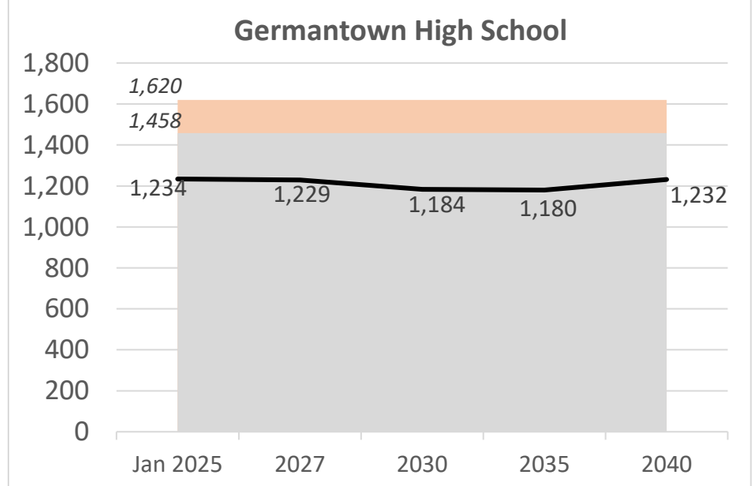












100% Maximum Building Capacity 90% Maximum Building Capacity Projected Resident Enrollment

Note:
These charts assume no changes in current attendance areas, distribution of students from the shared attendance area, grade groupings, or building capacity of each of the GSD's schools. They also include only GSD resident enrollment.

II. SCHOOL DISTRICT OVERVIEW AND STUDENT ENROLLMENT TRENDS

A. GERMANTOWN SCHOOL DISTRICT OVERVIEW

The Germantown School District (GSD) spans 57 square miles in southern Washington County. The GSD encompasses all of the Village of Germantown and Town of Germantown, the eastern one-quarter of the Village of Richfield, and smaller portions of the Village of Jackson, Town of Jackson, Town of Polk, and even City of Milwaukee. The GSD's current school buildings are indicated on the maps in this Report and described in Figure 1. All 4K students are housed in the four GSD elementary schools, along with 5K-5 students. The GSD does not anticipate any significant changes to 4K programming.

Figure 1: Current Germantown School District Building Overview

School	Year Built	Latest Addition/ Renovation	Grades Served	Neighborhood (see Map 2)	January 2025 Enrollment		Maximum Building Capacity
					GSD Resident Students	Total Students in Seats	
Amy Belle Elementary	1951	2018	4K-5	28	350	350	468
County Line Elementary	1957	2018	4K-5	56	488	489	564
MacArthur Elementary	1928	2018	4K-5	70	482	489	587
Rockfield Elementary	1957	2018	4K-5	5	335	346	405
Kennedy Middle	1961	2018	6-8	72	839	858	1,172
Germantown High	1968	2018	9-12	17	1,234	1,277	1,620

Source: GSD

In 2016, GSD voters approved a $84 million referendum to renovate and improve GSD schools. This included new classrooms, a new field house, performing arts center, swimming pool, and secure main entrance and administrative offices at Germantown High School. At Kennedy Middle School, this included replacing and rebuilding the entire 6th grade wing as well as upgraded interiors throughout the rest of the school. At GSD elementary schools, upgrades included classroom finishes, new gym floors, and remodeled library areas.

The GSD's District Office is northeast of the intersection of Fond du Lac Avenue and Donges Bay Road in neighborhood 63 on Map 2. The GSD also owns vacant parcels adjacent to three of its existing schools. These include a 4.9-acre parcel immediately north of the County Line Elementary parcel, a 3.4-acre parcel across Willow Creek Road from Amy Belle Elementary School, and a 5.6-acre parcel immediately east of the Kennedy Middle School parcel. These are also shown on Map 2 and on other maps in this Report.

B. PRIVATE AND HOME SCHOOL ENROLLMENT TRENDS

There are five private schools operating in the GSD, and three private schools operating in other districts nearby (see Map 1 for locations). These eight private schools attract students from the GSD, as well as the Holy Hill Area, Slinger, West Bend, and other school districts. Figure 2 includes enrollment data for these eight private schools over the past ten years. Private school enrollment increases were concentrated at Kettle Moraine Lutheran High and Living Word Lutheran High, which both had 100+ student enrollment increases over the past decade. Combined enrollment at other area private schools was stable over the decade.

Figure 2: Enrollment of Private Schools Operating in and near the GSD, 2014-2024

Private School (District where located)	Grades Served	2014-15	2016-17	2018-19	2020-21	2022-23	2024-25	10 Year Change
Bethlehem Evangelical Lutheran (GSD)	4K-4	184	248	251	218	180	205	**+21**
Crown of Life Evangelical Lutheran (GSD)	4K-8	65	74	77	98	119	117	**+52**
David's Star Lutheran School (GSD)	4K-8	128	136	126	127	158	166	**+38**
Saint Boniface Grade School (GSD)	4K-8	177	145	110	90	72	56	**-121**
Saint Augustine School (GSD)	4K-12	55	65	68	78	94	49	**-6**
Saint Gabriel Grade School (Holy Hill)	4K-8	130	115	121	130	135	144	**+14**
Kettle Moraine Lutheran High (West Bend)	9-12	395	427	487	522	553	574	**+179**
Living Word Lutheran High (West Bend)	9-12	132	198	202	205	231	270	**+138**
TOTALS	**-**	**1,266**	**1,408**	**1,442**	**1,468**	**1,542**	**1,581**	**+315**

Source: Wisconsin Department of Public Instruction

From 2012 to 2019, home schooling in the GSD remained relatively stable, with around 80 to 90 students choosing home school. In 2020, with the COVID-19 pandemic's onset, the number of students being home schooled increased to 150 students. The number of students being home schooled slightly decreased after 2020, to 128 students by 2023.

In its enrollment projections later in this Report, the consultant assumed that the rate of GSD resident students being home schooled would remain constant at the 2024 levels. The projections do include an anticipated increase over time of GSD resident high school students attending private schools instead of Germantown High School. This is given the significant recent increase in private high school enrollment in and near the GSD and an expansion of Kettle Moraine Lutheran High School that is anticipated over the next few years.

C. GSD STUDENT ENROLLMENT TRENDS AND IMPLICATIONS

As reported in Figure 3, the GSD had a 45 student, or 1 percent, decrease in total enrollment between the 2014-15 and 2024-25 school years. This slight decrease occurred even with the start of 4K programming in the 2022 academic year. Without the implementation of 4K, GSD enrollment would have decreased by 212 students, or 5 percent, over the past decade. Since 2014-15, grade 5K-5 enrollment decreased by 91 students or 6 percent, middle school enrollment (grades 6-8) decreased by 5 students or 1 percent, and high school enrollment (grades 9-12) decreased by 116 students or 8 percent.

Figure 3: GSD Total Enrollment by Grade Group, September 2014 to September 2024

Grade Group	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	10 Year Change
4K	0	0	0	0	0	0	0	171	141	167	**+167**
5K-5	1,585	1,584	1,568	1,578	1,622	1,518	1,586	1,510	1,503	1,494	**-91**
6-8	870	907	894	931	889	886	867	898	867	865	**-5**
9-12	1,402	1,402	1,370	1,327	1,346	1,350	1,334	1,295	1,290	1,286	**-116**
4K-12 Enrollment	**3,857**	**3,893**	**3,832**	**3,836**	**3,857**	**3,754**	**3,787**	**3,874**	**3,801**	**3,812**	**-45**

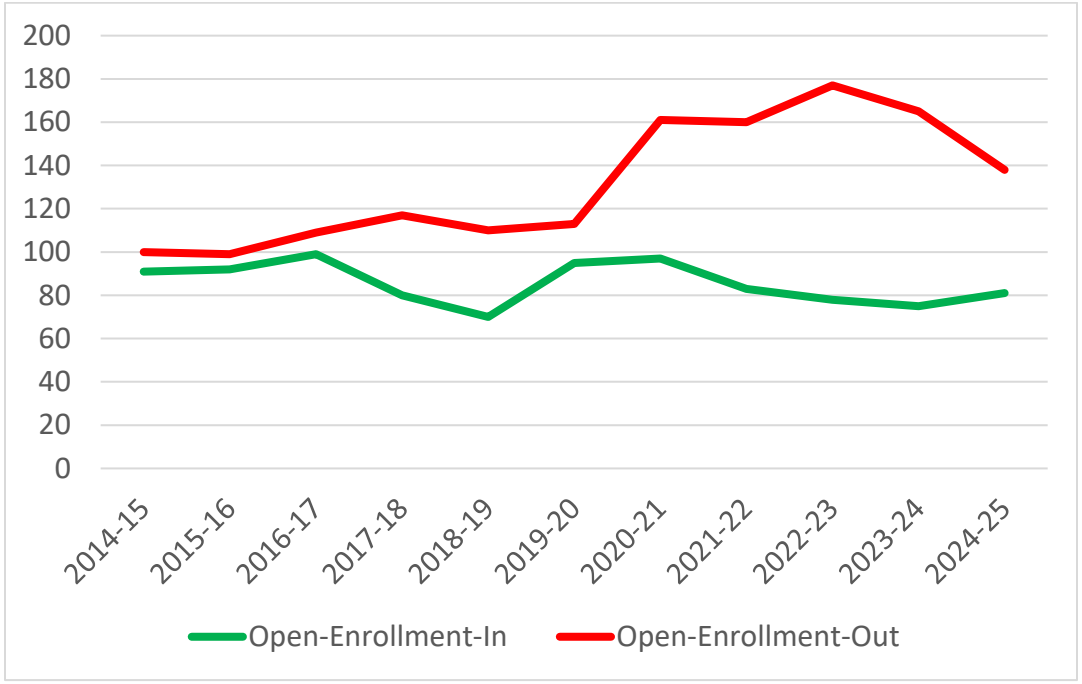
Source: GSD

D. OPEN ENROLLMENT TRENDS AND IMPLICATIONS

The GSD has consistently lost more resident students to other public school districts than it has gained through open enrollment. As shown in Figure 4, the number of non-resident students open-enrolling-in has remained relatively constant—generally between 80 and 100 students per year. The number of resident students open-enrolling-out increased most of the past ten years, especially during the pandemic 2020-21 year, in which over 160 resident students open-enrolled-out. The GSD fluctuated between in-person, virtual, and hybrid learning during that academic year. Since then, open-enrollment-in has increased while open-enrollment-out has decreased.

In its enrollment projections later in this Report, the consultant assumed that the rate of GSD resident students open-enrolling-out would remain constant at 2024-25 levels. The consultant did not include non-resident students open-enrolling-in to the projections, per guidance the consultant received from the GSD staff. At around 80 students, open-enrollment-in is only about 2 percent of the GSD's total enrollment.

Figure 4: GSD 4K-12 Open Enrollment Trends, 2014-15 through 2024-25



Source: GSD

III. DEMOGRAPHIC TRENDS AND EXPECTATIONS

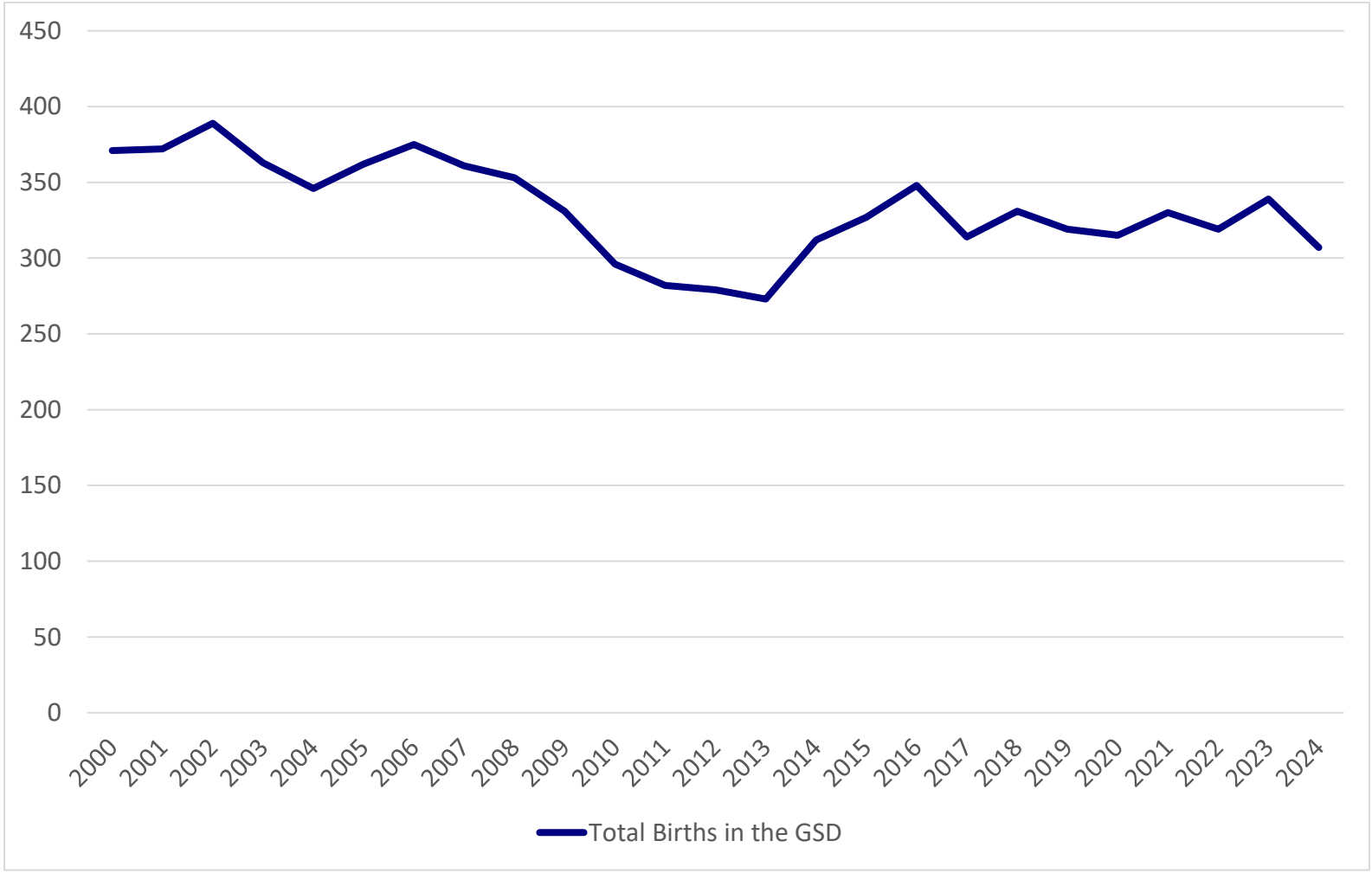
A. BIRTHS AND CHILD POPULATION TRENDS

The number of children born within a school district affects future enrollment in that district's schools. Annual births in the Germantown School District (GSD) decreased over the past 20+ years, from 371 births in 2000 to 307 births in 2024, or by 17 percent. Most of that decrease occurred in the 2000s and into the early-2010s, which helps to explain the past 10-year grade 5K-12 enrollment decrease. Since the early-2010s, births have remained relatively stable, with around 320 to 330 births per year.

The consultant believes births will slightly increase in the GSD through the rest of the 2020s, due to the large Millennial generation entering their prime reproductive years and more anticipated housing units in which to live. Still, the consultant expects that births will remain lower than in the early-2000s, when large numbers of children were born in the GSD.

The number of children aged 0-4 years in a district is another important influence over future enrollment. Per the 2010 Census, there were 1,596 children aged 0-4 living in the GSD. The 2020 Census indicated that the 0-4 population in the GSD decreased by 8 percent to 1,470 children aged 0-4. This generally tracks with recent elementary school enrollment decreases, and the lower number of births in the latter half of the 2010s (i.e., children 0-4 years old in 2020) compared to the greater number of births in the latter half of the 2000s (i.e., children 0-4 years old in 2010).

Figure 5: Births in the GSD, 2000-2024



Source: Wisconsin Department of Health Services

B. POPULATION TRENDS BY AGE

The average age in the GSD increased from 40.2 years old in 2010 to 41.2 in 2020. The GSD is slightly younger than Washington County and slightly older than Wisconsin as a whole. From 2010 to 2020, the median age in Washington County increased from 40.0 years old to 43.2 years old and the median age for Wisconsin increased from 38.1 years old to 39.6 years old.

As shown in Figure 6, most of the increase in the GSD population from 2010 to 2020 was in the population aged 65 and older. The population aged 45 to 64 also increased. These increases were contrasted by a 626-resident decrease in the child-aged population, which also correlates with the decrease in births in the 2000s and early-2010s and recent enrollment decreases. The number of persons in the GSD between 25-44 years of age (i.e., reproductive age) remained stable from 2010 to 2020. As of 2020, this age group comprised much of the Millennial generation—the main generator of births over the next decade.

Together, these statistics suggest an aging community, but also increasing future turnover potential of homes to younger families as older residents move on by 2040. Local housing choices attractive to seniors and empty-nesters—such as single-family condominiums, townhomes, and senior housing—may help support the turnover of larger single-family homes from older generations to younger generations. Still, housing is more expensive in the GSD than in many other areas in southeastern Wisconsin (see Section IV.E). This may limit the potential and number of young families with children who can afford a home in the GSD. See Section IV. E for more information about the impacts of housing costs, turnover, and student generation.

Figure 6: GSD Population by Age Group, 2010-2020

Age Group	2010	2020	Change
0-4	1,596	1,470	**-126**
5-19 (School Age)	5,851	5,351	**-500**
20-24	1,013	1,379	**+366**
25-44 (Reproductive Age)	**6,357**	**6,372**	**+15**
45-64	7,649	8,148	**+499**
65+ (Seniors)	2,786	4,183	**+1,397**
Total	**25,251**	**26,903**	**+1,652**

Source: US Census Bureau

IV. HOUSING AND ECONOMIC TRENDS AND EXPECTATIONS

A. RECENT RESIDENTIAL BUILDING CONSTRUCTION

Trends in residential construction are one indicator of future housing development. Figure 7 lists recent housing starts (based on building permits issued) within municipalities in the Germantown School District (GSD). Residential building activity decreased over the past few years. Between 2014 and 2019, an average of 190 new housing units were permitted per year. Between 2020 and 2024, an average of 130 new housing units were permitted per year. This recent decrease is mostly due to a combination of fewer new single-family homes in the Village of Richfield and fewer multiple-family housing units in the Village of Germantown (see Figure 8).

Figure 7: Housing Starts by GSD Municipality, 2014-2024

MUNICIPALITY	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Village of Germantown	78	40	38	180	67	111	52	96	40	38	38	**778**
Village of Jackson*	36	44	65	33	31	36	12	68	24	57	82	**488**
Village of Richfield*	40	45	53	53	38	35	41	38	14	17	21	**395**
Town of Germantown	0	0	1	0	1	0	0	1	0	0	0	**3**
Town of Jackson*	24	22	22	18	11	9	7	8	3	8	3	**135**
Total by Year	**178**	**151**	**179**	**284**	**148**	**191**	**112**	**211**	**81**	**120**	**144**	**1,799**

Sources: Villages and Towns
** Includes housing starts across the entire municipality, including areas outside of the GSD. Most Jackson and Richfield units were not in the GSD.*

Figure 8 lists housing starts by type within the Village of Germantown between 2014 and 2024. Overall, new housing development decreased in the Village over this period. In the first half of the past decade, the City permitted an average of 86 new housing units per year. Over the second half, the City permitted an average of 53 new housing units per year. This is mostly due to a decrease in the number of multiple-family housing units permitted over the past few years. Between 2020 and 2024, the Village permitted 28 multiple-family units. Single-family housing starts have ebbed and flowed in the Village, mostly due to

the development, and subsequent quick build out, of new subdivisions like Wrenwood, Wrenwood North, Heritage Park North, Harvest Hills, and Prairie Glen.

Figure 8: Village of Germantown Housing Starts by Type, 2014-2024

Unit Type	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Single-family	54	34	23	18	15	12	46	72	34	34	30	**372**
Duplex	6	6	0	0	0	2	6	0	6	0	8	**34**
Multiple-family	18	0	15	162	52	97	0	24	0	4	0	**372**
Total	**78**	**40**	**38**	**180**	**67**	**111**	**52**	**96**	**40**	**38**	**38**	**778**

Source: Village of Germantown

B. NEW HOUSING IMPACT ON ENROLLMENT

Understanding the rate of student generation from new housing construction is critical to enrollment projections using the consultant's method. Typically, new single-family homes generate the most students within the first 5 to 10 years of being built, as new homes are often purchased by families with young school-aged children. The number of students then decreases as the neighborhood ages and the composition of the neighborhood changes from mostly families with young children to a combination of families with children of all ages, childless families, seniors, and empty nesters.

The consultant compared March 2025 student addresses to permit addresses of newer single-family homes. The intent was to understand how single-family homes are generating students for the GSD. This analysis suggests an average current student generation ratio of 0.61 GSD 4K-12 students per newer single-family home. This ratio is typical for similarly-sized and positioned suburban school districts.

New multiple-family development in the GSD generates an average of 0.11 GSD 4K-12 students-per- unit. This ratio is based on analysis of three newer multiple-family housing developments—Hillstone Apartments, The Reserve at Wrenwood, and Saxony Village Apartments. These three developments have a combined 214 units, in which 24 4K-12 GSD students live. This 0.11 ratio is a bit above average for new multiple-family housing in suburban communities like Germantown, and may be explained by the relatively lower-density, suburban development style of these three newer multiple-family housing developments. Additionally,

most of these newer multiple-family units (172 units of the 214 total newer units) are in the Saxony Village Apartments development, which contains a larger percentage of 3-bedroom units than typical of newer market-rate apartments. Apartments with 3-bedroom units often produce students at greater rates than apartments with mostly 1- and 2-bedroom units.

Other suburban Milwaukee school districts have had more newer multiple-family housing developments. Examples include the Fox Run Apartments and Townhomes in the Cedarburg School District, Mequon Town Center in the Mequon-Thiensville School District, Velo Village in the Franklin Public School District, and Drexel Town Square in the Oak Creek-Franklin School District. Most of the over 1,000 combined units in these developments are studios, 1-bedroom units, and 2-bedroom units. The student-per-housing unit ratios from these newer multiple-family units have been between 0.04 to 0.08, with a combined ratio of 0.06 student-per-housing unit.

C. EXISTING HOUSING IMPACT ON ENROLLMENT

Understanding the rate of student generation from *existing* housing is just as important, as most of the housing that will exist in 2040 has already been constructed. There were approximately 11,653 housing units in the GSD in March 2025. The consultant projects 2,140 new housing units between 2025 and 2040. This means that about 84 percent of the housing units projected to be on the ground in 2040 are already built.

Using March 2025 housing unit and student address data, the consultant's analysis suggests a student generation ratio of 0.30 to 0.40 GSD 4K-12 students per each older existing single-family home, depending on proximity to GSD schools and housing age. Therefore, older single-family homes in the GSD generate students at about 50 to 65 percent of newer single-family homes. The GSD's student generation ratio from older single-family homes is typical among comparable suburban districts.

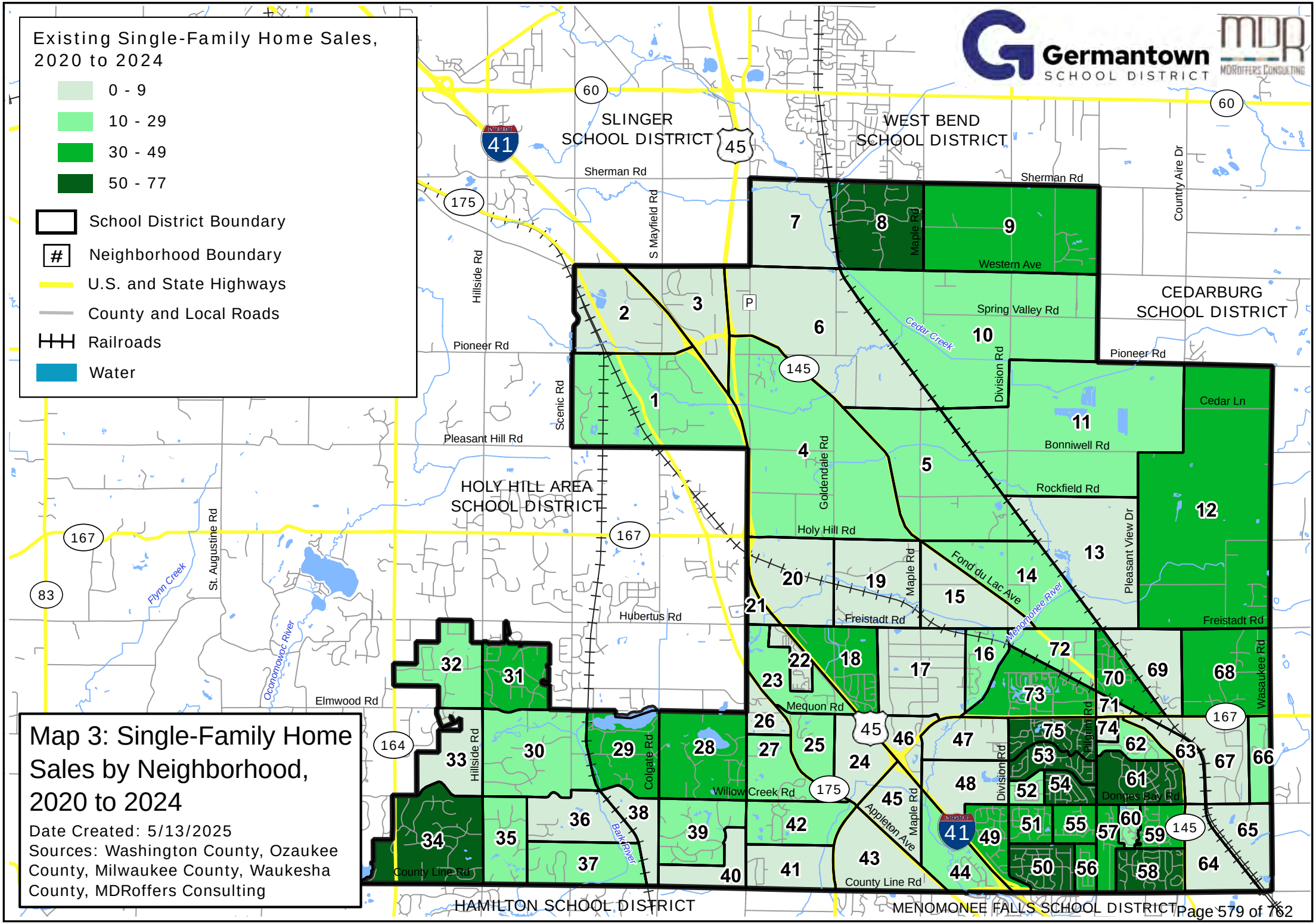
In contrast, older multiple-family housing units tend to generate *greater* numbers of students than newer multiple-family units, as older units tend to be more affordable and sometimes include more bedrooms per unit. The consultant found existing multiple-family units in the GSD generate students at a rate of 0.16 GSD 4K-12 student-per-housing unit. This ratio is slightly higher than what the consultant has seen in similar suburban Milwaukee school districts, in which existing multiple-family housing generates students at ratios of 0.08 through 0.13 per housing unit. This difference could be due to the relative age and size (e.g., more 3-bedroom units) of multiple-family housing in the GSD.

D. EXISTING HOME SALES AND IMPACT ON ENROLLMENT

Understanding where sales of existing homes are occurring can also help a school district understand where future student growth may occur—even if no new housing units are being built. Part of the consultant's methodology for projecting future enrollment in the GSD includes assessing the likelihood, timing, and extent of turnover in existing neighborhoods. This assessment is based on a variety of factors, including an analysis of neighborhood age (30± years old is when major turnover usually occurs), recent trends in student generation by neighborhood, and analysis of sales of existing homes.

Map 3 aggregates single-family homes sales from January 2020 to December 2024 for each neighborhood in the GSD. Concentrations of recent existing home sales are clustered in southern Village of Germantown neighborhoods. Neighborhoods 50, 53, 54, 58, 61, and 75 in southern portions of Germantown all had 50 or more single-family home sales over the past five years. Other neighborhoods with greater numbers of home sales include neighborhood 8, located in the Village of Jackson along the northern boundary of the GSD, and neighborhood 34 located in the Village of Richfield in the far western portion of the GSD.

A significant portion of housing in some of these neighborhoods—particularly in neighborhoods 8, 53, 54, 58, 61, and 75—was built in the 1990s and 2000s, and is therefore in or approaching a significant turnover period. The GSD can expect stabilizing, or even increasing, numbers of students from some of these neighborhoods through 2040. In contrast, neighborhoods built in the 2010s and later (with no new housing built) will likely have decreasing enrollment through 2040, as current elementary school-aged students age and more of this housing becomes populated by empty nesters by the 2030s. The consultant does not expect neighborhoods built in the 2010s to turn over in significant numbers until the 2040s, after the consultant's final projection period. The effect of housing turnover on projected enrollment is discussed further in Appendices A and B.


Existing Single-Family Home Sales, 2020 to 2024
0 - 9
10 - 29
30 - 49
50 - 77
School District Boundary
Neighborhood Boundary
U.S. and State Highways
County and Local Roads
Railroads
Water
Germantown SCHOOL DISTRICT
MDR MDRoffers Consulting
SLINGER SCHOOL DISTRICT
WEST BEND SCHOOL DISTRICT
CEDARBURG SCHOOL DISTRICT
HOLY HILL AREA SCHOOL DISTRICT
HAMILTON SCHOOL DISTRICT
MENOMONEE FALLS SCHOOL DISTRICT
Sherman Rd
Pioneer Rd
Pleasant Hill Rd
Elmwood Rd
Holy Hill Rd
Freistadt Rd
Bonniwell Rd
Rockfield Rd
Western Ave
Spring Valley Rd
Mequon Rd
Willow Creek Rd
County Line Rd
Hillside Rd
S Mayfield Rd
Scenic Rd
Goldendale Rd
Division Rd
Maple Rd
Pleasant View Dr
Cedar Ln
Country Aire Dr
Wasaukee Rd
Hubertus Rd
St. Augustine Rd
Colgate Rd
Appleton Ave
Donges Bay Rd
Fond du Lac Ave
Cedar Creek
Menomonee River
Oconomowoc River
Flynn Creek
Bark River
Map 3: Single-Family Home Sales by Neighborhood, 2020 to 2024
Date Created: 5/13/2025
Sources: Washington County, Ozaukee County, Milwaukee County, Waukesha County, MDRoffers Consulting

E. OTHER HOUSING AND ECONOMIC TRENDS

Housing in the GSD and Washington County tends to be more expensive than elsewhere in the State. As of 2024, the median home sale price in Washington County was $375,000. While higher than the median for the entire State of Wisconsin ($310,000), this median home sale price is lower than nearby Ozaukee County ($471,217) and Waukesha County ($455,650). Still, Washington County's 2024 median home sale price is more than double its median home sale price in 2014 of $182,750. Most of the increase in median home sale price has occurred over the past few years.

In the early-2020s, Washington County established the Next Generation Housing (NGH) Initiative. The NGH is a $10 million initiative to build 1,000 homes in the County over the next decade, all of which will be priced under $420,000, with 75 percent listed under $320,000. The goal is to attract millennials, young adults, and young families to put down roots in the County. Since its establishment, NGH has led to several housing developments in Washington County, though none in the GSD in part based on decisions of local villages to not participate.

Housing, population, and student enrollment growth in the GSD is driven in large part by local and regional job growth. As of the early-2020s, the Village of Germantown had over 11,000 jobs, concentrated in manufacturing, health care, educational services, social assistance, education, and finance and insurance. Major employers in the Village of Germantown include MGS Manufacturing Group, JW Speaker, Gehl Foods, David J Frank Landscape Contracting, and Westrock. The consultant anticipates continued employment growth in and near the GSD, particularly in the Germantown Industrial Park, Germantown Business Park, Omega Hills Industrial Park, Willow Creek Business Park, and the Village's planned Freistadt and Holy Hill Gateway Districts.

The region's extensive transportation network, with access to Interstate 41, Highway 45, Highway 145, Highway 167, and Highway 175 both fuels this local employment and provides easy access from the GSD to nearby jobs in Mequon, Menomonee Falls, Wauwatosa, Waukesha, and Milwaukee. Large regional employers include Advocate Aurora Health, Froedtert, Quad, Medical College of Wisconsin, Kohl's, General Electric, Northwestern Mutual, Rockwell Automation, Milwaukee Tool, and Harley-Davidson.

Washington County is part of the WOW Workforce Development Area (WDA), which also includes Ozaukee County and Waukesha County. Employment in the WOW WDA is projected to grow by 10 percent from 2020 to 2030, amounting to 36,500 more jobs. This projected growth outpaces the State, which is projected to grow by 6.3 percent during the same period. In total, local and regional employment—and the GSD's advantageous access to it—is an asset that should lead to continued appeal for existing and new residents and continued local demand for different housing types suited to different earned incomes.

V. COMMUNITY AND DEVELOPER PLAN ANALYSIS

A. SECTION OVERVIEW

Local land use planning, growth management, economic development, and infrastructure investments (and limitations) influence future housing and enrollment growth. Other factors influencing future residential and enrollment growth include transportation (highway and road improvements or expansions), natural barriers (e.g., wetlands, rivers), utility availability, and landowner interest for selling or developing their land.

As part of the projection process, the consultant analyzed local community and residential developer plans in the Germantown School District (GSD). These plans provide insight to the growth and development goals and expectations of the municipalities, landowners, and residential developers in the GSD. To best understand how the plans were being executed (and at times questioned and adjusted), the consultant also interviewed and obtained data from local municipal staff and residential real estate developers and professionals.

Broadly speaking, the Village of Germantown has accommodated new housing development of different types, the Village of Richfield and Village of Jackson are most receptive to new single-family housing development, and the Towns desire to remain mostly rural. Still, many of the easiest and best areas for new housing development have already been developed, are distant from public sewer and water services, or have owners that appear disinterested in development.

B. VILLAGE OF GERMANTOWN PLANS AND EXPECTATIONS

The Village of Germantown is a village of almost 21,000 residents in Washington County and serves as the commercial, industrial, and social center for the GSD. The Village is located northwest of the City of Milwaukee, along Interstate 41, Highway 45, Highway 145, Highway 167, and Highway 175. Per the U.S. Census, over 80 percent of workers that reside in Germantown work in other municipalities in the Milwaukee region. The City is a 10 minute drive from Menomonee Falls, 30 minutes from Wauwatosa, 35 minutes from Downtown Milwaukee, and 40 minutes from the City of Waukesha. This appeals to individuals seeking a suburban lifestyle in commuting distance to their jobs. Recent residential and industrial development in the Village has extended north and west, generally along and near Interstate 41, Highway 45, Highway 167, and Freistadt Road.

The Village updated its Comprehensive Plan in 2022. The 2050 future land use map overview from the Village's Plan, reproduced as Figure 9, is together with an associated table intended to guide the location, type, and density of future development. The Village's plan is based on a "Neighborhood, District, and Corridor Framework," with different future land uses listed as desirable, allowable, or undesirable in different parts of the Village shown in Figure 9. Generally, lower-density residential uses, such as single-family homes, duplexes, and townhomes, are identified as either desirable or allowable throughout most of the already developed portions of the Village, generally south of Freistadt Road and east of Interstate 41/Highway 45. Moderate- and higher-density housing, including apartment buildings, are identified in the 2022 Plan as either desirable or allowable in Village Center District, Freistadt District, County Line District, Lannon-Mequon Road Corridor, and Victory Center Corridor in Figure 9.

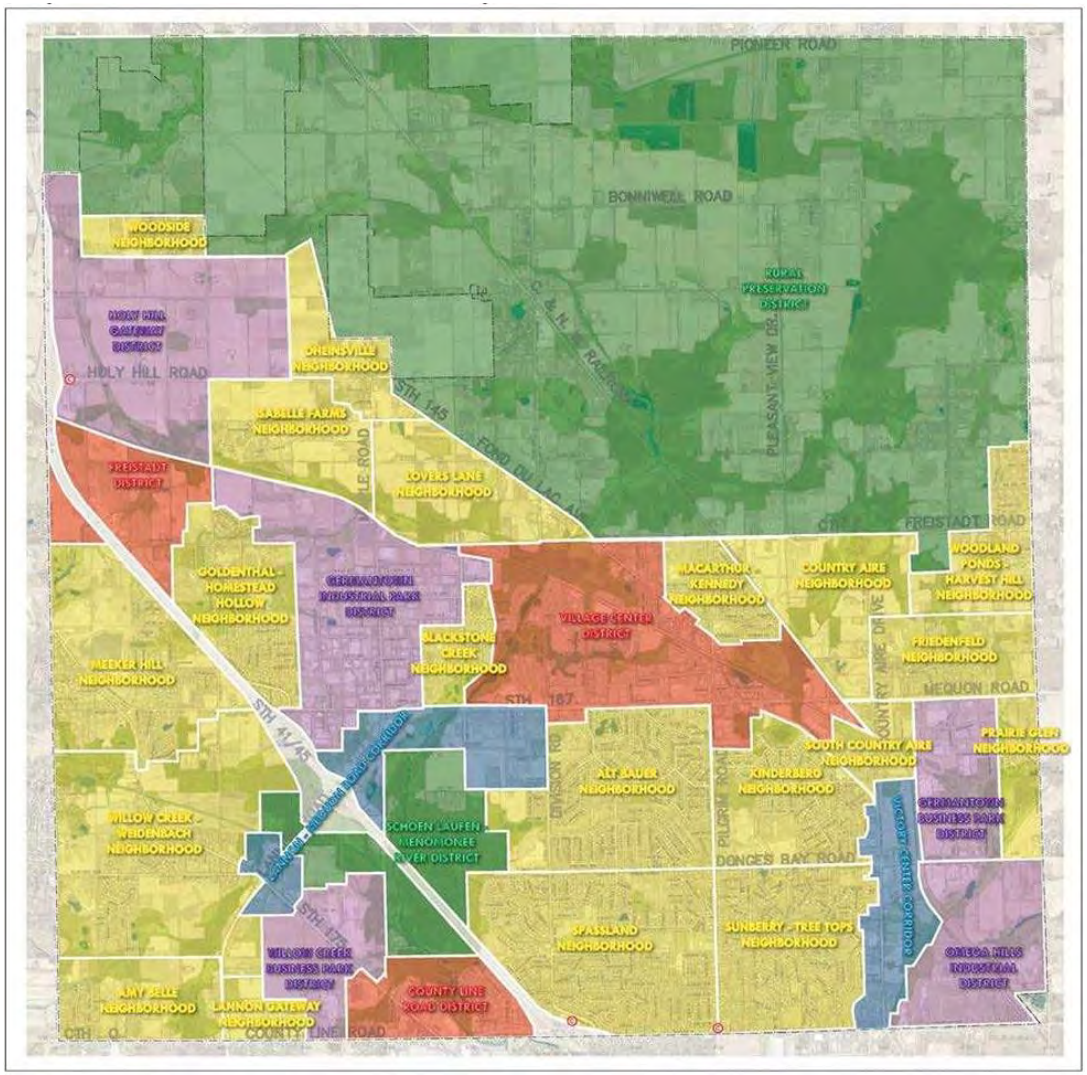
Compared to prior Village plans, and broadly speaking, the Village's 2022 Comprehensive Plan reduced recommended future housing density in the northern portions of the Village (i.e., Rural Preservation District in Figure 9) and increased recommended future housing density and types in some southern parts of the Village that were either undeveloped or had characteristics that suggested redevelopment. This includes the Village Center District as shown on Figure 9, including parts of the Mequon Road and Fond du Lac Avenue corridors, with available (re)development sites and good local and regional transportation access.

The 2024 Residential Market Analysis—prepared by Tracy Cross and Associates for the Village—outlined the market potential for new residential development in the Germantown Primary Market Area (PMA) which extends across most of the GSD and into other nearby municipalities. The Analysis showed demand for over 5,000 new renter- and owner-occupied housing units across the Germantown PMA, which was double the number of housing units then in the planning pipeline. Additionally, the Analysis indicated that the majority of new owner-occupied offerings in this PMA were priced between $400,000 and $700,000 while the greatest demand was for homes below $400,000.

Recent Village actions and communications suggest that some community members and Village officials are now questioning these 2022 Comprehensive Plan policies and efforts to fill these gaps as new development concepts come forward, particularly in the Village Center District. This reaction may result in at least a partial return to prior Village policies favoring more moderate housing densities. For example, the consultant understands that the Village may now be considering a cap in the number or percentage of multiple-family units permitted per year.

The consultant spoke with a handful of residential builders currently building or planning new housing and subdivisions in the Village. These builders emphasized the attractiveness of the Germantown market to families and reaffirmed strong demand. Interviewed builders expressed some hesitation regarding emerging policy changes and how they may impact housing prospects.

Figure 9: Village of Germantown Comprehensive Plan, 2050 Future Land Use Map Overview



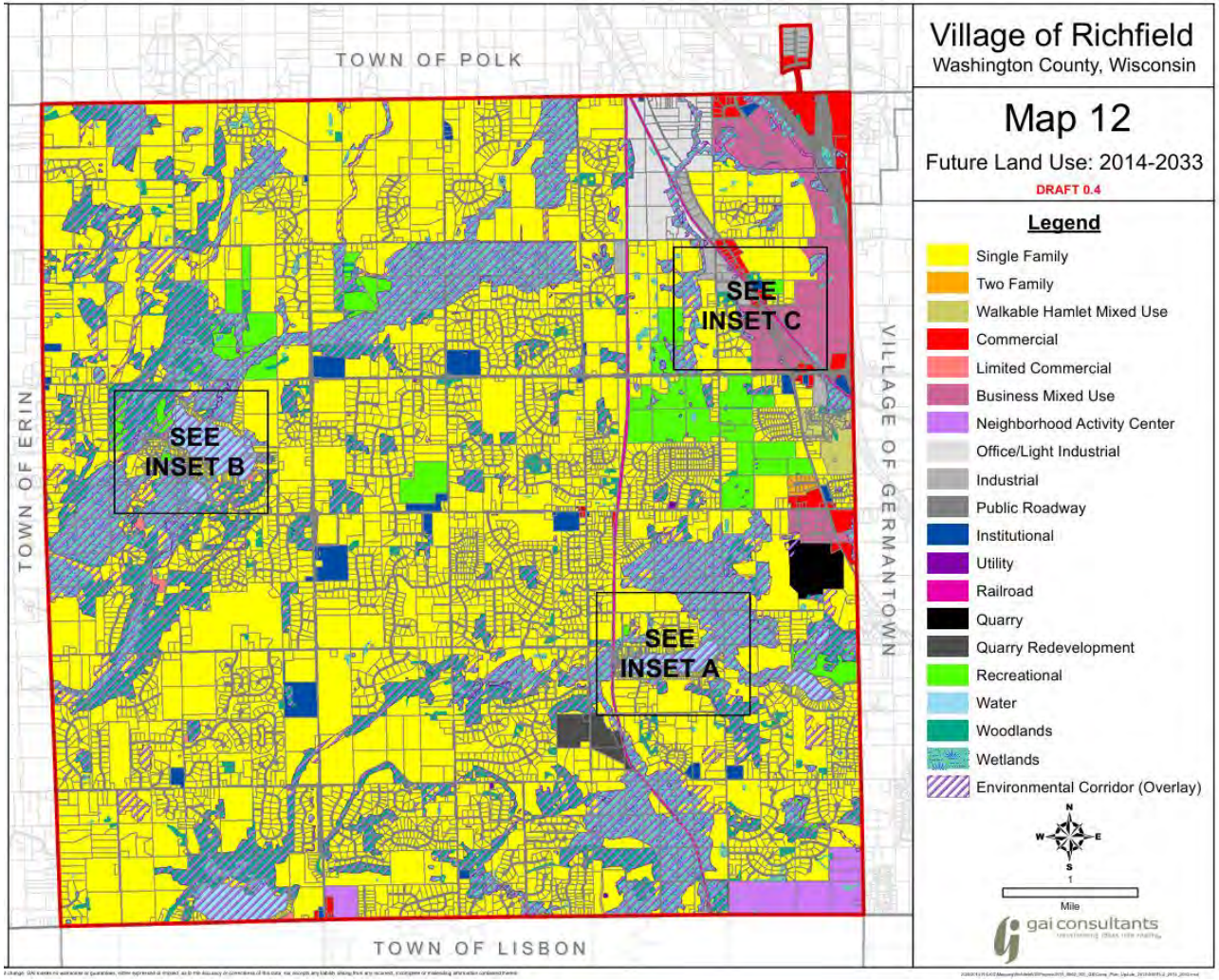
C. VILLAGE OF RICHFIELD PLANS AND EXPECTATIONS

The Village of Richfield is located west of the Village of Germantown and had a population of 11,700 residents in 2020. Significant portions of Richfield are developed with larger-lot single-family homes. Many of these are located on and near Highway 167, Highway 164, Willow Creek Road, Elmwood Road, and Scenic Road. The southeast one-quarter (including Amy Belle Elementary School) and northeast corner of the Village are in the GSD. Most of Richfield is in the Holy Hill Area School District, which feeds into the Hartford Union High School District.

Much of the land both in the Village and in the GSD is built-out with single-family homes, however some developable tracts remain along Hillside Road, Colgate Road, Willow Creek Road, and County Line Road. These areas are mostly planned for single-family residential uses on large-lots. Opportunities for other residential development (such as duplex condos) and non-residential development exist in the southern part of the Village along County Line Road and in the northeastern part of the Village along Pioneer Road and Interstate 41. Other areas, mostly west of Colgate Road, have extensive environmental limitations such as wetlands and floodplains.

Overall, the consultant anticipates single-family housing development to continue in the Village of Richfield at a similar pace to that experienced over the past decade, due to community desire to maintain the rural, open, and agricultural character of the Village. However, after 2040, many of the best and easiest areas for development in portions of the Village in the GSD will have already been developed, and this area of the GSD will be mostly built-out.

Figure 10: Village of Richfield Comprehensive Plan, Future Land Use Map



D. VILLAGE OF JACKSON PLANS AND EXPECTATIONS

The majority of the Village of Jackson is located outside of the GSD in the West Bend School District, except that the southern expanding edge of Jackson is in the GSD. This includes the developed Twin Creeks and Sherman Parc subdivisions. This also includes the currently developing Maple Fields subdivision, which the consultant projects will develop through the rest of the 2020s and into the early-2030s (see neighborhood 8 on Map 2).

Outside of these subdivisions, the Village plans for additional, primarily single-family residential uses east of Maple Road (neighborhood 9 on Map 2) and south of Sherman Road (neighborhood 7 on Map 2). The consultant projects Village-based single-family housing development to extend into neighborhoods 7 and 9, especially during the 2030s. The Village does not currently plan for any other lands in the northern part of the GSD for future development at this time.

E. TOWN OF JACKSON PLANS AND EXPECTATIONS

The majority of the Town of Jackson is located outside of the GSD, mostly in the West Bend School District but also the Cedarburg School District. The southern quarter of the Town is located in the GSD. The Town plans several areas for future residential development, but most are located outside of the GSD. The main area of residential development planned by the Town and in the GSD is south of Sherman Road. Overall, the Town plans for almost 200 acres for single-family residential development in the GSD; however, many of these areas are also planned by the Village of Jackson for future development and may most likely develop in that Village following annexation. The rest of the Town of Jackson land in the GSD is planned for continued agricultural use. The consultant anticipates minimal new housing and enrollment change from the Town of Jackson.

F. PLANS AND EXPECTATIONS OF OTHER MUNICIPALITIES IN THE GSD

The GSD includes small areas in the Town of Polk, Town of Germantown, and City of Milwaukee but none of those municipalities are expected to have notable impact on GSD housing or enrollment.

VI. HOUSING AND ENROLLMENT GROWTH EXPECTATIONS

This section synthesizes information from earlier sections to provide housing unit and enrollment growth projections for the Germantown School District (GSD) through the year 2040, broken down into four time periods and into 75 different neighborhoods. The consultant's general expectation for housing growth beyond 2040 is also shared. Projection methodology is described in Appendix A. Each neighborhood's projections are detailed in Appendix B (housing) and Appendix C (enrollment).

A. HOUSING UNIT PROJECTIONS

The consultant expects that the pace of new housing development through 2040 will be greater than that over the past 15 years, but similar to the pace in the 2000s and less than the pace in the 1980s and 1990s. The consultant projects construction of 2,140 new housing units within the GSD between 2025 and 2040. This is an average of 138 new units per year, greater than the average of 84 new units per year over the past decade. The consultant's new housing construction expectation is based on multiple factors, which include:

- A significant unmet need for new housing of different types and price points in Germantown, as evidenced by recent housing studies and echoed by local builders. The consultant's projected 2,140 new housing units by 2040 is just over 40 percent of the anticipated current need in the Germantown area, per a 2024 professional housing study.
- Municipal plans of the Villages of Germantown, Richfield, and Jackson, which support new housing development over hundreds of acres—even as the Village of Germantown may be questioning the ideal or supportable future housing *density* in some of these areas.
- The significant and growing number of jobs in Germantown, and other regional jobs that are accessible to a local resident population by a well-developed highway network. The Village of Germantown alone has over 11,000 jobs within its border.
- The Germantown area's continued appeal as a destination for families with children. The Germantown School District is an "Exceeds Expectations" school district, per the State Department of Public Instruction.

- Significant residential development proposed in the past couple of years, particularly new single-family subdivisions along Freistadt Road and County Line Road, and multiple-family developments along the Mequon Road corridor, reflecting strong market sentiment.
- Projected decreases in interest rates over the next few years, per sources like Fannie Mae, Mortgage Bankers Association, and Wells Fargo.

All this said, the consultant's projections do not consider the possibility of a major economic or real estate downturn, such as the "Great Recession" of the late-2000s. If another such event were to occur, new housing development could be placed on hold for a few to several years. This, in turn, would affect the enrollment projections presented later in this section.

The consultant anticipates that about 44 percent of the GSD's new housing units built between 2025 and 2040 will be single-family homes. This percentage is slightly lower than over the past decade, when about 50 percent of all new housing units built in the GSD were single-family homes. This slight anticipated shift is due to market demand for multiple-family housing, particularly for the local workforce, young families, and senior populations. The shift has implications for future enrollment, as market-rate multiple-family residences almost always generate substantially fewer students-per-unit than single-family homes.

Map 4 indicates projected housing unit growth by neighborhood between 2025 and 2040. Complete housing unit growth projections by neighborhood, including rationale, are included as Appendix B.

The majority of projected housing development is expected to occur in the Village of Germantown, where the consultant projects just over 1,700 new housing units through 2040, or an average of 107 new units per year. This is somewhat higher than the average experienced over the past decade, when 71 new housing units were built each year, but similar to levels of development in the Village in the 2000s. The most significant projected housing growth is in south-central parts of the Village, along Highway 167/Mequon Road and Freistadt Road, in neighborhoods 69, 73, and 74 on Map 4. Growth in neighborhood 69 (current home of Wrenwood) is anticipated to be driven by single-family housing development while neighborhoods 73 and 74 are projected with mostly townhouse and apartment development. About one-half of all new housing in the Village by 2040 is projected to occur in these three neighborhoods. Neighborhood 43 is another notable area of projected housing development in the Village, where mostly new single-family homes are projected, largely via a recently-proposed subdivision by Home Path.

The consultant projects that 556 new single-family homes will be built in the Village of Germantown between 2025 and 2040. This equals an average of 36 new single-family homes per year, which is similar to the average of the past decade of 34 new

single-family homes per year. Over this period, subdivisions like Heritage Park North, Harvest Hills, Wrenwood, and Wrenwood North have quickly built out.

The consultant projects 210 new housing units in the Village of Jackson portion of the GSD through 2040, all of which are projected to be new single-family homes. This is an average of 14 new single-family homes built per year through 2040, which is similar to the average built over the past decade in portions of the Village in the GSD.

The consultant projects 187 new housing units in the Village of Richfield portion of the GSD through 2040, the majority of which will be new single-family homes. The consultant projects lower housing development in the Village through the rest of the 2020s, due to limited inventory of vacant single-family lots, with housing development increasing in the 2030s. However, by 2040, much of the Village-based land in the GSD will be built out, except for a few sizable remaining vacant areas in neighborhoods 33 and 37.

The consultant projects only 26 new housing units to be built in other municipalities in the GSD, mostly in the Town of Jackson.

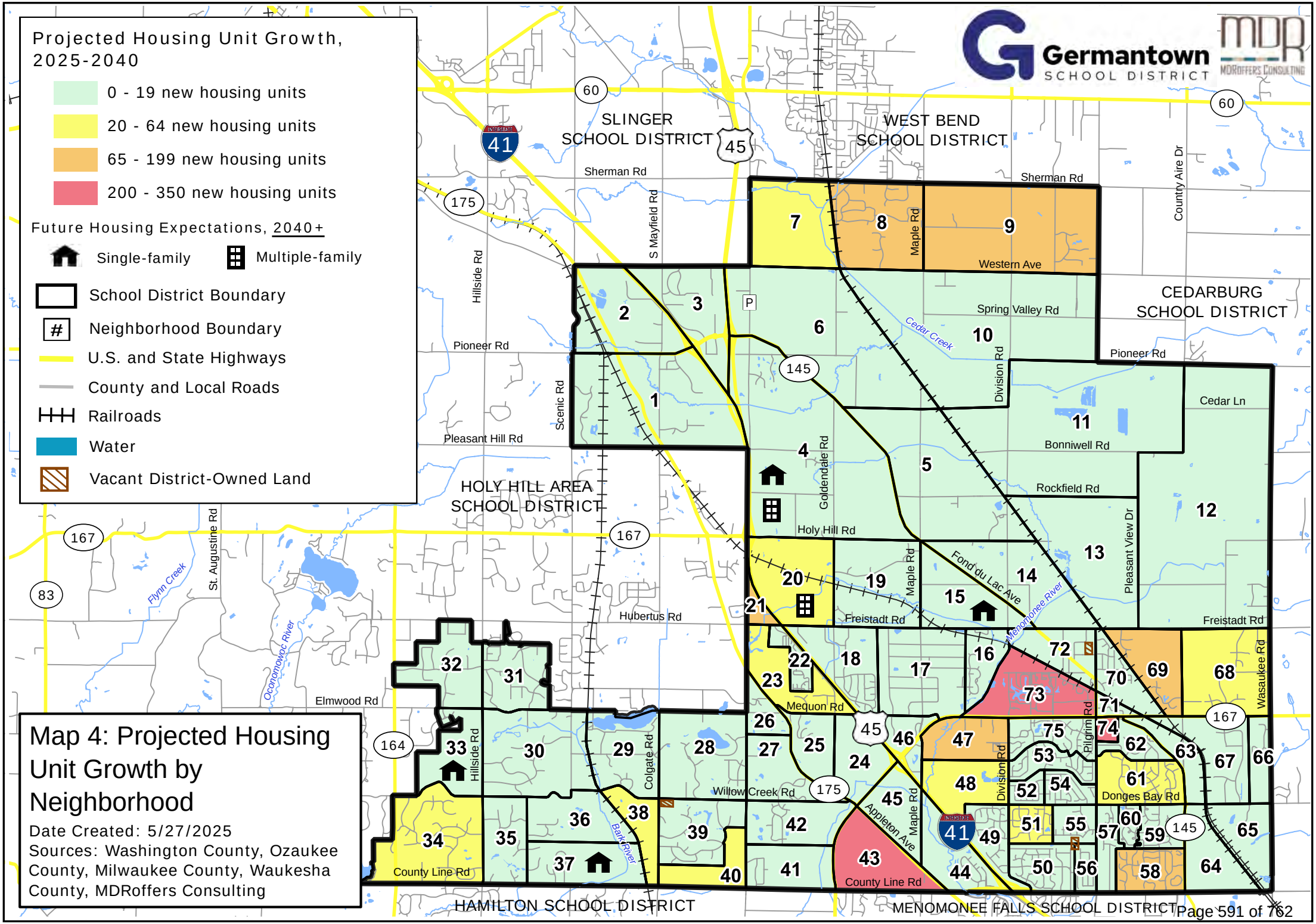
As shown in Figure 11, just over 40 percent of all new housing units are projected to be built in the current MacArthur Elementary School attendance area, about 30 percent are projected to be built in the current Amy Belle Elementary School attendance area, and 15 percent and 12 percent are projected to be built in the current Rockfield Elementary School and County Line Elementary School attendance areas respectively. Focusing only on single-family homes, 36 percent of all new single-family homes are projected to be built in the current Amy Belle attendance area, 30 percent in the current Rockfield attendance area, and 29 percent in the current MacArthur attendance area. Only 5 percent of new single-family homes are projected to be built in the current County Line attendance area, given this attendance area spans most of the developed, built-out portion of the Village, and has minimal land remaining for large-scale subdivision development.

Figure 11: Housing Unit Projections by Current Elementary School Attendance Area

2024-25 Elementary School Attendance Area	Estimated/Projected Housing Units within 2024-25 Attendance Area					Projected Total Housing Unit Increase 2025 – 2040	Projected Single-Family Home Increase 2025 - 2040
	March 2025	2027	2030	2035	2040		
Amy Belle	2,643	2,694	2,838	3,211	3,301	**+658**	**+336**
County Line	2,712	2,786	2,829	2,879	2,971	**+259**	**+45**
MacArthur	3,394	3,469	3,575	3,875	4,291	**+897**	**+272**
Rockfield	2,058	2,105	2,180	2,281	2,384	**+326**	**+286**
Shared County Line/MacArthur Area	846	846	846	846	846	-	-
TOTALS	**11,653**	**11,900**	**12,268**	**13,092**	**13,793**	**+2,140**	**+939**

Areas projected for housing development beyond 2040 are marked with "house" and "apartment" symbols on Map 4. Additional projected post-2040 growth areas in and around the Village of Germantown are planned for future housing development, logically situated for potential utility extensions, and contain significant acreage of developable land. These includes neighborhoods 4 and 15 (see Map 4) for post-2040 single-family housing, and neighborhoods 4 and 20 for multiple-family housing driven by proximity to Interstate 41/Highway 45 and Village plans for denser housing in these neighborhoods.

The consultant also anticipates post-2040 Village of Richfield-based single-family housing in neighborhood 33 and 37. Once these two neighborhoods develop, minimal additional land will exist for future Village of Richfield-based housing development in the GSD.


Projected Housing Unit Growth, 2025-2040
0 - 19 new housing units
20 - 64 new housing units
65 - 199 new housing units
200 - 350 new housing units
Future Housing Expectations, 2040+
Single-family
Multiple-family
School District Boundary
Neighborhood Boundary
U.S. and State Highways
County and Local Roads
Railroads
Water
Vacant District-Owned Land
Germantown SCHOOL DISTRICT
MDR MDRoffers Consulting
SLINGER SCHOOL DISTRICT
WEST BEND SCHOOL DISTRICT
CEDARBURG SCHOOL DISTRICT
HOLY HILL AREA SCHOOL DISTRICT
HAMILTON SCHOOL DISTRICT
MENOMONEE FALLS SCHOOL DISTRICT
Sherman Rd
Pioneer Rd
Pleasant Hill Rd
Spring Valley Rd
Western Ave
Bonniwell Rd
Rockfield Rd
Holy Hill Rd
Freistadt Rd
Hubertus Rd
Elmwood Rd
Mequon Rd
Willow Creek Rd
Donges Bay Rd
County Line Rd
Cedar Ln
Maple Rd
Division Rd
Hillside Rd
Scenic Rd
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Goldendale Rd
Pleasant View Dr
Wasaukee Rd
Pilgrim Rd
Colgate Rd
Appleton Ave
Fond du Lac Ave
Cedar Creek
Menomonee River
Oconomowoc River
Flynn Creek
Bark River
St. Augustine Rd
Country Aire Dr
1
2
3
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Map 4: Projected Housing Unit Growth by Neighborhood
Date Created: 5/27/2025
Sources: Washington County, Ozaukee County, Milwaukee County, Waukesha County, MDRoffers Consulting

B. PROJECTED STUDENT-PER-HOUSING UNIT RATIOS

The consultant projected GSD resident student enrollment within each of the 75 neighborhoods by multiplying projected housing units by projected student-per-housing unit ratios in the 4K, 5K-5, 6-8, and 9-12 grade groups. Complete 4K-12 enrollment projections by neighborhood and grade group are included as Appendix C. Projected student-per-housing unit ratios are a lynchpin for enrollment projections under the consultant's methodology. The following student-per-housing unit ratios and characteristics contributed to the consultant's calculation of student enrollment change in the GSD:

- Newer single-family homes in the GSD generate an average of 0.61 GSD 4K-12 students-per-housing unit. The ratio varies depending on the type of home built (e.g., starter versus move-up) but not necessarily by location, with new single-family homes in the Villages of Germantown, Richfield, and Jackson generating similar numbers of students. Student-per-housing unit ratios are typically highest in the first 5 to 10 years after a home is first built, and then slowly decline as the home (and family) gets older.
- Larger quantities of housing built in Germantown during the 1990s and 2000s have begun and will continue to turn over to new households in greater numbers through the 2020s and 2030s. The GSD may see increasing enrollment from turnover of these homes, particularly at the elementary school level. Expected interest rate decreases should fuel this transition, as higher interest rates (and lower-rate older mortgages) have had the effect of locking many empty-nester residents in place.
- Rural areas plus neighborhoods with housing that is 50+ years old typically have lower student-per-housing unit ratios, likely based on distance from schools and other child-friendly amenities plus the generally lower suitability of older housing for modern family living (e.g., fewer bedrooms, bathrooms, garage space; more upgrades required).
- Germantown has a relatively low collection of newer multiple-family housing upon which to base a student-per-housing unit ratio—no significant multiple-family housing development has been provided a building permit since 2019 in the GSD. However, comparable market-rate multiple-family developments across comparable suburban communities in the greater Milwaukee area generate an average of 0.06 students-per-housing unit. Older market-rate multiple-family housing in the GSD generates students at rate of about 0.16 students-per-unit, due to its relative affordability and often-higher bedroom counts. There is no real turnover effect in multiple-family housing.

C. STUDENT ENROLLMENT PROJECTIONS VERSUS SCHOOL CAPACITY

The consultant's GSD resident enrollment projections are shown in Figure 12 for each school and grade group in the GSD. The consultant's projections in Figure 12 suggest where and when current school building capacities may be tested and are based on the following assumptions:

- No shifts in current school configurations, school sizes or quantities, grade groups, or 4K delivery model.
- All elementary school students would attend their current "home" elementary school based on their home address, per current District policy and with no changes in attendance areas.
- For neighborhood 75, within which elementary school students may attend one of two schools, 55 percent would continue to choose County Line and 45 percent would continue to choose MacArthur.
- A constant rate of resident students choosing home schooling and open-enrolling-out to other public school districts as during the 2024-25 academic year.
- An increase in the number of resident high school-aged students choosing to attend private schools, based on recent enrollment increases at private high schools in proximity to the GSD and a planned expansion of a private high school located just outside the GSD boundary—up to 25 more students than today choosing private high schools by 2040.
- Student-per-housing unit assumptions and housing unit projections shared in the previous section. Later in this section, the consultant shares impacts under two alternative housing unit projection assumptions.

As shown in Figure 12, between January 2025 and 2040, the consultant projects an increase of 148 4K-12 resident students enrolled in GSD schools. The consultant projects grade 4K-5 resident enrollment to increase by 129 students, grade 6-8 resident enrollment to increase by 21 students, and grade 9-12 resident enrollment to decrease by 2 students. A footnote in Figure 12 suggests the nominal impact continuation that the same quantity of open-enrollment-in students would have.

At the elementary school level, the consultant projects:

- A 73-student enrollment increase at MacArthur Elementary School by 2040. This is mostly due to projected housing development in the current MacArthur attendance area, with nearly two-thirds of that projected increase from anticipated single-family housing in neighborhood 69 (see Map 4).

- A 51-student enrollment increase at Amy Belle Elementary School by 2040. This is mostly due to new housing development in the current Amy Belle attendance area, with a majority of that projected increase from anticipated new homes in neighborhood 43.
- A 31-student enrollment increase at Rockfield Elementary School, with such increase entirely attributed to projected Village of Jackson-based single-family housing development in neighborhoods 7, 8, and 9 on Map 4.
- A 26-student enrollment *decrease* at County Line Elementary School by 2040. This decrease is attributed to the largely built-out nature of County Line's attendance area, with the handful of smaller vacant tracts more likely to develop with two- and multiple-family housing with low student-per-housing unit ratios. Still, because the County Line attendance area contains a significant amount of housing built in the 1990s and 2000s, there has been turnover of existing housing particularly in neighborhoods 53, 54, and 59 and some evidence that many of these homes are being purchased by younger families. The consultant, therefore, projects slightly increasing enrollment at County Line over the next few years, followed by a period of stability and then modest decrease.

Enrollment projections gather the most meaning when compared to school building capacities. The consultant projects that the combined 4K-5 resident enrollment at the GSD's four elementary schools will remain below the combined maximum capacity of the four elementary school buildings through 2040. Though the consultant was not involved in capacity calculations, maximum elementary school capacity is often around 10 percent greater than functional or comfortable capacity. Without changes in attendance areas, building capacities, or other factors, resident enrollment at MacArthur Elementary is projected to exceed 90 percent of that building's capacity by around 2035 and resident enrollment at Rockfield Elementary School is projected to exceed 90 percent of its capacity by 2040. Projected resident enrollment at County Line is expected to exceed 90 percent of that building's capacity through around 2030, then decrease below 90 percent through the remainder of the 2030s.

The consultant projects Kennedy Middle School (grade 6-8) resident enrollment will increase by 21 students between January 2025 and 2040—totaling 860 grade 6-8 students by 2040. Middle school enrollment is projected to decrease over the next few years due to current larger middle school classes being replaced by generally smaller current elementary classes. GSD resident grade 6-8 enrollment is projected to remain well below the maximum building capacity of Kennedy Middle School through 2040.

The consultant projects Germantown High School (grade 9-12) resident enrollment will decrease by 2 students by 2040. High School enrollment is projected to remain stable over the next few years, as large middle school classes enter, but then decrease in the late-2020s and early-2030s as generally smaller current elementary classes enter high school. Grade 9-12 enrollment is expected to remain well below the maximum capacity of the Germantown High School building through 2040, even if current levels of open-enrollment-in were continued.

Figure 12: GSD Projected Resident Enrollment Compared to Current Building Capacities

School	Resident Student Enrollment January 2025 [1]	GSD Resident Student Enrollment Projections [2, 3]				Projected Enrollment Change, 2025-2040	Maximum Building Capacity [4]
		Sept. 2027	Sept. 2030	Sept. 2035	Sept. 2040		
Amy Belle (4K-5)	350	351	373	404	401	**+51**	**468**
County Line (4K-5)	488	506	503	491	462	**-26**	**564**
MacArthur (4K-5)	482	501	509	525	555	**+73**	**587**
Rockfield (4K-5)	335	313	325	345	366	**+31**	**405**
Grades 4K-5 Total	**1,655**	**1,671**	**1,709**	**1,765**	**1,784**	**+129**	**2,024**
Kennedy Middle (6-8)	**839**	**785**	**801**	**833**	**860**	**+21**	**1,172**
Germantown High (9-12)	**1,234**	**1,229**	**1,184**	**1,180**	**1,232**	**-2**	**1,620**
Grades 4K-12 Total	**3,728**	**3,686**	**3,693**	**3,778**	**3,876**	**+148**	**4,816**

Notes and Sources:

[1] From the GSD's January 2025 2nd Friday count. Totals do not include non-resident students open-enrolling-in to the GSD. Totals include 4K students, all of which are educated in the four GSD elementary schools.

[2] Projections include grade 4K-12 resident students. Projections do not include non-resident students attending GSD schools via open enrollment. In the 2024-25 academic year, there were 0 open-enrollment-in students at Amy Belle, 1 at County Line, 7 at MacArthur, 11 at Rockfield, 19 at Kennedy Middle, and 43 at Germantown High.

[3] Yellow cells = projected enrollment at or near 90 percent of maximum building capacity.

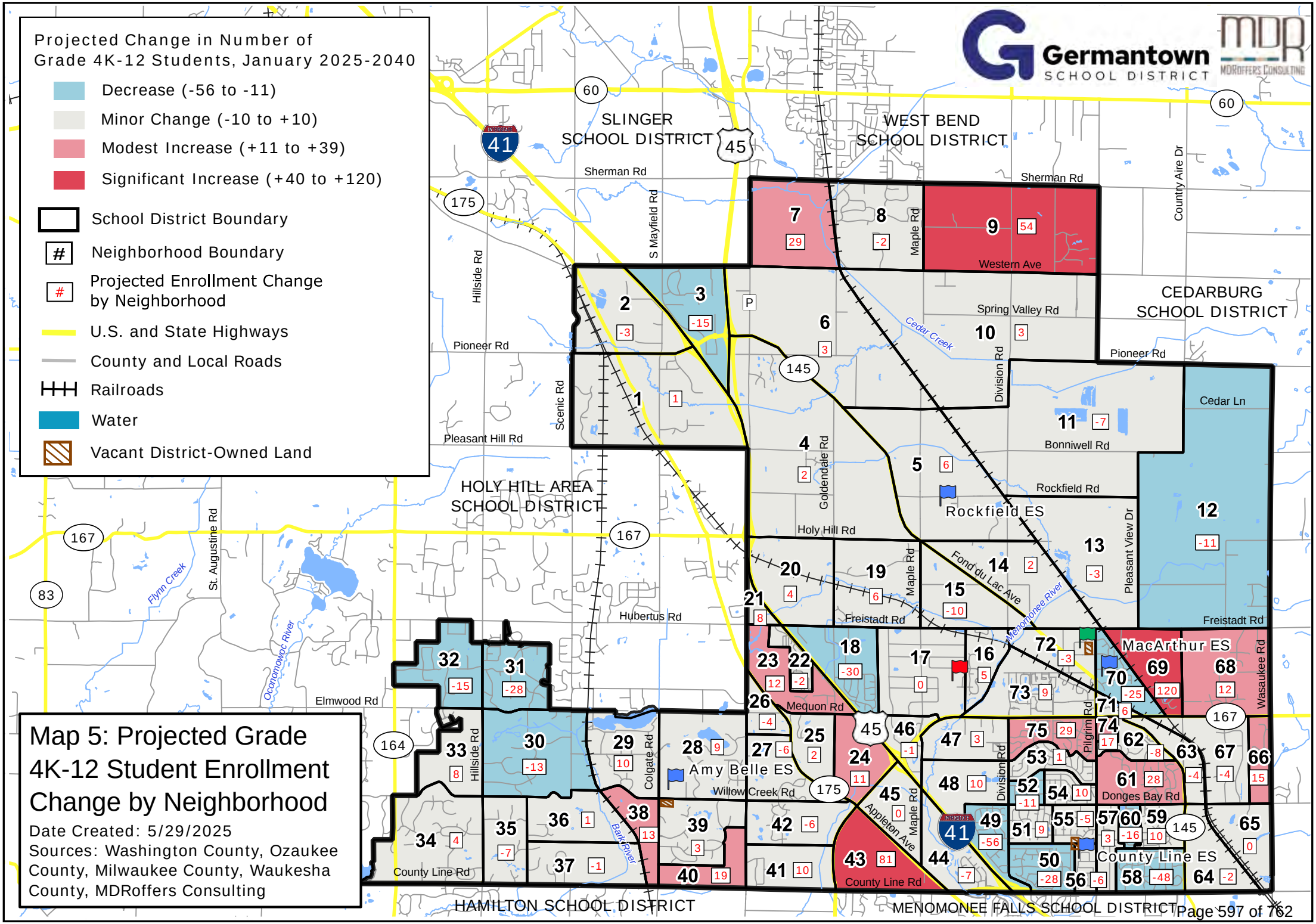
[4] Maximum building capacities provided by GSD.

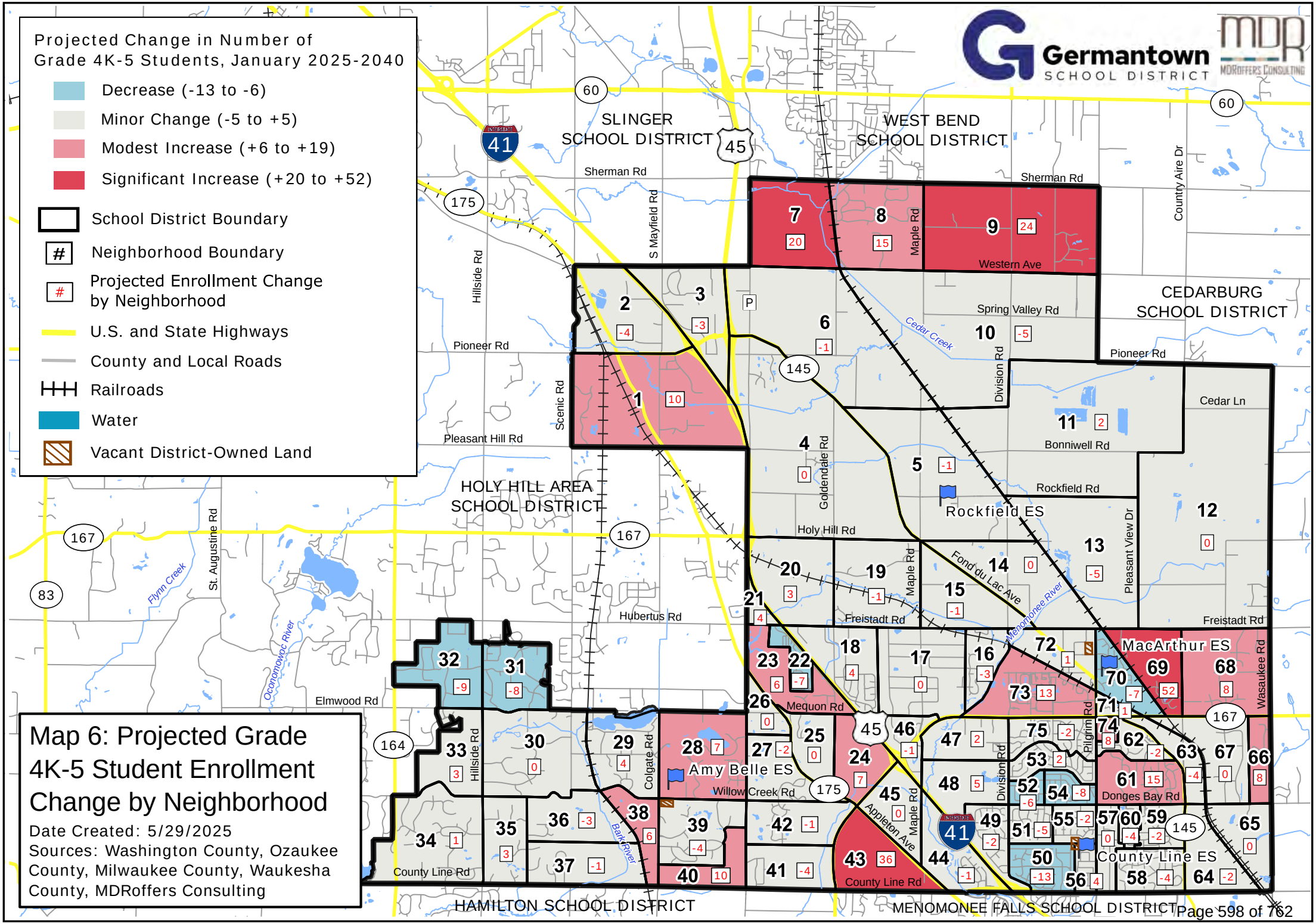
D. STUDENT ENROLLMENT PROJECTIONS BY NEIGHBORHOOD

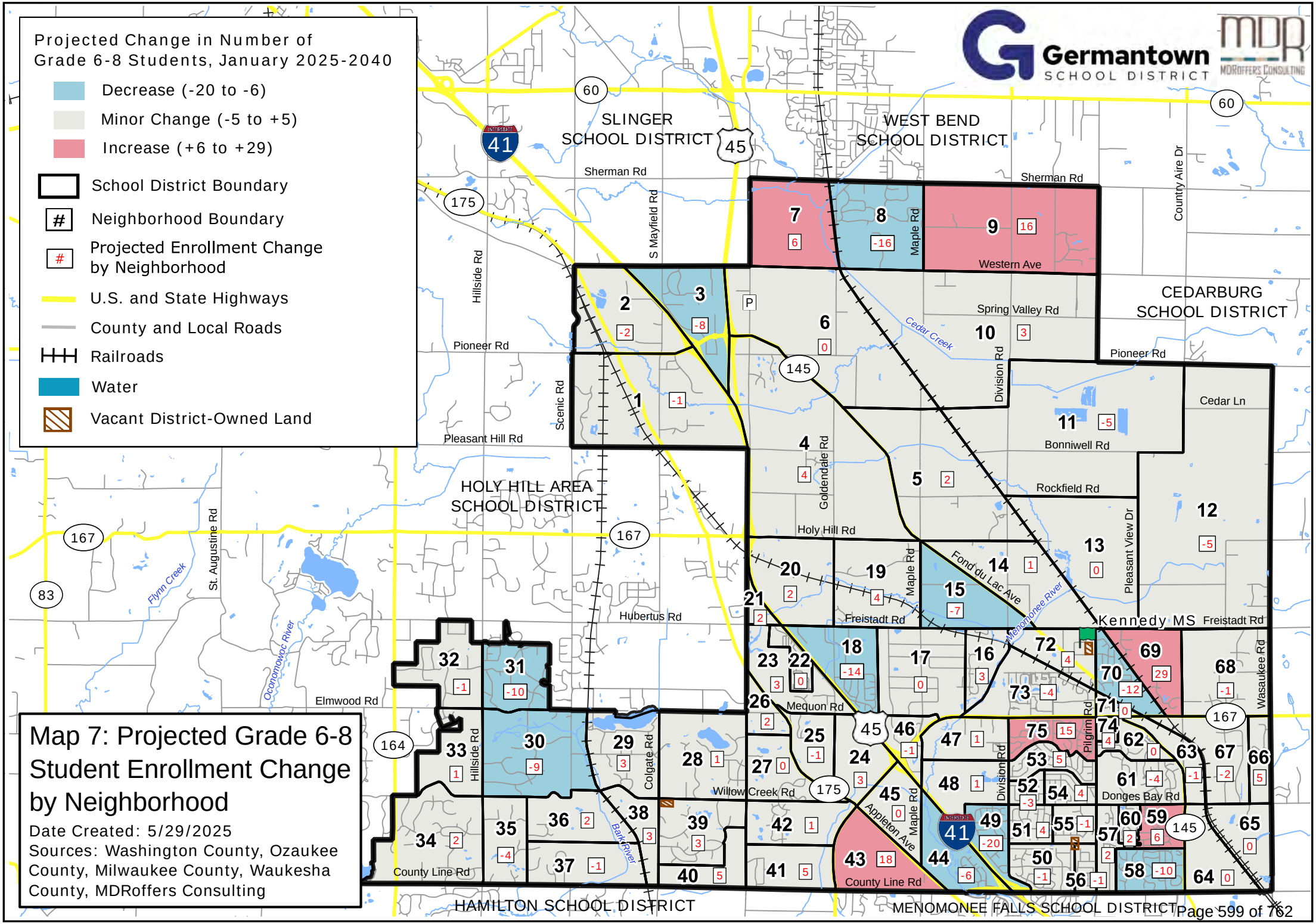
Map 5 indicates the consultant's projected grade 4K-12 GSD resident student enrollment change (between January 2025 and September 2040) within each of the 75 neighborhoods. For Map 5, the consultant categorized and color-coded neighborhoods as being in one of four groups, described as follows:

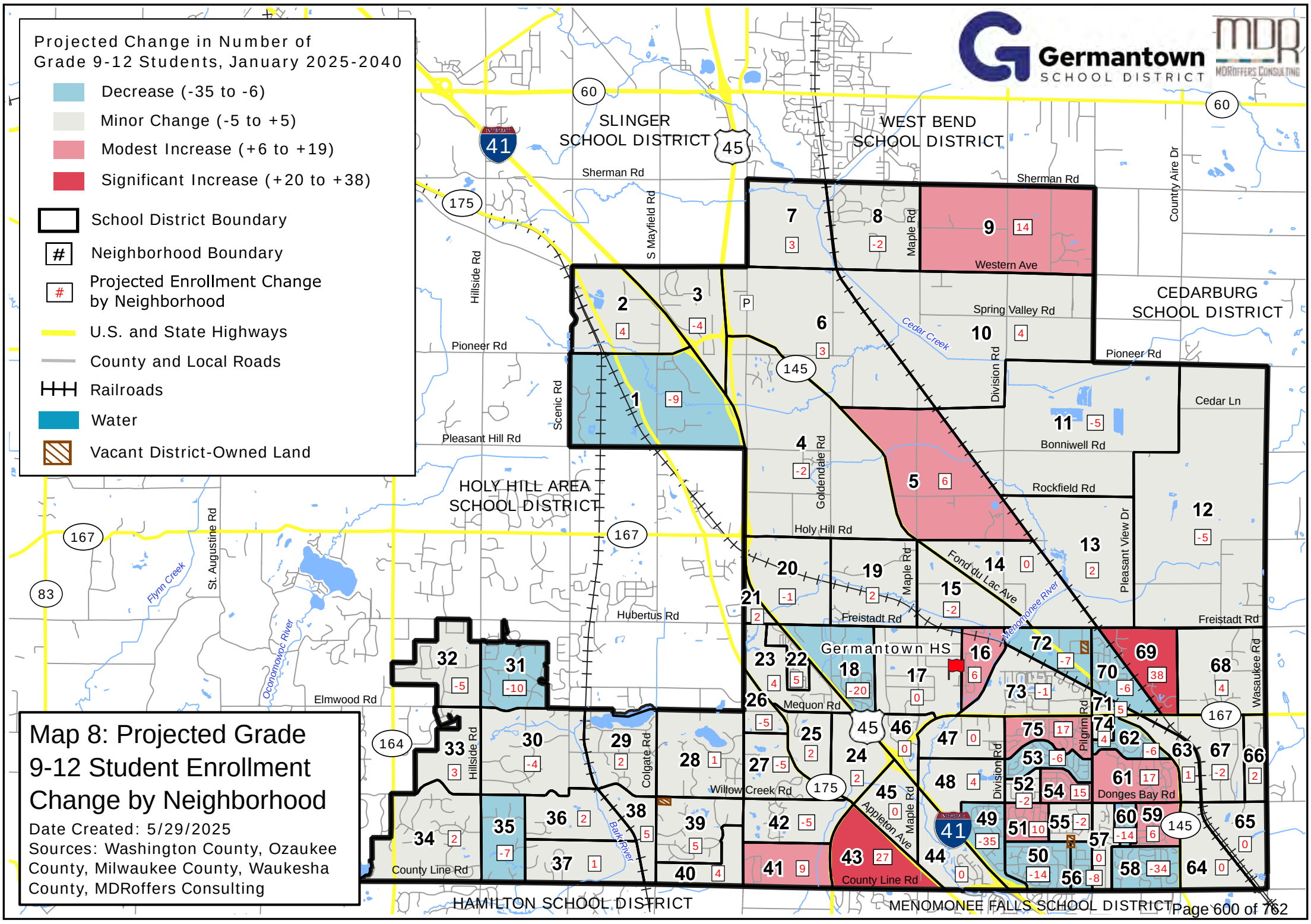
- **Decrease.** Projected 2025 to 2040 school enrollment *decrease* of 56 to 11 students. This includes several older Village of Germantown neighborhoods and a few Village of Richfield neighborhoods developed before the 1980s. Many of these neighborhoods have significant numbers of current high school students. Furthermore, minimal new housing development is projected in many of these neighborhoods.
- **Minor Change.** Projected school enrollment *decrease* of 10 students to an *increase* of 10 students. Most neighborhoods on Map 5 fall within this group, particularly in rural areas and in Village-based neighborhoods with housing that has already experienced its first major turnover (i.e., housing built more than 30 years ago).
- **Modest Increase.** Projected *increase* of between 11 and 39 students. This group includes neighborhoods projected to have modest levels of new single-family housing development (such as neighborhoods 7, 23, 38, 40, 61, 68), larger quantities of multiple-family housing development (such as neighborhood 74), or recent turnover to younger families as evidenced by recent home sales and recent increases in elementary student population (such as neighborhood 75).
- **Significant Increase.** Projected *Increase* of between 40 and 120 resident students. Neighborhoods 9, 43, and 69 make up this category, in which significant new single-family housing development is anticipated. About 42 percent of all new single-family homes projected in the GSD through 2040 are projected to occur in these three neighborhoods.

Maps 6, 7, and 8 indicate resident enrollment change by neighborhood for the 4K-5, 6-8, and 9-12 grade groups, respectively. They largely reflect trends on the 4K-12 projections Map 5. However, there are subtle differences that reflect variations in housing and student ages, and reflect the bubble of larger, current middle school class sizes.


Germantown SCHOOL DISTRICT
MDR MDRoffers Consulting
Projected Change in Number of Grade 4K-12 Students, January 2025-2040
Decrease (-56 to -11)
Minor Change (-10 to +10)
Modest Increase (+11 to +39)
Significant Increase (+40 to +120)
School District Boundary
Neighborhood Boundary
Projected Enrollment Change by Neighborhood
U.S. and State Highways
County and Local Roads
Railroads
Water
Vacant District-Owned Land
Map 5: Projected Grade 4K-12 Student Enrollment Change by Neighborhood
Date Created: 5/29/2025
Sources: Washington County, Ozaukee County, Milwaukee County, Waukesha County, MDRoffers Consulting
SLINGER SCHOOL DISTRICT
WEST BEND SCHOOL DISTRICT
CEDARBURG SCHOOL DISTRICT
HOLY HILL AREA SCHOOL DISTRICT
HAMILTON SCHOOL DISTRICT
MENOMONEE FALLS SCHOOL DISTRICT
Rockfield ES
Amy Belle ES
MacArthur ES
County Line ES
Sherman Rd
Pioneer Rd
Spring Valley Rd
Western Ave
Bonniwell Rd
Rockfield Rd
Holy Hill Rd
Freistadt Rd
Meguon Rd
Willow Creek Rd
Donges Bay Rd
Pleasant Hill Rd
Elmwood Rd
County Line Rd
Hillside Rd
S Mayfield Rd
Scenic Rd
Goldendale Rd
Maple Rd
Division Rd
Pleasant View Dr
Cedar Ln
Wasaukee Rd
Pilgrim Rd
Colgate Rd
Bark River
Appleton Ave
Fond du Lac Ave
Menomonee River
Cedar Creek
Flynn Creek
Oconomowoc River
St. Augustine Rd
Hubertus Rd
Country Aire Dr
60
45
41
175
145
167
83
164
P


Projected Change in Number of Grade 4K-5 Students, January 2025-2040
Decrease (-13 to -6)
Minor Change (-5 to +5)
Modest Increase (+6 to +19)
Significant Increase (+20 to +52)
School District Boundary
Neighborhood Boundary
Projected Enrollment Change by Neighborhood
U.S. and State Highways
County and Local Roads
Railroads
Water
Vacant District-Owned Land
Germantown SCHOOL DISTRICT
MDR MDRoffers Consulting
SLINGER SCHOOL DISTRICT
WEST BEND SCHOOL DISTRICT
CEDARBURG SCHOOL DISTRICT
HOLY HILL AREA SCHOOL DISTRICT
HAMILTON SCHOOL DISTRICT
MENOMONEE FALLS SCHOOL DISTRICT
Sherman Rd
Pioneer Rd
Spring Valley Rd
Western Ave
Cedar Ln
Bonniwell Rd
Rockfield Rd
Rockfield ES
Holy Hill Rd
Freistadt Rd
Pleasant Hill Rd
Hubertus Rd
Elmwood Rd
Meguon Rd
Willow Creek Rd
Amy Belle ES
MacArthur ES
Donges Bay Rd
County Line Rd
County Line ES
Appleton Ave
Fond du Lac Ave
Hillside Rd
S Mayfield Rd
Maple Rd
Division Rd
Scenic Rd
Goldendale Rd
Pleasant View Dr
Wasaukee Rd
Pilgrim Rd
Colgate Rd
St. Augustine Rd
Country Aire Dr
Cedar Creek
Menomonee River
Oconomowoc River
Flynn Creek
Bark River
Map 6: Projected Grade 4K-5 Student Enrollment Change by Neighborhood
Date Created: 5/29/2025
Sources: Washington County, Ozaukee County, Milwaukee County, Waukesha County, MDRoffers Consulting


Projected Change in Number of Grade 6-8 Students, January 2025-2040
Decrease (-20 to -6)
Minor Change (-5 to +5)
Increase (+6 to +29)
School District Boundary
Neighborhood Boundary
Projected Enrollment Change by Neighborhood
U.S. and State Highways
County and Local Roads
Railroads
Water
Vacant District-Owned Land
Germantown SCHOOL DISTRICT
MDR MDRoffers Consulting
SLINGER SCHOOL DISTRICT
WEST BEND SCHOOL DISTRICT
CEDARBURG SCHOOL DISTRICT
HOLY HILL AREA SCHOOL DISTRICT
HAMILTON SCHOOL DISTRICT
MENOMONEE FALLS SCHOOL DISTRICT
Kennedy MS
Sherman Rd
Pioneer Rd
Pleasant Hill Rd
Holy Hill Rd
Freistadt Rd
Mequon Rd
Willow Creek Rd
Elmwood Rd
County Line Rd
Western Ave
Spring Valley Rd
Bonniwell Rd
Rockfield Rd
Cedar Ln
Donges Bay Rd
Hillside Rd
S Mayfield Rd
Scenic Rd
Goldendale Rd
Maple Rd
Division Rd
Country Aire Dr
Pleasant View Dr
Wasaukee Rd
Pilgrim Rd
Colgate Rd
St. Augustine Rd
Hubertus Rd
Fond du Lac Ave
Appleton Ave
Cedar Creek
Menomonee River
Oconomowoc River
Flynn Creek
Bark River
Map 7: Projected Grade 6-8 Student Enrollment Change by Neighborhood
Date Created: 5/29/2025
Sources: Washington County, Ozaukee County, Milwaukee County, Waukesha County, MDRoffers Consulting


Projected Change in Number of Grade 9-12 Students, January 2025-2040
Decrease (-35 to -6)
Minor Change (-5 to +5)
Modest Increase (+6 to +19)
Significant Increase (+20 to +38)
School District Boundary
Neighborhood Boundary
Projected Enrollment Change by Neighborhood
U.S. and State Highways
County and Local Roads
Railroads
Water
Vacant District-Owned Land
Germantown SCHOOL DISTRICT
MDR MDRoffers Consulting
SLINGER SCHOOL DISTRICT
WEST BEND SCHOOL DISTRICT
CEDARBURG SCHOOL DISTRICT
HOLY HILL AREA SCHOOL DISTRICT
HAMILTON SCHOOL DISTRICT
MENOMONEE FALLS SCHOOL DISTRICT
Germantown HS
Sherman Rd
Pioneer Rd
Spring Valley Rd
Western Ave
Bonniwell Rd
Cedar Ln
Rockfield Rd
Holy Hill Rd
Freistadt Rd
Pleasant Hill Rd
Hubertus Rd
Elmwood Rd
Mequon Rd
Willow Creek Rd
Donges Bay Rd
County Line Rd
Fond du Lac Ave
Appleton Ave
Maple Rd
Division Rd
Hillside Rd
Scenic Rd
S Mayfield Rd
St. Augustine Rd
Goldendale Rd
Pleasant View Dr
Wasaukee Rd
Pilgrim Rd
Colgate Rd
Country Aire Dr
Cedar Creek
Flynn Creek
Oconomowoc River
Bark River
Menomonee River
Map 8: Projected Grade 9-12 Student Enrollment Change by Neighborhood
Date Created: 5/29/2025
Sources: Washington County, Ozaukee County, Milwaukee County, Waukesha County, MDRoffers Consulting

E. POTENTIAL IMPLICATIONS OF ENROLLMENT PROJECTIONS TO SCHOOL CAPACITIES

The GSD is advised to engage in a facility planning effort. Elementary school capacity is projected to become a concern over the projection period. Projected increases in elementary enrollment growth are mostly attributed to projected modest increases in housing development, particularly new single-family homes which are the main generators of new students for the GSD.

Several options–or a combination or progression of options–could be explored to address the projected capacity constraints at the elementary school level, including the following:

- Elementary attendance area shifts, which could forestall the need for new or expanded elementary schools. This being said, no shifts are particularly obvious given current school locations, enrollment, and capacities. Shifts of existing, developed neighborhoods are frequently also unpopular.
- Expansion of "flex" neighborhoods like current neighborhood 75 on the maps in this Report, within which the families can choose to send their children to different elementary schools, or the GSD could even make assignments based on capacity assessments. The opportunities and challenges, perhaps including bussing, of providing more "flex" neighborhoods would need to be explored.
- Expansion or replacement of one or more elementary schools to serve more students, potentially Rockfield and/or Amy Belle to match or approach the number of grade sections currently at County Line and MacArthur. However, these two schools are on relatively small sites and on well and septic systems, which may limit expansion or replacement potential. Accompanying attendance area changes would also be required, because with current areas Amy Belle in particular does not have projected capacity issues.
- Construction of the GSDs fifth elementary school, which would likely need to occur on a newly-acquired site given that all existing GSD lands are small and adjacent to existing GSD schools. Typically, a minimum of 15 acres is appropriate for the construction of a new, modern elementary school. For comparison, the GSD's largest elementary school site today is Rockfield Elementary at 15 acres.
- Transition 5th graders to Kennedy Middle School to free space at the four GSD elementary school buildings. Such action may require expansion to the existing Middle School building—if it is determined suitable to house four transitional grades even with expansion.

Further exploration of these and other options is beyond the scope of this Report. Comparing enrollment projections to current building capacities is one factor to consider in long-range facilities planning. Other factors include basic goals and parameters (e.g., maximum school and class sizes), interest and tolerances for attendance area or grade grouping changes, the suitability for older buildings to operate efficiently and serve modern educational needs, existing building expansion opportunities and constraints, the suitability of different potential sites for new or expanded schools, the relative costs of different options to address needs, and the GSD's financial picture including its borrowing capacity.

F. STUDENT ENROLLMENT PROJECTIONS UNDER ALTERNATIVE ASSUMPTIONS

As indicated earlier, the consultant's projections in this Report were prepared in a transitional period that includes evolving Village of Germantown policies related to new housing development. The consultant endeavored to prepare as accurate of projections as practical in this context. The consultant stands by the projections shared in Figure 12 and elsewhere above as representing the most likely scenario. In review, those projections suggest a GSD grade 4K-12 enrollment increase of 148 students by 2040.

The consultant's model allows consideration of what future enrollment might look like under two alternative assumptions. The first would assume no new housing development through 2040. The second assumes new housing development densities more closely aligned to the Village of Germantown's 2022 Comprehensive Plan than evolving policies now suggest.

The first alternative scenario is an academic but instructive exercise. In this "no new housing" scenario, the only factors affecting future enrollment would be demographic trends including births, inmigration, and turnover of existing housing. Were these the only factors applied to the consultant's model, this first alternative scenario would result in a projected GSD grade 4K-12 enrollment *decrease* of 426 students. This decrease would be spread across all schools, but particularly those with attendance areas in which the consultant has in fact projected significant housing development.

The second alternative scenario reflects the consultant's initial understanding of possibilities under the Village of Germantown's 2022 Comprehensive Plan without modification and housing market conditions that suggest significant unmet demand in Germantown. In this second alternative scenario, around 2,675 new housing units would be constructed by 2040, compared to the 2,140 new housing units the consultant actually projected under evolving policies. About 80 percent of this difference would be in multiple-family housing. Under this second alternative scenario, projected GSD resident 4K-12 enrollment would have instead increased by around 280 students—or about 130 students more than the consultant's actual projection.

APPENDIX A: PROJECTION METHODOLOGY

Appendix A describes the consultant's housing and enrollment projection methodology, which led to the projections in the body of this Community Growth & Projections Report and in Appendices B and C. The methodology is based upon a professional analysis of local and regional plans, the plans and subdivisions of private housing developers, and emerging housing policies and market conditions. The methodology also considers the dynamics within older, emerging, and future neighborhoods within the Germantown School District (GSD). Different neighborhoods generate students at different rates and at different times in their evolution. The methodology relies on computations of expected ratios of students-per-housing unit in each neighborhood and how the ratios may change over time. The methodology is described in the "steps" that make up the remainder of this Appendix A.

STEP 1 – DIVIDE DISTRICT INTO NEIGHBORHOODS

The consultant divided the GSD into 75 different neighborhoods (see Map 2). These neighborhoods became the basis for data collection and analysis, and for housing and enrollment projections. This approach enables understanding of not only *how many* students the GSD may be educating, but also *where* future students may live. This approach also has several future applications, which include identifying which schools may become the most crowded, which schools have the greatest excess capacity, and how attendance areas might be shifted or realigned in the future. Neighborhood delineations were based on several factors, including commonly understood neighborhoods or "subdivisions," elementary attendance areas, major roads, rivers, other physical barriers, municipal limits, and planned municipal growth areas including Village of Germantown neighborhoods and districts,.

STEP 2 – ALLOCATE 2025 HOUSING UNITS AND ENROLLMENT BY NEIGHBORHOOD

The consultant estimated the number of housing units in March 2025 for each of the 75 neighborhoods. The consultant began with 2020 U.S. Census housing unit counts by Census designated blocks, assigning them to the appropriate neighborhoods. Next, the consultant updated neighborhood-by-neighborhood housing unit totals to 2025 based on building permit data and aerial photo and Washington County map interpretation. The GSD provided Spring 2025 student enrollment data. The consultant used geographic analysis software to place each GSD resident 4K-12 student within one of the 75 neighborhoods. Using the above data, the consultant estimated March 2025 student-per-housing unit ratios for each neighborhood within each of the GSD's current school grade groupings: 4K, 5K-5, 6-8, and 9-12.

STEP 3 – ANALYZE COMMUNITY AND DEVELOPER PLANS FOR EACH NEIGHBORHOOD

The consultant reviewed and analyzed local government comprehensive, land use, neighborhood development, and utility system plans; evolving municipal policies that may or may not yet be reflected in local government plans; intergovernmental agreements and relationships; and private developer plats and plans as they affected each of the 75 neighborhoods. Already-platted yet unbuilt lots in each neighborhood were identified, which signaled the potential for new housing in the near future. Preliminary and conceptual plans and possibilities were also assessed for longer-term projections. Interviews, data sharing, document review, and past experience contributed to the consultant's understanding of housing market dynamics and future development patterns in the GSD. See Section V and Appendix B of this Report for details.

STEP 4 – COMPLETE HOUSING UNIT PROJECTIONS BY NEIGHBORHOOD

The consultant projected the number of additional housing units within each of the 75 different neighborhoods for four periods: 2025-2027, 2028-2030, 2031-2035, and 2036-2040. These were added to March 2025 housing unit estimates to arrive at total projected 2027, 2030, 2035, and 2040 housing units by neighborhood. These preliminary projections tracked projected development of new major neighborhoods in the area and accounted for single-family, multiple-family, and other residential developments. The Appendix B table includes a column with factors expected to influence new housing unit growth in each neighborhood.

STEP 5 – ANALYZE FACTORS TO DETERMINE GSD STUDENT-PER-HOUSING UNIT RATIOS

As part of this Report, the consultant compared March 2025 student addresses to permit addresses of new single-family homes. This analysis suggests an average current student generation ratio of 0.61 GSD 4K-12 students per newer single-family home—or a little less than two new single-family homes required for each additional student. In the consultant's experience, this ratio is typical for suburban Milwaukee school districts.

A significant portion of recently built and projected new housing in the GSD has been and is expected to take the form of multiple-family housing, such as apartments, townhomes, and condominiums. Therefore, understanding the rate of student generation from multiple-family housing is also critical. On average, the limited array of new multiple-family housing in the GSD generates about 0.11 GSD students-per-unit while older multiple-family housing generates about 0.16 GSD students-per-unit.

Student-per-housing unit ratios for five unique multiple-family housing developments in the GSD, provided in Figure A-1, show how student generation ratios differ across the GSD by unit type, number of bedrooms, and location.

Figure A-1: Student-Per-Housing Unit Ratios in Existing Multiple-Family Complexes

Neighbor-hood	Multiple-Family Development	Number of Bedrooms	Housing Units	Student-Per-Housing Unit Ratio			
				4K-5	6-8	9-12	Total
71	Montgomery Square Apartments	2 beds	93	0.09	0.06	0.08	**0.23**
58	Seven Pines Condominiums	2-3 beds	28	0.06	0.04	0.04	**0.14**
73	Saxony Village Apartments	1-3 beds	172	0.03	0.04	0.06	**0.13**
69	The Reserve at Wrenwood	2 beds	24	0.00	0.04	0.00	**0.04**
61	Hillstone Apartments	1-2 beds	18	0.00	0.00	0.00	**0.00**
		Totals [1]	**2,011**	**0.07**	**0.04**	**0.04**	**0.15**

Source: MDRoffers Consulting. The figures listed in the "Totals" row are for all of the existing multiple-family housing units in the GSD, including but not limited to the five examples.

The biggest factor in student generation from existing multiple-family housing appears to be affordability of the multiple-family housing, with older, more affordable multiple-family housing generating more students than newer, more expensive multiple-family housing. Newer multiple-family units tend to generate fewer students than older multiple-family units, as most newer apartment buildings tend to be marketed towards young professionals, young Millennials, Generation Z, and other childless families. These new multiple-family developments tend to have amenities such as gyms and pools instead of playgrounds. Another major factor is the composition of units in the multiple-family development, with those having greater numbers of 3-bedroom units (such as Saxony Village Apartments) producing greater numbers of students than those with mostly 1- and 2-bedroom units.

Other suburban Milwaukee school districts have had more newer multiple-family housing developments. Examples include the Fox Run Apartments and Townhomes in the Cedarburg School District, Mequon Town Center in the Mequon-Thiensville School District, Velo Village in the Franklin Public School District, and Drexel Town Square in the Oak Creek-Franklin School District. Most of the over 1,000 combined units in these developments are studios, 1-bedroom units, and 2-bedroom units. The student-per-housing unit ratios from these newer multiple-family developments have been between 0.04 to 0.08, with a combined ratio of 0.06 student-per-housing unit. The consultant used this lower student-per-housing unit ratio of 0.06 for new multiple-family housing in the

projections, with the understanding that newer, market-rate multiple-family housing will generate fewer students than older, established multiple-family housing.

Still, it is critical not to attach too much importance to the impact of *new* housing development on future student enrollment. The *existing* housing stock is much more impactful on future enrollment than new housing. There were approximately 11,653 housing units in the GSD in March 2025. The consultant projects 2,140 new housing units between March 2025 and 2040. This means that about 84 percent of the housing units projected to be on the ground in 2040 are already built. Still, older single-family homes in the GSD generate students at lower ratios than new single-family homes, at between 0.30 and 0.40 students-per-home.

STEP 6 – PROJECT GSD STUDENT-PER-HOUSING UNIT RATIOS BY NEIGHBORHOOD

The consultant then projected the number of GSD students-per-housing unit by neighborhood for 2027, 2030, 2035, and 2040 within each of the 4K, 5K-5, 6-8, and 9-12 grade groups. These projections were based on trends from projected demographic shifts in the region, community, and neighborhood; the projected mix of new single-family and multiple-family housing in each neighborhood; acquired data of student-per-housing unit ratios from recently built and more established housing within the GSD and within other similarly sized and positioned suburban school districts in the Milwaukee area; recent trends for birth rates and age 0-4 population; recent housing and residential subdivisions in the GSD; and the anticipated progression of students through the grade groups.

In general, the consultant projected that already existing housing units would have fewer students-per-unit than when they were newer, as described further in the body of this Report. The consultant projected stable to declining student ratios in many older neighborhoods. The GSD has several neighborhoods with developments of 1990s through 2000s vintage. These neighborhoods are projected to have relatively stable student-per-housing unit ratios through 2040, with some of them shifting from current high school dominated numbers to elementary school dominated before 2040.

STEP 7 – COMPLETE GSD ENROLLMENT PROJECTIONS BY NEIGHBORHOOD AND GRADE GROUP

The consultant multiplied the projected number of housing units by neighborhood by the projected GSD student-per-housing unit ratio for each grade grouping in 2027, 2030, 2035, and 2040. The result was GSD resident student enrollment projections by grade group for each of the 75 neighborhoods, for the 2027-28, 2030-31, 2035-36, and 2040-41 school years.

The 2025 student-per-housing unit ratios for each neighborhood exclude those students residing in the GSD, but not attending GSD schools. These include students who open-enroll-out to other school districts, attend private schools, or are home-schooled. The projections assume home schooling and resident students open-enrolling-out remain at a constant rate as during the 2024-25 academic year. The projections assume a slight increase in the number of resident high school students attending local private schools, given the recent and expected enrollment increase in private high schools in and near the GSD, fueled by a planned expansion of Kettle Moraine Lutheran High School.

The projections assume a consistent distribution of grade 4K-5 students from neighborhood 75, a shared attendance area for County Line Elementary and MacArthur Elementary, as is currently occurring today. As of the 2024–25 school year, 55 percent of grade 4K-5 students from this shared neighborhood attend County Line, while 45 percent attend MacArthur.

The consultant included in the projections a 4 percent increase in class sizes as grades progress from grade 5 to grade 6 (elementary to middle) and an 8 percent increase from grade 8 to grade 9 (middle to high), based on average increases over the past decade.

APPENDIX B: HOUSING UNIT PROJECTIONS BY NEIGHBORHOOD, 2025-2040

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
1	Includes Scenic Hill Run (1990s-2000s), Eagles Ridge (2000s), and Prairie Hollow (2000s). Also includes Endeavor Business Park. Neighborhood 1 is in a mixture of uses, with lands southwest of the Interstate 41 and Pioneer Road in employment and industrial uses while other lands in a combination of residential and agricultural uses. The Village of Richfield plans eastern areas of neighborhood 1, abutting Interstate 41, for business mixed-use while other lands are planned for single-family residential uses. ~100 developable acres across two sites in neighborhood 1 are planned for future single-family residential uses. The consultant projects one of the sites to develop before 2040, with 15 single-family homes between 2030 and 2040. Overall, enrollment is projected to decrease through 2030, then increase with new single-family development through 2040.	135	135	135	143	150	**15**
2	Neighborhood 2 is mostly built out, with a combination of residential uses in the eastern half, along Mayfield Court and Monica Lane and employment uses northwest of the Pioneer Road/Interstate 41 interchange as well as along Highway 175. The Town of Polk plans for most of neighborhood 2 for agricultural and residential uses, with a small area of commercial uses in the southeastern corner. There are two vacant lots along Monica Lane and Amanda Lane, which the consultant projects will develop by 2030. Otherwise, minimal other opportunities exist for large-scale residential development. Overall, stable student enrollment is expected from neighborhood 2.	75	76	77	77	77	**2**
3	Includes Wide Horizons (1980s). The southern half of neighborhood 3 contains employment uses while the northern half contains mostly residential uses. Neighborhood 3 is mostly built out. The Town of Polk plans for most lands in neighborhood 3 for future residential uses, except in the extreme southern part, where commercial uses are planned. A few vacant lots exist in northern parts of the neighborhood, which the consultant projects will be built on over the next handful of years. Enrollment is projected to decrease due to large current middle and high school-aged cohorts.	87	88	89	90	90	**3**
4	Includes Sunset Shadows (1970s) and Woodside Acres (1970s). Other lands in neighborhood 4 are predominately in agricultural use, with employment and industrial uses north of Holy Hill Road. Most lands in neighborhood 4 are planned by the Village of Germantown as part of its Holy Hill Gateway District, in which commercial, industrial, mixed-use, employment, and multiple-family residential uses are listed in the Village's Comprehensive Plan as "desirable" future uses. A utility extension is expected to provide sewer service to this general area by the late-2020s. The consultant projects neighborhood 4 to be a 2040+ development area for residential uses, given developable land that exists to the south, significant acreage owned by long-term agricultural producers, and areas owned by industrial entities for potential future expansion and non-residential development. The consultant projects generally steady enrollment from neighborhood 4 through the projection period.	122	122	122	122	122	**-**
5	Includes Rockfield Elementary School and Dheinsville Historic Park. Also includes the Rockfield hamlet. Lands north of Rockfield Road are mostly in agricultural use while lands south are in a combination of agricultural, residential, and employment uses. Lands in neighborhood 5 are planned by the Village of Germantown as part of the its Rural Preservation District, in which agricultural and open space uses are "desirable" future land uses, and new homes are permitted at a maximum density of 1 dwelling unit per 20 acres. The consultant projects a few new single-family homes here by 2040 in scattered locations. A large current elementary cohort will result in slightly increasing, then stabilizing, enrollment in neighborhood 5 through 2040.	146	146	147	149	150	**4**

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
6	Lands in neighborhood 6 are predominately in agricultural use, with wetlands and forested uses on the southeastern part of the neighborhood associated with Cedar Creek. Scattered rural residential and employment uses exist along neighborhood roads. Lands in neighborhood 6 are planned mostly for future agricultural uses, except the extreme western part, adjacent to Highways 145 and 45, planned for commercial uses. The consultant projects a handful of single-family homes in neighborhood 6 through 2040. Stable enrollment expected.	59	60	61	63	65	**6**
7	Neighborhood 7 is mostly in agricultural uses with scattered rural residences. The Town of Jackson plans for the northern quarter of neighborhood 7, on lands immediately south of Sherman Road, for future single-family residential uses (1 acre per dwelling unit) while the Village of Jackson plans for the same area for future medium-density residential uses of primarily single-family homes at a density of 5 homes per acre. Village plans are likely to prevail. The consultant projects ~60 single-family homes here in the mid-2030s, with 15 between 2030 and 2035 and 45 between 2035 and 2040. Enrollment is projected to be very low from neighborhood 7 through the early-2030s, then increase with more single-family housing development.	17	17	17	32	77	**60**
8	Includes Twin Creeks (2000s-2010s), Sherman Parc (2000s-2010s), Crosswind Farms (2010s), and Maple Fields (2020s). Northern half of neighborhood is in the Village of Jackson and is mostly built out with single-family homes. The southern half of the neighborhood is in the Town of Jackson, and besides the Crosswind Farms subdivision, is mostly in agricultural use. The Village does not plan any lands in neighborhood 8 for future development that isn't already developed or platted to be over the next couple of years. While the Town plans for remaining lands in neighborhood 8 for future agricultural uses, the Village plans for some additional housing development in neighborhood 8. Across existing subdivisions in neighborhood 8, there are 13 homes under construction and 9 vacant lots remaining. The consultant projects all to be built out and occupied by 2027. In a future phase of Maple Fields, 56 additional single-family lots are planned. The consultant projects a new phase to open over the next year, with building of 15 homes per year, and build out occurring before 2030. Most other lands in neighborhood 8 are owned by long-term agricultural entities, are projected to remain in the Town, and will not likely develop until after 2040. However, the consultant projects development of a smaller subdivision in the northern part of the neighborhood between 2035 and 2040 of 12 single-family homes. Overall, enrollment in neighborhood 8 is expected to remain stable, with enrollment increases due to development of new housing balanced by emerging enrollment decreases from existing single-family homes built in the 2010s and early-2020s.	249	286	327	327	339	**90**
9	Includes Prairie Meadow Estates (2000s), Camino Estates (1970s-1980s), and Jackson Town Hall. Neighborhood 9 is in a combination of rural residential and agricultural uses. Much of the eastern half and southwestern quarter of the neighborhood has been subdivided into single-family lots. The Village plans for 80 acres in the northwestern corner of neighborhood for mostly single-family homes at a maximum 5 home per acre density. The Town plans a similar area for future single-family uses at a density of 1 acre per dwelling unit. The consultant projects Village-based single-family development from neighborhood 8 to the west to extend eastward into neighborhood 9, with development beginning in the late-2020s and extending into the mid-2030s, with 20 single-family homes by 2030 and another 40 between 2030 and 2035. The consultant also projects a few other small Town-based divisions to occur in neighborhood 9, providing 10-15 additional single-family homes by 2040. Increasing enrollment is projected, due to expected turnover of 2000s-era housing and development of new single-family homes.	183	185	208	252	256	**73**
10	Includes Mockingbird Hill (1990s). The northeastern two thirds of neighborhood is in mostly agricultural uses while the southwestern third is in mostly forested and wetland uses associated with Cedar Creek. All local governments plan for these lands to remain mainly in agricultural and open space uses. The consultant projects a couple of new homes by 2040. Generally stable student-per-housing unit ratios and enrollment expected.	96	96	97	97	98	**2**

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
11	Neighborhood 11 is mostly in agricultural and forested uses, with scattered rural residential uses along neighborhood roads. Lands in neighborhood 11 are planned by the Village of Germantown as part of its Rural Preservation District, in which agricultural and open space uses are identified "desirable" future land uses, and homes are allowed at a maximum density of 1 dwelling unit per 20 acres. The consultant projects a few new single-family homes here by 2040. Larger middle school and high school-aged cohorts will result in slight enrollment decreases through 2040.	78	79	80	81	83	**5**
12	Includes West Wood Lane, Knollwood Drive, Crestwood Lane (all 1970s), and Germantown Wilderness Park. Northwestern areas of the neighborhood 12 are heavily forested, while the rest of the neighborhood is in mostly agricultural uses, except for rural residential uses in its southeastern corner. Most lands in neighborhood 12 are planned by the Village of Germantown as part of the its Rural Preservation District, in which agricultural and open space uses are "desirable" future land uses, and homes can be built at a maximum density of 1 dwelling unit per 20 acres. The southeastern quadrant is part of the Village's Woodlands Ponds-Harvest Hill Neighborhood. The consultant projects a 10-lot subdivision to develop there between 2030 and 2040 here, along with 1-2 other homes elsewhere in neighborhood 12 per projection period. The consultant projects slightly decreasing student-per-housing unit ratios in the neighborhood, even with the influx of small amounts of new single-family homes.	188	190	192	199	206	**18**
13	Neighborhood 13 contains large-lot homes in the southern half of the neighborhood and agricultural uses in the northern half. Areas of forests and wetlands extend from the northwest corner southeasterly along the railroad tracks, encompassing almost half of the land of neighborhood 13. Lands in neighborhood 13 are planned by the Village of Germantown as part of its Rural Preservation District, in which agricultural and open space uses are identified "desirable" future land uses, and homes are allowed at a maximum density of 1 dwelling unit per 20 acres. The consultant projects a few new single-family homes in various locations in neighborhood 13 by 2040. Generally stable enrollment projected from neighborhood 13.	35	36	37	37	38	**3**
14	Neighborhood 14 contains a mixture of uses, with scattered employment, rural residential, and agricultural lands across the neighborhood. The southern part of neighborhood 14 contains extensive wetlands. Lands in neighborhood 14 are planned by the Village of Germantown as part of its Rural Preservation District, in which agricultural and open space uses are identified "desirable" future land uses, and homes are allowed at a maximum density of 1 dwelling unit per 20 acres. The consultant projects a couple new homes by 2040. Generally low and stable enrollment projected.	47	47	48	48	49	**2**
15	Includes Little League Park. Lands in neighborhood 15 are mostly in agricultural use, except employment and rural residential uses along Fond du Lac Avenue and Freistadt Road. Lands in neighborhood 15 are planned by the Village of Germantown as part of its Lovers Lane Neighborhood, where predominately single-family housing is planned. However, this area is not in the Sewer Service Area (meaning utilities cannot yet be extended)_, and southern third of neighborhood is undevelopable due to extensive wetlands associated with the Menomonee River. Therefore, the consultant does not anticipate significant housing development here until after 2040. The current large middle school cohort living in neighborhood 15 will result in stable enrollment through 2030, then decreasing enrollment through 2040.	38	38	38	38	38	-
16	Neighborhood 16 includes The Glen at Blackstone Creek (2010s), The Cove in Germantown (2000s), and the western half of the Blackstone Creek Golf Course. Lands are mostly in single-family residential or parkland/open space uses, with a small industrial use in the north. Blackstone Creek Golf Course has had recent proposals for redevelopment, but redevelopment is concentrated in the eastern half of the golf course located in neighborhood 73. The portion of the golf course in neighborhood 16 is projected to remain in open space uses. Therefore, the consultant does not project any new housing here through 2040. Generally stable enrollment is projected as neighborhood 16 is expected to turn over to new families in the 2030s and also due to proximity to Germantown High School.	168	168	168	168	168	-

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
17	Includes Germantown High School. Also includes the Germantown Industrial Park. Neighborhood 17 is built out with industrial and institutional uses. The consultant does not anticipate any new housing here through 2040. However, the area will continue to be attractive to existing and future employers, and increasing job opportunities in this neighborhood could help attract new housing and families to the Germantown area. No enrollment projected due to minimal housing in neighborhood.	2	2	2	2	2	-
18	Includes Woodland Manor (1960s), Rosewood (1990s), Shadow Wood (1990s). Neighborhood 18 also includes Homestead Hollow County Park. The southern half of neighborhood 18 contains residential uses while the northern half contains parkland and forested lands and scattered residential and employment uses. Neighborhood 18 is essentially built out - most undeveloped land has environmental constraints and is low and wet. Neighborhood currently has larger elementary and middle school-aged cohorts, given that most of neighborhood 18 has already experienced its first significant turnover to new households. Decreasing enrollment expected as students age through 2040.	244	244	244	244	244	-
19	Includes Isabelle Farms (2010s) and Neuland (1960s). Neighborhood 19 also includes JW Speaker Corporation's headquarters. Neighborhood 19 is about half undeveloped, with agricultural and forested uses, with residential uses in the northern part southwestern corner and employment uses in the southern part. The Village of Germantown includes the northern parts of neighborhood 19 in its Isabelle Farms Neighborhood and southern portions as part of its Germantown Industrial Park District. The consultant projects a handful of homes in neighborhood 19 through 2040, given planned areas for non-residential development. Generally stable enrollment is expected from neighborhood 19.	77	78	79	80	80	**3**
20	Lands in neighborhood 20 are mostly in agricultural use, except for a large warehousing operation in the northern part of the neighborhood and a landscaping company in the southwestern corner. Lands south of the railroad tracks are planned by the Village as part of its Freistadt District while lands north are planned as part of its Holy Hill Gateway District. Mixed-uses and multiple-family uses are listed in the Village's Comprehensive Plan as "desirable" future uses in both districts. The type and density of future development is dependent on a railroad crossing approval for High Point Pass that will provide direct frontage road between Freistadt Road and Holy Hill Road. Crossing approvals are notorious arduous. A large area of wetlands encompasses around half of the lands north of the railroad tracks. In the mid-2020s, a project to extend sewer through the neighborhood to areas west of the GSD boundary in the Village of Richfield, is anticipated to begin. However, water services would still need to be extended to neighborhood 20 before large-scale residential uses could develop. The southwestern quarter of neighborhood 20 is owned by a large landscaping company, which recently made significant investments. The south central portion of the neighborhood contains some wetlands while the southeastern portion of neighborhood 20 appears more readily developable in the nearer term. The consultant projects development here between 2030 and 2040, with ~40 condominium units split between the two projection periods. The consultant does not project additional housing development in neighborhood 20 until after 2040, once all utility and access issues are resolved and more owners become interested in developing or selling their lands. Enrollment is projected to remain very low and stable through 2040.	12	12	12	32	52	**40**
21	Neighborhood 21 is in agricultural use. Lands are almost entirely in ownership by one family, who recently submitted a proposal for The Farm—a mixed-use development providing multiple-family housing, a farming component, a farm-to-table restaurant, and other retail and commercial uses. Neighborhood 21 is in the Freistadt District of the Village of Germantown, where the Village's Comprehensive Plan envisions higher-density uses, including residential uses. However, the area is not currently serviced by water or in the sewer service area. The consultant anticipates utility extension to this area in the late-2020s, providing the opportunity for development to begin in the 2030s. The consultant projects 150 multiple-family units here between 2030 and 2035. Neighborhood 21 will then be built out. Enrollment is projected to slightly increase due to development of new housing in that period.	3	3	3	153	153	**150**

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
22	Includes American Mobile Home Community and Brookside Meadows, two manufactured home communities. Neighborhood 22 is built out. The consultant does not project any new housing here through 2040. However, neighborhood 22 generates fairly large numbers of students, which the consultant projects will continue through 2040, as is typical from manufactured home communities.	280	280	280	280	280	-
23	Includes Bavarian Woods (2010s) and Golden Meadows (1960s). Neighborhood 23 is mostly built out, with a large former quarry operation in the western two thirds, and rural residential subdivisions in the southeastern third. Neighborhood 23 is part of the Village of Germantown's Meeker Hill Neighborhood, in which single-family homes are the desired use per the Village's Comprehensive Plan. The consultant projects modest single-family home development near the quarry, with a few homes by 2030, and another few homes by 2040. Additionally, the consultant projects single-family housing development to occur across 40 developable acres spread across three landowners in the southeastern corner of the neighborhood between 2030 and 2040, totaling ~20 single-family homes. Increasing enrollment is projected due to new housing development.	63	65	66	78	89	**26**
24	Neighborhood 24 is in forested and agricultural uses, with scattered residential uses. Neighborhood 24 is in the Village's Willow Creek-Weidenbach Neighborhood, in which the Village's Comprehensive Plan lists single-family residential uses as "desirable". The southern half of neighborhood 24 is in wetlands and undevelopable. The northern half that is developable encompasses ~90 acres, is under single ownership, but not located in the sewer service area. The consultant projects single-family housing development here to begin around 2030, with 12 single-family homes between 2030 and 2035. Alternatively, some of this projected housing could occur in neighborhood 25 to the south, depending on landowner interest and other factors. Current enrollment is low, and projected to remain low and stable through 2030. Increasing enrollment is projected through the 2030s due to new single-family housing development.	17	17	17	29	29	**12**
25	Includes Mountbrooke (1970s). Residential uses are located in the northwestern quadrant and southern edge of neighborhood 25. Otherwise, the rest of neighborhood 25 is predominately in agricultural and forested uses. Neighborhood 25 is in the Village of Germantown's Willow Creek-Weidenbach Neighborhood, in which the Village's Comprehensive Plan intends mostly single-family residential uses. The consultant projects a small subdivision in the late-2030s. Generally stable enrollment is also projected.	70	70	70	70	75	**5**
26	Includes Country Belle Manor (2010s). North of Mequon Road, neighborhood 26 is built out with residential uses. South of Mequon Road, lands contain scattered residential uses, wetlands, forested areas, and small ponds. Neighborhood 26 is part of the Village's Meeker Hill Neighborhood, in which single-family homes are the desired use per the Village's Comprehensive Plan. The consultant does not project any new housing here through 2040. A slight enrollment decrease is projected over the next few years due to large high school-aged cohort, with enrollment remaining stable then through 2040.	43	43	43	43	43	-
27	Southeastern one-third contains rural residential uses, central third is mostly in agricultural uses, and northern third is in forested and wetland uses. Neighborhood 27 is in the Village's Willow Creek-Weidenbach Neighborhood, in which the its Comprehensive Plan intends mostly single-family residential uses. The consultant does not anticipate any new housing here through 2040 though. The consultant projects generally stable enrollment.	101	101	101	101	101	-

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
28	Includes Beechwood (1940s), Lake Highlands (1970s), Stonegate (1990s), Stonegate 2 (2000s), Stonegate North (2000s). Also includes Amy Belle Elementary School, YMCA Camp Minikani, and Amy Belle Lake. Neighborhood 28 is mostly built out with single-family residential uses, except for some scattered forested and agricultural areas. The Village of Richfield plans single-family residential uses for remaining developable lands in the neighborhood, but only a couple areas have development potential. The consultant projects a 10-15 unit subdivision to develop between 2035 and 2040. Slightly increasing enrollment projected, due to this new housing development and proximity to Amy Belle Elementary School.	183	183	183	183	195	**12**
29	Includes Kettle Moraine Highlands (1970s), Ridge Wood (1970s), Lakeview Ridge (2010s-2020s), Becker's Bark Lake Heights (1970s), Kletsch's Beach (1970s), Bark Lake Sunny Shore (1950s), Wierl's Bark Lake Park (1950s), and Neuburg's Bark Lake (1950s). Also includes Bark Lake. Neighborhood 29 is mostly built out with single-family residential uses, except for some scattered forested and agricultural areas. The Village of Richfield plans for single-family residential uses for the neighborhood. The consultant projects 10 single-family homes scattered around the neighborhood through 2040. Slightly increasing enrollment projected, due to this new housing development and proximity to Amy Belle Elementary School.	218	220	221	224	228	**10**
30	Includes Wooded Ridge Estates (1990s), Meadow View Estates (2000s), and Windemere (2000s). Neighborhood 30 is built out with rural residential uses. Undeveloped lands near its north edge have environmental restrictions associated with the Bark River. A large quarry operation exists in the eastern part of the neighborhood. The Village plans for single-family residential uses for the majority of the neighborhood, where development is possible. The consultant projects a small division between 2030 and 2035, and otherwise 1-2 additional scattered single-family homes per projection period through 2040. Slightly decreasing enrollment is projected as this neighborhood ages and turnover concludes.	167	168	169	176	178	**11**
31	Includes Timber Stone (2010s), Elmwood Hills (1990s), Sunset View Estates (1970s), Maple Grove Addition (1960s), and Maple Grove Addition 1 (1960s-1970s). Neighborhood 31 is built out with single-family homes. 1 vacant lot exists in this neighborhood; consultant projects its development by 2027. Decreasing enrollment is projected as fewer students are generated from 2010s housing as neighborhood (and students) age, and more of the housing is populated by empty-nesters by 2040. The consultant projects turnover to occur at a greater magnitude after 2040.	191	192	192	192	192	**1**
32	Includes Whispering Meadows (1990s), Dakotah Fields (2010s), Kingswood of Kettle Moraine (1970s), and Cherokee Highlands (1980s-1990s). Neighborhood 32 is mostly built out with residential uses, except for scattered agricultural, and developable, lands in the western and southeastern portions of the neighborhood. 4 vacant lots exist in neighborhood, which the consultant projects will develop by 2030. Slightly decreasing student-per-housing unit ratios expected as students and housing age, and given proximity to private schools and distance from GSD schools.	149	151	153	153	153	**4**
33	Includes Ravine Ridge Estates (1990s-2000s). Neighborhood 33 contains scattered residential uses in the north and along Hillside Road and Monches Road, with a large agricultural operation spanning almost the entire neighborhood. The Village of Richfield plans for single-family residential uses for the neighborhood. The consultant projects a development of ~15 single-family homes at the end of the 2020s, with other parts of neighborhood 33 having potential for significant future single-family residential development, but projected to be after 2040. Enrollment is currently low and stable. The consultant projects increasing enrollment with infusion of new single-family homes and turnover in Ravine Ridge Estates.	46	46	56	61	61	**15**

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
34	Includes Grand View Hills (1990s), Lake Five Hills (1970s), Lake Five Hills South (1970s), Country Squire Estates (1960s), Timber Ridge Estates (1970s), Debby Lane (1960s), Hillside Manor Estates (1980s), and Bridlewood Estates (2020s). Neighborhood 34 is mostly built out with single-family homes, except for the southwestern quadrant, which is in a combination of agricultural and commercial uses. Undeveloped areas are planned by the Village of Richfield for mostly single-family homes, except for the area northeast of the Hillside Road/County Line Road intersection, which is planned as a Neighborhood Activity Center. The consultant projects a 5-8 lot subdivision between 2027 and 2030 in neighborhood 34. The consultant also anticipates an ~40-unit development including duplexes, with half of these units between 2030 and 2035 and remaining units shortly after 2035. The consultant anticipates such developments will be attractive to empty nesters and seniors. Overall stable enrollment is projected in neighborhood.	298	298	305	325	345	**47**
35	Includes Whispering Ridge (2010s), Whispering Ridge 1st Addition (2010s), Woodridge West (2000s), and Scenic Springs (1970s-1980s). Neighborhood 35 is mostly built out with single-family homes, with scattered agricultural and wooded areas. There are minimal areas for development, but the consultant projects a handful of new homes through 2040. The consultant also projects slightly decreasing enrollment as large 4K-5 age cohort ages through school system by the late-2030s.	91	92	92	94	95	**4**
36	Includes Scenic Grove and the Final Plat of Woodridge East (both 2000s). The western half of neighborhood 36 is built out with single-family homes. The eastern half contains significant wetlands associated with the Bark River. The consultant projects a few new single-family homes through 2040. Generally, enrollment is projected to remain stable.	35	35	36	37	38	**3**
37	Includes Scenic Ridge (2000s), Nob Hill Estates (1960s), and Nob Hill West (1970s). The west part of neighborhood 37 is built out with single-family homes while the eastern part is mostly undevelopable due to wetlands associated with the Bark River. In the central part of the neighborhood, a landowner owns 100 acres of which 80 are developable, but the consultant does not anticipate this land developing until after 2040. Stable enrollment is projected.	103	103	103	103	103	**-**
38	Neighborhood 38 contains significant environmental constraints associated with the Bark River and wetlands, comprising two-thirds of the neighborhood. The remaining one-third is in agricultural use along Colgate Road. The Village of Richfield plans for single-family residential uses on the developable areas in neighborhood 38. One landowner owns ~80 acres in the neighborhood, of which ~40 acres are developable. These are the only really developable parts of neighborhood 38. These ~40 acres could provide for ~30 single-family homes. The consultant projects such development beginning in the early-2030s, with ~20 single-family homes between 2030 and 2035 and the remaining ~10 homes between 2035 and 2040. Very low enrollment is projected through 2030, then increasing in the 2030s with development of the new single-family homes.	9	9	9	29	39	**30**
39	Includes Willowgate (1980s-1990s), Willowgate Addition No. 1 (1990s), Hunters' Hills (1980s-1990s), and Woodland View Highlands (1970s). Neighborhood 39 is mostly built out with single-family homes. The consultant projects a few new single-family homes through 2040 resulting from small divisions. A 33-acre vacant site in the northwestern part of the neighborhood is not anticipated to develop until after 2040. Generally stable student-per-housing unit ratios are expected to continue.	136	137	138	138	139	**3**
40	Includes Basse's Farms. Neighborhood 40 contains mostly agriculture and woodland. The Village of Richfield plans these lands for Neighborhood Activity Center land uses. The consultant projects two vacant, estate-sized lots near the east edge of neighborhood 40 to develop by 2030. The consultant also projects some or all of the 80 undeveloped acres in the southeastern corner of the neighborhood to develop with ~30 single-family homes between 2030 and 2040. Increasing enrollment projected due to this new single-family housing development.	6	7	8	23	38	**32**

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
41	Includes Happy Hollow Estates (1970s). The western one-third of neighborhood 41 contains rural residential uses. The remaining parts of neighborhood 41 are in a combination of agricultural, residential, forested, and wetland uses. Neighborhood 41 is in Village of Germantown's the Amy Belle Neighborhood, in which the Village's Comprehensive Plan lists single-family homes as "desirable". The eastern one-third of neighborhood 41 is not developable due to wetlands and other lands in the western half have already been subdivided. A 40-acre developable parcel exists in the northern part of neighborhood 41, but has access challenges. The consultant projects its development beginning in the mid-2030s, as development and access extends from neighborhood 42 to the north. The consultant projects 5-10 single-family homes here between 2035 and 2040. Neighborhood 41 contains a large elementary aged-cohort today, which together with expected housing results in an expected increase in student-per-housing unit ratios and slightly increasing enrollment.	68	68	68	68	76	**8**
42	Includes Willow Creek Heights (1960s-1970s) and Weidenbach Park. The western half of neighborhood 42 contains residential uses. The remaining parts of neighborhood 42 are in a combination of agricultural, residential, forested, and wetland uses. Neighborhood 42 is in the Village of Germantown's Willow Creek-Weidenbach Neighborhood, in which the Village's Comprehensive Plan expresses a desire for mostly single-family residential uses. Neighborhood 42 is presently outside of the sewer service area and as such can develop at a maximum density of one home per 5 acres. The consultant projects ~10 single-family homes here between 2030 and 2035. The current large high school-aged cohort will lead to decreasing enrollment over the next few years, stabilizing afterwards through 2040.	96	96	96	106	106	**10**
43	Includes Germantown Power Plant and retail and commercial uses along Appleton Avenue and County Line Road, encompassing the southeastern half of neighborhood 43. The northwestern half is mostly in agricultural use, with scattered residential uses. Different parts of neighborhood 43 are planned for several uses by the Village of Germantown. The southwestern portion is part of the Village's Lannon Gateway Neighborhood, in which single-family, multiple-family, and senior housing are listed in the Village's Comprehensive Plan as "desirable" future uses. The central and northern portions of the neighborhood is in the Village's Willow Creek Business Park District, in which the Village's Comprehensive Plan lists employment uses as "desirable" and residential uses as "undesirable". The eastern portion is in the County Line Road District, in which multiple-family and mixed-uses are listed in the Village's Comprehensive Plan as "allowable" uses. Finally, the northern edge of neighborhood 43 is in the Village's planned Lannon-Mequon Road Corridor, in which residential uses are "allowed" per the its Comprehensive Plan. In the mid-2020s, Home Path proposed a large development in the southwestern part of neighborhood 43, proposed to provide 275 total housing units including 143 single-family homes, 28 paired homes/duplex units, and 104 "attached" housing units (rowhouses). The consultant anticipates approval of this development, with 20 single-family homes and 20 rowhouse units built and occupied by 2027; 75 single-family homes, 14 paired homes/duplexes, 30 rowhouses built and occupied by 2030; and all remaining housing units built and occupied by 2035. The consultant does not project any other residential development in neighborhood 43 through 2040. Very low current enrollment from this neighborhood is projected to increase significantly with new housing development. Generally, a blended student-per-housing unit ratio of 0.30 students-per-unit is expected in the neighborhood, due to the varying housing types and sizes projected.	26	66	185	301	301	**275**
44	Includes Riversbend Townhomes, commercial, and retail uses in the eastern half of neighborhood 44. The western half is undeveloped, but contains significant wetlands associated with the Menomonee River, limiting its potential for development. The Village plans the northern part of neighborhood 44 for future open space/parkland uses, and the southern portion as part of its County Line Road District, in which multiple-family and mixed-uses are listed as "allowed" in its Comprehensive Plan. In reality, minimal opportunities for development/redevelopment appear to exist. Therefore, the consultant does not project any new housing here through 2040. The current Large middle school aged cohort will keep enrollment stable through 2027, with enrollment expected to slightly decrease thereafter.	236	236	236	236	236	**-**

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
45	The southern half of neighborhood 45 is in a mixture of industrial and commercial uses while the northern half is mostly in woodland and wetland. Neighborhood 45 is planned by the Village for a mixture of parkland/open space uses and also as a part of the Willow Creek Business Park District, in which the Village's Comprehensive Plan lists employment uses as "desirable" and residential uses as "undesirable". The far western portion of the neighborhood 45 is planned by the Village as part of the Lannon-Mequon Road Corridor, in which residential uses of all types are allowed. Additionally, the State of Wisconsin owns 65 acres in the central part of the neighborhood. The consultant does not project any new housing in neighborhood 25 through 2040. The consultant projects very low enrollment to continue.	8	8	8	8	8	-
46	Neighborhood 46 includes industrial uses south of Mequon Road associated with the Germantown Industrial Park, plus scattered employment uses east in the Interstate 41/Lannon Road interchange. The Village plans for northwestern half of neighborhood 46 as part of the Germantown Industrial Park District, in which residential uses are listed by the Village as "undesirable". Neighborhood 46 is essentially built out, except for a vacant 2.5-acre site near Mequon Road, a 4-acre site off Maple Road, a 3-acre site off Commerce Circle, and a 5-acre site off Kleinmann Drive. The area including these vacant parcels is planned as part of the Village's Lannon-Mequon Road Corridor, in which non-residential uses are generally desired but residential uses are listed as "allowed". The consultant anticipates that all of these vacant sites to develop with non-residential uses, given this planning preference; existing industrial and commercial uses nearby; and proximity to Interstate 41, Highway 45, and Mequon Road. Enrollment is projected to remain very low due to very few housing units in neighborhood.	3	3	3	3	3	-
47	Includes Stonewood Corporate Center (1990s-2000s). Neighborhood 47 also includes Schoen Laufen Park and Frontida Assisted Living of Germantown. South of Mequon Road/Lannon Road, lands are mostly built out with a mixture of uses. The southern half of neighborhood 47 is used for senior housing, parkland, and agricultural uses. Areas outside of parkland are planned by the Village as part of its Lannon-Mequon Road Corridor, in which residential uses of all types are listed as "allowed" per the Village's Comprehensive Plan. In the mid-2020s, Faith Lutheran Church proposed a residential development (Carillion) on lands south of the church. The consultant anticipates ~13 units in this development by 2027 and another ~13 by 2030. The consultant projects additional multiple-family housing in neighborhood 47 in the mid-2030s, with ~100 multiple-family units, some of which could be restricted or attractive to seniors. Stable enrollment projected.	20	33	46	86	146	**126**
48	Includes Willow Wood (1990s-2000s). Neighborhood 48 is mostly in woodland. The western two-thirds of this neighborhood are planned by the Village for future parkland and open space uses, while the eastern third is part of its Alt Bauer Neighborhood, in which single-family homes are listed as "desirable" uses up to four-family homes are listed as "allowed" uses. The consultant projects single-family housing development in neighborhood 48 commencing in the mid-2030s, with ~10 single-family homes between 2030 and 2035 and an additional ~12 between 2035 and 2040. Stable enrollment is projected through the early-2030s, with increasing enrollment due to anticipated single-family home development in the late-2030s.	33	33	33	43	55	**22**
49	Includes Lone Oaks (1990s-2000s), Lone Oaks Addition No. 1 (1990s-2000s), Meadow Creek Crossing (2000s), Washington Hills (1950s), and Washington Hills No. 2 (1960s-1970s). Neighborhood 49 is built out with single-family homes and a small commercial area near its south edge along County Line Road. The consultant does not anticipate new housing here through 2040. Enrollment is projected to decrease through 2030, due to the current large high school-aged cohort, which is almost twice as large as current middle school and elementary school-aged cohorts. Enrollment is then projected stabilize in the 2030s as new students are generated from home sales and turnover to some young families.	247	247	247	247	247	-

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
50	Includes Rustic Meadows (1970s-1980s), Rustic Meadows Addition No. 1 (1970s-1980s), Hilltop View (1960s-1970s), Indian Hills (1980s), Navajo Hill (1950s), and Pilgrim Heights (1950s). Neighborhood 50 is built out. Neighborhood 50 has had turnover recently, with a large elementary school aged cohort. The consultant projects slightly decreasing enrollment through 2040 as the neighborhood's current children age.	404	404	404	404	404	-
51	Includes Country Meadows (1990s), Country Meadows West (1990s), Kosterman's Garden (1990s), Heritage Park (2020s), Heritage Park North (2020s), and Pebblebrook Estates (2000s). Heritage Park North has 8 homes under construction and 15 vacant lots remaining. The consultant projects all to be built and occupied by 2027. Then, neighborhood 51 will be built out. Generally increasing enrollment is projected through 2030, due to recent and continued single-family home development. Then, between 2030 and 2040, slightly decreasing enrollment is projected.	186	209	209	209	209	**23**
52	Includes Old Farm at Germantown (1970s). Neighborhood 52 also includes part of Alt Bauer Park. Neighborhood 52 is built out. Slightly decreasing student-per-housing unit ratios are expected.	144	144	144	144	144	-
53	Includes southwestern portion of Legend Acres (1970s), Cedar Hills (1980s-1990s), southern portion of Cedar Hills 2 (1990s), southern and western portions of Hawthorne Meadows Addition No. 1 (1980s), most of Hawthorne Meadows 2 (1980s-1990s), Hawthorne Meadows 3 (1990s), Hawthorne Meadows 4 (1990s), northern portion of Old Farm Annex No. 1 (1970s-1980s), northern portion of Brook Hollow (1990s), Brook Hollow 2 (1990s), and northern portion of Yorktowne Estates (1970s). Neighborhood 53 also includes part of Alt Bauer Park. Neighborhood 53 is built out. Attributable to its mixed housing vintage, neighborhood 53 has generally similar numbers of students across the grade groups. The consultant projects stable enrollment to continue as homes turn over and new students are generated to replace students aging out of the school system.	355	355	355	355	355	-
54	Includes Hawthorne Meadows 2 (1980s-1990s), southern portion of Old Farm Annex No. 1 (1970s-1980s), Old Farm Annex No. 2 (1980s), southern portion of Brook Hollow (1990s), and southern portion of Yorktowne Estates (1970s). Neighborhood 54 is built out. Very large 4K and 5K-5 age cohorts will result in increasing enrollment through the early-2030s, with enrollment projected to remain stable thereafter.	278	278	278	278	278	-
55	Includes Spooner Estates (1990s), Yorktowne South (1990s), and Park View Hills (1970s). Neighborhood 55 includes Spassland Park south of Santa Fe Drive. Neighborhood is built out with residential and institutional uses. Generally stable enrollment is projected as 1990s housing continues to turn over and generate new students for the next several years.	172	172	172	172	172	-
56	Includes County Line Elementary School, Hickory Hills (1960s), Hickory Hills Addition No. 1 (1990s), Glenwood Park (1960s-1970s), and Ardell Homesites (1990s). Neighborhood 56 is built out. The consultant projects stable enrollment due in part to proximity to County Line Elementary but also due to neighborhood turnover.	104	104	104	104	104	-
57	Includes Starlite Subdivision (1950s-1960s) and Donges Bay Village (1990s). Neighborhood 57 is built out. Variety of housing ages and proximity to County Line Elementary is projected to keep enrollment stable.	172	172	172	172	172	-

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
58	Includes Seven Pines Condominiums (2000s-2020s, 28 units built, with 4 additional under construction), Tree Tops (2000s), Tree Tops Addition No. 1 (2000s), Tree Tops Addition No. 2 (2000s), Tree Tops Addition No. 3 (2000s), Deer Ridge Estates (1990s), and Autumn Ridge (1990s-2000s). The Village of Germantown includes most of neighborhood 58 in its Sunberry-Tree Tops Neighborhood, in which single-family homes are listed in the Village's Comprehensive Plan as "desirable" future uses and two- to four-family homes are listed as "allowed" future uses. The east edge of neighborhood 58 is in the Village's Victory Center Corridor, in which the Village's Comprehensive Plan lists all types of residential uses as "allowed". A vacant 7-acre site in the eastern part of neighborhood 58, along Fond du Lac Avenue, was recently proposed for 66 multiple-family units in a combination of 6 to 12 unit buildings (Victory Place). However, the Village rejected this proposal due to density concerns. The consultant anticipates the development to return and be approved with fewer units, with construction and occupancy around 2027. The consultant projects a separate 5-acre site in the eastern part of the neighborhood to redevelop between 2035 and 2040, with ~20 duplex or similar units. After this, neighborhood 58 will be entirely built out. Neighborhood 58's current high school-aged cohort is more than twice as large as its middle school-age cohort, as is common for neighborhoods where most housing was built in the 2000s. The consultant projects decreasing enrollment through 2030, as the large high school-aged cohort ages out of the schools, with enrollment generally stable between 2030 and 2040 as housing turns over to some new families.	391	425	455	455	475	**84**
59	Includes Sunberry Downs (1990s), Sunberry Downs South (1990s), Sunberry Downs Addition No. 1 (1990s), Sunberry Woods (2000s), and Berrywood (2000s). Neighborhood 59 is built out with residential uses. The western two-thirds of neighborhood 59 is within the Village of Germantown's Sunberry-Tree Top Neighborhood, in which single-family homes are listed in the Village's Comprehensive Plan as "desirable" future uses and two- to four-family homes are listed as "allowed" future uses. The eastern one-third of neighborhood 59 is in the Village's Victory Center Corridor, in which the Village's Comprehensive Plan allows all residential uses. In the early-2020s, a 4-unit townhome development was approved in the northeastern corner of the neighborhood, but that development may have been stalled due to financing issues. The consultant projects this or a similar development on this suite by 2027. The consultant does not project any additional housing in neighborhood 59 through 2040. Neighborhood 59 seems to have turned over to new families, with current large 4K and 5K-5 age cohorts. The consultant projects generally increasing enrollment here through 2040.	203	207	207	207	207	**4**
60	Includes Windsong At Germantown (1990s). Neighborhood 60 is built out. The large current high school age cohort in neighborhood 60 will result in slightly decreasing enrollment through 2030, with enrollment projected to remain stable in the 2030s.	110	110	110	110	110	**-**
61	Includes southern portion of Bel Aire Subdivision (1990s), southern portion of The Preserve (1990s), Kinderberg Estates (2020s), Heritage Hills (1990s), Heritage Hills Addition No. 1 (1990s), Wooded Hills (1990s), and Hillside View (2000s-2010s). Neighborhood 61 also includes Kinderberg Park. The eastern three-quarters of neighborhood 61 is built out with mostly single-family homes, but also includes parkland uses and scattered employment uses along Fond du Lac Avenue. The western one-quarter is in a mixture of institutional, wooded, and wetland uses. The western three-quarters of neighborhood 61 are within the Village's Kinderberg Neighborhood, in which single-family homes are listed in the Village's Comprehensive Plan as "desirable" future uses and two- to four-family homes are listed as "allowed" future uses. The eastern one-quarter is in the Village's Victory Center Corridor, in which the Comprehensive Plan allows all types of residential uses. 55 acres in the western part of neighborhood 61 (~40 developable) are owned by one landowner and intended for lower-density residential development. This parcel is attractive for future development, with proximity to Village parks and GSD schools. The consultant projects development to begin in the early 2030s, with ~10 single-family homes between 2030 and 2035 and ~30 single-family homes between 2035 and 2040. The consultant also projects increasing enrollment through 2040, due to a combination of 1990s/2000s era housing turning over to new families through 2040 and the development of this new housing in the neighborhood.	355	355	355	365	395	**40**

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
62	Includes northern portion of Bel Air Subdivision (1990s), northern portion of The Preserve (1990s), The Preserve II (2000s), The Preserve III (2000s), Pilgrim Estates (1980s), and High Pointe (1990s). Neighborhood 62 is built out. The consultant projects generally stable enrollment.	164	164	164	164	164	-
63	Neighborhood 63 is mostly in agricultural use, except for small industrial uses to the north and the Germantown School District office along Donges Bay Road. ~60 acres in the southern part of the neighborhood (Frenz) has received several proposals for multiple-family housing, with the latest proposing over 500 multiple-family units. This area is in the Village's Victory Center Corridor, in which the Village's Comprehensive Plan lists all types of residential uses as "allowed" but lists commercial and employment uses as "desirable" future uses due to proximity to railroads and the Germantown Business Park in neighborhood 67 to the east. Based on the Village's preferred uses and challenges with larger-scale multiple-family housing, the consultant does not anticipate any new housing here through 2040. Low and stable enrollment is anticipated from neighborhood 63.	19	19	19	19	19	-
64	Neighborhood 64 includes FC Wisconsin Soccer Park. Neighborhood is mostly undevelopable due to employment and industrial land on its north side and a large landfill in its southern half. Neighborhood 64 is divided between the Village's Victory Center Corridor and Omega Hills Industrial District, in which employment uses are desired. The consultant does not project any new housing here through 2040. Low enrollment projected to continue.	11	11	11	11	11	-
65	Neighborhood 65 includes the Village of Germantown Public Works site. Neighborhood is mostly built out, containing mainly industrial and institutional uses. The neighborhood is part of the Village's Omega Hills Industrial District, in which employment uses are desired. The consultant does not project any new housing here through 2040. Low enrollment is projected to continue.	5	5	5	5	5	-
66	Includes Prairie Glen (2000s-2010s) and Prairie Glen II (2010s-2020s). Neighborhood 66 contains a residential subdivision in its northern half with mostly agricultural uses in the southern half. Neighborhood 66 is part of the Village's Prairie Glen Neighborhood, in which single-family homes are listed in the Village's Comprehensive Plan as "desirable" future uses and two- to four-family homes are listed as "allowed" future uses. The consultant projects that the ~30 undeveloped, developable acres in the southern half of neighborhood 66 will develop with 15-20 single-family homes between 2035 and 2040. Increasing enrollment is projected in neighborhood 66, as the 2000s housing turns over to new families in the 2030s and new housing is built.	54	54	54	54	72	**18**
67	Neighborhood 67 includes the Germantown Business Park, and is mostly built out, except for its northwest corner identified by the Village as part of its South Country Aire Neighborhood, in which single-family homes are listed in the Village's Comprehensive Plan as "desirable" future uses and two- to four-family homes are listed as "allowed" future uses. The consultant projects a few single-family homes in this corner by 2040, but most of this land has already been subdivided. Low enrollment is projected to continue.	9	9	10	12	12	**3**
68	Includes Harvest Hills (2020s, has 5 homes under construction and 3 vacant lots remaining), Forest Heights (1960s), Forest Heights East (1960s), Forest Heights West (1960s), Forest Heights North (1960s-1970s), Woodland Ponds (2000s-2010s), and Woodland Ponds Estates (2020s). Neighborhood 68's northeast and southwest quadrants are built out with single-family residential and parkland uses, including Friedenfeld Park. Its two other quadrants are mostly undeveloped and in agriculture and woodland, but also contain scattered rural residential uses on larger lots. Neighborhood 68 is split between the Village's Friedenfield Neighborhood and Woodland Ponds/Harvest Hill Neighborhood, in which single-family homes are listed in the Village's Comprehensive Plan as "desirable" future uses and two- to four-family homes are listed as "allowed" future uses. The consultant projects remaining homes in Harvest Hills to be built by 2027 plus 1-2 additional homes per year in neighborhood 68 through 2040. Stable student-per-housing unit ratios are expected, with increasing enrollment projected due to new housing development.	144	152	157	165	173	**29**

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
69	Includes Wrenwood (2020s) and Wrenwood North (2020s, has 0 homes under construction and 24 vacant lots remaining). Neighborhood 69 has been steadily developing with single-family homes in the 2020s, consistent with the Village's Comprehensive Plan. The consultant projects all improved lots within Wrenwood Norh, plus all lots in an additional expected 23-lot phase, to be occupied with homes by 2027. The northeastern part of neighborhood 69, between Wrenwood North and Wrenwood "South", remains mostly in agriculture and woodland and owned by three different entities with uncertain development interest. In the near term, some of this land may be parceled off for larger rural homesites. Beyond this, the consultant projects single-family housing development in neighborhood 69 to recommence in the early 2030s, and is projecting 50-60 single-family homes between 2030 and 2035 and a similar number between 2035 and 2040. Student-per-housing unit ratios are expected to remain around 0.60 student-per-home, with total enrollment projected to significantly increase due to significant new housing development.	125	192	192	247	307	**182**
70	Includes MacArthur Elementary School, Green Meadow (1960s), Brownstone (1990s), Kuhns Pleasant View (1950s), Kuhns Pleasant View Addition No. 1 (1950s-1960s), Kuhns Pleasant View Addition No. 2 (1950s-1960s), and The Woodlands (2000s). Neighborhood 70 is essentially built out—its northern half contains single-family residential homes and institutional uses while its southern half contains mostly wetlands and wooded areas. While the Village's plans would technically allow more lower-density housing in neighborhood 70, as a practical matter new housing of any significance is unlikely. The consultant does not project any new housing here through 2040. Slightly decreasing enrollment is projected from established housing in the area, but proximity to MacArthur Elementary should limit the extent of the decrease.	235	235	235	235	235	-
71	Neighborhood 71 is built out with multiple-family residential uses. Entire neighborhood is part of the Village Center District, in which the Village's Comprehensive Plan lists multiple-family and mixed-use developments as "desirable", while other residential housing types are listed as "allowed". Still, the consultant does not project any new housing here through 2040. Stable enrollment is projected.	273	273	273	273	273	-
72	Includes Kennedy Middle School and Firemens Park. Subdivisions include Firemans Park (1940s-1950s), H.V. Schwalbach's Addition (pre-1940s), Walterlin's Addition (pre-1940s), and Pleasant Hill Estates (1990s). Neighborhood 72 is built out with a mixture of uses, including residential uses, institutional uses, and commercial and employment uses. The western one-third is undeveloped but heavily forested and contains significant wetlands associated with the Menomonee River. The eastern one-third of neighborhood 72 is within the Village's Macarthur-Kennedy Neighborhood, in which single-family homes are listed as "desirable" and two- to four-family homes are listed as "allowed" in the Village's Comprehensive Plan. The rest of neighborhood 72 is part of the Village Center District, in which multiple-family and mixed-use developments are list in the Village's plan as "desired".. A 5-acre, Village-owned parcel in neighborhood 72 is now intended to be sold and developed for commercial use. Due to this intent and environmental constraints, the consultant projects no new housing in neighborhood 72 through 2040. Stable enrollment is projected, due to proximity to MacArthur Elementary and Kennedy Middle Schools.	191	191	191	191	191	-

Neighborhood (as depicted on Report maps)	Description and Rationale	Total Housing Unit Estimates/Projections					Projected Housing Unit Increase, 2025-2040
		March 2025	Sept. 2027	2030	2035	2040	
73	Neighborhood 73 includes Haupt Strasse Park and the eastern half of the Blackstone Creek Golf Club. Neighborhood 73 contains a mixture of uses, but generally commercial and employment uses along Mequon Road and multiple-family residential uses elsewhere. Existing multiple-family developments in neighborhood 73 vary by age and by renter vs. owner occupancy. Neighborhood 73 is within the Village Center District, Village's Comprehensive Plan lists commercial, multiple-family, and mixed-use developments as "desirable". Lands in the western part of neighborhood 73 are part of the Blackstone Creek Golf Club, which has had redevelopment proposals for the last 20 or so years. The most recent concepts include residential redevelopment concentrated in eastern portions of the golf course that are at a higher elevation. The consultant projects, within this area, ~100 apartment units and ~50 townhome units between 2030 and 2035 and another ~100 apartment units and ~50 townhome units between 2035 and 2040. The consultant projects a separate redevelopment project along Mequon Road between 2035 and 2040, including ~50 multiple-family units. Student-per-housing unit ratios are expected to remain stable and typical of an established multiple-family area in Germantown (0.15 student-per-unit), with enrollment totals projected to increase slightly with added housing development expected.	1,699	1,699	1,699	1,849	2,049	**350**
74	The western half of neighborhood 74 is contains a mix of older commercial and employment uses while the eastern half is wooded. The Village places neighborhood 74 within its Village Center District, in which the Village's Comprehensive Plan lists multiple-family and mixed-use developments as "desirable". The Village currently owns much of neighborhood 74 and has proposed a tax incremental district (TID 10) to promote development of a Town Center/Village Plaza, with commercial, mixed-use, and multiple-family components. The consultant projects this proposal to move forward for multiple reasons, including Village plans supporting for this type of development here; Village ownership and redevelopment efforts to date; the site's location in the center of the Village, along busy Mequon and Pilgrim Roads and in proximity to municipal and commercial services; utilities readily available; low value of current uses; and heaving market demand for different housing types in the area. The consultant project housing development to begin in the late-2020s, with ~100 market-rate multiple-family units anticipated between 2027 and 2030, another ~75 between 2030 and 2035, and another ~100 between 2035 and 2040 (perhaps as part of a later phase designation). Enrollment is projected to increase with new housing development, but with under 20 students anticipated at buildout due to low anticipated student-per-housing unit ratios.	-	-	100	175	275	**275**
75	Includes most of Legend Acres (1970s), Legend Acres Vienna Court (1970s-1980s), Hawthorne Meadows (1980s), northern and eastern portions of Hawthorne Meadows Addition No. 1 (1980s), northern portion of Hawthorne Meadows 2 (1980s-1990s), Esquire Estates (1980s-1990s), and northern portion of Cedar Hills 2 (1990s). Neighborhood 75 also includes the Village Hall and the Community Library. Lands in neighborhood 75 are predominately in single-family use, but contain institutional and multiple-family residential uses in the western third and northeastern corner. Majority of neighborhood 75 is planned is within the Village's Alt Bauer Neighborhood, in which single-family homes are listed as "desirable" uses, per the Village's Comprehensive Plan and two- to four-family homes are listed as "allowed". Still, no additional housing is projected here through 2040. Neighborhood 75 seems to have recently turned over, with a large number of recent home sales and a large 4K and 5K-5 age cohort. The consultant projects slightly increasing enrollment in neighborhood 75, due to aging of elementary students to the secondary level, proximity to schools, central location in the Village, proximity to jobs.	846	846	846	846	846	-
	Totals	**11,653**	**11,900**	**12,268**	**13,092**	**13,793**	**+2,140**

APPENDIX C: GSD 4K-12 RESIDENT ENROLLMENT PROJECTIONS BY GRADE GROUP AND NEIGHBORHOOD, 2025-2040

Neighborhood	Grades 4K-5 [2]					Grades 6-8 [2]					Grades 9-12 [2]					Grades 4K-12 [2]				
	2025 [1]	2027	2030	2035	2040	2025 [1]	2027	2030	2035	2040	2025 [1]	2027	2030	2035	2040	2025 [1]	2027	2030	2035	2040
1	15	17	19	24	25	13	7	8	9	12	26	22	14	14	17	54	46	41	48	55
2	12	9	9	8	8	6	6	5	4	4	2	7	9	6	6	20	23	22	18	17
3	18	15	15	15	15	15	9	7	7	7	14	20	15	10	10	47	44	37	33	32
4	18	23	20	18	18	5	8	11	10	9	15	9	11	15	13	38	40	42	43	40
5	23	26	26	23	22	9	10	12	12	11	11	12	14	18	17	43	49	52	53	49
6	6	4	4	5	5	2	3	2	2	2	0	2	4	3	3	8	10	10	10	11
7	0	0	0	5	20	0	0	0	1	6	2	1	0	1	5	2	1	0	7	31
8	54	59	68	67	69	50	33	35	33	34	50	73	61	48	48	154	164	164	149	152
9	21	23	30	43	45	4	9	12	17	20	12	8	14	21	26	37	41	56	81	91
10	13	11	10	9	8	1	6	6	5	4	2	2	7	8	6	16	19	23	21	19
11	8	5	6	9	10	9	4	2	3	4	10	12	8	3	5	27	21	16	15	20
12	29	23	21	24	29	17	15	11	10	12	23	24	22	18	18	69	62	55	52	58
13	9	6	5	6	4	3	5	3	3	3	2	4	6	4	4	14	14	15	12	11
14	6	8	8	7	6	2	3	4	4	3	5	3	4	5	5	13	14	16	16	15
15	5	4	4	4	4	9	3	2	2	2	5	11	6	3	3	19	18	12	9	9
16	27	28	28	27	24	10	12	13	13	13	13	14	17	19	19	50	55	58	59	55
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	25	23	24	25	29	25	13	12	11	11	36	36	23	16	16	86	72	59	53	56
19	23	26	27	24	22	7	11	13	13	11	15	11	14	18	17	45	48	54	55	51
20	1	1	1	3	4	0	1	0	1	2	3	1	1	1	2	4	2	2	5	8
21	0	0	0	5	4	0	0	0	1	2	0	0	0	0	2	0	0	0	5	8
22	40	38	37	34	33	16	19	18	18	16	19	22	26	26	24	75	79	81	77	73
23	18	19	19	22	24	8	9	9	10	11	12	12	12	14	16	38	40	41	46	50
24	3	5	4	9	10	0	1	2	3	3	1	0	1	2	3	4	6	8	14	15
25	12	13	11	9	12	5	5	6	5	4	5	7	7	8	7	22	24	23	22	24
26	9	9	9	9	9	2	4	4	4	4	11	5	6	6	6	22	18	19	19	18
27	12	9	10	10	10	4	6	4	4	4	11	7	9	6	6	27	23	22	20	21
28	20	20	21	23	27	10	9	9	10	11	15	15	14	14	16	45	44	44	47	54
29	14	17	19	20	18	7	6	8	9	10	11	10	9	12	13	32	34	36	41	42
30	18	14	15	17	18	17	9	7	7	8	15	22	15	10	11	50	45	37	35	37
31	35	31	30	26	27	23	18	16	15	13	30	33	27	22	20	88	82	73	63	60
32	29	24	23	21	20	11	15	12	11	10	21	17	21	17	16	61	56	56	49	46
33	3	2	4	8	6	3	2	1	2	4	1	3	3	2	4	7	7	8	12	15
34	37	38	41	39	38	14	17	18	17	16	21	20	24	23	23	72	75	83	79	76
35	19	22	24	26	22	16	7	10	11	12	24	24	14	16	17	59	53	48	53	52
36	15	15	12	12	12	4	7	7	6	6	6	6	9	9	8	25	27	28	27	26
37	11	11	10	10	10	6	5	5	5	5	6	8	8	7	7	23	24	23	22	22
38	2	1	1	6	8	2	1	1	2	5	1	2	2	4	6	5	4	3	12	18
39	18	22	20	19	14	7	7	10	9	10	9	10	10	14	14	34	39	41	43	37

Neighborhood	Grades 4K-5 [2]					Grades 6-8 [2]					Grades 9-12 [2]					Grades 4K-12 [2]				
	2025 [1]	2027	2030	2035	2040	2025 [1]	2027	2030	2035	2040	2025 [1]	2027	2030	2035	2040	2025 [1]	2027	2030	2035	2040
40	1	2	2	8	11	0	0	1	2	5	1	0	0	2	5	2	2	2	11	21
41	24	22	20	18	20	5	11	10	10	10	6	7	14	14	15	35	40	45	42	45
42	10	8	8	8	9	3	5	4	4	4	11	6	7	6	6	24	19	19	19	18
43	1	8	31	42	37	3	2	10	23	21	4	5	10	20	31	8	14	52	85	89
44	3	2	2	2	2	7	2	1	1	1	2	8	4	2	2	12	12	7	5	5
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	2	1	1	1	1	1	1	1	0	0	0	1	1	0	0	3	3	3	1	2
47	2	3	4	3	4	1	2	2	1	2	2	3	3	2	2	5	7	8	7	8
48	3	2	2	5	8	2	2	1	1	3	0	2	2	1	4	5	5	5	7	15
49	38	32	35	37	36	37	19	15	16	17	59	55	34	23	24	134	106	84	76	78
50	63	57	53	51	50	25	30	27	25	24	49	39	42	37	35	137	126	123	113	109
51	35	40	38	35	30	12	19	19	18	16	15	19	25	26	25	62	77	81	79	71
52	24	19	18	18	18	12	12	9	8	9	14	16	17	13	12	50	47	44	39	39
53	57	68	69	65	59	26	25	31	32	31	51	41	38	46	45	134	134	138	143	135
54	52	55	55	50	44	20	24	26	26	24	21	27	33	37	36	93	106	113	113	103
55	22	20	17	19	20	10	11	10	8	9	14	14	16	13	12	46	46	43	40	41
56	10	14	15	15	14	8	4	6	7	7	18	13	8	9	10	36	31	29	31	30
57	23	26	26	24	23	9	10	12	12	11	17	14	15	18	17	49	51	53	55	52
58	50	47	47	47	46	33	26	23	22	23	67	57	45	32	33	150	130	115	101	102
59	57	65	63	65	55	25	25	30	29	31	37	37	37	43	43	119	128	130	137	129
60	21	16	14	17	17	6	10	8	7	8	24	12	14	10	10	51	39	36	33	35
61	87	89	89	93	102	51	41	41	43	47	49	67	61	62	66	187	196	191	198	215
62	29	27	27	26	27	13	15	13	13	13	24	20	21	19	18	66	61	61	58	58
63	7	4	3	3	3	2	4	2	2	1	1	2	5	2	2	10	10	10	7	6
64	2	1	1	0	0	0	1	1	0	0	0	0	1	1	0	2	2	2	1	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	14	21	20	17	22	5	6	10	9	10	13	9	8	14	15	32	35	38	41	47
67	0	0	0	0	0	2	0	0	0	0	2	3	1	0	0	4	3	1	0	0
68	25	25	26	29	33	15	13	12	13	14	18	22	21	21	22	58	60	60	63	70
69	28	55	56	68	80	8	21	25	31	37	11	17	29	39	49	47	92	110	139	167
70	55	49	50	49	48	35	27	24	24	23	40	48	41	34	34	130	124	115	107	105
71	19	22	23	23	20	11	8	10	11	11	10	14	13	15	15	40	44	45	48	46
72	12	14	13	13	13	2	5	6	6	6	16	6	7	9	9	30	25	27	28	27
73	126	132	133	134	139	68	58	58	63	64	97	98	87	91	96	291	288	278	289	300
74	0	0	3	4	8	0	0	1	3	4	0	0	0	2	4	0	0	4	10	17
75	99	106	111	104	97	34	42	48	52	49	56	51	58	72	73	189	199	217	228	218

Notes:

[1] 2025 totals in this figure are March 2025 GSD resident student enrollment.

[2] These numbers in this figure do not include non-resident students who open-enroll-in to GSD schools from other districts.

Residential Market Analysis - Final -- Strategy Planning Guidelines -- Germantown, Wisconsin

Prepared on behalf of:

Village of Germantown
N112 W17001 Mequon Road
Germantown, WI 53022

February 9, 2024

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EXECUTIVE SUMMARY

At the request of the Village of Germantown, Tracy Cross & Associates, Inc. evaluated the market potential for residential development in Germantown, Washington County, Wisconsin. Specifically, this analysis provides a comprehensive evaluation of the housing market in and around Germantown, together with detailed conclusions regarding the demand/need for new construction housing. It also identifies opportunities that exist (or voids that need to be filled) for certain types of homes, along with the specific direction that should be taken to address/meet demand.

Based upon a thorough evaluation of all relevant economic, demographic, socio-economic and residential market conditions in the village of Germantown and surrounding areas (both today and going forward), it was concluded that the state of the new construction home market throughout the area shows a significant opportunity for the development of, primarily, mainstream or workforce housing (i.e., the middle of the market). The words *mainstream*, *workforce* or *middle of the market*, as used throughout the body of this report, refer to new housing units that target households earning between roughly 50 and 150 percent of the area's $86,185 median income, or approximately $40,000 to $125,000+ annually).

The identified need for new mainstream housing is founded on the basis of supply deficiencies (both rental and for sale) that exist in the market, along with the extreme price disparity that can be found in the for sale sector between new construction alternatives and resale units. In other words, given current market conditions in both the rental apartment and for sale/ownership sectors, the potential or need for properly positioned housing targeting renters earning, primarily, between $40,000 and $125,000 annually and ownership households earning from $75,000 to $150,000+ is viewed as *significant.*

Because new/newer apartment developments throughout Germantown and surrounding areas are, for the most part, already offering product that targets the threshold of renter households earning between $40,000 and $125,000, the area simply needs more properly positioned rental product given the tightness of this market and only marginal new/newer supply.

In the for sale sector, however, the large disparity that exists between new construction price points and those incomes represented by the middle of the market (again, those earning between roughly 50 and 150 percent of median), reflects the reality that a different approach must be taken for the introduction of new for sale housing in the marketplace. This new approach will require discipline by all stakeholders and builders/developers as it relates to land planning, densities, product design, and most importantly, implementation. *Note: the rising cost of land, development, materials and labor is the primary reason new for sale housing prices have risen so dramatically, coupled with the lack of new product initiatives.*

As outlined in our full report, the introduction of ***new apartment product*** can occur within a reasonable time period simply by following our recommendations for three specific products, all of which are efficient to build from a construction cost standpoint and have proven successful throughout the Midwest and southeast Wisconsin. These products can be readily produced (with a manageable level of discipline) at rental rates generally consistent with the new/newer offerings in the market today.

As it relates to ***new for sale housing***, our recommendations represent a departure from the status quo in the new construction ownership sector in and around Germantown and will require a *much greater* level of discipline to produce properly positioned new homes – homes that the workforce can afford, but still represent a comparable quality to that which Germantown is accustomed. To achieve this objective, it will be imperative for the Village of Germantown, and other stakeholders, to work closely with builders/developers so that our recommendations regarding four (4) very specific ownership product lines are understood and embraced. Specifically, builders/developers (and governing bodies) will need to think differently in terms of land planning, densities, development, approvals, product design (and possibly some

form of incentives) in order to *substantially reduce costs*, a key component to meeting the price requirements for the local workforce or middle of the market.

In addition to the disparity that exists between local area incomes and the current price alignment of new construction for sale housing, demand potentials for ownership housing over the next five years in the Germantown Primary Market Area (PMA), which includes Washington County, along with the neighboring areas of northeast Waukesha County, southern Ozaukee County and the northern edge of Milwaukee County, are expected to exceed supply given what is formally in the planning pipeline at this time. For example, a total of at least 2,975 for sale housing units could be absorbed in the Germantown PMA through 2028 (595 yearly), although just 1,139 for sale housing units are currently in the planning pipeline, many of which may never come to fruition. Likewise, demand for new rental housing in the Germantown PMA stands at 2,075 total units through 2028 (415 annually), yet only 1,271 units are in the pipeline, some of which may not move forward. *Moreover, not only is "derived demand" likely to outstrip supply near term, but the overall base of residential construction requirements could actually be much higher (i.e., double) during any given year where properly positioned supply is made available. This doubling of demand factors pent-up demand; upside household growth potentials if properly positioned development were actually to occur; the limited amount of new construction housing alternatives throughout the PMA (to be discussed later); and spillover potentials from areas outside the local market area.*

Focusing on the for sale/ownership sector, and to highlight the importance of working diligently in order to cost-effectively produce mainstream/workforce ownership housing units, the following text table outlines the qualitative distribution of annual for sale housing demand based solely on incomes, then cast against where new construction closings are occurring today. This table shows the need for new for sale housing largely concentrated at price points below $400,000, which corresponds with the mainstream, workforce or middle of the market. Currently, the majority of new construction offerings in the market are concentrated at prices between $400,000 and $700,000, thus leaving workforce ownership households disenfranchised by the current alignment of new construction for sale product. *Note: single family closing prices in Germantown itself are currently 10 percent higher than those reflected throughout the PMA as a whole.*

THE CURRENT DISCONNECT IN THE FOR SALE SECTOR OF THE NEW CONSTRUCTION HOUSING MARKET
GERMANTOWN PRIMARY MARKET AREA (PMA)

	Annual For Sale Housing Demand (Based Upon Current Incomes)		Qualitative Distribution of New Construction Residential Closings[1]	
Price Range	Number	Percent	Number	Percent
Under 250,000	30	5.0	---	---
250,000 - 299,999	108	18.1	5	1.2
300,000 - 349,999	100	16.8	6	1.5
350,000 - 399,999	84	14.1	36	8.8
400,000 - 449,999	66	11.1	67	16.3
450,000 - 499,999	48	8.1	76	18.5
500,000 - 549,999	38	6.4	65	15.9
550,000 - 599,999	26	4.4	53	12.9
600,000 - 699,999	20	3.4	59	14.4
700,000 & Above	75	12.6	43	10.5
Total	***595***	***100.0***	***410***	***100.0***
Median	***- - - - - - - $385,815 - - - - - - -***		***- - - - - - - $511,634 - - - - - - -***	

[1] Reflects new construction townhome/duplex/condominium and single family closings recorded in 2023

Source: Tracy Cross & Associates, Inc. and Southeast Wisconsin Multiple Listing Service

For Sale Housing Price Points Required for Mainstream/Workforce/Middle Market Households

Current Threshold of Homes Being Produced, Which Cannot be Afforded by the Bulk of the Market

NEXT GENERATION HOUSING INITIATIVE – WASHINGTON COUNTY

With the village of Germantown situated within the boundaries of Washington County, the municipality is in a position to benefit from the county's *Next Generations Housing* initiative, which aims to assist communities, developers, builders, etc. in filling voids that exist in the market relative to ownership housing forms. As highlighted in this executive summary, and detailed throughout the full report, recent price escalation among virtually all new construction for sale developments throughout Germantown and surrounding areas has created a significant void for more properly positioned for sale housing. As such, our analysis, which independently and objectively identified this void, provides specific product/price recommendations in order to fill it – recommendations that conform to the goals of the Next Generation Housing initiative. With this said, and because several of Germantown's identified development/redevelopment properties are already being considered for Next Generation Housing, *the municipality should continue to consider this opportunity.* Note: our detailed recommendations can be found in Section I of the full report.

All told, the effort involved with bringing for sale housing product to market in Germantown (at the prices outlined in Section I), along with a variety of new rental products, will be rewarded by significant sales/absorption volumes per development, which will translate to increases in population and households and, in turn, foster economic growth locally that will have a measurable fiscal impact.

INTRODUCTION

At the request of the Village of Germantown, Tracy Cross & Associates, Inc. evaluated the market potential for residential development in Germantown, Washington County, Wisconsin – a northwest suburb of Milwaukee. Specifically focusing upon *new construction housing* opportunities throughout the village, this analysis establishes the following:

- ❑ Conclusions regarding the depth of the market (demand) for new construction residential development throughout Germantown based upon pertinent economic, demographic, and residential trends which define the marketplace.

- ❑ Conclusions regarding highest-and-best residential uses within the village over the next 5+ years. These conclusions are based upon factors associated with the location of Germantown, depth of market, demographic and socio-economic characteristics of existing and future households, and the alignment of residential developments, both existing and planned.

- ❑ Detailed recommendations regarding those housing forms viewed to hold measurable market support near- to mid-term. Investigative uses range from a variety of rental housing idioms to all forms of for sale housing such as condominiums, townhomes, villas/duplexes, single family, etc. These recommendations address specific product types, plan styles/sizes, features/amenities, etc., along with benchmark rent/pricing strategies necessary to achieve acceptable levels of absorption. Please note that these recommendations will focus on all segments of the conventional market ranging from younger (entry level) profiles to active adult (55+) households.

- ❑ A detailed development matrix summarizing the most marketable mix of residential uses (and their absorption/sales potentials) in order to facilitate/inform future planning efforts, architecture, financial modeling, approvals, marketing, builder/developer participation, etc.

- ❑ A geographic positioning strategy for the introduction of new housing development in Germantown.

WORK PLAN

The work plan for this assignment involved a series of inter-related research investigations as summarized below:

- ❑ A thorough investigation of Germantown and surrounding areas to determine geographic boundaries of the local market area; identify factors which may impact residential potentials within the municipality: and examine areas that may be suitable for residential development.

- ❑ A detailed analysis of all relevant employment, demographic, and residential trends/statistics including a comprehensive evaluation of key socio-economic and income variables of area households.

- ❑ A thorough assessment of both the *for rent* and *for sale* sectors of the local housing market (and adjoining areas as applicable).

- ❑ A demand forecast for residential development in and around Germantown over the next 5+ years.

- ❑ A case study evaluation of "like" residential initiatives throughout similar markets in the Midwest in order to assess trends, products, performance levels, etc.

THE REPORT

This report is divided into four sections. Of particular importance is **Section 1** which forwards detailed conclusions and recommendations regarding the highest-and-best housing options for development in Germantown over the next several years. Not to be dismissed, however, are the remaining three sections which can be defined as *fundamentals.* **Section 2**, for instance, provides an outlook for future residential development in the market area based upon all demand-related variables, while **Sections 3 and 4** present a thorough analysis of market's current and future residential marketplace, i.e., both the rental and for sale.

CERTIFICATION AND SIGNATURE

This analysis represents our objective and independent opinion regarding the market potential for new construction housing development within Germantown, Washington County, Wisconsin as certified below:

TRACY CROSS & ASSOCIATES, INC.
An Illinois Corporation

By:
Erik A. Doersching
Its: President & CEO

Date: January 4, 2024

1. A FRAMEWORK FOR PLANNING

The demand/need for ***properly positioned*** new construction housing product in the village of Germantown is considered *substantial.* In other words, future new construction housing potentials in the village of Germantown (and throughout Washington County and other adjoining areas to the south and east) are *ample* provided specific criteria can be met relative to product and price. Specifically, the market is showing a clear need for both *market rate and mainstream/workforce housing* ranging from additional rental idioms to various forms of conventional for sale offerings.

This favorable conclusion, which is supported in Sections 2, 3 and 4 of this report, is based upon: 1) more than adequate demand support for a variety of new construction housing alternatives; 2) notable supply-side constraints, especially for product that targets the mainstream of the market, i.e., those households earning between 50 and 150 percent of the market area's $86,185 median annual income; 3) an ample base of existing (and future) households with strong demographic profiles; 4) tightness (and certain disjointedness) in both the rental and for sale sectors of the market; 5) an excellent localized environment characterized by in-place employment, transportation, shopping/services, entertainment and recreation, along with quality schools; and 6) the opportunity to introduce new and differentiated housing product in a market where such product is definitely needed.

Overall, the village of Germantown is in a unique position to help guide future residential development efforts in a direction of discipline and insight as it relates to specific products that meet the demands of the market relative to densities/lot sizes, product forms, unit types/styles, and most importantly, rent/price positioning. At the same, the village of Germantown has land available within its boundaries for multiple residential development initiatives.

A PLANNING STRATEGY: THE PRODUCT

Because supply-side issues throughout Germantown and adjoining areas are largely driven by the type of product being offered, together with current density allocations for such product idioms (and the cost to produce it), the village of Germantown must think *strategically* in order guide future development efforts to meet the demands/needs of the market, primarily as it relates to the rather large gap that exists between area incomes and new residential development, especially in the for sale sector.

With this said, the following bullet-point summary provides specific product guidelines for establishing the most practical and marketable hierarchy of conventional, mainstream and/or workforce housing – to serve as a guide for future planning and implementation efforts:

- Mirroring a number of successful mainstream rental housing communities throughout the Midwest, including southern Wisconsin, strong consideration should be given to the introduction of three different market rate rental housing series, one consisting of a two-story garden-style walkup idiom directed to all renter households; one representing a ranch villa rental program targeting the active adult aged 55-74, but not restricted to this segment since other profiles will find this product desirable; and one reflecting a single family detached alternative appealing to a cross-section of the market. Together, these three product forms, which are extremely efficient and cost effective to build, will allow for a broad and varied mix of unit types, sizes, and rents capable of penetrating the threshold of mainstream conventional renter households in the marketplace – and those emanating to Germantown in the years to come. In other words, the introduction of these three new construction product lines in Germantown would allow the full breadth of mainstream renter profiles to be targeted. These include Millennials, also known and Echo Boomers or Generation Y, along with Centennials, also known as Generation Z (i.e., younger singles and couples without

children), together with traditional and non-traditional households such as divorcees, middle-age singles, never-nested couples, singles living together as couples in a roommate condition, young families, etc., and, of course, the move-down empty-nester/active adult/pre-retiree/retiree aged 55 to 74 – *a segment which shows substantial growth near term – many of which desire a rental alternative in lieu of home ownership.*

- The ***two-story garden apartment program*** would consist of a "private entry" product with a component of attached, direct-access garages. In this regard, one of the most successful garden-style developments in the Midwest (and in other portions of southern Wisconsin) consists of a series of eight-unit buildings (each with four direct-access one-car garages) or 16-unit buildings (each with eight direct-access one-car garages). With just 50 percent direct-access garages suggested per structure, two different versions of the garden apartment building should be designed in order for each of the individual floorplans to be offered *with a direct access garage* in one of the two building types. By following this formula, each plan offering would have a 50 percent representation of direct-access one-car garages.

- Individual designs for the garden apartment product should be broad and varied consisting of eight (8) plan offerings including one-, two- and three-bedroom options ranging in size from 600 to 1,250 square feet. Please note that this product line would also be accompanied by buildings with optional detached garages. As such, renter profiles could elect either surface parking only; a detached garage; or a unit with an attached garage, thus giving future residents a full continuum of rental options to choose from as it relates to their choice of parking cast against their desired (or needed) monthly payment based upon income. This scenario will also provide competitive consistency with other developments in the market, current and future.

- The ***ranch villa apartment program***, which would target households aged 55+, although not be restricted to this consumer segment, would consist of direct-entry single-level ranch-type townhome plans, most with one-car attached garages, but also including a two-car garage offering. Modeled, in part, after very successful empty nester ranches in other parts of Wisconsin and elsewhere throughout the Midwest, this product line would consist of four different plan designs ranging from a one-bedroom residence at 725 square feet to a three-bedroom unit with 1,275 square feet. This product line would be configured in 3-, 4-, 5- and 6-unit buildings (duplexed where necessary).

- Representing a compliment to both the garden apartments and attached ranch villa rentals, and as an extension of the overall continuum of rental housing product within Germantown, strong consideration should be given to introducing a ***small-lot single family detached rental program***. Targeting a broad range of consumer profiles ranging from younger households to empty-nesters not interested in homeownership, but desirous of a new detached single family housing form, this product line would include one ranch plan at 1,300 square feet and three two-story offerings in the 1,500-1,700 square foot band (all with two-car garages).

- Mirroring competitive counterparts overall, size increments between floorplans (for all three rental products) should not exceed 200 square feet (and be narrower in many instances). This discipline will keep lease rate differentials between plans small and in concert with the gradual upward movement of mainstream (and workforce) household incomes.

- If elevated properly, the three rental housing products can exemplify tasteful suburban architecture and be very complimentary to other development initiatives (including for sale developments) both internal to an individual community and elsewhere throughout the municipality.

- Representing the first of four product lines in the "for sale" sector of the market, and in an effort to establish an overall hierarchy of ownership product starting with an alternative that should be able to achieve price points directly in-line with the lower-end of the qualitative distribution of mainstream/workforce incomes, is an efficiently designed mid-density ***townhome/rowhome series***. This product line would include three separate three-story plan types, each with two main living areas configured over an integral two-car garage and a finished lower level, all with two-car garages. Plan sizes for this series, which will average 1,400 square feet, should range from 1,200 to 1,550 square feet including finished lower levels. This can be achieved in very efficient and cost effective 20' wide modules. With rear-entry garages, individual buildings are generally designed to face one another, thus allowing for a small pedestrian greenway between buildings, or they can be configured fronting a street. Combined, the three individual plan offerings will be capable of attracting a broad range of buyer profiles, with attentive focus directed toward young singles and couples without children, couples in their initial stages of family formation and young families.

- Architecturally, the townhome/rowhome product line can support either a traditional elevation scheme, or it can command something more contemporary/urban oriented, i.e., at the builder's discretion and dependent upon cost. Overall, this product line can achieve a density of 12+ units per acre, thus allowing builders to distribute land and development costs across more units – in an attempt to bring prices down from the current representation of condominium products (i.e., luxury duplexes/fourplexes) that dot the landscape throughout the market.

- Representing a more "cost conscious" or "value-oriented" age-targeted alternative to the highly stylized ranch duplex/fourplex condominiums currently found in Germantown and surrounding areas, yet still directed toward the more mature, move-down home purchasers aged 55-74+, a very efficient ***attached ranch villa*** for sale series is recommended. This product line, which could be configured in 3-, 4-, 5 and/or 6-unit linear buildings (duplexed only where necessary) would consist exclusively of single-level ranch plans, each with a front-load two-car garage and a small, but usable, back-yard or patio area. Ranging in size from 1,375 to 1,675 square feet, the average attached villa unit would carry 1,525 square feet of living space. These homes would be configured slab-on-grade, although a modicum of lots could/should be designated to accommodate optional basements. While directed toward the move-down consumer or empty-nester, this product line would be capable of attracting other segments of the market as well. Ultimately, the goal of creating a villa product slab on grade (as opposed to straight duplex or fourplex buildings with full basements) would be to achieve a higher-density and construction efficiencies which, again, would allow lower costs to be distributed across more units – ultimately leading to more competitive (and appropriate) prices.

- In the single family sector, and representing a departure from the current larger-lot semi-custom/custom home development currently represented among new developments in and around Germantown, would be an urban/suburban detached product line with rear-load garages. Representing a derivation of the neo-traditional planning concept, i.e. Traditional Neighborhood Development (TND), this single family series, ideally, would be comprised of two single-level "ranch" plans, two traditional two-story units (with second floor master bedrooms) and one two-story unit with a first-floor master bedroom, all with optional basements. Ranging in size from 1,500 to 1,900 square feet, and averaging roughly 1,700 square feet across the group, homes in this series should be approximately 30'-35' wide configured on 40'-45' wide homesites. At the Harmony community in Westfield, Indiana, this particular product line has been extremely successful as it has allowed new construction single family housing (through density and unit sizes) to meet a mainstream or workforce price point – one not typically seen among more traditional counterparts on larger lots. In Madison, Wisconsin, Veridian Homes carries a similar style of homes, which allows the builder to offer more mainstream price points. Because of the escalation of new construction single family prices throughout the local market, a similar strategy is warranted. The TND single family product line will be able to attract a broad spectrum of mainstream detached home purchasers including young childless married couples, couples in their initial stages of family formation, and young families. And, with the incorporation of several ranch plans and a two-story master-down design, this program will be in a position to also appeal to the 55 and older empty-nester segment desirous of detached ownership housing.

- The second single family product line should consist of a smaller-lot, more traditional single family series with front-access, two-car garages and optional basements. This product line should be comprised of two single-level "ranch" plans and four traditional two-story units. Ranging in size from 1,750 to 2,400 square feet, and averaging roughly 2,050 square feet across the group, homes in this program should be configured on 50'-55" wide homesites. The smaller lot sizes would, once again, assist in reducing costs, thus allowing for a more competitive price position. Together, the six single family plans will also appeal to a broad spectrum of single family home purchasers including young childless married couples, couples in their initial stages of family formation, and first- and second-time move up families. And, with the inclusion of two ranch plans on small low-maintenance lots, this series will appeal to the 55 and older empty-nester segment as well. *While the price points for this product line align the upper end of mainstream incomes, they more closely align the resale sector. As such, this series will provide a reasonably priced move-up alternative in an effort to alleviate pressure among area resales and open up more options for the mainstream of the market or workforce in the existing home market as well.*

- It is important to note that with proper land planning and architecture, smaller single family lots (both TND and traditional) can still provide for aesthetically appealing community orientation and, most importantly, at the price points not widely represented in the new construction single family sector of the market – price points necessary for the bulk of the market.

For a detailed outline of each recommended mainstream housing idiom including individual product/plan criteria, unit sizes, *current dollar* rents/prices, features, etc., consult **Exhibits 1.1 through 1.7**. As depicted, plan offerings are broad and varied, and reflect some of the best-selling floorplan alternatives among successful "like" products throughout the Midwest.

It is important to note that the detailed planning guidelines and benchmark rent/price suggestions for the various housing products are not arbitrary, but rather *strategic.* Specially, these guidelines will allow five important goals to be met. First, the continuum of home types, styles and rents/prices will directly align mainstream household incomes in the market. Second, the for sale product lines (and their prices) will assist builders in bridging the rather large price gap that exists between area resales and new construction alternatives which, in turn, will provide for "above average" absorption/sales rates. Third, the suggested products (and their typical density allocations) will allow each home series to improve upon total unit counts per acre, which will help minimize raw land costs per unit. Fourth, each suggested product line and plan offering can be built in an efficient manner, which will assist in keeping direct construction costs at a minimum. Finally, the rents/prices assigned to each product line will allow each housing idiom to draw consumers from both the village of Germantown itself, as well as other areas throughout the Milwaukee region, primarily its north/northwest/west suburbs.

Because each product line has been positioned competitively (and strategically) relative to the market, absorption rates for the rental products and sales rates for the ownership offerings are expected to be "at" or "above the market average." And, while absorption and sales are dependent upon other factors such as the scale of a development, i.e., number of total units; site location; community amenities, etc., the following text table offers a general outline of what an individual location would be capable of attaining per product series:

ABSORPTION / SALES SUMMARY - A GUIDE
SUGGESTED HOUSING PRODUCTS: GERMANTOWN, WISCONSIN

Product Line	Estimated Total Units For a Typical Development or Phase (of Relative Scale)	Annual Absorption/ Sales Potential (In Units) At Benchmark Rents/Prices	Marketing Life (In Years)
Two-Story Garden Apts	240	144	1.7 (1)
Ranch Villa Rentals	140	84	1.7 (1)
Single Family Rentals	100	60	1.7 (1)
Townhomes/Rowhomes	60	30	2.0
Attached Ranch Villas	60	30	2.0
TND Single Family	60	30	2.0
Conventional Single Family	40	20	2.0

(1) Marketing life will actually be slightly shorter to get to a stabilized occupancy level of 95 percent.

Source: Tracy Cross & Associates, Inc.

The absorption/sales volumes outlined above are reflective of a series of residential product lines that will appeal to households earning incomes, generally, in the $50,000 to $125,000 range for the rental products and in the $75,000 to $150,000+ range for the ownership idioms. These income segments, which are some of the deepest in the village of Germantown and surrounding communities (including all of Washington County), have been disenfranchised of late relative to new construction alternatives.

1.1

PRODUCT CRITERIA AND BENCHMARK RENTS - TWO-STORY GARDEN APARTMENTS
-- CONVENTIONAL/MAINSTREAM HOUSING --
GERMANTOWN, WISCONSIN

Product Line Summary

Product Form:	***Two-Story Garden Apartments (8- or 16-Unit Buildings with 4 or 8 Direct Access One-Car Garages Per Building)***
Density in Units Per Acre:	***20.0***
Average Plan Size (Sq. Ft.):	***925***
Average Benchmark Base Rent w/50 % Garages:	***$1,716***
Per Sq. Ft.: [1]	***$1.86***

Plan Detail

Plan Designation	A-1	A-2	A-3	B	C-1	C-2	C-3	D
Percent Distribution	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Plan Type	1BR	1BR	1BR	1BR DEN	2BR	2BR	2BR	3BR
Bedroom/Bath Mix	1/1.0	1/1.0	1/1.0	1+Den/1.0	2/2.0	2/2.0	2/2.0	3/2.0
Unit Size (Sq. Ft.)	600	700	775	875	975	1,075	1,150	1,250
Benchmark Base Rent w/o Garage:[1]	$1,245	$1,370	$1,465	$1,590	$1,715	$1,840	$1,935	$2,060
Per Sq. Ft.:[1]	$2.08	$1.96	$1.89	$1.82	$1.76	$1.71	$1.68	$1.65
Benchmark Base Rent w/ Garage:[2]	**$1,370**	**$1,495**	**$1,590**	**$1,715**	**$1,840**	**$1,965**	**$2,060**	**$2,185**
Per Sq. Ft.:[2]	**$2.28**	**$2.14**	**$2.05**	**$1.96**	**$1.89**	**$1.83**	**$1.79**	**$1.75**

Unit Features and Community Amenities

UNIT STANDARDS

- Painted Trim
- Plank Flooring in Living Areas
- "White" Interior Paint Finish
- Direct Wire Smoke Detectors
- Cable/Satellite Access
- High-Speed Internet Connectivity
- USB Ports
- Air Conditioning
- Quality Door Hardware
- Quality Lighting Package
- Private Balcony/Patio

KITCHEN FEATURES

- Quality Wood Cabinetry
- Plank Flooring
- Self Clean Range Oven
- Built-In Dishwasher
- Refrigerator with Ice-Maker
- Garbage Disposal
- Microwave with Vent
- Hard Surface Countertops
- Stainless Steel Sink

BATH/POWDER ROOM STANDARDS

- Plank Flooring
- Hard Surface Vanity Tops
- Quality Cabinetry
- Ceramic Tub/Shower Surround
- Framed Glass Mirror Over Vanity

CLOSETS, UTILITIES, AND STORAGE

- Walk-In MBR Closet (Per Plan)
- Wire Closet Shelving
- Full Size Washer/Dryer (Stacked or Side-by-Side)
- Storage Area (Either In-Unit or Separate)
- Linen Closet(s)
- Programmable Thermostat

COMMUNITY FEATURES/AMENITIES (LARGE-SCALE DEVELOPMENTS) (SHARED W/RANCH VILLA AND/OR SF RENTALS)

- Architecturally-enhanced Exteriors
- Secured Access Entry Per Unit
- Clubhouse w/ Community Room, Kitchen, Fitness Center, E-Lounge, Etc.
- Outdoor Fireside Lounge & Grilling Stations
- Outdoor Swimming Pool/Deck Area
- Dog Park & Dog Washing Station
- Trail System
- Sport Courts/Playground
- Extensive Landscaping/Hardscaping
- Wi-Fi in all Common Areas
- Direct Access Garages at 50%
- Adequate Surface Parking
- Detached Garages @ $65 Monthly Per Space

[1] Benchmark base monthly rents, which are presented in January 2024 dollars, reflect the posted base rents for units without direct access garages. They do not include potential premiums for corner units, floor or view. They also do not include application/administration fees, pet fees, storage rental, utilities, or detached garages.

[2] Benchmark base monthly rents, which are presented in January 2024 dollars, reflect the posted base rents for units with direct access garages. They do not include potential premiums for corner units, floor or view. They also do not include application/administration fees, pet fees, storage rental, utilities, or detached garages.

Source: Tracy Cross & Associates, Inc.

1.2

PRODUCT CRITERIA AND BENCHMARK RENTS - RANCH VILLA RENTALS
-- CONVENTIONAL/MAINSTREAM HOUSING --
GERMANTOWN, WISCONSIN

Product Line Summary

Product Form:	***Single-Level Ranch Villas w/Attached Garages - Slab on Grade/No Basements (3-, 4-, 5- and/or 6-Unit Buildings-Duplexed Where Necessary)***
Density in Units Per Acre:	***12.0***
Average Plan Size (Sq. Ft.):	***1,000***
Average Benchmark Base Rent:	***$1,981***
Per Sq. Ft.: [(1)]	***$1.98***

Plan Detail

Plan Designation	A	B	C	D
Percent Distribution	25.0	25.0	25.0	25.0
Plan Type	1BR	1BR DEN	2BR	3BR
Garage Condition	1-Car	1-Car	1-Car	2-Car
Bedroom/Bath Mix	1/1.0	1+Den/1.0	2/2.0	3/2.0
Unit Size (Sq. Ft.)	725	925	1,075	1,275
Benchmark Base Rent:[(1)]	$1,625	$1,850	$2,050	$2,400
Per Sq. Ft.:[(1)]	$2.24	$2.00	$1.91	$1.88

Unit Features and Community Amenities

UNIT STANDARDS

- Painted Trim
- Plank Flooring in Living Areas
- "White" Interior Paint Finish
- Direct Wire Smoke Detectors
- Cable/Satellite Access
- High-Speed Internet Connectivity
- USB Ports
- Air Conditioning
- Quality Door Hardware and Lighting Package
- Private Patio

KITCHEN FEATURES

- Quality Wood Cabinetry
- Plank Flooring
- Self Clean Range Oven
- Built-In Dishwasher
- Refrigerator with Ice-Maker
- Garbage Disposal
- Microwave with Vent
- Hard Surface Countertops
- Stainless Steel Sink

BATH/POWDER ROOM STANDARDS

- Plank Flooring
- Hard Surface Vanity Tops
- Quality Cabinetry
- Ceramic Tub/Shower Surround
- Framed Glass Mirror Over Vanity

CLOSETS, UTILITIES, AND STORAGE

- Walk-In MBR Closet (Per Plan)
- Wire Closet Shelving
- Full Size Washer/Dryer (Stacked or Side-by-Side)
- Storage Area (Either In-Unit or Separate)
- Linen Closet(s)
- Programmable Thermostat

COMMUNITY FEATURES/AMENITIES (LARGE-SCALE DEVELOPMENTS) (SHARED W/GARDEN APARTMENTS AND/OR SF RENTALS)

- Architecturally-enhanced Exteriors
- Secured Access Entry Per Unit
- Clubhouse w/ Community Room, Kitchen, Fitness Center, E-Lounge, Etc.
- Outdoor Fireside Lounge & Grilling Stations
- Outdoor Swimming Pool/Deck Area
- Trail System
- Dog Park
- Dog Washing Station
- Sport Courts/Playground
- Extensive Landscaping/Hardscaping
- Wi-Fi in all Common Areas
- Direct Access Garages at 100%
- Additional Surface Parking

[(1)] Benchmark base monthly rents, which are presented in January 2024 dollars, reflect the posted base rents, each of which includes an attached garage. They do not include potential premiums for end units or view. They also do not include application/administration fees, pet fees, storage rental, or utilities.

Source: Tracy Cross & Associates, Inc.

1.3

PRODUCT CRITERIA AND BENCHMARK RENTS - SINGLE FAMILY RENTALS
-- CONVENTIONAL/MAINSTREAM HOUSING --
GERMANTOWN, WISCONSIN

Product Line Summary

Product Form:	***Single Family Rentals w/Attached Garages - Slab on Grade/No Basements (35'-40' Wide Homes on 45'-50' Wide Homesites)***
Density in Units Per Acre:	***8.0***
Average Plan Size (Sq. Ft.):	***1,525***
Average Benchmark Base Rent:	***$2,906***
Per Sq. Ft.: [1]	***$1.91***

Plan Detail

Plan Designation	A	B	C	D
Percent Distribution	25.0	25.0	25.0	25.0
Plan Type	Ranch	2-Story	2-Story	2-Story
Garage Condition	2-Car	2-Car	2-Car	2-Car
Bedroom/Bath Mix	2+Den/2.0	3/2.5	3/2.5	3+Loft/2.5
Unit Size (Sq. Ft.)	1,300	1,500	1,600	1,700
Benchmark Base Rent:[1]	$2,625	$2,875	$3,000	$3,125
Per Sq. Ft.:[1]	$2.02	$1.92	$1.88	$1.84

Unit Features and Community Amenities

UNIT STANDARDS

- Painted Trim
- Plank Flooring in Living Areas
- "White" Interior Paint Finish
- Direct Wire Smoke Detectors
- Cable/Satellite Access
- High-Speed Internet Connectivity
- USB Ports
- Air Conditioning
- Quality Door Hardware and Lighting Package
- Private Patio

KITCHEN FEATURES

- Quality Wood Cabinetry
- Plank Flooring
- Self Clean Range Oven
- Built-In Dishwasher
- Refrigerator with Ice-Maker
- Garbage Disposal
- Microwave with Vent
- Hard Surface Countertops
- Stainless Steel Sink

BATH/POWDER ROOM STANDARDS

- Plank Flooring
- Hard Surface Vanity Tops
- Quality Cabinetry
- Ceramic Tub/Shower Surround
- Framed Glass Mirror Over Vanity

CLOSETS, UTILITIES, AND STORAGE

- Walk-In MBR Closet (Per Plan)
- Wire Closet Shelving
- Full Size Washer/Dryer (Stacked or Side-by-Side)
- Storage Area (Either In-Unit or Separate)
- Linen Closet(s)
- Programmable Thermostat

COMMUNITY FEATURES/AMENITIES (LARGE-SCALE DEVELOPMENTS) (SHARED W/GARDEN APARTMENTS AND/OR RANCH VILLA RENTALS)

- Architecturally-enhanced Exteriors
- Secured Access Entry Per Unit
- Clubhouse w/ Community Room, Kitchen, Fitness Center, E-Lounge, Etc.
- Outdoor Fireside Lounge & Grilling Stations
- Outdoor Swimming Pool/Deck Area
- Trail System
- Dog Park
- Dog Washing Station
- Sport Courts/Playground
- Extensive Landscaping/Hardscaping
- Wi-Fi in all Common Areas
- Direct Access Garages at 100%
- Additional Surface Parking

[1] Benchmark base monthly rents, which are presented in January 2024 dollars, reflect the posted base rents, each of which includes an attached garage. They do not include potential premiums for end units or view. They also do not include application/administration fees, pet fees, storage rental, or utilities.

Source: Tracy Cross & Associates, Inc.

1.4

PRODUCT CRITERIA AND BENCHMARK PRICES - FOR SALE TOWNHOMES/ROWHOMES
-- CONVENTIONAL/MAINSTREAM HOUSING --
GERMANTOWN, WISCONSIN

Product Line Summary

Product Form:	***Townhomes/Rowhomes***
Garage Condition:	***2-Car (Rear Load)***
Lower Level of Townhomes/Rowhomes	***Finished***
Average Plan Size (Sq. Ft.):	***1,400***
Average Benchmark Base Price: [1]	***$266,990***
Per Sq. Ft.:	***$190.71***
Average Anticipated Closing Price: [2]	***$283,000***
Per Sq. Ft.:	***$202.14***

Plan Detail

	A	B	C
Plan Designation	A	B	C
Plan Style	3-Story	3-Story	3-Story
Bedrooms	2	2+Loft+Flex	3+Flex
Baths	2.5	2.5	2.5
Unit Size (Sq. Ft.)	1,200	1,450	1,550
Benchmark Base Price:[1]	$254,990	$269,990	$275,990
Per Sq. Ft.:	$212.49	$186.20	$178.06
Anticipated Closing Price: [2]	***$270,300***	***$286,200***	***$292,500***
Per Sq. Ft.:	***$225.25***	***$197.38***	***$188.71***

Features and Amenities

UNIT STANDARDS

- Luxury Plank Flooring in Main Living Areas
- Carpeting in Bedroom Areas
- "White" Interior Paint Finish
- Painted Trim
- Direct-Wire Smoke Detectors Per Code
- Cable/Satellite/Telephone Prewire
- Paneled Doors
- High-Speed Internet Connectivity
- Air Conditioning
- Designer Door Hardware
- Designer Lighting Package
- Private Balcony

KITCHEN FEATURES

- Quality Cabinetry
- Luxury Plank Flooring
- Four Burner Cooktop
- Self Clean Single Oven-Stainless Steel
- Built-In 5-Cycle Dishwasher-Stainless Steel
- Refrigerator with Ice-Maker-Stainless Steel
- Garbage Disposal
- Microwave with Vent
- Granite or Quartz Countertops
- Double Bowl Stainless Steel Sink

BATH/POWDER ROOM STANDARDS

- Ceramic Flooring
- Granite or Quartz Vanity Tops
- Quality Cabinetry
- Ceramic Tub/Shower Surround
- Framed Glass Mirror Over Vanity

CLOSETS, UTILITIES, AND LAUNDRY

- Walk-In MBR Closet (Per Plan)
- Laminate Closet Shelving
- Washer/Dryer Hook-Up
- Linen Closet(s)
- Programmable Thermostat

BUILDING FEATURES/AMENITIES

- Architecturally-Enhanced Exteriors
- Extensive Hardscaping/Landscaping
- Finished Lower Level
  (Note: Lower Level in the Smallest Unit is Limited to A Laundry Room, Closet, Etc.)
- Front-Oriented Sidewalks
- Modest, But Desirable Community Amenities (Depends on Size of Development)

[1] Benchmark base sales prices, which are presented in January 2024 dollars, do not include options, upgrades or premiums.
[2] Includes an estimate for options, upgrades and premiums, i.e. 6.0 percent above the base sales price.

Source: Tracy Cross & Associates, Inc.

1.5

PRODUCT CRITERIA AND BENCHMARK PRICES - FOR SALE ATTACHED RANCH VILLAS
-- CONVENTIONAL/MAINSTREAM HOUSING --
GERMANTOWN, WISCONSIN

Product Line Summary

Product Form:	***Attached Ranch Villas (3-, 4-, 5 and 6-Unit Buildings - Duplexed Where Necessary)***
Garage Condition:	***2-Car (Front)***
Average Plan Size (Sq. Ft.):	***1,525***
Average Benchmark Base Price: [1]	***$288,990***
Per Sq. Ft.:	***$189.50***
Average Anticipated Closing Price: [2]	***$309,200***
Per Sq. Ft.:	***$202.75***

Plan Detail

Plan Designation	A	B	C
Plan Style	Ranch	Ranch	Ranch
Bedrooms	2	2+Den	3
Baths	2	2	2
Unit Size (Sq. Ft.)	1,375	1,525	1,675
Benchmark Base Price:[1]	$279,990	$288,990	$297,990
Per Sq. Ft.:	$203.63	$189.50	$177.90
Anticipated Closing Price: [2]	***$299,600***	***$309,200***	***$318,800***
Per Sq. Ft.:	***$217.89***	***$202.75***	***$190.33***

Features and Amenities

UNIT STANDARDS

- Luxury Plank Flooring in Main Living Areas
- Carpeting in Bedroom Areas
- "White" Interior Paint Finish
- Painted Trim
- Direct-Wire Smoke Detectors Per Code
- Cable/Satellite/Telephone Prewire
- Paneled Doors
- High-Speed Internet Connectivity
- Air Conditioning
- Designer Door Hardware
- Designer Lighting Package
- Private Patio Area

KITCHEN FEATURES

- Quality Cabinetry
- Luxury Plank Flooring
- Four Burner Cooktop
- Self Clean Single Oven-Stainless Steel
- Built-In 5-Cycle Dishwasher-Stainless Steel
- Refrigerator with Ice-Maker-Stainless Steel
- Garbage Disposal
- Microwave with Vent
- Hard Surface Countertops
- Double Bowl Stainless Steel Sink

BATH/POWDER ROOM STANDARDS

- Ceramic Flooring
- Hard Surface Vanity Tops
- Quality Cabinetry
- Ceramic Tub/Shower Surround
- Framed Glass Mirror Over Vanity

CLOSETS, UTILITIES, AND LAUNDRY

- Walk-In MBR Closet (Per Plan)
- Laminate Closet Shelving
- Washer/Dryer Hook-Up
- Linen Closet(s)
- Programmable Thermostat

HOME FEATURES/AMENITIES

- Architecturally-Enhanced Exteriors
- Extensive Hardscaping/Landscaping
- Basements Optional on Select Lots
- Front-Oriented Sidewalks
- Modest, But Desirable Community Amenities (Depends on Size of Development)

[1] Benchmark base sales prices, which are presented in January 2024 dollars, do not include options, upgrades or premiums.
[2] Includes an estimate for options, upgrades and premiums, i.e. 7.0 percent above the base sales price.

Source: Tracy Cross & Associates, Inc.

1.6

PRODUCT CRITERIA AND BENCHMARK PRICES - SMALL LOT TND FOR SALE SINGLE FAMILY
-- CONVENTIONAL/MAINSTREAM HOUSING --
GERMANTOWN, WISCONSIN

Product Line Summary

Product Form:	***Single Family***
Lot Dimensions:	***40'-45" x 100'-110'***
Garage Condition:	***2-Car (Rear Load)*** ***(Front-Load As Necessary)***
Average Plan Size (Sq. Ft.):	***1,700***
Average Benchmark Base Price: [1]	***$329,990***
Per Sq. Ft.:	***$194.11***
Average Anticipated Closing Price: [2]	***$353,100***
Per Sq. Ft.:	***$207.71***

Plan Detail

Plan Designation	A	B	C	D	E
Plan Style	Ranch	Ranch	2-Story	2-Story	2-Story (1st Floor MBR)
Bedrooms	2 + Den	2 + Flex	3	3 + Flex	3 + Loft
Baths	2	2	2.5	2.5	2.5
Unit Size (Sq. Ft.)	1,500	1,600	1,700	1,800	1,900
Benchmark Base Price:[1]	$311,990	$320,990	$329,990	$338,990	$347,990
Per Sq. Ft.:	$207.99	$200.62	$194.11	$188.33	$183.15
Anticipated Closing Price: [2]	***$333,800***	***$343,500***	***$353,100***	***$362,700***	***$372,300***
Per Sq. Ft.:	***$222.53***	***$214.69***	***$207.71***	***$201.50***	***$195.95***

Features and Amenities

UNIT STANDARDS

- Luxury Plank Flooring in Main Living Areas
- Carpeting in Bedroom Areas
- "White" Interior Paint Finish
- Painted Trim
- Direct-Wire Smoke Detectors Per Code
- Cable/Satellite/Telephone Prewire
- Paneled Doors
- High-Speed Internet Connectivity
- Air Conditioning
- Designer Door Hardware
- Designer Lighting Package
- Private Patio Area

KITCHEN FEATURES

- Quality Cabinetry
- Luxury Plank Flooring
- Four Burner Cooktop
- Self Clean Single Oven-Stainless Steel
- Built-In 5-Cycle Dishwasher-Stainless Steel
- Refrigerator with Ice-Maker-Stainless Steel
- Garbage Disposal
- Microwave with Vent
- Hard Surface Countertops
- Double Bowl Stainless Steel Sink

BATH/POWDER ROOM STANDARDS

- Ceramic Flooring
- Hard Surface Vanity Tops
- Quality Cabinetry
- Ceramic Tub/Shower Surround
- Framed Glass Mirror Over Vanity

CLOSETS, UTILITIES, AND LAUNDRY

- Walk-In MBR Closet (Per Plan)
- Laminate Closet Shelving
- Washer/Dryer Hook-Up
- Linen Closet(s)
- Programmable Thermostat

HOME FEATURES/AMENITIES

- Architecturally-Enhanced Exteriors
- Extensive Hardscaping/Landscaping
- Optional Basements
- Front-Oriented Sidewalks
- Modest, But Desirable Community Amenities (Depends on Size of Development)

[1] Benchmark base sales prices, which are presented in January 2024 dollars, do not include options, upgrades or premiums.
[2] Includes an estimate for options, upgrades and premiums, i.e. 7.0 percent above the base sales price.

Source: Tracy Cross & Associates, Inc.

1.7

PRODUCT CRITERIA AND BENCHMARK PRICES - CONVENTIONAL FOR SALE SINGLE FAMILY
-- CONVENTIONAL/MAINSTREAM/MOVE-UP HOUSING --
GERMANTOWN, WISCONSIN

Product Line Summary

Product Form:	***Single Family***
Lot Dimensions:	***55'-60' x 120'***
Garage Condition:	***2-Car (Front)***
Average Plan Size (Sq. Ft.):	***2,050***
Average Benchmark Base Price: [1]	***$386,490***
Per Sq. Ft.:	***$188.53***
Average Anticipated Closing Price: [2]	***$413,600***
Per Sq. Ft.:	***$201.76***

Plan Detail

Plan Designation	A	B	C	D	E	F
Plan Style	Ranch	Ranch	2-Story	2-Story	2-Story	2-Story
Bedrooms	3	3	3+Flex	4	4 + Loft	4 + Den
Baths	2.0	2.0	2.5	2.5	2.5	2.5
Unit Size (Sq. Ft.)	1,750	1,850	1,950	2,100	2,250	2,400
Benchmark Base Price:[1]	$359,990	$368,990	$377,990	$390,990	$403,990	$416,990
Per Sq. Ft.:	$205.71	$199.45	$193.84	$186.19	$179.55	$173.75
Anticipated Closing Price: [2]	***$385,200***	***$394,800***	***$404,400***	***$418,400***	***$432,300***	***$446,200***
Per Sq. Ft.:	***$220.11***	***$213.41***	***$207.38***	***$199.24***	***$192.13***	***$185.92***

Features and Amenities

UNIT STANDARDS

- Luxury Plank Flooring in Main Living Areas
- Carpeting in Bedroom Areas
- "White" Interior Paint Finish
- Painted Trim
- Direct-Wire Smoke Detectors Per Code
- Cable/Satellite/Telephone Prewire
- Paneled Doors
- High-Speed Internet Connectivity
- Air Conditioning
- Designer Door Hardware
- Designer Lighting Package
- Large Private Patio Area

KITCHEN FEATURES

- Quality Cabinetry
- Luxury Plank Flooring
- Four Burner Cooktop
- Self Clean Single Oven-Stainless Steel
- Built-In 5-Cycle Dishwasher-Stainless Steel
- Refrigerator with Ice-Maker-Stainless Steel
- Garbage Disposal
- Microwave with Vent
- Hard Surface Countertops
- Double Bowl Stainless Steel Sink

BATH/POWDER ROOM STANDARDS

- Ceramic Flooring
- Hard Surface Vanity Tops
- Quality Cabinetry
- Ceramic Tub/Shower Surround
- Framed Glass Mirror Over Vanity

CLOSETS, UTILITIES, AND LAUNDRY

- Walk-In MBR Closet (Per Plan)
- Laminate Closet Shelving
- Washer/Dryer Hook-Up
- Linen Closet(s)
- Programmable Thermostat

HOME FEATURES/AMENITIES

- Architecturally-Enhanced Exteriors
- Extensive Hardscaping/Landscaping
- Optional Basements
- Modest, But Desirable Community Amenities (Depends on Size of Development)

[1] Benchmark base sales prices, which are presented in January 2024 dollars, do not include options, upgrades or premiums.
[2] Includes an estimate for options, upgrades and premiums, i.e. 7.0 percent above the base sales price.

Source: Tracy Cross & Associates, Inc.

Please keep in mind that the product recommendations outlined in the previous paragraphs (and in Exhibits 1.1 through 1.7) reflect the most strategic approach for filling the voids that exist in Germantown and surrounding areas and for penetrating the threshold or mainstream of the market. This is not to suggest that the higher-end of the new construction for sale home market (at price points of $450,000 and above) will not still have its place locally (it will), but with lower sales volumes much akin to those currently being generated by area builders, i.e., 12 units annually per product line. Nevertheless, highly-stylized duplex/fourplex residences and larger-lot single family homes (with more square footage, three-car garages, etc.) will continue to reflect and important part of the hierarchy of new construction product in the market and should also be viewed as viable (at the appropriate scale).

MARKET POSITIONING

It is important to reiterate that the benchmark rents/prices outlined in Exhibits 1.1 through 1.7 have been *carefully* established so that each product line can penetrate the mainstream of the new construction housing market based, primarily, on incomes, while at the same time supporting a value position necessary to appeal to consumers from inside and outside the local area. For example, the three rental products will each occupy an appropriate (and competitive) rent/value variance when cast against some of the newer, most proximate apartment communities of scale, i.e., those developments of 100+ units introduced in the last 10 years within 4-5 miles of Germantown (see **Exhibits 1.8 and 1.9**).

The various for sale products, in turn, will occupy much lower/more competitive value positions in the market considering the higher price points currently represented in the new construction sector (see **Exhibits 1.10 and 1.11).** As such, these product lines can expect higher absorption rates than what is typically seen among area developments, especially considering the lack of competitive substitution at benchmark prices. In other words, the more value-oriented nature of the for sale products will allow for 20-30 sales annually per series – in a market where the typical annual sales rate hovers at 12 units annually *or lower*.

A DISCIPLINE APPROACH TO PRODUCT DEVELOPMENT

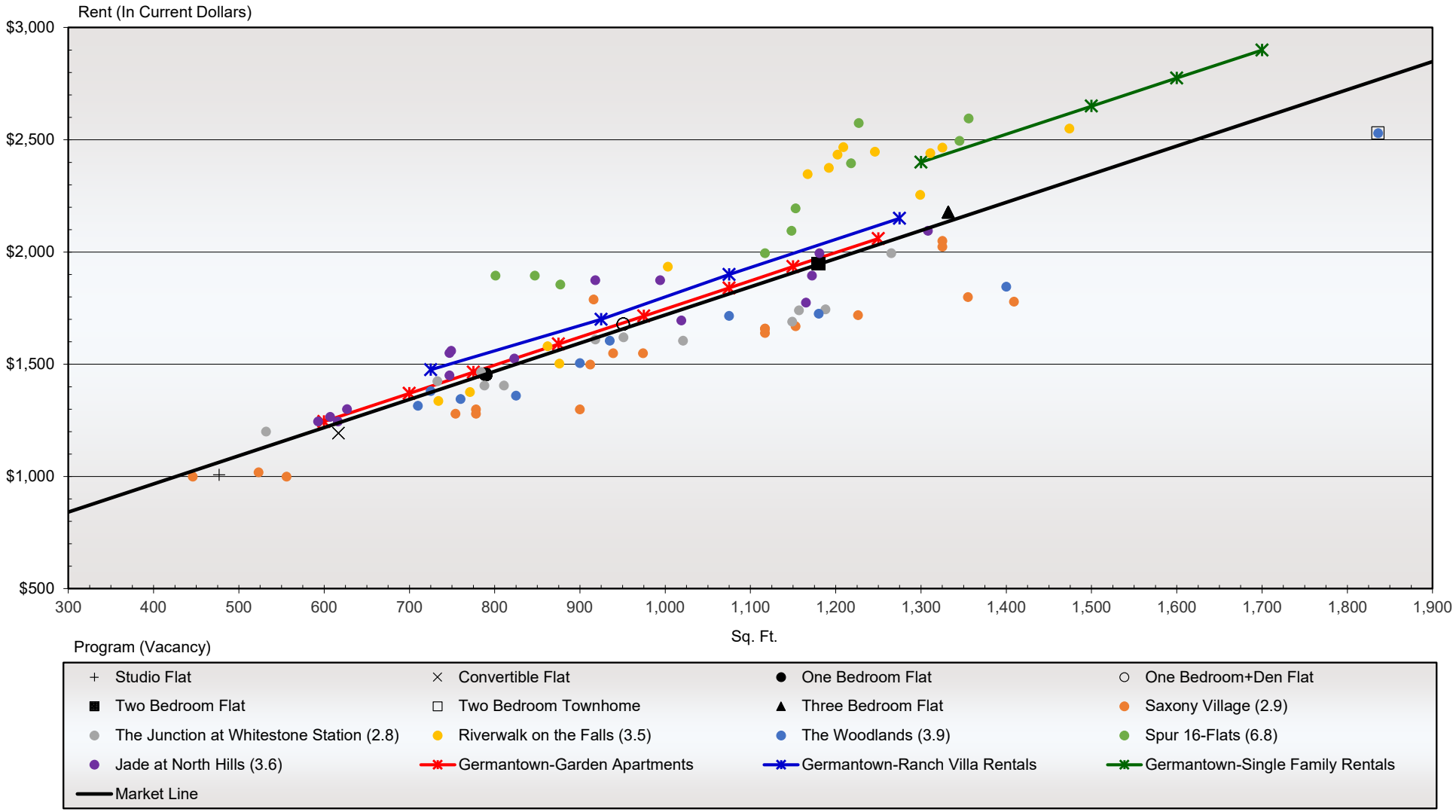
To achieve the rents/prices (and absorption) outlined for each product line, and apart from the requirement of higher densities, it will be imperative for the Village of Germantown, and other stakeholders, to work closely with builders/developers so that the recommendations are understood and embraced. Specifically, builders/developers (and governing bodies) will need to think differently in terms of land planning, development, and product design in order to *substantially reduce costs*, a key component to meeting the rent/price requirements. Provided below are number of guiding principles for bringing properly positioned conventional, mainstream and/or workforce housing to market, especially as it relates to the ownership products:

- Each product line must be efficient and cost effective to build from a design standpoint (value engineered). This can be achieved while still offering functional and desirable floorplan alternatives.

- The basis for design should be modeled after box-on-box/four-corner construction with no wasted space; however, exterior elevations should still be very appealing. Referencing the latter, a strong use of colors *not materials* is but one example of how quality can be portrayed to the consumer. This has been accomplished in numerous communities throughout the U.S. with specific reference made to re-development efforts at Stapleton Airport in Denver, among others. To reiterate, by creating value-oriented floorplans, we are not suggesting that quality be minimized, nor is there implication that overall curb appeal be comprised. It simply needs to be accomplished strategically "behind the scenes."

1.8

Rent/Value Analysis
Selected Rental Housing Communities
Germantown Primary Market Area (PMA)



Rent/value analysis uses a scatter diagram to graphically represent a set of observations found in today's marketplace, specifically the square footage of units offered and their associated rent levels. Regression analysis is then used to fit a line through the set of market observations that represent the "best fit" or average market line. This market line can then be used to predict the performance of a new, untested product line or offer explanations regarding the occupancy/absorption rates of currently available product lines.

Source: Tracy Cross & Associates, Inc.

Rent/Value Analysis
Selected Rental Housing Communities
Germantown Primary Market Area (PMA)

Plan Size (Sq. Ft.)	Average Market Rent	Program/Location	Year Built	Total Units	Average Plan Size (Sq. Ft.)	Average Posted Base Rent		Average Base Market Rent	Price Variance From Market	Vacancy Rate
						Dollars	Rent per Sq. Ft.			
300	$844	Spur 16-Flats/Mequon	2019	146	1,163	$2,257	$1.94	$1,923	+$334	6.8
400	969	(1) ***Germantown-Single Family Rentals***	---	---	***1,525***	***2,681***	***1.76***	***2,375***	***+306***	---
500	1,094	(1) Riverwalk on the Falls/Menomonee Falls	2018	114	1,057	1,973	1.87	1,791	+182	3.5
600	1,219	(1) ***Germantown-Ranch Villa Rentals***	---	---	***1,000***	***1,831***	***1.83***	***1,719***	***+112***	---
700	1,344	Jade at North Hills/Menomonee Falls	2018	139	874	1,593	1.82	1,562	+31	3.6
800	1,469	(1) ***Germantown-Garden Apartments***	---	---	***925***	***1,653***	***1.79***	***1,625***	***+28***	---
900	1,594									
1,000	1,719	***---- Market Average ----***	---	---	***1,003***	***1,723***	***1.72***	***1,723***	***0***	***3.7***
1,100	1,844									
1,200	1,969	(1) The Junction at Whitestone Station/Menomonee Falls	2016	318	954	1,589	1.67	1,662	-73	2.8
1,300	2,094	(1) Saxony Village/Germantown	2018	172	972	1,533	1.58	1,684	-151	2.9
1,400	2,219	(1) The Woodlands/Menomonee Falls	2015	153	1,066	1,649	1.55	1,802	-153	3.9
1,500	2,344									
1,600	2,469									
1,700	2,594									
1,800	2,719									
1,900	2,844									

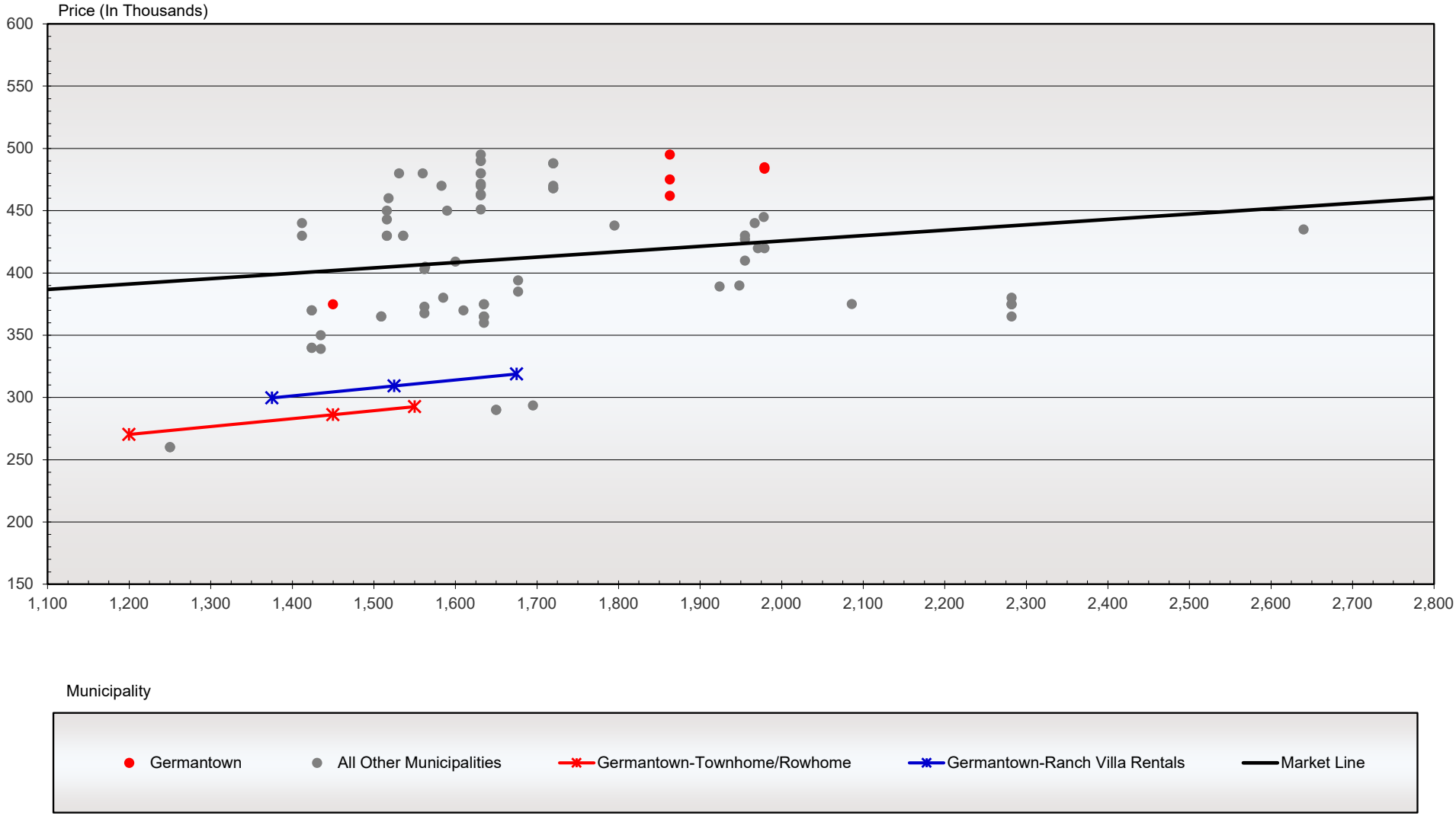
Slope: $1.25 per sq. ft.

(1) Development includes one enclosed parking space in some or all of its units. As such, an adjustment has been made (for analytical purposes only) so each development can be assessed as if garages were optional.

Source: Tracy Cross & Associates, Inc.

1.10

Price/Value Analysis
New Construction Duplex/Fourplex/Condominium Closings (Priced from $250,000 - $499,999)
Germantown Primary Market Area (PMA): Last 12 Months

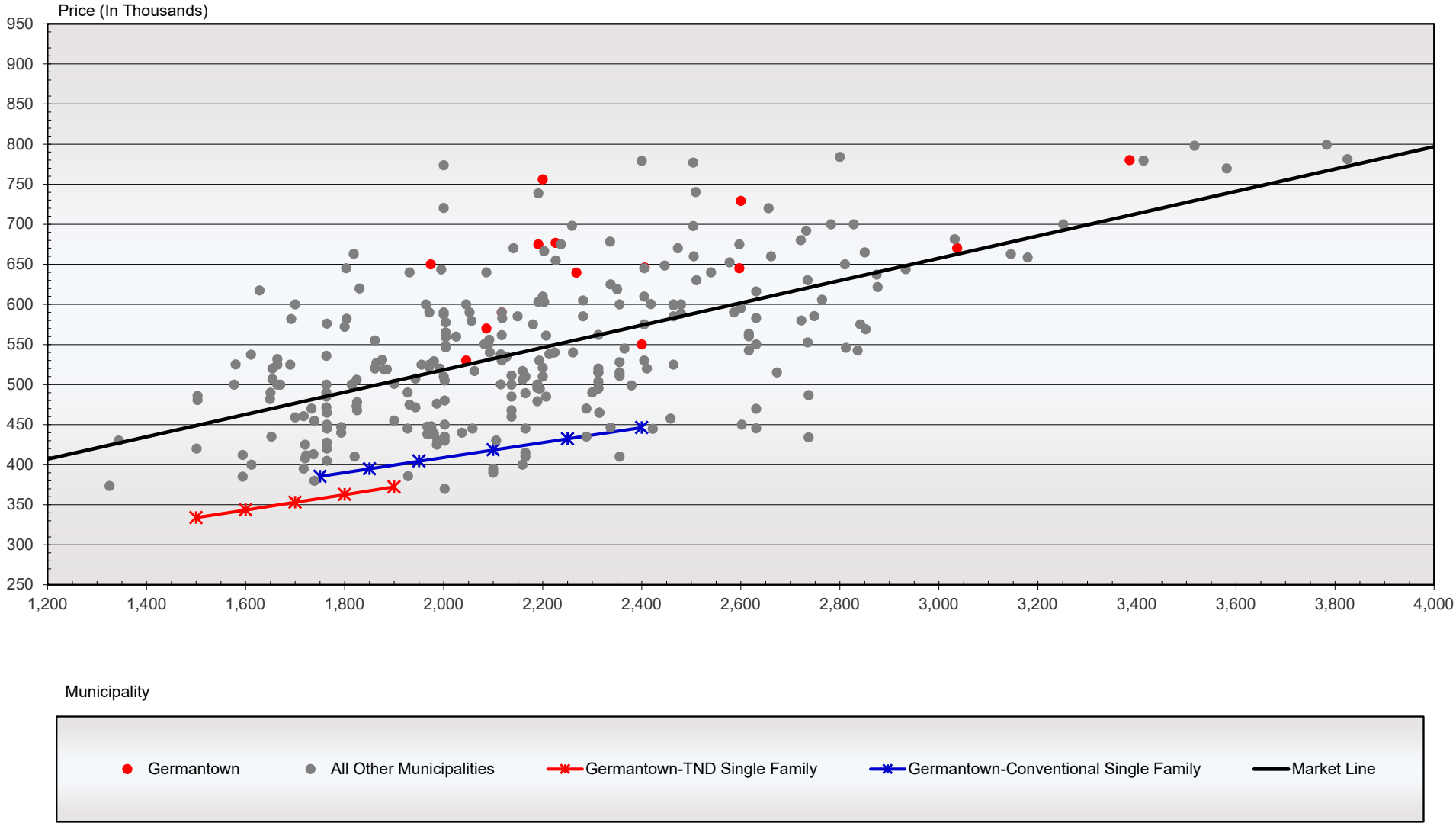


Price/value analysis uses a scatter diagram to graphically represent a set of observations found in today's marketplace, specifically the square footage of models offered and their associated sales prices. Regression analysis is then used to fit a line through the set of market observations that represent the "best fit" or average market line. This market line can then be used to predict the performance of a new, untested product line or offer explanations regarding the sales rate of currently available product lines.

Source: Tracy Cross & Associates, Inc.

1.11

Price/Value Analysis
New Construction Single Family Closings (Priced from $350,000 - $799,999)
Germantown Primary Market Area (PMA): Last 12 Months



Price/value analysis uses a scatter diagram to graphically represent a set of observations found in today's marketplace, specifically the square footage of models offered and their associated sales prices. Regression analysis is then used to fit a line through the set of market observations that represent the "best fit" or average market line. This market line can then be used to predict the performance of a new, untested product line or offer explanations regarding the sales rate of currently available product lines.

Source: Tracy Cross & Associates, Inc.

- ❑ Once value-engineering has taken place, and efficient/cost effective housing units/buildings are designed, these efficiencies must be conveyed to all subcontractors for bidding purposes.

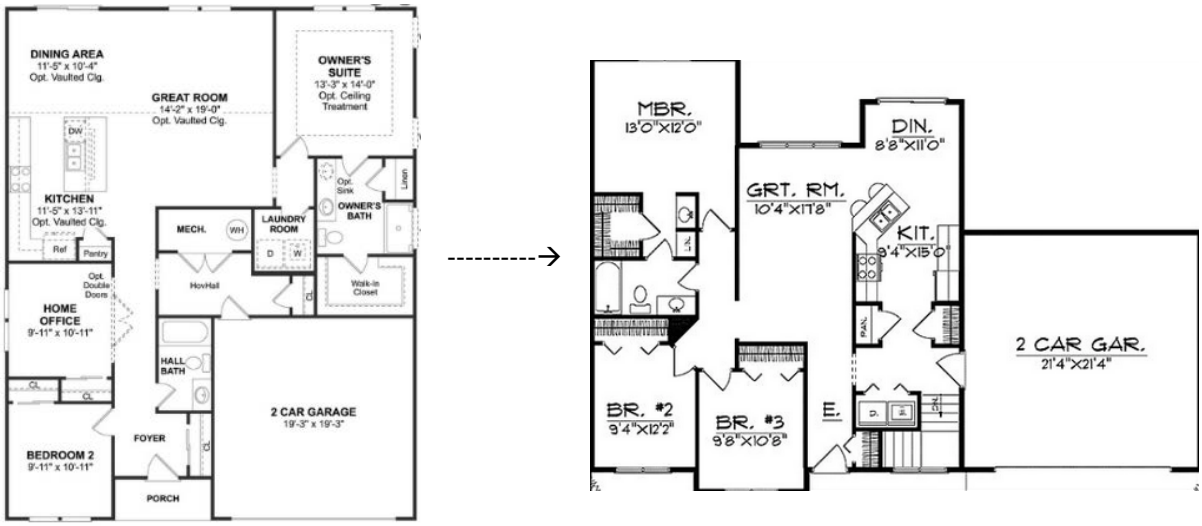
- ❑ None of the product lines should offer standard (included) basements, although the option for a basement can be made available in certain series (as indicated).

- ❑ Additionally, outdoor living space for each residence (within each product line) is essential, but need not be extensive. Specifically, private balconies for both apartment series and the townhomes/rowhomes will be sufficient, along with private courtyards/patios/backyard areas for the attached ranch villas and most single family homes.

Provided below are a few floorplan examples that portray efficiency in design:

Efficient Three-Story Townhome/Rowhome Plan

Efficient Conventional SF Ranch Plan (Left) – As Opposed to Inefficient SF Ranch Plan (Right)



Finally, in achieving higher densities across the various product lines, strong consideration should be placed on "to the street" product, smaller lots, along with front-to-back living (i.e., narrower units). At the same time, the mixing of products within neighborhood areas will help improve densities, while also establishing a desirable architectural landscape. In reference to this latter point, in many instances, higher-density communities (with strong exterior elevations) can create an architectural landscape that is much more desirable in terms of community orientation compared to larger-lot developments with minimal landscaping and/or natural amenities.

PRODUCT CLARIFICATION

Please keep in mind that while our product guidelines are very specific, there are a number of derivatives to each of the recommended generic forms that could evolve through the design efforts of individual builders/developers – or through the overall implementation process. However, when considering any derivatives during the course of the planning process, it is still important to follow the general parameters outlined for each of the recommended products relative to unit types, bedroom counts, rents, prices, etc., in order to insure acceptable absorption and/or sales, and most importantly, the appeal to the mainstream or middle of the market.

In addition, consideration can certainly be given to the introduction of other generic forms on the basis of the imbalance that exists market-wide between supply and demand – but done so with the same general planning strategy in mind – that being differentiation, efficiency, tasteful architecture, and rent/price positioning.

GEOGRAPHIC AND COMMUNITY POSITIONING

Given such severe supply-side constraints in the new construction housing market (i.e., deficiencies in supply for properly positioned product), practically any suitable location within Germantown could be considered for residential development or redevelopment. With this said, the Village of Germantown is in a position to move rather swiftly with its planning efforts considering the municipality has already identified 12 initial sites (both large and small) that could potentially contain a component (or components) of residential units (see **Exhibit 1.12**). In fact, with the Village getting close to securing the Grosenick parcel, which contains roughly five (5) total acres, the introduction of, say, the suggested for sale townhome/rowhome product line (as depicted earlier in Exhibit 1.4) could bring a much needed new construction price point to the village. In this regard, it is likely that 60+/- units could be configured within this parcel and, at the price points indicated earlier, a development of this scale could achieve full sellout in just two short years at 30 sales annually.

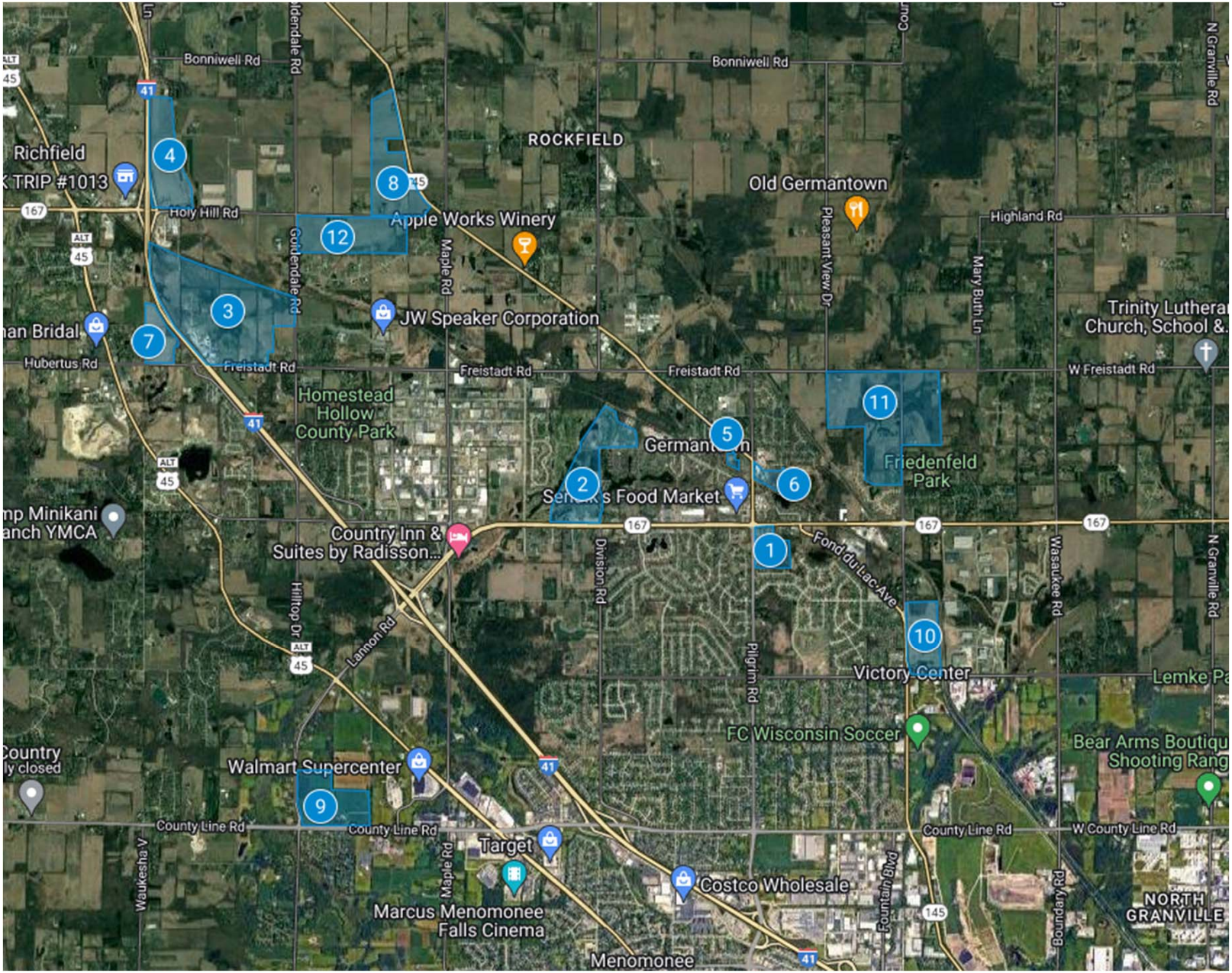
Most of the other properties identified by the Village could contain multiple product lines given their size (and the higher density allocations of each recommended home series). As a general guide, among the various larger assemblages that are proximate to Interstate 41 and/or align some of Germantown's most prominent business/industrial areas, communities offering a combination of the various rental products should be considered. For example, the Holy Hill Gateway District assemblage carries enough acreage for all three rental housing products to be introduced in a planned and be marketed concurrently. At the same time, larger assemblages on the east side of the municipality like the Country Aire North Neighborhood, which are more aesthetically appealing relative to surrounding residential uses and/or open space, should be earmarked for larger-scale ownership communities with multiple product lines/neighborhood areas.

1.12

GEOGRAPHIC DELINEATION OF POTENTIAL DEVELOPMENT / REDEVELOPMENT SITES
GERMANTOWN, WISCONSIN

Potential Development/Redevelopment Sites

1. Pilgrim Rd & Mequon Rd
2. Blackstone Crk Golf Course
3. Freistadt District-E of I-41
4. Holy Hill Gateway District
5. Grosenick Parcel
6. Fond du Lac Ave & Pilgrim
7. Freistadt District-W of I-41
8. Dheinsville Neighborhood
9. Lannon Rd & County Line Rd
10. Victory Center Corridor
11. Country Aire North Nghbrhd
12. Isabelle Farms Nghbrhd



Source: Village of Germantown, Tracy Cross & Associates, Inc. and Google Maps

With this said, and again considering the size of many of the identified development/redevelopment sites, strong consideration should be given to the creation of a true master-planned community (or two) whereby multiple product lines would be introduced within an amenity enhanced environment. Such a community could become a ***destination point development*** whereby a full hierarchy of residential products are combined with heavy landscaping and hardscaping, together with amenities such as pocket parks, walking/jogging/biking trails, playgrounds, sport courts, open space areas, etc. – *representing a true lifestyle environment.* Such a development in the new construction sector is generally absent in northwest suburban Milwaukee, especially with the product and price points recommended, and would most certainly allow the village of Germantown to capture a *disproportionate share of market-wide demand*, while also inducing spillover from other areas.

Provided below are several items to consider if planning a destination-point master-planned community:

- ❑ To provide strong community infrastructure created around a theme of livability, functionality, walkability, and recreation/convenience.

- ❑ To create a community where emphasis is placed on all segments of the market ranging from younger childless singles and couples to families living, playing, and growing together; and where active adult residents can see and experience the vibrancy of youth. Establishing this reality includes the combination of all products with appropriate, but minimally expensive, amenities.

- ❑ To create a community in which a variety of densities are carefully combined with pocket parks and other recreational uses – and that all are highly integrated and exposed for everyone to enjoy. *Like the architecture and design of the homes, the land plan must be very efficient as well.*

OTHER CONSIDERATIONS

Even with a disciplined planning and design approach, it is possible that some incentives or concessions from the municipality might also be necessary to bring the *for sale products* (as positioned) to market, especially in larger-scale communities. While this will need to be determined through the planning process, it should be given due consideration. For the rental products, it is unlikely that incentives/concessions would be required at benchmark rents as they are more consistent with new/newer market comparables, although rising construction costs may also require some assistance in this regard.

Examples of the types of incentives being utilized by other municipalities to bring the gap between costs and "needed" housing prices include Tax Increment Financing (TIF) and/or land subsidies or land subordination, i.e., reducing the cost of land or eliminating the cost whatsoever.

Also, it is important to note that when considering parcels for the introduction of properly priced, mainstream housing throughout the village, vacant sites typically represent a stronger alternative as there are added costs associated with redevelopment sites including demolition and debris removal.

NEXT GENERATION HOUSING INITIATIVE – WASHINGTON COUNTY

With the village of Germantown situated within the boundaries of Washington County, the municipality is in a position to benefit from the county's *Next Generations Housing* initiative, which aims to assist communities, developers, builders, etc. in filling voids that exist in the market relative to ownership housing forms. As highlighted thus far in this report, and detailed more thoroughly in Sections 2, 3 and 4 that follow, the recent price escalation among virtually all new construction for sale developments throughout Germantown and surrounding areas has created a significant void for properly positioned for sale idioms. As such, our analysis empirically identified this void and made specific product/price recommendations to fill it – recommendations that conform to the goals of the Next Generation Housing initiative. With this said, and because several of Germantown's identified development/redevelopment properties are already being considered for Next Generation Housing, *the municipality should continue to consider this opportunity.*

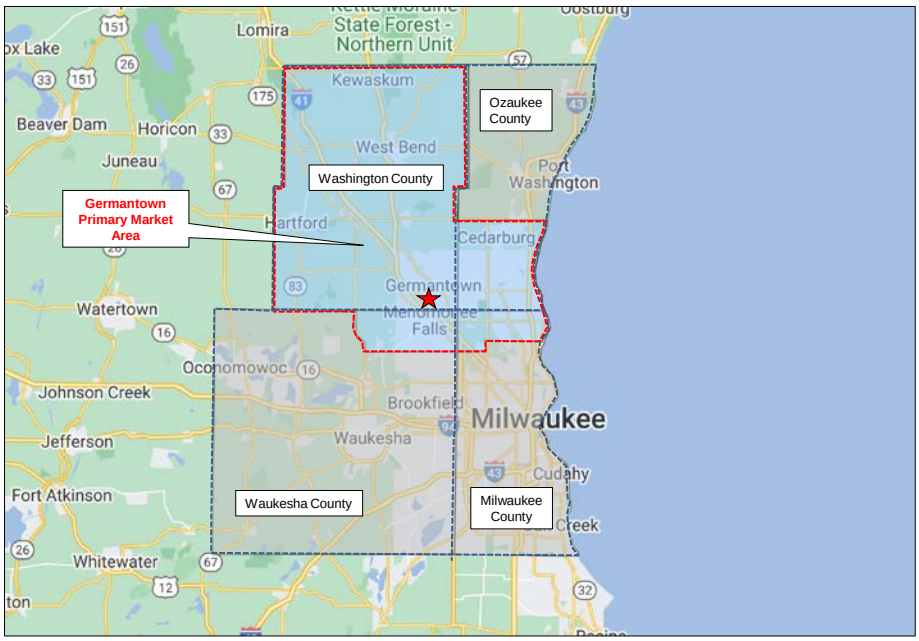
One only has to look at the first Pilot program under the Next Generation Housing banner to see the impact it is having and the success in terms of sales. In Jackson, roughly eight miles north of Germantown, Harbor Homes and Hillcrest Builders recently introduced new construction single family homes starting in the low $300,000s (in a market where this price point is virtually non-existent). Within the first six months, 14 homes have been sold with closings pending – a sales rate stronger than any other development locally.

All told, the effort involved with bringing for sale housing product to market in Germantown (at the prices suggested), along with the variety of new rental products, will be rewarded by significant sales/absorption volumes per development, which will translate to increases in population and households and, in turn, foster economic growth locally that will have a measurable fiscal impact.

2. *MARKET FUNDAMENTALS FOR NEW CONSTRUCTION HOUSING*

Any new residential development within the village of Germantown will receive its primary demand support from its host county, Washington, along with several municipalities within the nearby areas of northeast Waukesha County, southern Ozaukee County, and the northern edge of Milwaukee County. Defined for the purposes of this analysis as the Germantown Primary Market Area (PMA), this combined area shares commonalities relative to household composition, commutation patterns to major concentrations of employment and/or the alignment of residential developments which will serve as sources of competitive influence, both direct and indirect. As illustrated below, the Germantown PMA is a component of the Milwaukee-Waukesha-West Allis, WI Metropolitan Statistical Area (MSA) which includes Milwaukee, Ozaukee, Washington and Waukesha counties in their entirety.

GEOGRAPHIC DELINEATION OF THE GERMANTOWN PRIMARY MARKET AREA



Source: Google Maps and Tracy Cross & Associates, Inc.

Note: while the Germantown PMA includes the whole of Washington County, 90 percent of its population is concentrated in the central and southern portions of the county (from West Bend south to the county line). As such, this portion of the county, combined with the adjoining areas of northeast Waukesha County, southern Ozaukee County and the northern tip of Milwaukee County, represents the heart of the PMA.

As summarized in this section of the report, new residential development in Germantown *can clearly be supported* by empirical evidence found in the key demand variables of population, household, incomes, employment, residential construction, etc. throughout both the Milwaukee region and the PMA.

POPULATION AND HOUSEHOLDS

During the 2010-2020 time period, household additions in the Germantown PMA were *healthy* totaling 7,836, or 784 yearly. And, while not immune to the impacts of the recent Covid-19 pandemic, the PMA added another 381 households annually between 2020 and 2023. The village of Germantown, too, has witnessed continual household growth moving from a base of 7,773 in 2010 to a current estimated level of

8,583. As highlighted in the following text table, the village of Germantown has seen its share of total households in PMA grow slightly from 6.9 percent in 2010 to 7.1 percent in 2023.

POPULATION AND HOUSEHOLD TRENDS
GERMANTOWN PMA AND THE VILLAGE OF GERMANTOWN, WISCONSIN

Area	2010	2020	2023 (Estimate)	2028 (Projected)	Average Annual Change 2010 - 2020	Average Annual Change 2020 - 2023	Average Annual Change 2023 - 2028
Population							
Germantown PMA	281,258	292,587	293,822	298,266	+1,133	+412	+889
Village of Germantown	19,783	20,917	21,054	21,424	+113	+46	+74
Percent of PMA	7.0	7.1	7.2	7.2	---	---	---
Households							
Germantown PMA	112,429	120,265	121,407	124,889	+784	+381	+696
Village of Germantown	7,773	8,472	8,583	8,839	+70	+37	+51
Percent of PMA	6.9	7.0	7.1	7.1	---	---	---

Source: U.S. Census Bureau, Environics Analytics and Tracy Cross & Associates, Inc.

According to recent estimates provided by Environics Analytics through its evaluation of the Census Bureau's annual American Community surveys, household growth in the Germantown PMA over the next five years will total another 3,480 new households, or 696 annually. As a result, the PMA will approach the 125,000-household mark by 2028.

HOUSEHOLD COMPOSITION

Relative to households by age group, not only is there a rather large base of existing households in each of the PMA's various age categories, but all segments show growth over the next five years – led by the 65-74 segment and the Under 35 group.

Likewise, the village of Germantown shows growth in each of its various household age classifications as highlighted in the adjacent text table.

HOUSEHOLD GROWTH BY AGE GROUP
-- GERMANTOWN PMA AND THE VILLAGE OF GERMANTOWN, WISCONSIN --

Age Range	Germantown PMA 2023	Germantown PMA 2028	Village of Germantown 2023	Village of Germantown 2028
Under 35	17,385	17,920	1,129	1,154
35-44	18,687	18,772	1,315	1,320
45-54	19,948	19,987	1,467	1,470
55-64	25,573	26,203	1,939	1,958
65-74	22,372	24,069	1,610	1,760
75 and over	17,442	17,938	1,123	1,177
Total	***121,407***	***124,889***	***8,583***	***8,839***

Source: Environics Analytics: 2023 Demographic Snapshot Report.

The current composition of area households lends support to the development of a variety of residential product forms at various locations throughout the PMA and the village of Germantown in particular. As highlighted in the adjacent table, there is an ample number of one- and two- person households (for rental apartments and for sale townhomes, duplexes and/or condominiums), and also a significant number of three-, four- and five-person households (for both attached for sale housing products and single family detached homes).

Most notable are one- and two-person occupied housing units which, together, comprise 64.4 percent of the PMA's household base and 64.5 percent in the village of Germantown.

2023 COMPOSITION OF AREA HOUSEHOLDS:
GERMANTOWN PMA AND THE VILLAGE OF GERMANTOWN, WISCONSIN

Attribute	Germantown PMA	Village of Germantown
Total Households	**121,407**	**8,583**
1-Person Household	31,776	2,114
2-Person Household	46,353	3,422
3-Person Household	17,908	1,231
4-Person Household	16,134	1,072
5-Person Household	6,313	574
6 or More Person Household	2,923	170
1 Person Households		
Percent	26.2	24.6
Number	31,776	2,114
2 Person Households		
Percent	38.2	39.9
Number	46,353	3,422

Source: Environics Analytics; *2023 Demographic Snapshot*

INCOMES

Households in the Germantown PMA support higher incomes than the overall region as evidenced by an estimated 2023 median of $86,185, a level 19.2 percent higher than the $72,303 median noted for the entire Milwaukee-Waukesha-West Allis, WI MSA. *Market wide, 52.5 percent of all current households earn between $40,000 and $124,999 annually, which generally represents the mainstream or middle of the market (the workforce), i.e., those earning between 50 and 150 percent of the PMA's median. Another 30.9 percent of all households earn $125,000 or more annually with the balance (16.6 percent) earning less than $40,000 per year. Overall, the concentration of household incomes in the $40,000-$124,999 and $125,000+ categories signifies significant income support locally for new construction mainstream/workforce and market rate housing development, both rental and for sale.*

HOUSEHOLDERS BY AGE AND INCOME: 2023
-- GERMANTOWN PMA --

	Number of Households by Age of Householder						
Income Range	Total Households	Under 35	35 - 44	45 - 54	55 - 64	65 - 74	75 and Over
Under $15,000	6,389	1,196	549	466	989	1,380	1,809
15,000 - 24,999	6,227	635	457	381	703	1,616	2,435
25,000 - 39,999	7,821	1,403	640	654	970	1,829	2,325
40,000 - 49,999	12,842	2,104	1,426	1,333	2,012	3,090	2,877
50,000 - 74,999	19,602	3,258	2,778	2,487	3,330	4,437	3,312
75,000 - 99,999	16,779	2,789	3,070	2,610	3,421	3,195	1,694
100,000 - 124,999	14,558	1,827	2,727	3,062	3,539	2,278	1,125
125,000 - 149,999	11,043	1,525	2,318	2,310	2,774	1,383	733
150,000 - 199,999	12,144	1,672	2,603	2,886	3,274	1,233	476
200,000 and Over	14,002	976	2,119	3,759	4,561	1,931	656
Total	***121,407***	***17,385***	***18,687***	***19,948***	***25,573***	***22,372***	***17,442***
Median	***$86,185***	***$75,926***	***$103,674***	***$116,392***	***$109,412***	***$67,776***	***$46,023***

Sources: U.S. Bureau of the Census; Environics Analytics; and Tracy Cross & Associates, Inc.

Note: The median household income in the host Washington County currently stands at $84,794, generally consistent with the defined Germantown PMA.

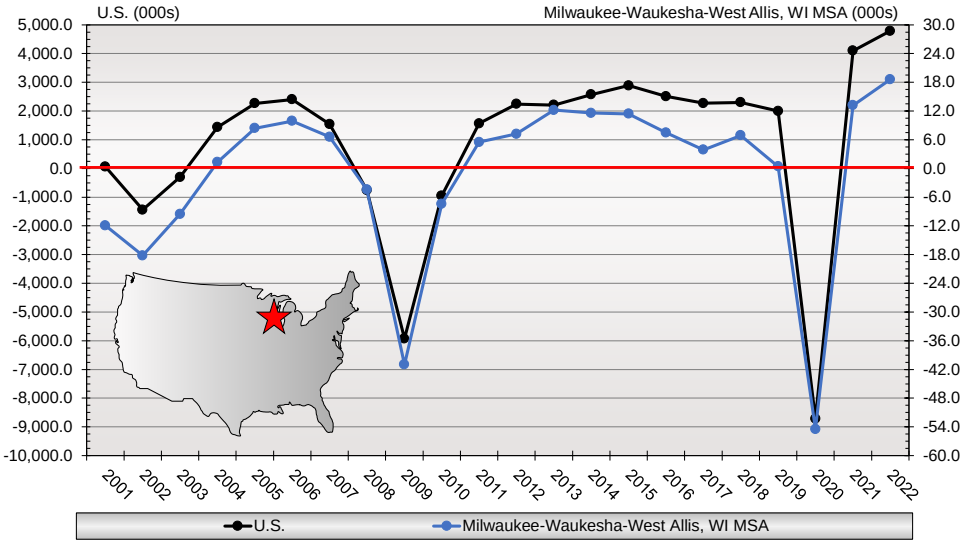
EMPLOYMENT

Germantown, while supporting its own internal economy and concentrations of localized employment (i.e., the community's major business/industrial parks and standalone office buildings/retail centers), is also within a reasonable driving distance to employment clusters in other areas of the Milwaukee region given its immediate access to the US-45/I-41 expressway system, and their connection with other major arterials. Overall, employment sources throughout much of the Milwaukee metropolitan area are accessible to Germantown residents, especially those situated in the northwestern and western suburban areas including Menomonee Falls, Wauwatosa, and Brookfield.

While one cannot discount the effect that the Great Recession had on the region's economy, not to mention the more recent Covid-19 pandemic, employment growth throughout the four-county Milwaukee-Waukesha-West Allis, WI MSA had been on the positive side for nine years in a row through 2019. For example, after losing 6.1 percent of its total nonagricultural wage and salary employed workforce from 2007 through 2010 (during the heart of the Great Recession), the metropolitan area saw its job rosters grow by 66,600 workers during the subsequent 2011-2019 period, averaging 7,400 annually, and equal to a growth rate of approximately 1.1 percent.

Most recently, and due entirely to the global/national pandemic and its impact on the economy, the MSA witnessed job losses of 54,500 in 2020 – erasing roughly 80 percent of the net gains witnessed during the 2011-2019 period. However, this severe loss of jobs is/was temporary, and primarily affected those sectors of the economy most impacted by the pandemic. Moreover, this most recent Covid-related downturn reversed course quickly – bolstering the economy. As illustrated in the following graphic, most of the employment losses in 2020 were replenished in 2021 and 2002.

YEAR-OVER-YEAR CHANGE IN NONFARM EMPLOYMENT
-- MILWAUKEE-WAUKESHA-WEST ALLIS, WI MSA AND THE U.S. --



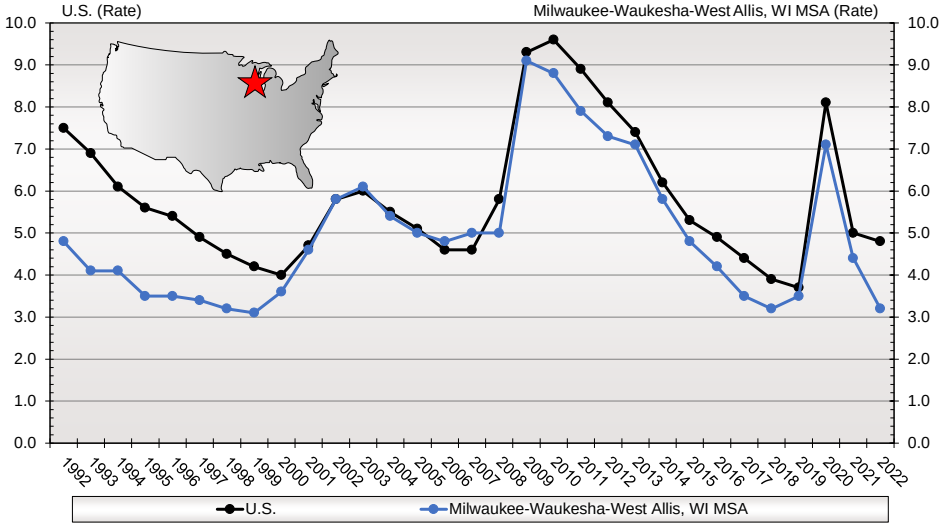
Source: U.S. Department of Labor, Bureau of Labor Statistics

Moreover, year-over-year employment gains during the January-November 2023 period totaled over 3,200 jobs. In addition, the Wisconsin Department of Revenue, the Job Center of Wisconsin, and the Wisconsin

Department of Workforce Development expect the Milwaukee region's employment rosters to increase by an average of 0.9 percent annually over the next five years. As such, the four-county MSA is expected to witness the addition of at least 38,000 total new jobs through 2028, once again supporting the development of new housing throughout the area.

During the Milwaukee region's economic growth period of 2011 through 2019 (prior to the pandemic), the area's unemployment rate had been dropping steadily. As highlighted in the following graphic, the Milwaukee area unemployment rate decreased from 8.8 percent in 2010 to just 3.5 in 2019. During this entire timeframe, the four-county MSA's unemployment rate remained at or *below* the nation as a whole. In addition, while unemployment in Milwaukee rose to 7.1 percent in 2020, i.e., the Covid-19 crisis, it remained lower than the 8.1 percent unemployment rate posted nationally. In addition, by 2022, Milwaukee's unemployment rate had already retreated to 3.3 percent compared to a national average of 4.8 percent during the same period.

UNEMPLOYMENT RATES BY YEAR
-- MILWAUKEE-WAUKESHA-WEST ALLIS, WI MSA AND THE U.S. --



Source: U.S. Department of Labor, Bureau of Labor Statistics

Recently, the MSA's unemployment rate during the first 11 months of 2023 averaged just 3.1 percent.

RESIDENTIAL BUILDING ACTIVITY

Since 2000, the Germantown PMA has recorded an average of 1,020 residential building permits per year ranging from a recessionary-impacted low of 313 units in 2011 to a high of 1,839 units during the boom period of 2003 (see **Exhibit 2.1**).

Historically, single family permit authorizations have outpaced multifamily issuances at a ratio of roughly two-to-one. For example, between 2000 and 2022, single family permits, which include single-address duplex/townhome/villa units, averaged 696 units yearly, while multifamily volumes, which include both rental apartments and high-density condominiums, averaged 324 units per annum. More recently, and due to an increase in apartment construction over the last few years, primarily in Menomonee Falls and Mequon, the PMA's ratio between single family and multifamily permits narrowed to a level of less than two-to-one during the 2015-2022 timeframe.

RESIDENTIAL BUILDING PERMIT TRENDS
GERMANTOWN PMA
2000 - 2022

2.1

Year	Total	Single Family	Multi-Family
2000	1,445	977	468
2001	1,683	1,084	599
2002	1,530	1,054	476
2003	1,839	1,314	525
2004	1,709	1,284	425
2005	1,719	1,143	576
2006	1,453	905	548
2007	907	741	166
2008	506	414	92
2009	399	324	75
2010	436	348	88
2011	313	244	69
2012	386	346	40
2013	581	507	74
2014	660	472	188
2015	875	522	353
2016	1,213	616	597
2017	946	662	284
2018	854	627	227
2019	1,077	572	505
2020	1,033	621	412
2021	915	687	228
2022	983	542	441
Averages			
2000 - 2022	1,020	696	324

Source: U.S. Department of Commerce, Bureau of the Census: *C-40 Construction Reports*

From a regional capture rate perspective, between 2000 and 2022, the Germantown PMA accounted for a healthy 28.5 percent of all residential permit activity in the four-county Milwaukee metropolitan region, with the Washington County portion of the PMA accounting for a 17.1 percent share by itself. However, during the eight-year period from 2015 through 2022, as the PMA's regional capture rate jumped to 30.5 percent, the Washington County portion of the PMA dropped to 14.7 percent. In other words, residential development in areas of the PMA just outside of Washington County (i.e., Cedarburg, Grafton, Mequon, and Menomonee Falls) gained significant momentum relative to residential construction on a regional basis, while Washington County failed to keep pace with other portions of the PMA and the region. All told, as the four-county MSA moved upward in overall residential construction volumes during the last eight years (compared to the eight years prior), as did those areas of the PMA near Germantown outside of Washington County, municipalities in the host county (including the village of Germantown) did not increase proportionately (see **Exhibit 2.2**). This resulted, primarily, from supply-side constraints (not demand) – as will be discussed in more detail in Sections 3 and 4 of this report.

HOUSING DEMAND – AN OUTLOOK

During the 2023-2028 timeframe, construction requirements for new housing in the Germantown PMA will average 1,010 units annually. This forecast can be tied to household growth levels estimated at 696 per annum through 2026, along with 300+/- units representing the replacement of residences lost to demolition and abandonment and the need to provide a vacancy allowance for filtering or movement from one residence to another.

Of the 1,010 units expected to be constructed annually in the PMA during the five-year forecast period, 595 will occur among for sale housing forms with 415 represented in the rental housing sector. As detailed in the adjacent text table, for sale housing demand will be distributed among 395 single family detached homes and 200 in the attached sector, i.e., duplexes, fourplexes, and condominiums.

RESIDENTIAL ABSORPTION POTENTIALS BY PRODUCT TYPE
-- GERMANTOWN PMA --
2023 - 2028

Product Type	Annual	Total Through 2028
Total	***1,010***	***5,050***
For Sale	**595**	**2,975**
Single Family Detached	395	1,975
Duplex/Fourplex/Condominium	200	1,000
For Rent	**415**	**2,075**

Source: Tracy Cross & Associates, Inc.

Given the supply-side constraints throughout the PMA (which, again, will be discussed in the following sections of the report), it is highly likely that demand will exceed supply near term, especially in the for sale sector, but also among multifamily rental forms as well. This market reality bodes extremely well for housing initiatives in the village of Germantown, if properly planned and executed.

In addition, not only is "derived demand" likely to outstrip supply near term, but the overall base of residential construction requirements could actually be *much higher* (i.e., double) during any given year where properly positioned supply is made available. This *doubling of demand* factors pent-up demand; upside household growth potentials if properly positioned development were actually to occur; the limited amount of new construction housing alternatives throughout the PMA (again, to be discussed later); and spillover potentials from areas outside the defined primary market area.

2.2

RESIDENTIAL BUILDING PERMIT TRENDS
MILWAUKEE-WAUKESHA-WEST ALLIS, WI METROPOLITAN STATISTICAL AREA (MSA)
2000 - 2022

	Milwaukee-Waukesha-West Allis, WI MSA			Milwaukee County, WI			Ozaukee County, WI			Washington County, WI			Waukesha County, WI		
Year	Total	Single Family	Multi-Family	Total	Single Family	Multi-Family	Total	Single Family	Multi-Family	Total	Single Family	Multi-Family	Total	Single Family	Multi-Family
2000	5,631	3,581	2,050	1,750	736	1,014	502	360	142	931	637	294	2,448	1,848	600
2001	5,879	3,564	2,315	1,524	671	853	737	335	402	890	736	154	2,728	1,822	906
2002	5,936	3,456	2,480	2,061	645	1,416	502	353	149	1,006	682	324	2,367	1,776	591
2003	6,467	3,939	2,528	2,138	742	1,396	596	406	190	1,226	929	297	2,507	1,862	645
2004	5,902	3,840	2,062	2,117	773	1,344	380	302	78	1,205	921	284	2,200	1,844	356
2005	5,444	3,361	2,083	1,697	785	912	406	277	129	1,371	850	521	1,970	1,449	521
2006	4,290	2,624	1,666	1,436	550	886	304	256	48	995	609	386	1,555	1,209	346
2007	3,266	2,082	1,184	1,230	378	852	252	232	20	661	501	160	1,123	971	152
2008	2,444	1,234	1,210	1,032	247	785	166	142	24	356	270	86	890	575	315
2009	1,443	891	552	584	160	424	163	107	56	263	233	30	433	391	42
2010	1,941	967	974	1,006	178	828	121	105	16	328	242	86	486	442	44
2011	1,593	915	678	802	231	571	132	110	22	202	133	69	457	441	16
2012	1,793	1,064	729	654	164	490	123	113	10	242	206	36	774	581	193
2013	2,000	1,326	674	411	154	257	279	181	98	383	309	74	927	682	245
2014	2,416	1,318	1,098	795	138	657	264	176	88	337	291	46	1,020	713	307
2015	3,048	1,416	1,632	1,269	128	1,141	170	170	0	444	315	129	1,165	803	362
2016	4,055	1,671	2,384	1,721	146	1,575	443	213	230	585	356	229	1,306	956	350
2017	3,693	1,588	2,105	1,579	101	1,478	376	230	146	504	360	144	1,234	897	337
2018	3,791	1,734	2,057	1,535	127	1,408	260	221	39	416	344	72	1,580	1,042	538
2019	2,440	1,509	931	548	170	378	452	234	218	460	294	166	980	811	169
2020	2,753	1,586	1,167	749	218	531	396	219	177	407	345	62	1,201	804	397
2021	2,981	1,811	1,170	371	145	226	298	247	51	520	410	110	1,792	1,009	783
2022	3,127	1,603	1,524	882	167	715	345	293	52	461	232	229	1,439	911	528
Averages															
2000 - 2022	3,580	2,047	1,533	1,213	337	876	333	230	104	617	444	173	1,417	1,036	380

Source: U.S. Department of Commerce, Bureau of the Census: *C-40 Construction Reports*

3. *THE RENTAL HOUSING MARKET*

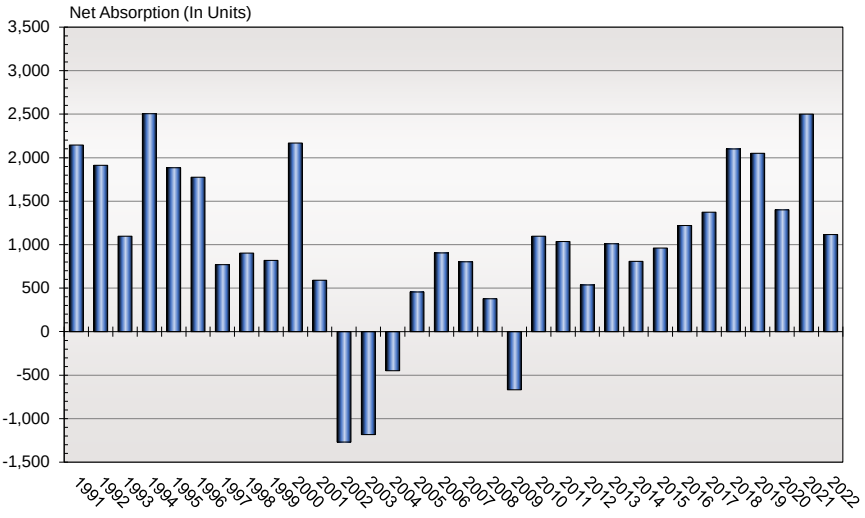
The current condition of the rental housing market in and around Germantown *lends full support* to the development of additional units throughout the area and within the village of Germantown in particular. Specifically, given the overall strength of this sector of the market (as highlighted in the following bullet-point summary), the introduction of additional *for rent* housing product is *definitely warranted.*

THE REGIONAL APARTMENT MARKET

- Serving as a backdrop to rental housing potentials within the Germantown PMA is the overall health of the market in the greater Milwaukee region. For example, according to Moody's Analytics, among all asset classifications of apartments in the two core counties of the greater Milwaukee region, i.e., Milwaukee and Waukesha, a vacancy rate of 3.6 percent was reported at the close of the 3rd Quarter 2023, reflecting tight market conditions. For reference, in a normal (or balanced) market, vacancies of 5.0 to 6.0 percent are typically required for filtering, or movement between developments. In addition, the overall 3.6 percent vacancy rate includes new "un-leased" units among those developments still undergoing their initial absorption periods. When these communities are excluded, the vacancy rate in Milwaukee and Waukesha counties drops to an even tighter 3.1 percent.

- At the same time, net rental absorption in the two core counties of the Milwaukee region has averaged over 1,400 units annually during the last 12 years – reaching or exceeding the 2,000-unit mark in three of the last five including 2,500 units in 2021. For perspective, during the 11-year period from 1990 through 2000, Waukesha and Milwaukee counties saw their occupied apartment stock, among all asset classifications, increase by a total of 19,191 units, or an annual average of 1,745. Following this period of positive absorption, the 2001-2009 timeframe saw net absorption drop into negative territory for four of the eight years during the period due to recessionary overtones during the first part of the decade, a dramatic increase in home ownership at the time, and a fair amount of rental-to-condominium conversion activity.

RENTAL APARTMENT ABSORPTION TRENDS: 1991-2022
-- MILWAUKEE & WAUKESHA COUNTIES, WI --



Source: Moody's Analytics

THE LOCAL APARTMENT MARKET

- Not only are vacancies among all asset classifications of apartments in nearby Milwaukee and Waukesha counties in a relatively tight condition at 3.6 percent (3.1 percent excluding new/unabsorbed units), but vacancies are *even tighter* in the Germantown PMA. For example, among 40 conventional rental housing communities that have been constructed market-wide in the last 10 years, i.e., since 2013, 35 developments (containing 3,587 total units) have reached stabilized occupancy and reported a vacancy rate of just 2.1 percent at the time of our December 2023 survey.

- In Washington County alone, newer stabilized developments in the communities of Germantown, Hartford, Jackson, Slinger and West Bend reported a vacancy rate of only 1.3 percent.

- The five communities in the Germantown PMA still undergoing their initial lease-up periods at the time of our recent survey have performed well. These developments, which include Fox Run-Flats and Fox Run-Townhomes in Grafton; Creekside Crossing and Highlands/Aero Park-Flats-AA in Menomonee Falls; and The District-Lithia Lofts in West Bend, are absorbing units at an average per-project rate of 10.0 monthly.

- While 40 market rate apartment communities have opened in the Germantown PMA since 2013, only two developments were constructed from 2000-2012 in this broad geographic area. Given the lack of supply during this timeframe, which has led to significant levels of pent-up demand for new apartment product throughout the area, the 40 developments that have been introduced in the market area over the last ten years have all been well received. In fact, despite the introduction of the 40 newest developments, vacancies remain *extremely tight* among stabilized communities. In other words, the amount of new development activity in the PMA over the past 10 years has not been sufficient enough to provide balance in the market and satisfy both pent-up and net-new demand.

- In Germantown itself, only two apartment communities with a combined 190 total units have been introduced in the last 10 years, i.e., Hillstone (18 units) and Saxony (172 units). These apartments were all absorbed quickly and are currently at a collective occupancy level of nearly 98.0 percent.

- As highlighted in **Exhibit 3.1**, the average posted base rent level among new/newer apartment communities in the Germantown PMA, not including premiums or extras, currently stands at $1,779 monthly which includes a typical 1,104 square foot apartment. This translates to a value ratio of $1.61 per square foot. The effective rent is nearly the same as only a handful of developments were offering any type of incentive or concession at the time of our survey. Base rents are the highest in the highly desirable Cedarburg, Mequon and Menomonee Falls areas where rents approach or exceed the $2.00 per-square-foot mark in several instances.

FUTURE SUPPLY

- It is important to note that the *demand for rental housing in the Germantown PMA will likely exceed supply* near term given the fact that just six communities (1,271 total units) are currently in the planning pipeline or under construction and not yet leasing. This compares with net-new demand of 2,075+ units through 2028 as highlighted earlier in Section 2. *In Germantown itself, there are currently no multifamily developments formally in the pipeline.*

3.1

COMPOSITE RENTAL SUMMARY: APARTMENT COMMUNITIES CONSTRUCTED IN 2013 OR AFTER
GERMANTOWN PMA
DECEMBER 2023

Development	Municipality	Year Built	Total Units	Number Vacant	Percent Vacant (Absorption Rate in Units)	Average Unit Size (Sq. Ft.)	Average Posted Base Monthly Rent	
							$	$/Sq. Ft.
The Bevy	Brown Deer	2020	175	0	0.0	979	$1,608	$1.64
Arabelle	Cedarburg	2019	69	3	4.3	1,147	2,358	2.06
Cedar Place	Cedarburg	2019	192	4	2.1	1,102	1,739	1.58
Fox Run-Flats[1]	Cedarburg	2023	160	154	96.3 (12.0/Mo)	1,110	2,118	1.91
Fox Run-Townhomes[1]	Cedarburg	2023	44	40	90.9 (8.0/Mo)	2,040	3,084	1.51
Hillstone	Germantown	2015	18	0	0.0	1,211	1,802	1.49
Saxony Village	Germantown	2018	172	5	2.9	972	1,583	1.63
1505	Grafton	2017	130	5	3.8	889	1,640	1.84
2185 On Wisconsin-THR	Grafton	2023	18	0	0.0	1,424	2,495	1.75
Birch Crossing	Hartford	2017	84	1	1.2	1,152	1,539	1.34
Oriole Pond	Hartford	2017	156	0	0.0	1,051	1,130	1.08
Rincon 225	Hartford	2020	82	1	1.2	804	1,326	1.65
Wilson Heights	Hartford	2017	82	1	1.2	1,305	1,493	1.14
Cranberry Creek	Jackson	2013	16	1	6.3	1,269	1,550	1.22
Rosewood Commons	Jackson	2021	72	2	2.8	1,088	1,531	1.41
Sherman Heights	Jackson	2020	36	0	0.0	1,280	1,488	1.16
Rock Pointe Village	Lannon	2021	264	1	0.4	972	1,559	1.60
Creekside Crossing[1]	Menomonee Falls	2022	120	13	10.8 (11.6/Mo)	1,409	2,123	1.51
Highlands/Aero Park CO-AA	Menomonee Falls	2021	32	0	0.0	1,384	2,938	2.12
Highlands/Aero Park Flt-AA[1]	Menomonee Falls	2023	95	56	58.9 (9.2/Mo)	1,177	2,178	1.85
Jade at North Hills	Menomonee Falls	2018	139	5	3.6	874	1,593	1.82
Junction at Whitestone Stn	Menomonee Falls	2016	318	9	2.8	954	1,639	1.72
Riverwalk on the Falls	Menomonee Falls	2018	114	4	3.5	1,057	2,023	1.91
Tamarack Springs	Menomonee Falls	2021	152	6	3.9	1,429	2,094	1.47
The Woodlands	Menomonee Falls	2015	153	6	3.9	1,066	1,699	1.59
Artesa	Mequon	2017	33	3	9.1	1,215	2,114	1.74
Encore	Mequon	2015	28	0	0.0	1,733	2,931	1.69
The Reserve	Mequon	2017	81	4	4.9	1,200	2,202	1.84
Spur 16-Flats	Mequon	2019	146	10	6.8	1,163	2,257	1.94
Spur 16-THs	Mequon	2019	10	0	0.0	2,368	4,995	2.11
West House at Foxtown-Apt	Mequon	2020	96	0	0.0	1,245	2,146	1.72
West House at Foxtown-TH	Mequon	2023	42	1	2.4	1,751	2,662	1.52
Ridge View Terrace	Slinger	2019	48	0	0.0	1,220	1,369	1.12
Stonefield Terrace	Slinger	2021	80	3	3.8	1,224	1,481	1.21
Mammoth Springs-Ph 1	Sussex	2014	153	0	0.0	976	1,521	1.56
Mammoth Springs-Ph 2	Sussex	2017	107	2	1.9	1,285	2,018	1.57
Mammoth Springs-Ph 3	Sussex	2020	40	0	0.0	855	1,498	1.75
Cast Iron (Conversion)	West Bend	2016	129	0	0.0	950	1,288	1.36
The District-Lithia Lofts[1]	West Bend	2022	46	6	13.0 (8.9/Mo)	1,046	1,766	1.69
Trails Edge	West Bend	2022	120	0	0.0	912	1,500	1.64
Total/ Weighted Average	---	---	***4,052 / 3,587*** [2]	***346 / 77*** [2]	***8.5 / 2.1*** [2]	***1,104***	***$1,779***	***$1.61***

[1] Community is still undergoing its initial absorption period.
[2] Excludes communities still undergoing their initial absorption periods.

Source: Tracy Cross & Associates, Inc.

4. THE FOR SALE HOUSING MARKET

New construction for sale development throughout the Germantown PMA is generally characterized by smaller- to moderate-scale broker- or builder-represented communities reflecting single family and duplex/fourplex/condominium subdivisions directed to both primary and lifestyle consumer segments which (in many cases) have been marketed in phases over extended periods of time, although some larger-scale communities of 100+ units have been developed in recent years, primarily in areas of Menomonee Falls and Cedarburg (outside of Washington County). Overall, however, there has been a limited number of recently introduced developments *of significant scale* actively marketing new units in proprietary communities throughout the PMA, yet some scattered site/lot sale development and/or larger-scale, more custom-oriented product is also evident.

In the entirety of the PMA, single family building permits which, again, include single family detached homes as well as single-address duplexes, fourplexes and condominium/villa units, has generally ranged from 450 to 675 units annually over the last ten years *in this very broad geographic area*, despite "upside" demand potentials being stronger. This current level of new construction for sale development activity is due, in large part, to the higher price points that now accompany newly built for sale developments which, in turn, has resulted in more modest per-project sales volumes. In fact, most proprietary subdivisions throughout the county are generating sales volumes at or below 12 homes per year – a rate viewed as modest by most standards, i.e., a typical builder, in most instances, desires 18-24+ sales annually per product series.

In Germantown itself, active for sale development currently includes just a few condominium and single family communities priced in the higher ranges and generating sales volumes viewed as moderate. As highlighted in the following table, notable new construction for sale communities in Germantown generated a total of 17 sales/closings over the last 12 months, or roughly 4-5 per development during the period, on average.

NOTABLE NEW CONSTRUCTION FOR SALE RESIDENTIAL DEVELOPMENTS
-- GERMANTOWN, WISCONSIN --

Development / Builder(s)	Product Type	Number of Sales/Closings (Last 12 Months)	Average Plan Size (Sq. Ft.)	Average Sales/Closing Price	Average Price Per Sq. Ft.
The Reserve at Wrenwood / Harbor	Fourplex/Condo	7	1,921	$484,267	$252.09
Wrenwood North / Tim O'Brien & Aspen	Single Family	5	2,320	740,175	319.04
Prairie Glen / Bielinski	Single Family	3	2,393	767,900	320.89
Heritage Park North / Stepping Stone	Single Family	2	2,209	675,858	305.96

Source: Tracy Cross & Associates, Inc.

Note: Not included in the above table are a few recently completed developments such as Veridian Homes' Kinderberg Estates community, i.e., single family homes priced primarily in the $600,000s, along with smaller-scale attached projects such as Stepping Stone's Seven Pines condominiums.

SINGLE FAMILY DETACHED ACTIVITY – GERMANTOWN PMA

In the entirety of the Germantown PMA, new construction ***single family*** closing activity has been generally steady over the last three years, with little improvement, mainly because of the overall limited number of new developments entering the market—and, most importantly, *escalating prices.* As highlighted in the

following text table, roughly 300 new single family detached homes are sold/closed annually in the PMA (through the local multiple listing service), at price points now supporting a median above $500,000. In fact, with the median closing price of a new construction single family home in the PMA approaching $550,000 in 2023, and considering a less-than-favorable interest rate environment, the average marketing time of a new single family home (days on market) rose precipitously between 2022 and 2023.

NEW CONSTRUCTION SINGLE FAMILY CLOSINGS
GERMANTOWN PMA
2021-2023

Price Range	2021		2022		2023	
	Number of Closings	Percent of Total	Number of Closings	Percent of Total	Number of Closings	Percent of Total
Under $250,000	---	---	---	---	---	---
250,000 - 299,999	1	0.3	---	---	---	---
300,000 - 349,999	10	3.3	---	---	---	---
350,000 - 399,999	43	14.1	20	6.8	10	3.2
400,000 - 449,999	47	15.4	47	15.9	45	14.4
450,000 - 499,999	63	20.7	46	15.6	48	15.3
500,000 - 549,999	29	9.5	57	19.3	60	19.2
550,000 - 599,999	40	13.1	36	12.2	48	15.3
600,000 - 699,999	35	11.5	51	17.3	59	18.8
700,000 & Above	37	12.1	38	12.9	43	13.8
Total	***305***	***100.0***	***295***	***100.0***	***313***	***100.0***
Median	***- - - - - $490,820 - - - - -***		***- - - - - $530,310 - - - - -***		***- - - - - $544,530 - - - - -***	
Avg. Days on Market	***- - - - - - - 45 - - - - - - -***		***- - - - - - - 41 - - - - - - -***		***- - - - - - - 67 - - - - - - -***	

Source: Southeast Wisconsin Multiple Listing Service

Please note that new construction closings recorded by the multiple listing service, while representing the majority, do not include all proprietary subdivision activity among single family developments, especially where individual lots are sold directly to the end consumer, who in turn, builds a semi-custom or custom home.

While the overall limited amount of new single family development (of scale) is keeping volumes in the more modest ranges, especially when demand could be stronger, so, too, is the overall higher price position of the new construction homes being built (as mentioned earlier). In fact, with the median price of a new/newer single family closing (as recorded through the multiple listing service) standing at $544,530 in 2023, there is a disconnect with the distribution of household incomes, which is putting extreme pressure on the existing home market, i.e. the resale sector. For example, the median closing price among new construction units in the PMA is now almost $150,000 higher than that of a resale counterpart. As a result, prices in the existing home market have been increasing even more rapidly and the average “days on market” in the resale sector are extremely low. Moreover, the volume of resale closings has dropped each year since 2021 as inventory continues to wane.

As highlighted in the following text table, the average market time of an older-stock single family resale closing in 2023 period stood at just 15 days, down from an already-low 16 days in 2022 and 20 days in 2021. For reference, the typical marketing time for a single family detached resale in the Midwest ranges from 72-90 days. *In the village of Germantown, the average market time of a single family resale during the last six months stood at just 11 days, and at closing prices 10 percent higher than to those reflected throughout the PMA as a whole.*

SINGLE FAMILY RESALE CLOSINGS
GERMANTOWN PMA
2021-2023

Price Range	2021		2022		2023	
	Number of Closings	Percent of Total	Number of Closings	Percent of Total	Number of Closings	Percent of Total
Under $200,000	200	6.6	68	2.8	39	2.0
200,000 - 249,999	310	10.3	233	9.7	129	6.6
250,000 - 299,999	536	17.8	332	13.8	228	11.7
300,000 - 349,999	478	15.9	382	15.9	288	14.7
350,000 - 399,999	337	11.2	310	12.9	298	15.3
400,000 - 449,999	244	8.1	290	12.1	216	11.1
450,000 - 499,999	204	6.8	166	7.0	175	9.0
500,000 - 549,999	169	5.6	127	5.3	118	6.0
550,000 - 599,999	126	4.2	106	4.4	75	3.8
600,000 - 699,999	165	5.5	147	6.2	151	7.7
700,000 & Above	242	8.0	237	9.9	237	12.1
Total	***3,011***	***100.0***	***2,398***	***100.0***	***1,954***	***100.0***
Median	***- - - - - $348,112 - - - - -***		***- - - - - $380,232 - - - - -***		***- - - - - $399,019 - - - - -***	
Avg. Days on Market	***- - - - - - - 20 - - - - - - -***		***- - - - - - - 16 - - - - - - -***		***- - - - - - - 15 - - - - - - -***	

Source: Southeast Wisconsin Multiple Listing Service

DUPLEX/FOURPLEX/CONDOMINIUM ACTIVITY

In the ***duplex/fourplex/condominium*** sector, a similar condition exists in the Germantown PMA relative to pricing differentials between new construction units and resales. As highlighted in the adjacent table, there are currently roughly 100 new attached units being sold annually market-wide, again a relatively modest volume because of limited supply in this sector, coupled with a median price point that now exceeds $425,000.

NEW CONSTRUCTION DUPLEX/FOURPLEX/CONDOMINIUM CLOSINGS
GERMANTOWN PMA
2021-2023

Price Range	2021		2022		2023	
	Number of Closings	Percent of Total	Number of Closings	Percent of Total	Number of Closings	Percent of Total
Under $100,000	---	---	---	---	---	---
100,000 - 149,999	---	---	---	---	---	---
150,000 - 199,999	1	0.9	---	---	---	---
200,000 - 249,999	13	11.6	1	1.0	---	---
250,000 - 299,999	22	19.6	17	17.7	5	5.1
300,000 - 349,999	29	25.9	12	12.5	6	6.2
350,000 - 399,999	16	14.3	22	22.9	26	26.8
400,000 - 449,999	15	13.4	28	29.2	22	22.7
450,000 - 499,999	7	6.3	6	6.3	28	28.9
500,000 & Above	9	8.0	10	10.4	10	10.3
Total	***112***	***100.0***	***96***	***100.0***	***97***	***100.0***
Median	***- - - - - $334,555 - - - - -***		***- - - - - $391,047 - - - - -***		***- - - - - $426,210 - - - - -***	
Avg. Days on Market	***- - - - - - - 99 - - - - - - -***		***- - - - - - - 54 - - - - - - -***		***- - - - - - - 80 - - - - - - -***	

Source: Southeast Wisconsin Multiple Listing Service

Again, the higher price position found in the new construction attached sector is putting tremendous pressure on the existing home market as evidenced by duplex/fourplex/condominium resale closings averaging just 12 days on market in 2023, down from 18 and 16 days in 2021 and 2022, respectively. As highlighted in the following text table (compared to the table on the previous page), the difference in price between typical resale and new construction attached sector units is approximately $175,000.

DUPLEX/FOURPLEX/CONDOMINIUM RESALE CLOSINGS
GERMANTOWN PMA
2021-2023

Price Range	2021		2022		2023	
	Number of Closings	Percent of Total	Number of Closings	Percent of Total	Number of Closings	Percent of Total
Under $100,000	73	9.3	39	5.4	31	5.1
100,000 - 149,999	116	14.9	69	9.7	60	9.9
150,000 - 199,999	173	22.2	179	25.0	92	15.2
200,000 - 249,999	156	20.1	140	19.6	119	19.6
250,000 - 299,999	91	11.7	113	15.8	93	15.3
300,000 - 349,999	72	9.3	65	9.1	63	10.4
350,000 - 399,999	35	4.5	40	5.6	57	9.4
400,000 - 449,999	25	3.2	28	3.9	39	6.4
450,000 - 499,999	20	2.6	17	2.4	22	3.7
500,000 & Above	17	2.2	25	3.5	30	5.0
Total	***778***	***100.0***	***715***	***100.0***	***606***	***100.0***
Median	***- - - - - $208,954 - - - - -***		***- - - - - $225,254 - - - - -***		***- - - - - $250,653 - - - - -***	
Avg. Days on Market	***- - - - - - - 18 - - - - - - -***		***- - - - - - - 16 - - - - - - -***		***- - - - - - - 12 - - - - - - -***	

Source: Southeast Wisconsin Multiple Listing Service

The moderate amount of *new construction* product in the overall market, especially at price points more in-line with typical "new versus resale" differentials, is also having an impact on overall inventory levels among both newly built homes and resale units. For example, among all residential activity in the PMA (both detached and attached, and including both new construction and resales), *inventory levels are low*. With only 429 single family listings reported at the beginning of January 2024, and with overall closing activity totaling 2,267 units in 2023, single family inventory levels in PMA stand at just 2.27 months, which falls below the typical three-month inventory period that exists in more normal, or balanced, home markets. In the attached sector, a similar level of inventory exists at just 2.30 months (see **Exhibit 4.1**). *The most notable areas of imbalance in the detached sector can be found at price points below $500,000, and in the attached sector, below $400,000 where little (if any) new construction listings are represented. In fact, at the higher price points (where new construction listings are concentrated), inventory levels exceed three months in all instances.*

FUTURE FOR SALE COMPETITION

According to planning and zoning officials throughout the PMA's constituent municipalities, just a modicum of for sale housing communities are in the pipeline, i.e., less 1,139 units market-wide. These proposed developments, which consist of various single family and duplex/fourplex/condominium projects, appear to be very similar to other new construction products that exist today. Overall, future "known" supply further indicates a clear imbalance relative to underlying demand potentials.

4.1

RESIDENTIAL INVENTORY ANALYSIS IN MONTH'S SUPPLY
GERMANTOWN PMA

Price Range	Closings 2023	Current Listings As of 1/1/2023	Months of Inventory
Single Family Detached			
Under $200,000	39	6	1.85
200,000 - 249,999	129	18	1.67
250,000 - 299,999	228	32	1.68
300,000 - 349,999	288	42	1.75
350,000 - 399,999	308	32	1.25
400,000 - 449,999	261	28	1.29
450,000 - 499,999	223	37	1.99
500,000 - 549,999	178	46	3.10
550,000 - 599,999	123	42	4.10
600,000 - 699,999	210	56	3.20
700,000 & Above	280	90	3.86
Total	***2,267***	***429***	***2.27***
Duplex/Fourplex/Condominium			
Under $100,000	31	1	0.39
100,000 - 149,999	60	3	0.60
150,000 - 199,999	92	13	1.70
200,000 - 249,999	119	17	1.71
250,000 - 299,999	98	11	1.35
300,000 - 349,999	69	12	2.09
350,000 - 399,999	83	16	2.31
400,000 - 449,999	61	17	3.34
450,000 - 499,999	50	18	4.32
500,000 & Above	40	27	8.10
Total	***703***	***135***	***2.30***

Source: Southeast Wisconsin Multiple Listing Service

GENERAL LIMITING CONDITIONS

Tracy Cross & Associates, Inc. has made extensive efforts to confirm the accuracy and timeliness of the information contained in this study. Such information was compiled from a variety of sources, including interviews with developers/property managers and their agents, government officials, and other third parties. Although Tracy Cross & Associates, Inc. believes all information in this study is correct, it does not warrant the accuracy of such information and assumes no responsibility for inaccuracies in the information provided by third parties.

Conclusions and recommendations established in this analysis represent a professional opinion and are based upon forecasts into the future which could be significantly altered by outside occurrences. These include, among others, the possible interplay of unforeseen social, economic, physical/environmental, and governmental actions. In this regard, Tracy Cross & Associates, Inc., its owners, and its employees shall be held harmless of changes in conditions that may materially result from these occurrences.

SITE PLAN & CONDITIONAL USE PERMIT (CUP) APPROVAL EXTENSION

9/14/26 Plan Commission Meeting

Crew Carwash

Staff Report & Recommendation **Germantown, Wisconsin**

Summary

Crew Carwash, property owner, is requesting an extension of the Site Plan and Conditional Use Permit (CUP) approvals originally granted in 2024 and extended in 2026, to allow the construction and operation of a 4,512 sqft self-serve carwash facility located at N96 W17500 County Line Road.

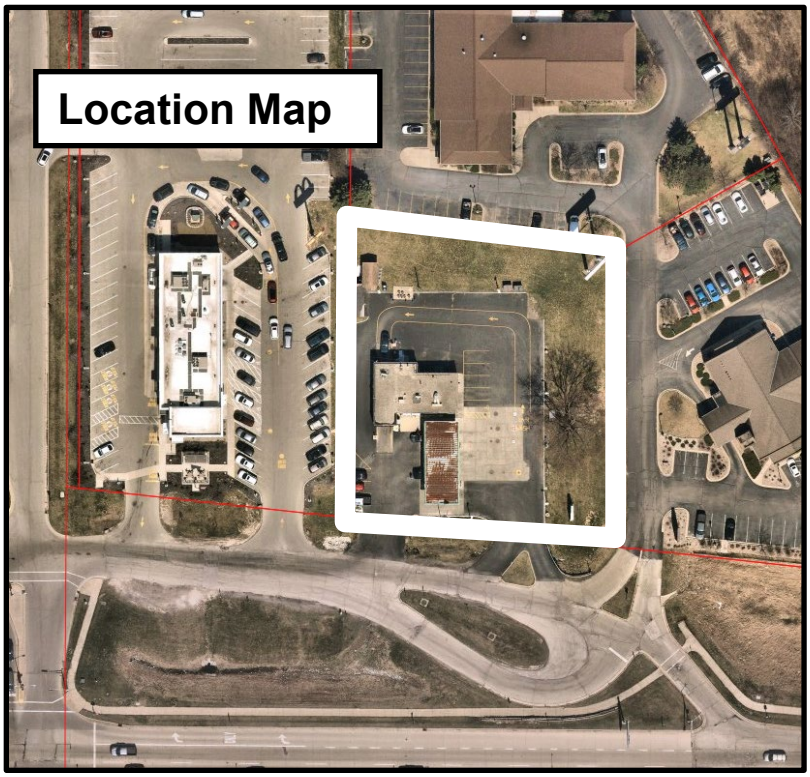
Property Location: N96 W17500 County Line Road (existing BP Station)

Agent/
Property Owner:

Attorney Brian Randall Amundsen Davis LLC 111 Kilbourn Ave Milwaukee, WI	Katherine Rayner Crew Carwash 11700 Exit 5 Pkwy Fishers, IN

Current Zoning: B-5: Highway Business

Adjacent Land Uses		Zoning
North	Highway Business	B-5
South	Highway Business	B-5
East	Highway Business	B-5
West	Highway Business	B-5



Background/Proposal

In April, 2024, Crew Carwash was granted Site Plan and Conditional Use Permit (CUP) approval from the Village to allow the construction and operation of a 4,512 sqft self-serve carwash facility located at N96 W17500 County Line Road. Site Plan approval was granted by the Plan Commission subject to seven (7) conditions and Conditional Use Permit approval was granted by the Village Board subject to six (6) conditions.

In April 2025, Crew Carwash requested and was granted extensions of both site plan approval and conditional use permit approval (extension #1).

Again in February 2026, Crew Carwash requested and was granted extensions of both site plan approval and conditional use permit approval (extension #2).

At this time, Attorney Brian Randall, Amundsen-Davis LLC, agent for Crew Carwash, property owner, is requesting a third extension of the site plan and CUP approvals granted by the Village.

Section 17.42 (CUP) and 17.43 (Site Plan) of the Zoning Code contain the provisions for granting extensions and are included for reference below:

CUP Approval (Section 17.42):

Section 17.42(6) stipulates:

(a) Except under the following conditions, if substantial construction or other activities necessary to implement a use authorized by a conditional use permit and/or the use has not commenced within 12 months from the date approval is granted by the Village Board, and, continue toward completion in accordance with the proposed/approved timeframe, or, if said construction or use has commenced but subsequently is stopped or abandoned for a period of 12 consecutive or cumulative months, the conditional use permit shall be deemed to have lapsed and all other Village permits and/or approvals granted subsequent to such conditional use permit approval shall expire and be null and void.

1. *An extension has been granted pursuant to section 17.42(8); or*
2. *Different project-specific commencement and/or completion deadlines and timeframes have been established as a condition of approval in the conditional use permit.*

Section 17.42(8) stipulates:

EXTENSION OF DEADLINE FOR COMMENCEMENT OR COMPLETION. *At its discretion, for good cause and following consideration of a written request by the applicant/property owner, the Village Board may grant one or more extensions of the deadline to commence, complete or continue the use for which a conditional use permit was granted. The duration of each extension shall be determined by the Village Board but shall not exceed 12 months.*

Site Plan Approval (Section 17.43):

Section 17.43(11)(a) stipulates:

(a) Except under the following conditions, if construction or other activities necessary to complete a development project and/or land use have not commenced within 12 months from the date site plan approval has been granted and continue toward completion in accordance with the proposed/approved timeframe, or, said construction or other activities have commenced but subsequently are stopped or abandoned for a period of 12 consecutive or cumulative months, site plan approval shall be deemed to have lapsed and all Village permits and/or approvals granted subsequent to such site plan approval shall expire and be null and void.

1. *An extension has been granted pursuant to subsection (11a); or*
2. *Different project-specific commencement and/or completion deadlines have been established as a condition of approval in the site plan approval, in a conditional use permit, or in a PDD condition and restrictions resolution adopted by the Village Board (including but not limited to phased development).*

Section 17.43(11a) provides:

EXTENSION OF DEADLINE FOR CONSTRUCTION COMPLETION. *At its discretion, for good cause and following consideration of a written request submitted by the applicant/property owner to the Village prior to expiration of the previous deadline, the Plan Commission (and Village Board in the case of projects being developed in a PDD) may grant one or more extensions of the deadline to complete the project for which site plan approval was granted. The duration of each extension shall be determined by the Plan Commission (or Village Board in the case of PDD projects) but shall not exceed 12 months. A deadline extension request that is received prior to expiration of the current deadline will not be subject to any applicable application fees. Requests received after expiration of the current deadline will be subject to applicable application fees.*

Approval Extension Request

As stated in the August 10, 2026, extension request letter (copy enclosed), the agent for Crew Carwash cites a combination of factors and coordination elements related to Crew Carwash's business operations and construction similar to those that existed in 2025 and earlier this year when Crew Carwash requested the 1st and 2nd approval extension.

The developer provides additional details, explanations and a revised timeline for expected commencement & completion dates for the Crew Carwash facility. The request is to extend the approvals for both the CUP and Site Plan an additional 12 months with a new deadline to commence construction being extended to April 8, 2028.

Crew Carwash is requesting another extension of the previous approvals granted due to "…the need to coordinate its business rollout, specialized equipment manufacturing and delivery, and coordinated project delivery". The specific reasons cited for needing a 3rd extension include:

1. the need to remove large underground fuel storage tanks that requires careful planning and regulatory compliance with the Wisconsin DNR;

2. the need to honor the current lease with the existing gas station operator to remain open until demolition and construction begins to avoid a vacant lot for a prolonged time;

3. the intent to enter this market in a coordinated fashion to become a recognizable brand and company to new customers and potential employees;

4. preparations to recruit and train the new employees that it will need for this and other locations;

5. equipment to be installed is custom-designed and requires extended lead times with national vendors.

Crew Carwash indicates that they are dedicated to constructing the project in Germantown and complete the project to its high standards. With that said, Crew Carwash has adjusted its construction schedule to commence in late-2027 to early-2028.

Staff Comments

As noted in the August 10 extension request letter, nothing has changed in the original plans that were approved in April 2024. Copies of the original 2024 plans and staff report presented to the Plan Commission and Village Board in 2024 are attached for additional supporting information with details about the project and conditions of approval.

Finally, as noted in the August 10 letter, Crew Carwash has already owns the property and has been paying all the taxes required.

Staff supports the request to extend both the Site Plan and CUP approvals as requested for 12 months with a new deadline for commencement of construction to April 8, 2028, with the same list of conditions contained in the original approvals.

VILLAGE STAFF RECOMMENDATION

APPROVE the request to extend Site Plan approval plan for an additional 12 months with a new deadline for commencement of construction to April 8, 2028, with the same conditions of approval in the original April 8, 2024, Plan Commission approval.

Recommend to the Village Board to **APPROVE** the request to extend the approval of CUP #05-2026 for an additional 12 months with a new deadline for commencement of construction to April 8, 2028, with the same conditions of approval contained in CUP #05-2026.

AMUNDSEN DAVIS

August 10, 2026

VIA EMAIL
jretzlaff@germantownwi.gov
Mr. Jeffrey W. Retzlaff, AICP
Director, Community Development Department
Village Planner & Zoning Administrator
N112 W17001 Mequon Road
Germantown, WI 53022

***Re: Crew Carwash – N96 W17500 County Line Road* (GTNV 334990)**

Subj: Project Approvals Extension Request

Dear Mr. Retzlaff:

As you know, we represent Crew Carwash in connection with the approvals and construction of a self-service carwash facility to be located at N96 W17500 County Line Road. Originally approved in 2024, we requested extensions of our approvals for the Site Plan and Conditional Use Permit. The current extensions run to April, 2027.

Project Status

On behalf of Crew Carwash's ownership and its development and construction team, we appreciated the time that you and Associate Planner Jordan Yanke spent meeting with us recently to discuss the project status and next steps.

We shared that Crew Carwash's affiliate DAHM NO 74 LLC already owns the property and it has and will pay all taxes due per the Village's installment schedule.

One of the important project coordination actions that we explained is the need to remove the large underground fuel storage tanks and that requires careful planning and regulatory compliance with the Wisconsin DNR. At the same time, we are honoring the lease with the existing gas station to remain open until demolition and construction begins to avoid a vacant lot for a prolonged time in the County Line Road corridor.

As a family-owned company focused on careful growth, Crew Carwash has been working to open additional locations with the intent to enter this market in a coordinated fashion to become a recognizable brand and company to new customers and potential employees. The company is also preparing to recruit and train the new employees that it will need.

Finally, the equipment to be installed is custom-designed and requires extended lead times with our national vendors. Our team is working on scheduling, production timelines, and an installation

and implementation plan with internal coordination involving the development and construction team as well as operations personnel from other Crew Carwash locations.

Knowing that the Germantown location will be a late-2027 to early-2028 construction project for all of those reasons, we discussed requesting our next and final extension well-before the next deadline.

Renewed Requests for Extension

Crew Carwash requests an extension of its construction commencement dates due to the need to coordinate its business roll out, specialized equipment manufacturing and delivery, and project execution.

These complex logistics coupled with Crew Carwash's desire to be intentional with each decision has resulted in a lengthier than anticipated development and construction timeline.

Despite the continued timing challenges, Crew Carwash remains dedicated to constructing the project in Germantown but to accommodate for all of these circumstances and complete this project to its high standards, Crew Carwash has adjusted its construction schedule to commence in late-2027 to early-2028.

Given its financial investment in the property and commitment to the project, Crew Carwash respectfully requests a 12-month extension of its construction commencement dates set forth in the Site Plan approval and the Conditional Use Permit pursuant to Sections 17.42(8) and 17.43(11a), Village Zoning Code. This final extension will run to approximately April 8, 2028.

Conclusion

We appreciate the past and continued consideration by the Village and we look forward to review of this request by the Plan Commission and Village Board. Please do not hesitate to contact me at 414-225-1484 or BRandall@AmundsenDavisLaw.com should you or others have immediate questions, wish to discuss anything, or need anything further from us.

Very truly yours,

Amundsen Davis, LLC

Brian C. Randall

cc: Mr. Jordan Yanke – Associate Planner
Crew Carwash | Excel Engineering | Kristina S. Atterholt, Esq.

CUP # 05-2025 Document No.	CONDITIONAL USE PERMIT Document Title

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN
CONDITIONAL USE ZONING PERMIT

Whereas the Applicants:
Crew Carwash Inc., Agent for Dahm Properties 74 LLC, Property Owner

agree to comply with applicable Codes and Ordinances of the Village of Germantown, Wisconsin, and further agrees that all work done pursuant to the permission granted herewith will conform with the applications and drawings filed with and approvals granted by officials of the Village for the purpose of obtaining this permit.

Now, therefore, this permit is issued to allow the development and operation of a carwash facility from the property located at N96 W17500 County Line Road pursuant to Section 17.32(3)(g) of the Village Zoning Code.

Document # **1614721**
WASHINGTON COUNTY WISCONSIN
2025-06-02 12:31:00 PM

LISA BUDISH
WASHINGTON COUNTY
REGISTER OF DEEDS
Fee: **$30.00**

Return via EMAIL
Pages: **3**

3

Name & Return Address:
Village of Germantown
P.O. Box 337
Germantown, WI 53022

Parcel Identification No:
GTNV 334-990

On the following described property located in the Village of Germantown, Washington County, Wisconsin:
That part of the Southeast Quarter of the Southeast Quarter (SE 1/4 SE 1/4) of Section 33, Township 9 North, Range 20 East, Village of Germantown, Washington County, Wisconsin, described as follows, viz: Commencing at the Southeast corner of said Section; thence North 89° 51'00" West, 1321.30 feet; thence North 00° 24'00" West, 440.70 feet; thence South 84° 15'00" East, 201.16 feet to the place of beginning of this description; thence North 00° 24'00" West, 219.05 feet; thence South 84° 15'00" East, 200.00 feet; thence South 00° 24'00" East, 219.05 feet; thence North 84° 15'00" West along the Northerly right of way of road, 200 feet to the place of beginning.

Tax Key No: 334-990
Address: N96 W17500 County Line Road

Pursuant to the following condition(s):

1. The uses and activities allowed on the property shall be limited to those uses and activities specified in the conditional use permit (CUP) application, project narrative dated February 12, 2024, and supporting site plan documents dated January 12, 2024, and February 12, 2024. Days and hours of operation shall be limited to those specified in the CUP application and supporting documents submitted to the Village (Sunday through Saturday 7:00am to 9:00pm.
2. The Owner/Operator is responsible for reporting any significant changes in the type, intensity, amount, or location of the land uses and activities, days and hours of operation, size or location or other operational characteristics of said uses and activities authorized under this CUP to the Village Zoning Administrator.

3. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or, where there is a change in the nature, character, intensity or extent of the activities or uses which causes problems or harmful effects that were not anticipated at the time of approval of this CUP, the conditional use permit may be modified or terminated by the Village Board by the amendment to or addition of conditions after public hearing thereon.
4. All temporary and permanent exterior signs require a permit and shall comply with all current sign regulations. Off-premises advertising and directional signage is regulated by the Village and requires a permit if/when allowed.
5. All future site improvements, including all building, parking area, landscaping, storm water management facilities, signage, exterior lighting, and any other improvements made to or on the property that are necessary for the land uses and activities authorized under this CUP shall be submitted for review and approval by the Village through the Zoning Permit or Site Plan application process as determined by the Village Zoning Administrator. If required, Site Plan review and approval will include Plan Commission review and approval.
6. Building permits and commercial building code plan approval are required for the planned demolition of existing structures on the site and the proposed building and kiosk. Contact SAFEbuilt staff in Inspection Services at Village Hall prior to any work for information about required permits and/or plan approvals.

Granted by the Village Board of the Village of Germantown, Washington County, Wisconsin on the 15th day of April, 2024, and as the deadline to commence construction was extended on April 21, 2025.

Robert A Soderberg, Village President

ATTEST:

Donna Ott, Village Clerk

STATE OF WISCONSIN) SS
WASHINGTON COUNTY)

Personally came before me this 27th day of May, 2025, the above named Robert A. Soderberg, Village President, and Donna Ott, Village Clerk, to me known to be the persons who executed the foregoing instrument and acknowledged the same.

Kasie R Miller
{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: 05/03/2029

KASIE R. MILLER NOTARY PUBLIC STATE OF WISCONSIN

ACCEPTANCE OF TERMS AND CONDITIONS BY PROPERTY OWNER/OPERATOR

As agent for Crew Carwash, Inc., and Dahm Properties 74 LLC, I hereby accept the terms and conditions set forth in this permit and realize that non-adherence to the terms and conditions as stated hereon may result in the revocation of this Permit by the Village of Germantown.

Dated this 14 day of May, 2025

Agent for Crew Carwash, Inc. and Dahm Properties 74 LLC

STATE OF INDIANA) SS
~~HAMILTON~~ MARION COUNTY)

Personally came before me this 14 day of MAY, 2025, being the above named Katherine Rayner, to me known to be the person who executed the foregoing instrument and acknowledged the same.

ANITA R GRAVES
Notary Public, State of Indiana
Marion County
Commission Number NP0688198
My Commission Expires
September 04, 2032

{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Indiana
My Commission Expires: Sept 4, 2032

This instrument was drafted by:
Jeffrey W. Retzlaff, AICP
Community Development Director/Zoning Administrator
Village of Germantown, Wisconsin

SITE PLAN & CONDITIONAL USE PERMIT (CUP) APPLICATIONS

4/8/28 Plan Commission Meeting

Crew Carwash / Nomies Investments LLC

Staff Report & Recommendation **Germantown, Wisconsin**

Summary

Crew Carwash, agent for Nomies Investments LLC, property owner, is requesting Site Plan approval and a Conditional Use Permit (CUP) to allow the construction and operation of a 4,512 sqft self-serve carwash facility located at N96 W17500 County Line Road.

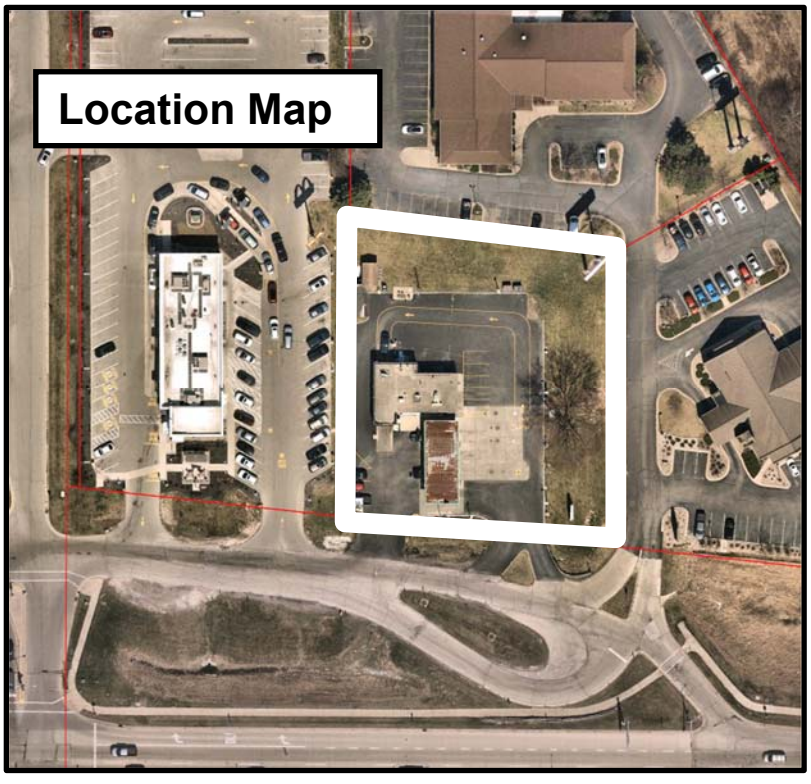
Property Location: N96 W17500 County Line Road (existing BP Station)

Agent/
Property Owner: Katherine Rayner
Crew Carwash
11700 Exit 5 Pkwy
Fishers, IN

Nomies Investments LLC
N96 W17500 County Line Road
Germantown, WI

Current Zoning: B-5: Highway Business

Adjacent Land Uses		Zoning
North	Highway Business	B-5
South	Highway Business	B-5
East	Highway Business	B-5
West	Highway Business	B-5



Background/Proposal
Crew Carwash, agent for Nomies Investments LLC, property owner, is requesting Site Plan approval and a Conditional Use Permit (CUP) to allow the construction and operation of a 4,512 sqft self-serve carwash facility located at N96 W17500 County Line Road.

As presented on their website, Crew Carwash is a multi-generational, family-owned business founded in 1948 and based in Fiskers, Indiana. https://crewcarwash.com/the-crew-story/ . Crew Carwash currently has 45 locations in Indiana and Minnesota. The proposed site in Germantown is one of a few leading their expansion into Wisconsin.

Conditional Use Permit (CUP)
Within the B-5 District, a self-serve carwash requires a Conditional Use Permit (CUP). The proposed Germantown facility and operation has the following components:

- 4,512 sqft self-serve carwash building w/ 345 sqft kiosk
- Business operations Sunday to Saturday from 7:00a to 9:00p with 2-3 shifts per day
- 25 Total Employees (2-5 employees per shift)

Site Plan
As indicated in the applications and February 12 project narrative, the proposed development includes a complete demolition and replacement of the existing BP gasoline station and carwash. The new Crew Carwash will have the following features:

- 4,512 sqft single-story carwash building 20’ height w/ tower feature to 35’ height
- 345 sqft single-story kiosk 13’ height w/ 4-lane canopy (vehicle entry point)
- Masonry walls comprised of ground (smooth) face concrete masonry units color red with a knee-high wall and upper banding of limestone split-face concrete units with a buff color
- Tower feature comprised of architectural wall panel color pewter
- Aluminum-framed storefront and glazing system color clear anodized w/ overhead supported canopies above all windows
- Flat roof w/ exposed RTU’s
- Paved curb & gutter parking area w/ 5 vehicle parking stalls for employees (1 ADA compliant) & 9 stalls with self-serve vacuum bays
- 20 vehicle staging area w/ 4 lanes wide
- New lighting & landscaping

Parking, Access & Traffic Circulation
Access will remain the same with two (2) driveways to Emmer Road on the southeast side of the property. The Village’s parking guidelines do not include carwashes, but the number of stalls provided for employees (5) appears sufficient.

Storm Water Management

This 1.0-acre site is a re-development site with 90% of the area expected to be disturbed. A total of 30,506 sqft (70%) of impervious surfaces are proposed as part of the new development leaving 13,052 sqft or 30% in open/green space. Stormwater facilities include storm sewer, roof drains and grading to convey run-off from the building, staging, vacuum, and parking areas to on-site catch basins and storm sewer located through the middle of the site to an existing concrete pipe south the site in the Emmer Road ROW and to a new “green infrastructure” rain garden feature in the southeast corner of the site.

Utilities

Sanitary and water utilities will be upgraded and replace the existing in easements running north across the hotel property to existing laterals.

Landscaping & Buffering

Existing established landscaping along the north property line is going to be removed and replaced with a 1’-2’ high retaining wall. A very large deciduous shade tree is going to be removed along the east property line and replaced with sod for a snow storage area. Minimal landscaping is provided along or within the curbed areas internal to the site. Decorative stone “mulch” is placed around the plantings across the site.

Lighting.

Exterior lighting of the site and building includes:

- (4) 50W 4,000 lumens @ 5700K (cool white) LED recessed canopy lights mounted at a height of 10’ under the kiosk canopy;
- (1) 131W 20,900 lumen @ 3000K (bright white) LED cut-off style pole-mounted fixtures mounted at overall 23’ height on a pole near the south driveways;
- (6) 131W 13,175 lumen @ 3000K (bright white) LED cut-off style pole-mounted fixtures mounted at overall 23’ height on poles around the parking and building;

Signage.

A total of (21) permanent signs are proposed for the site, including:

- (1) Refacing the exiting monument sign in the SE corner of the site with the brick base painted black (see sign rendering EC-01; sheet 1 of 15 w/ no date);
- (1) Refacing the existing 50’+ pylon sign in the NE corner of the site with the pylon support structure to be painted black (see sign rendering EC-02; sheet 2 of 15 w/ no date)
- (3) internally lit wall-mounted signs on the tower structure w/ “Crew Carwash” lettering translucent white (see sign rendering EC-03; sheet 3 of 15 w/ no date)
- (1) internally lit wall-mounted sign above the exit door on the south end of the building w/ “Crew Carwash” lettering translucent white (see sign rendering EC-04; sheet 4 of 15 w/ no date)
- (1) internally lit monument sign w/ digital menu board mounted on a painted aluminum panel base located north of the kiosk on the north side of the property (see sign rendering EC-05; sheet 5 of 15 w/ no date)
- (2) internally lit directional signs installed at the driveway entrances on the south

side of the property w/ both saying “Open” and “Enter” (see sign rendering EC-06; sheet 6 of 15 w/ no date)
- (2) non-illuminated letter sets installed on south side of the kiosk canopy above the drive lanes indicating “Unlimited Club” (see sign rendering EC-07; sheet 7 of 15 w/ no date)
- (2) non-illuminated letter sets installed on south side of the kiosk canopy above the drive lanes indicating “Cashier” (see sign rendering EC-08; sheet 8 of 15 w/ no date)
- (4) non-illuminated framed menu panels installed on the columns of the kiosk lanes (see sign rendering EC-09; sheet 9 of 15 w/ no date)
- (1) non-illuminated letter sets installed on south side of the building above the exit door indicating “Clean Car Exit” (see sign rendering EC-11; sheet 11 of 15 w/ no date)
- (1) non-illuminated pole-mounted panel sign installed near the north entrance of the building indicating “We Are Responsible For” (see sign rendering EC-12; sheet 12 of 15 w/ no date)
- (2) non-illuminated painted directional signs installed on south side of the building near the exist indicating “”Vacuums” (see sign rendering EC-14; sheet 14 of 15 w/ no date)

Note: There are detail sheets for signs EC-10, EC-13, and EC-15 but they are not included in site map showing where these signs are proposed; It is assumed that they will not be installed at this site.

Staff Comments

Community Development: Planning & Zoning

This property is in the “County Line Road District” under the Village’s 2050 Comprehensive Plan and the current zoning is B-5: Highway Business. The property is located within the Village’s Sanitary Sewer Service Area (SSSA) and capable of being served with public sewer and water with extensions from existing laterals nearby from the north (water main and sanitary sewer). The proposed carwash use falls under the “desirable” commercial land use.

The amount, type, and location of proposed landscaping is a concern. First, an established deciduous shrub hedge (see views from both sides below) is being removed entirely and replaced with a 1’-2’ retaining wall. The area abutting the hotel property to the north will be planted with sod. The property line runs right up against the front of the parking stalls on most of the hotel property, so all of the shrubs will be removed. Something needs to be installed to replace this hedge. There doesn’t appear to be adequate area in the minimum required 8’ buffer strip because there is a retaining wall proposed in that 8’ buffer area.

More landscaping around the perimeter is required. The Village Forester has a similar comment (see below). Also, the large tree along the east side of the property (see below) is proposed to be removed and placed with sod for a snow storage area (see Sheet C1.0). The tree species has not been identified by the developer.

Construction work is required on the adjacent hotel property to the north to install upgraded water & sanitary sewer laterals within “private utility easements” to be obtained by others. Building permits for installation of water & sanitary sewer should not be issued until the easements are obtained and the adjacent property owner agrees with the construction work required to install the utilities and restore the easements to pre-construction conditions.

Signage appears to be excessive for a business model that relies on a recurring customer base (and probably not so much signage for every step of the way through the process). More signs are proposed than trees to be installed. Many of the directional signs exceed the height and area allowances in the sign regulations. Three “Crew Carwash” signs on the tower seem excessive given the re-use of the 50’+ pylon sign and monument sign in the SE corner of the sight. The detail sheets for the sign face replacement signs do not indicate the sign area and refer to a survey being needed. For these reasons, Staff recommend that sign package be re-evaluated in light of the sign regulations with goal of only proposing code-compliant signs that provide the minimum business name notification. A Sign Permit application is also required.

Finally, the photo renderings provided in the application from other Crew Carwash locations show actual wood mulch in the landscaping beds. At this location, the proposal is to install decorative “stone mulch”. Stone does not exactly satisfy the minimum 20% “green space” requirement in the B-5 Zoning District. Wood mulch is recommended.

Community Development: Inspection Services
State agency (DSPS) approved plans and a $20,000 occupancy bond are required by Inspection Services at the time of building permit application. The Village of Germantown is an authorized delegated agent of DSPS to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.

Public Works/ Village Engineer
The Village Engineer, Public Works Department and Utility staff have identified several technical issues and plan revisions that need to be resolved or otherwise addressed by the Developer prior to commencing construction activities and issuance of building permits. Nonetheless, Staff is recommending conditional approval of the site development and building plans subject to all the outstanding items and issues identified in the following review memos being resolved and reflected in additional information and/or revised plans submitted to Staff for further review, comment and approval prior to commencing any site construction or issuance of building permits (excluding early start site preparation and footing and foundation installation):

- April 3, 2024, memo from Kevin Driscoll, Village Engineer

Village Forester
The following issues will need to be addressed as part of a revised landscape plan prior to issuance of a building permit:

- Tree planting detail image revision on sheet C1.4: Include that root flare should be left exposed, moss/mulch line should be at or just below top of root ball.
- Recommend substitution of tree options for the two (2) Acer platanoides and the two (2) Pyrus calleryana ‘Jaczam’. The Village has many Maple (Acer) trees and would benefit from an increased species diversity. Also, Pyrus calleryana has the potential to establish as an invasive tree species in Wisconsin. Acceptable substitutes: Common Hackberry (Celtis Occidentalis), Kentucky Coffeetree (seedless) (Gymnocladus dioicus), London Planetree (Platanus x acerifolia), Tulip tree (Liriodendron tulipifera), Oak spp. (Quercus)
- Per municipal code 17.43(c). Parking lot landscaping: perimeter plantings are required around the parking lot for screening from adjacent properties. This plan does not include perimeter plantings along the east boundary, the northwest, or southwest corners of the property. This is an existing perimeter planting along the property boundary to north (see similar comment above), the street tree plantings along the south side of the property are sufficient.

Fire & Police Departments
No comment. Concerns have been addressed into submitted plan set.

VILLAGE STAFF RECOMMENDATIONS

APPROVE the Conditional Use Permit (CUP) application for Crew Carwash for the construction and operation of a self-serve car wash facility on the property located at N96 W17500 County Line Road subject to the following conditions:

1. The uses and activities allowed on the property shall be limited to those uses and activities specified in the conditional use permit (CUP) application, project narrative dated February 12, 2024, and supporting site plan documents dated January 12, 2024, and February 12, 2024. Days and hours of operation shall be limited to those specified in the CUP application and supporting documents submitted to the Village (Sunday through Saturday 7:00am to 9:00pm.
2. The Owner/Operator is responsible for reporting any significant changes in the type, intensity, amount, or location of the land uses and activities, days and hours of operation, size or location or other operational characteristics of said uses and activities authorized under this CUP to the Village Zoning Administrator.
3. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or, where there is a change in the nature, character, intensity or extent of the activities or uses which causes problems or harmful effects that were not anticipated at the time of approval of this CUP, the conditional use permit may be modified or terminated by the Village Board by the amendment to or addition of conditions after public hearing thereon.
4. All temporary and permanent exterior signs require a permit and shall comply with all current sign regulations. Off-premises advertising and directional signage is regulated by the Village and requires a permit if/when allowed.
5. All future site improvements, including all building, parking area, landscaping, storm water management facilities, signage, exterior lighting, and any other improvements made to or on the property that are necessary for the land uses and activities authorized under this CUP shall be submitted for review and approval by the Village through the Zoning Permit or Site Plan application process as determined by the Village Zoning Administrator. If required, Site Plan review and approval will include Plan Commission review and approval.
6. Building permits and commercial building code plan approval are required for the planned demolition of existing structures on the site and the proposed building and kiosk. Contact SAFEbuilt staff in Inspection Services at Village Hall prior to any work for information about required permits and/or plan approvals.

APPROVE the site development and building plans submitted by Crew Carwash for a 4,512 sqft self-serve carwash facility w/ 345 sqft kiosk & canopy located at N96 W17500 County Line Road subject to the following conditions:

1. This approval is for the various plan sheets that comprise the site plan set as noted below and is subject to compliance with all the conditions and requirements set forth herein and subsequently adopted and/or revised by the Plan Commission. Approval is granted for the following unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission:
   a. Architectural plans dated January 12, 2024;
   b. Civil Engineering plans dated February 12, 2024;
   c. Landscaping plans dated February 12, 2024;
   d. Lighting plans (photometric plan) dated February 12, 2024;

   If revised plan sheets are necessary, each revised sheet shall contain the date of said revision clearly stamped in the lower right corner.

2. Additional landscaping shall be shown in a revised landscape plan review and approved by the Village Forester, including:
   a. along the north property to reasonably replace the existing screen hedge.
   b. Per municipal code 17.43(c) around the perimeter of the site with plantings along the east boundary, the northwest, or southwest corners of the property.

3. The mulch in the landscaping beds shall be wood mulch and not decorative stone.

4. Tree planting detail on sheet C1.4 shall be revised to include that root flare should be left exposed, moss/mulch line should be at or just below top of root ball.

5. The following tree species shall be substituted for the two (2) Acer platanoides and the two (2) Pyrus calleryana ‘Jaczam’. The Village has many Maple (Acer) trees and would benefit from an increased species diversity. Also, Pyrus calleryana has the potential to establish as an invasive tree species in Wisconsin. Acceptable substitutes: Common Hackberry (Celtis Occidentalis), Kentucky Coffeetree (seedless) (Gymnocladus dioicus), London Planetree (Platanus x acerifolia), Tulip tree (Liriodendron tulipifera), Oak spp. (Quercus)

6. The technical issues and plan revisions identified in the April 3, 2024 memo from the Village Engineer shall be addressed in revised plan sheets and/or supplemental documents as necessary prior to commencing construction activities and issuance of building permits (excluding site demolition, early

start site preparation, and footing & foundation installation).

7. State agency (DSPS) approved plans and a $20,000 occupancy bond are required by Inspection Services at the time of building permit application. The Village of Germantown is an authorized delegated agent of DSPS and may be used as an alternative to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.

TABLE the action on the sign package pending re-submittal of a sign permit application and code-compliant signs

Engineering Department Memorandum

To: **Jeff Retzlaff**

From: **Kevin Driscoll, P.E.**

Date: **April 3, 2024**

Re: **Planning Commission Item Review – Crew Carwash**
Site Plan Review - N96 W17500 COUNTY LINE RD - Parcel GTNV_334990

Items Reviewed:

1. Civil Plan Set Dated: 02-12-2024
2. Storm Water Management Plan Dated: 02-12-24

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. The project will require DSPS plumbing system review and approval. Please provide a copy of the DSPS approval prior to engineering approval.
4. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
5. Utility permits and permits for work within the ROW are required. Contact the Village engineering department to obtain permits.
6. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
7. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

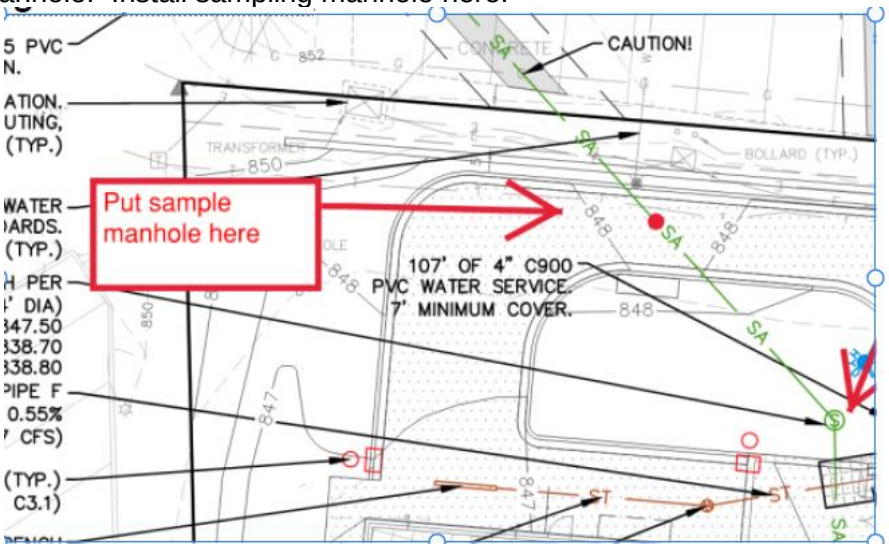
Water Utility Comments

1. Sheet C1.3, Explain the need for a separate sprinkler line. Normal set up is one line and the sprinkler is split off in the mechanical room.
2. Sheet C1.3, describe the dash lines around the sewer and water lines, just making sure this is not a reference for a utility easement.

3. We will require a review of the meter room for adequate space and installation requirements.
4. Call out gate valve to be Mueller onto a 8" x 6" Tapping saddle with a S.S. MJ spigot outlet.
5. Remove existing water lateral from the water main, install a full circumference Hymax repair clamp over CC tap hole. minimum 8" x 20"

Wastewater Utility Comments:

1. Change of direction is not allowed in the sampling manhole. Change sampling manhole to a private manhole. Install sampling manhole here.



2. Connection to existing manhole to be made via outside drop to invert of the manhole.

C1.3 Utility Plan

1. Copies of executed sewer and water easements are required prior to engineering plan approval.
2. Add a trench drain at the exit of the car wash to capture water before draining to the ROW.

Stormwater Management Plan

1. Include disturbance in the ROW and utility installation to the north and confirm the disturbance remains under 1 acre.
2. Drainage area to proposed rain garden exceeds the max allowed per WDNR technical standard 1009. Adjust to meet technical standard requirements or add a piped outlet.

Village of Germantown ...Willkommen

Fee must accompany application
- ☐ $700 Minor Addition
- ☒ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☐ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID_____DATE_____

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Crew Carwash
11700 Exit 5 Pkwy
Fishers, IN 46037

Phone (317) 572-2408
E-Mail katherine.rayner@crewcarwash.com

PROPERTY OWNER

Nomies Investments LLC
N96 W17500 County Line Rd
Germantown, WI 53022

Phone ( )
E-Mail

2 PROPERTY ADDRESS

N96 W17500 County Line Road

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
Super 8-Business/Hotel	ROW	Landmark Credit Union-Business/Bank	McDonald's-Business/Restaurant

4 READ AND INITIAL THE FOLLOWING:

RR I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

RR I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

RR I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED

Applicant 2/9/24 Date

Owner 2/9/2024 Date

SITE PLAN REVIEW CHECKLIST

Pursuant to Section 17.43 of the Municipal Code

This checklist provides a summary of requirements found in the Municipal Code. It is intended purely as a guide for developers and should not substitute for a full review of the Code and applicable regulations. (Revised 1/02)

GENERAL INFORMATION

- [x] Provide Completed Checklist with submittal
- [x] Names and addresses of owner/developer/designer
- [x] Graphic scale, north arrow
- [x] Location sketch
- [x] Size of site (gross and net acreage)
- [x] Existing zoning
- [x] Adjacent zoning and uses
- N/A [ ] Number of residents (subdivisions)
- [x] Number of employees

EXISTING SITE INFORMATION

- [x] Dimensions of site and lot lines (pipes found, pipes set, monuments)
- [x] Existing grades (2' contours minimum)
- [x] Adjacent property grades (within 10' minimum of property lines)
- [x] Adjacent structures (within 20' minimum of property lines)
- [x] Drainage systems and structures
- [x] Natural features (woods, streams, lakes, ponds, outcroppings)
- N/A [ ] Wetland boundaries (provide date of staking)
- N/A [ ] Floodplain elevation and boundaries
- [x] Environmental concerns (underground tanks, etc)
- [x] Roads, curbs, parking lots, pavement areas
- [x] Structures (location, size)
- [x] Rights-of-Way (existing/ultimate)
- [x] Easements (drainage, utility)
- [x] Existing utilities (sanitary, water, electric, gas, telephone)
- [x] Benchmark locations and elevations
- [x] Location of fences, wells, borings, etc

ARCHITECTURAL PLANS

- [x] Existing building location
- [x] Existing building elevations/materials
- [x] Proposed use (use list from Section 17.45)
- [x] Statement of design intent (narrative)
- [x] Proposed floor plans (dimension)
- [x] Square footage (total and individual rooms/stores)
- [x] Proposed elevations (dimension)
- [x] Proposed building height
- [x] Proposed materials and colors (material sample board required for new construction)
- [x] Proposed signage (elevations, color, square footage, height, construction material, lighting)
- [x] Details of any special features

PROPOSED SITE PLAN

- [x] Grading and spot elevations
- [x] Erosion control measures (silt fencing, hay bales, rip-rap, tracking mat, stockpile locations)
- [x] Stormwater management
  - stormwater management design report
  - general drainage pattern
  - swales w/ arrows for direction of flow
  - pond design with outfalls
  - culverts (location/size)
- [x] Utilities (size, invert elevations, length, slope, etc.)
  - -- sanitary
  - -- water
  - -- stormsewer
- [x] Building location (dimension)
- [x] Building elevation (finished grade)
- [x] Location of proposed signage
- [x] Details of outside storage (including trash receptacles)
- [x] Setbacks (clearly marked and dimensioned)
- [x] Vehicular entrances (dimension to centerline of nearest intersection)
- [x] Streets (dimension and direction for one-ways)
- [x] Curve radii
- [x] Sidewalks (dimension)
- [x] Parking areas (show striping/spot elevations)
- [x] Parking setback from property line
- [x] Loading areas (dimension)
- [x] Lot coverage
  - Square footage total
  - Impervious surfaces total (%)
  - Green space total (%)
  - Percent permitted (over/under %)
- [x] Municipal utility connections
  - Sanitary sewer (pipe size/elevations)
  - Water (size, valve location, elevations)
  - Location of hydrants
- [x] Easement for public water mains

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LIGHTING PLAN

- [x] Major improvements for context
- [x] Location/nature of existing fixtures
- [x] Location of proposed fixtures
- [x] Photometric report (to scale on plan)
- [x] Manufacturers cut-sheets of all fixtures
- [x] Lighting schedule
  - key to plan
  - number/type of fixtures
  - output (wattage)
- [x] Installation details as appropriate

LANDSCAPING PLAN

- [x] Major improvements for context (building, drives, walks)
- [x] Proposed outdoor amenities (benches, paths, etc.)
- [x] Existing vegetation
  - Species
  - Size
  - Approximate canopy in plan
- [x] Vegetation to be destroyed
  - List and show location
- [x] Proposed method of saving existing vegetation during construction
- [x] Proposed landscape features (berms, fountains)
- [x] Existing/proposed lighting
- [x] Irrigation/watering systems (locate outlets)
- [x] Plant lists or schedules
  - Keyed to plan
  - Number of each species
  - Size when planted (caliper)
- [x] Installation details/staking

MODEL SUBMITTAL INCLUDES THE FOLLOWING PLANS:

1. Cover / Title Page
2. Existing Conditions Survey
3. General Site Plan
4. Grading, Paving & Erosion Control Plan
5. Utility Plan
6. Site Details (curbing, catch basins, detention ponds, pavement, erosion control and sign details)
7. Landscape Plan
8. Landscape details (planting schedule, berming cross-sections, method of installation)
9. Lighting Plan
10. Floor Plan
11. Exterior Building Elevations
12. Building Material Sample Board

In addition to the items on this list, Village Staff and/or the Plan Commission may require additional drawings and data to be submitted for approval.

If any public improvements or work is to be done in the Public Right-of-Way, the Village will require that a Developer's Agreement be submitted and approved by the Village Board.

DocuSign Envelope ID: 17A8FEE2-D5E1-47BE-85AA-A83134FF735B

Village of Germantown
Willkommen

Fee must accompany application

☒ **$1460** Paid _____ Date_____

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Crew Carwash
11700 Exit 5 Pkwy
Fishers, IN 46037

Phone (317) 572-2408
Fax ( )
E-Mail katherine.rayner@crewcarwash.com

PROPERTY OWNER

Nomies Investments LLC
N96 W17500 County Line Rd
Germantown, WI 53022

Phone ( )

2 TO WHOM SHOULD THE PERMIT BE ISSUED?

Crew Carwash

3

PROPERTY ADDRESS	TAX KEY NUMBER
N96 W17500 County Line Road	334990

4 DESCRIPTION OF EXISTING OPERATION

Briefly describe the use as it exists today, including use, size, number of employees, hours of operation, etc. If this permit involves new construction, describe the current status of the property, e.g. "vacant." Use additional pages as necessary.

Existing BP gas station to be demolished for construction of carwash.

5 DESCRIPTION OF PROPOSED OPERATION

Write the name of the proposed conditional use exactly as it appears in the Municipal Code

Self-Serve Carwash

Describe the proposed use, including size, number of employees, hours of operation and extent of any new construction/alterations

A 4,512 SF self-serve carwash with 346 SF kiosk. Location to staff approximately 20-25 team members with 2-5 team members per shift. Each day operation of the carwash from 7:00am-9:00pm. See narrative for additional information.

6 METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY – REQUIRED

Attach pages as necessary

See attached.

7 SUPPORTING DOCUMENTATION:

- ☐ Site Plan and elevations for new construction (can be conceptual)
- ☐ Photos of existing use and/or proposed use operating elsewhere
- ☐ _____
- ☐ _____

8 READ AND INITIAL THE FOLLOWING:

KR I understand that the Village is under no obligation to issue a Conditional Use Permit and will do so only if the applicant successfully demonstrates that the proposed use is harmonious with the neighborhood and the long range goals of the Village.

KR I will notify the Village if any aspects of the conditional use changes. I understand that failure to do so may result in the revocation of the CUP.

KR I understand that a Conditional Use Permit is valid only if the conditions and restrictions of the permit are met. I understand that failure to comply with any aspect of the permit may result in revocation.

KR I understand that Village Staff is required to post one or more signs along the street frontage of and/or on the property subject of this application that indicate to nearby property owners and the general public that a public hearing of my application will be held before the Village Plan Commission and/or Village Board prior to action being taken on this application; I hereby grant Village Staff permission to enter onto the property for the expressed purpose of installing said sign(s) provided Village Staff is responsible for installing, maintaining and removing said signs in a reasonable manner and timeframe.

9 SIGNATURES – ALL APPLICATIONS MUST BE SIGNED BY OWNER!

KRCHMO 2/9/24
Applicant Date

DocuSigned by:
2/9/2024
Owner 7A6C429E20BF410... Date

February 12, 2024

Project Narrative

Project: Crew Carwash
N96 W17500 County Line Road
Germantown, WI 53022

Crew Carwash is requesting Site Plan Review, Architectural Review, and Conditional Use Permit review and approval for a new carwash located at N96 W17500 County Line Road in the Village of Germantown. A BP gas station currently exists on the site and will be demolished as a part of the proposed project. The property is zoned B-5, Highway Business with Highway Interchange Area Overlay and the proposed self-serve carwash use requires Conditional Use Permit approval.

Founded in 1948, Crew Carwash is a family-owned business based in Indiana, currently has 45 locations, and is actively growing. Crew carwashes feature the most advanced technology available, specially formulated detergents, soft cloth, computer-controlled equipment, and special touchless hot air dryers. Crew carwashes utilize 40 percent recycled water and 60 percent fresh water due to water reclamation systems that filter, clean and re-use some of the water in the wash process. At Crew Carwash locations, used water runs directly to a unique collection system that filters the water and removes harmful sediments and oil before it reaches the local sanitary sewer. All cleaning and drying functions are contained inside the facility. The customer remains in the car riding on a conveyor belt the entire way through the tunnel and exits the facility themselves. Self-serve vacuum stations are provided for customers at no charge.

Crew invests approximately six-million dollars per facility and is a community-oriented company. Typically, each location staffs 20 to 25 highly trained and motivated team members with two (2) to five (5) team members per shift and two (2) to three (3) shifts each day operating the carwash from 7 AM to 9 PM. Once all appropriate approvals and permits are granted, the construction timeline is typically six (6) months.

The proposed project will include a proposed carwash building with vehicle queuing located to the far east of the site and vacuum parking stalls located to the east of the carwash facility. The proposed carwash will be 4,512 SF and the proposed kiosk will be 346 SF on a 1.00 acre site with approximately 0.99 acres of site disturbance. Building materials and colors are detailed in the included elevations and will consist of red ground face masonry and buff limestone with an architectural aluminum wall system tower in pewter mica. Clear anodized aluminum storefront and glazing is proposed. Overhead accent canopies above the windows will also be pewter mica in color. The waste enclosure gates will be Trex board in winchester gray, while the gates will consist of brick to match the main building structure.

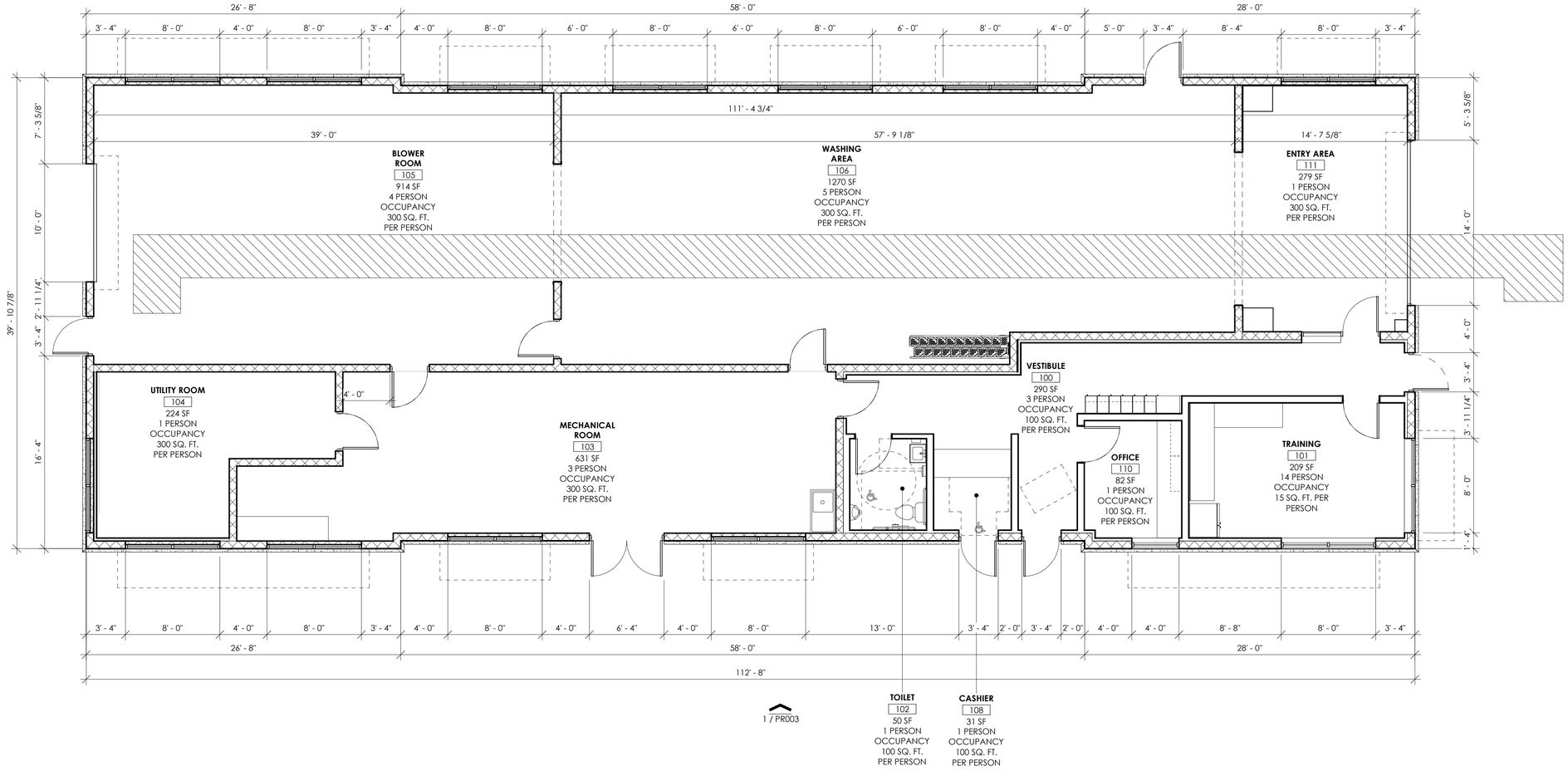
Proposed drainage patterns will match the existing site drainage patterns. Stormwater will be conveyed via sheet flow to various new inlet structures that will convey stormwater to the same discharge point as the current site condition at the south end of the site. A rain garden green infrastructure BMP will be located at the southeast corner of the site to meet local stormwater management requirements.

The proposed development will fit in to this existing commercially developed area. The building and site will blend in with and enhance the character of the neighborhood. The property will be transformed into a commercial development that is aesthetically pleasing with high-quality exterior materials on the building along with landscaping designed to ensure species resiliency and complimentary style. Site lighting will be provided in a fashion that provides appropriate foot candles for safety with cut-off fixtures for minimal light trespass and directed inward toward the development. The site layout and internal circulation has been designed to provide adequate on-site customer vehicle queuing and efficient, safe circulation. The building and grounds will be well maintained. No hazards or nuisances to nearby neighbors are anticipated as a result of this project.

2 / PR003

1 / PR002

2 / PR002



BUILDING FLOOR PLAN

CREW CARWASH, INC
N96 W17500 COUNTY LINE RD.
GERMANTOWN, WI 53022

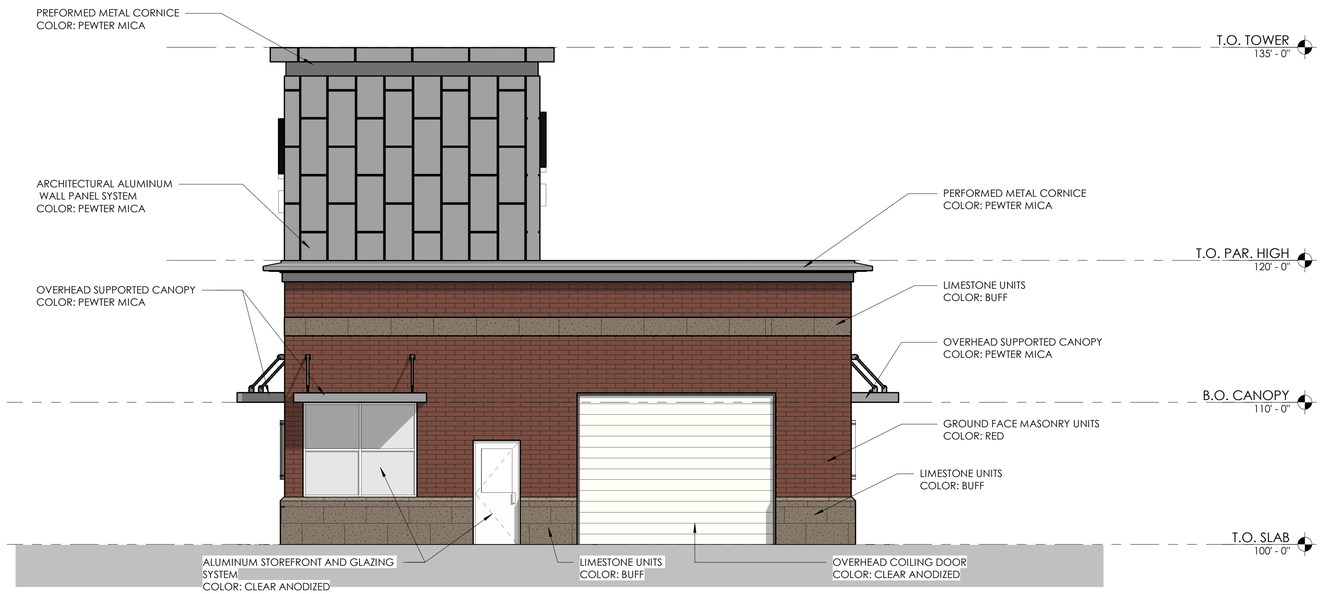
NORTH

01/12/2024

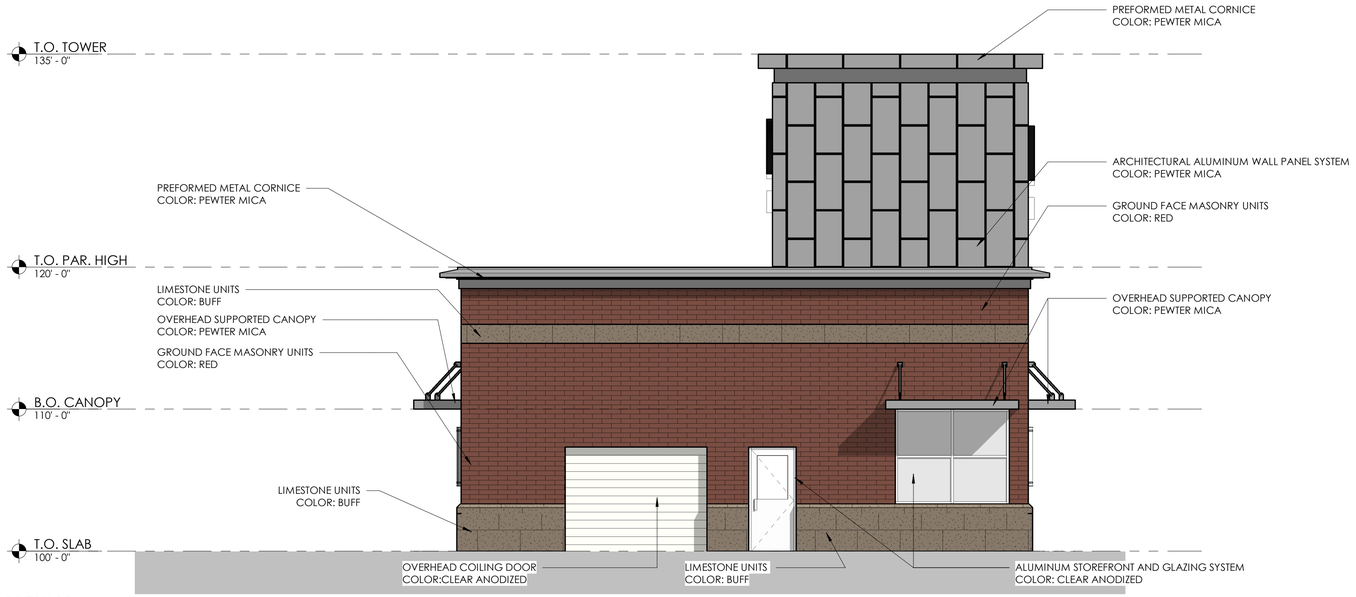
PRO2024

3/16" = 1'-0"

Solutions by Design Since 1937



NORTHEAST ELEVATION



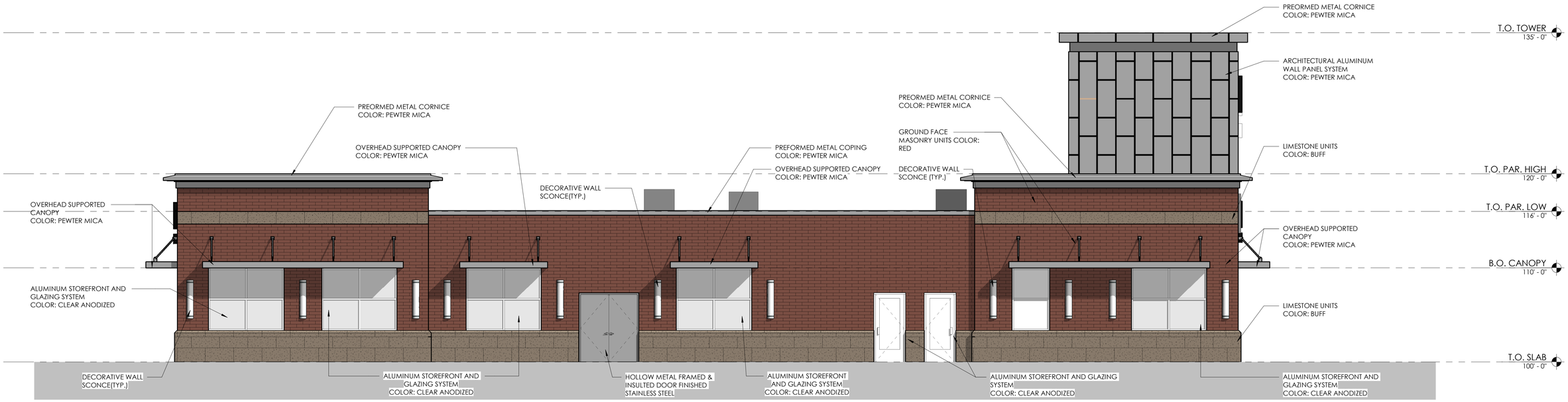
SOUTHWEST ELEVATION

CREW CARWASH - BUILDING ELEVATIONS

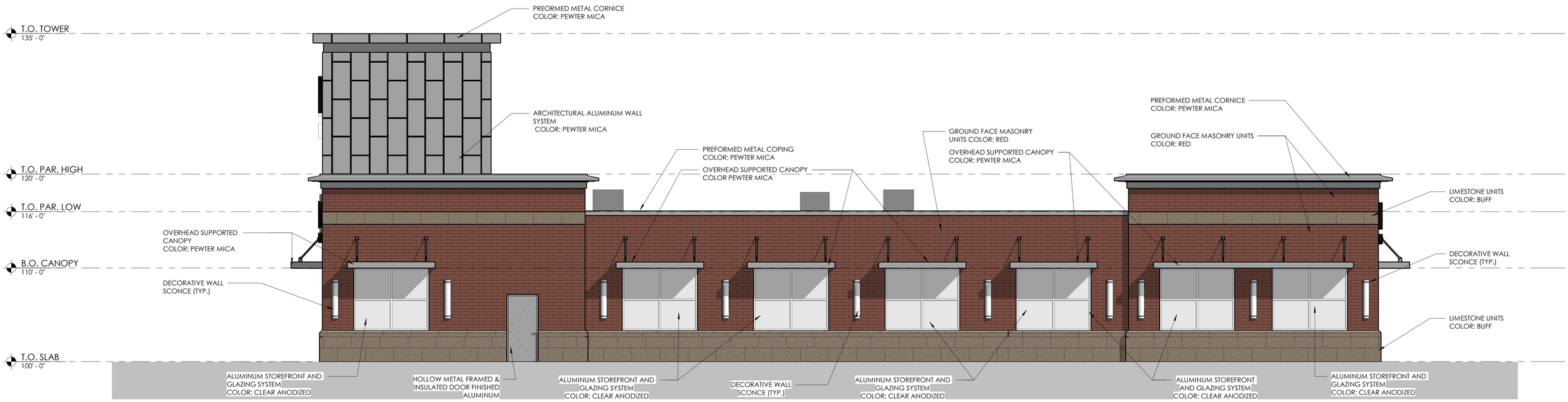
CREW CARWASH, INC
N96 W17500 COUNTY LINE RD.
GERMANTOWN, WI 53022

01/12/2024
PRO2024
3/16" = 1'-0"

Solutions by Design Since 1937



SOUTHEAST ELEVATION



NORTHWEST ELEVATION

CREW CARWASH - BUILDING ELEVATIONS

CREW CARWASH, INC
N96 W17500 COUNTY LINE RD.
GERMANTOWN, WI 53022

01/12/2024
PRO2024
3/16" = 1'-0"

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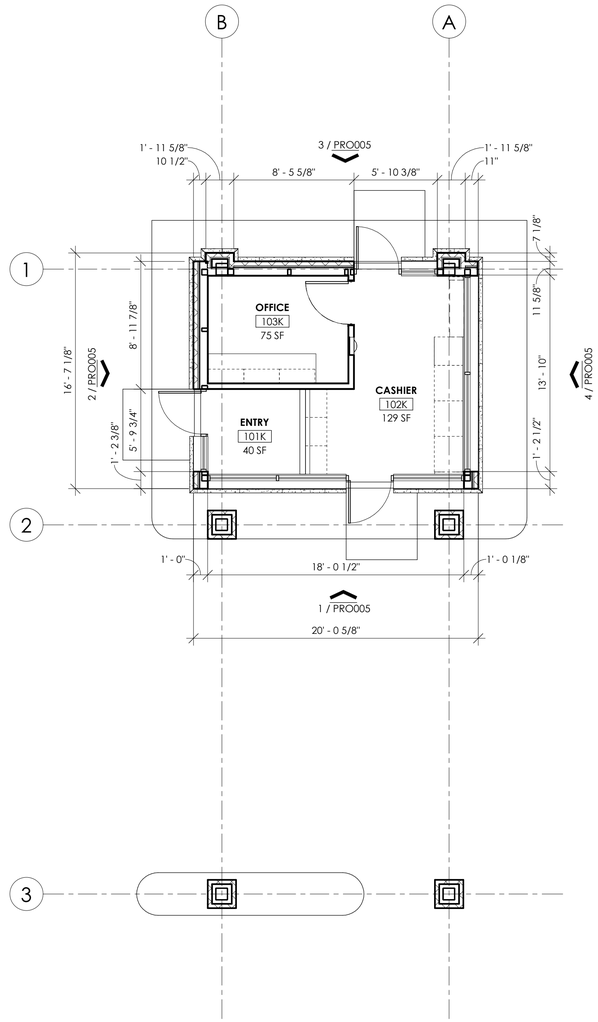
Solutions by Design Since 1937



CREW CARWASH - KIOSK FLOOR PLAN

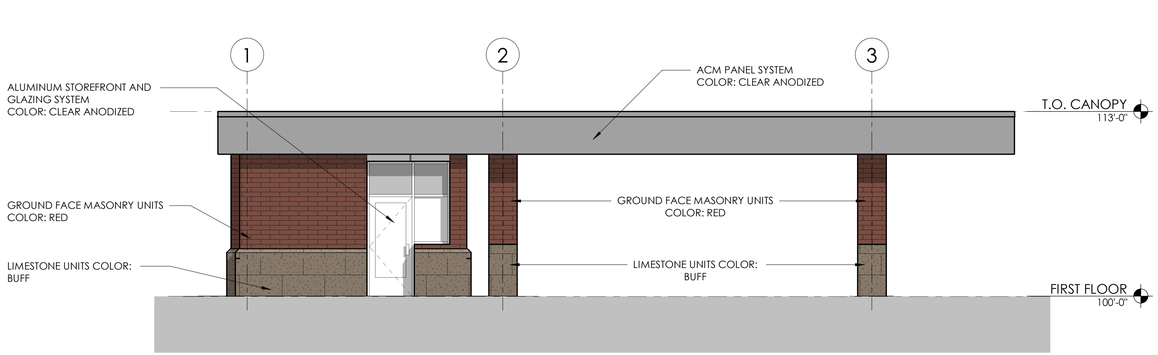
CREW CARWASH, INC
N96 W17500 COUNTY LINE RD.
GERMANTOWN, WI 53022

NORTH

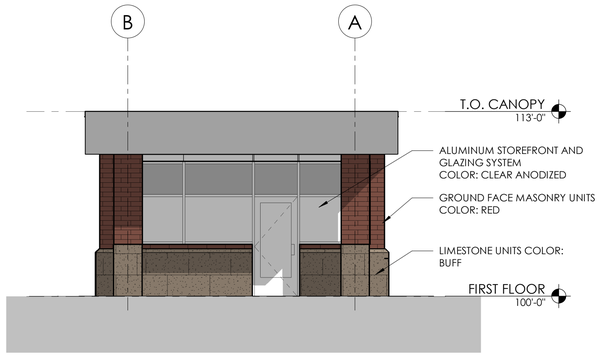
01/12/24

PRO2024
3/16" = 1'-0"

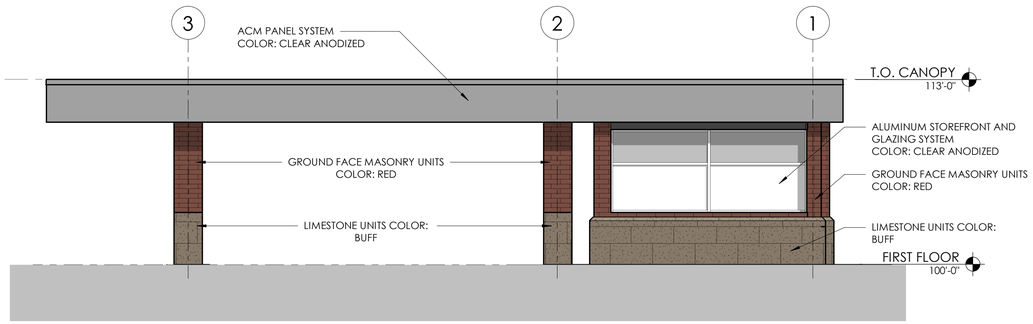
Solutions by Design Since 1937



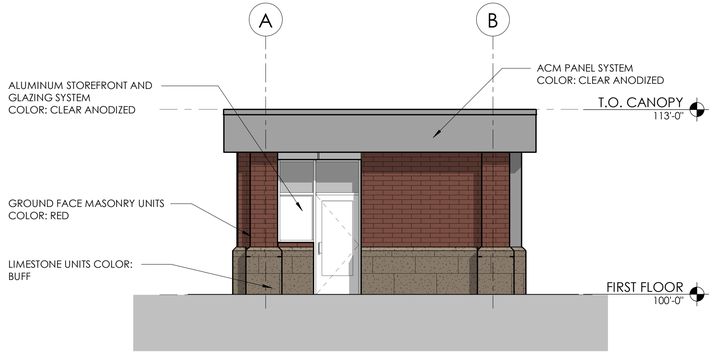
2 KIOSK - ENTRY
3/16" = 1'-0"



1 KIOSK - SOUTHEAST ELEVATION
3/16" = 1'-0"



4 KIOSK - EXIT
3/16" = 1'-0"



3 KIOSK - NORTHWEST ELEVATION
3/16" = 1'-0"

CREW CARWASH - KIOSK ELEVATIONS

CREW CARWASH, INC
N96 W17500 COUNTY LINE RD.
GERMANTOWN, WI 53022

01/12/24
PRO2024
3/16" = 1'-0"

Solutions by Design Since 1937

PROPOSED CAR WASH FOR:
CREW CARWASH
GERMANTOWN, WISCONSIN

LEGEND

- 000.00 — PROPOSED SPOT ELEVATIONS (FLOW LINE OF CURB UNLESS OTHERWISE SPECIFIED)
- 000.00 EG — EXISTING GRADE SPOT ELEVATIONS
- 000.00 BG / 000.00 FG — PROPOSED SPOT ELEVATIONS (REFERENCE R–WALL DETAIL) BG–FINISHED SURFACE GRADE AT BACK OF WALL FG–FINISHED SURFACE GRADE AT FRONT OF WALL
- 000.00 TC / 000.00 FL — PROPOSED SPOT ELEVATIONS (TOP OF CURB, FLOWLINE OF CURB)
- 000.00 TW / 000.00 BW — PROPOSED SPOT ELEVATIONS (TOP OF WALK, BOTTOM OF WALK @ FLOWLINE)
- EXISTING WATER VALVE IN BOX
- PROPOSED WATER VALVE IN BOX
- EXISTING WATER VALVE IN MANHOLE
- EXISTING WATER SERVICE VALVE
- EXISTING TELEPHONE MANHOLE
- EXISTING STORM CATCH BASIN
- PROPOSED STORM CATCH BASIN — ST CB
- PROPOSED STORM FIELD INLET — ST FI
- EXISTING SQUARE CATCH BASIN
- EXISTING STORM CURB INLET
- PROPOSED STORM CURB INLET — ST CI
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE WITH GUY WIRE
- EXISTING STREET LIGHT
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC PEDESTAL
- EXISTING ELECTRIC BOX
- EXISTING CABLE TV PEDESTAL
- PROPOSED DRAINAGE FLOW
- 1–1/4" REBAR SET WEIGHING 4.30 LB/FT.
- 3/4" REBAR SET WEIGHING 1.50 LB/FT.
- 1–1/4" REBAR FOUND
- 3/4" REBAR FOUND
- 2" IRON PIPE FOUND
- 1" IRON PIPE FOUND
- EXISTING FLOOD LIGHT
- SECTION CORNER
- PROPOSED APRON END SECTION
- EXISTING MARSH AREA
- EXISTING DECIDUOUS TREE WITH TRUNK DIAMETER
- EROSION MATTING
- IP — PROPOSED INLET PROTECTION

- EXISTING CONIFEROUS TREE
- EXISTING SHRUB
- EXISTING STUMP
- SOIL BORING
- EXISTING WELL
- PROPOSED WELL
- PROPOSED LIGHT POLE
- EXISTING LIGHT POLE
- PROPOSED SIGN
- EXISTING SIGN
- CENTER LINE
- EXISTING HANDICAP PARKING STALL
- PROPOSED HANDICAP PARKING STALL
- EXISTING GAS VALVE
- EXISTING WOODED AREA
- EXISTING HEDGE
- EXISTING CHAINLINK FENCE
- EXISTING WOOD FENCE
- EXISTING BARBED WIRE FENCE
- PROPOSED PROPERTY LINE
- EXISTING GUARD RAIL
- ST — EXISTING STORM SEWER AND MANHOLE
- ST — PROPOSED STORM SEWER AND MANHOLE — ST MH
- SA — EXISTING SANITARY SEWER AND MANHOLE
- SA — PROPOSED SANITARY SEWER AND MANHOLE — SAN MH
- W — EXISTING WATER LINE AND HYDRANT
- W — PROPOSED WATER LINE AND HYDRANT
- OU — EXISTING OVERHEAD UTILITY LINE
- FO — EXISTING UNDERGROUND FIBER OPTIC LINE
- E — EXISTING UNDERGROUND ELECTRIC CABLE
- T — EXISTING UNDERGROUND TELEPHONE CABLE
- G — EXISTING UNDERGROUND GAS LINE
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- GRADING/SEEDING LIMITS
- RIGHT–OF–WAY LINE
- INTERIOR PROPERTY LINE
- RAILROAD TRACKS
- 800 — EXISTING GROUND CONTOUR
- 800 — PROPOSED GROUND CONTOUR

DIVISION 31 EARTH WORK

31 10 00 SITE CLEARING (DEMOLITION)

A. CONTRACTOR SHALL CALL DIGGER'S HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING SITE DEMOLITION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
B. DEMOLITION PLAN IS AN OVERVIEW OF DEMOLITION TO TAKE PLACE ON SITE. CONTRACTOR TO FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL REMOVE, REPLACE, OR DEMOLISH ALL ITEMS AS NEEDED DURING CONSTRUCTION.
C. CONTRACTOR TO PROTECT EXISTING IMPROVEMENTS THAT ARE SCHEDULED TO REMAIN. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPLACED AT CONTRACTORS EXPENSE.
D. ALL CONCRETE NOTED TO BE REMOVED SHALL BE REMOVED TO THE NEAREST CONTROL JOINT.

31 20 00 EARTH MOVING

A. CONTRACTOR SHALL CALL DIGGER'S HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING EXCAVATION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
B. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT FOR ALL EXCAVATION, GRADING, FILL AND BACKFILL WORK AS REQUIRED TO COMPLETE THE GENERAL CONSTRUCTION WORK. ALL EXCAVATION AND BACKFILL FOR ELECTRICALS AND MECHANICALS ARE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR UNLESS OTHERWISE SPECIFIED IN THE BID DOCUMENTS.
C. ALL ORGANIC TOPSOIL INSIDE THE BUILDING AREA, UNDER PAVED AREAS, AND AT SITE FILL AREAS SHALL BE REMOVED. PROOF ROLL SUBGRADES BEFORE PLACING FILL WITH HEAVY PNEUMATIC-TIRED EQUIPMENT, SUCH AS A FULLY-LOADED TANDEM AXLE DUMP TRUCK, TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. CONTRACTOR SHALL VERIFY TOPSOIL DEPTHS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REVIEW AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND ACCOUNT FOR EXISTING CONDITIONS PRIOR TO SUBMITTING BID FOR THE PROJECT. EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE DIRECTED IN THE PLANS OR BY LOCAL ZONING REQUIREMENTS.
D. PLACE AND COMPACT FILL MATERIAL IN LAYERS TO REQUIRED ELEVATIONS. UNIFORMLY MOISTEN OR AERATE SUBGRADE AND EACH SUBSEQUENT FILL OR BACKFILL LAYER BEFORE COMPACTION AS RECOMMENDED TO ACHIEVE SPECIFIED DRY DENSITY. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY, OTHERWISE SATISFACTORY SOIL MATERIAL THAT IS TOO WET TO COMPACT TO SPECIFIED DRY DENSITY.
E. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
F. COMPACT THE SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D 698, STANDARD PROCTOR TEST. FILL MAY NOT BE PLACED ON FROZEN GROUND AND NO FROZEN MATERIALS MAY BE USED FOR BACK FILL. APPLY THE MORE STRINGENT REQUIREMENTS WHEN COMPARING BETWEEN THE FOLLOWING AND THE GEOTECHNICAL REPORT.
   1. UNDER FOUNDATIONS - SUBGRADE, AND EACH LAYER OF BACKFILL OR FILL MATERIAL, TO NOT LESS THAN 98 PERCENT.
   2. UNDER INTERIOR SLAB-ON-GRADE WHERE GROUNDWATER IS MORE THAN 3 FEET BELOW THE SLAB - PLACE A DRAINAGE COURSE LAYER OF 3/4" CRUSHED STONE, WITH 5% TO 12% FINES, PER THICKNESS INDICATED ON FOUNDATION PLANS ON PREPARED SUBGRADE. COMPACT THE SUBGRADE AND DRAINAGE COURSE TO NOT LESS THAN 95 PERCENT.
   3. UNDER INTERIOR SLAB-ON-GRADE WHERE GROUNDWATER IS WITHIN 3 FEET OF THE SLAB SURFACE- PLACE A DRAINAGE COURSE LAYER OF CLEAN 3/4" CRUSHED STONE, WITH NO MORE THAN 5% FINES, PER THICKNESS INDICATED ON FOUNDATION PLANS ON PREPARED SUBGRADE. COMPACT THE SUBGRADE AND DRAINAGE COURSE TO NOT LESS THAN 95 PERCENT.
   4. UNDER EXTERIOR CONCRETE AND ASPHALT PAVEMENTS - COMPACT THE SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO NOT LESS THAN 95 PERCENT.
   5. UNDER WALKWAYS - COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO NOT LESS THAN 95 PERCENT.
   6. UNDER LAWN OR UNPAVED AREAS - COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL, TO NOT LESS THAN 85 PERCENT.
G. CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF PASSING DENSITY TESTING AND PROOF-ROLLING TO ENGINEER UPON COMPLETION. IT IS SUGGESTED THAT THE GEOTECHNICAL FIRM USED TO PERFORM THE SUBSURFACE SOIL INVESTIGATION BE ENGAGED FOR THE FIELD QUALITY CONTROL TESTS.
H. ALLOW THE TESTING AGENCY TO TEST AND INSPECT SUBGRADES AND EACH FILL OR BACKFILL LAYER. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS FOR PREVIOUSLY COMPLETED WORK COMPLY WITH REQUIREMENTS. PROVIDE ONE TEST FOR EVERY 2000 SQUARE FEET OF PAVED AREA OR BUILDING SLAB, ONE TEST FOR EACH SPREAD FOOTING, AND ONE TEST FOR EVERY 50 LINEAR FEET OF WALL STRIP FOOTING.
I. WHEN THE TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
J. THE BUILDING SITE SHALL BE GRADED TO PROVIDE DRAINAGE AWAY FROM THE BUILDING AS INDICATED ON THE PLANS. SITE EARTHWORK SHALL BE GRADED TO WITHIN 0.10' OF REQUIRED EARTHWORK ELEVATIONS ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE GRADING PLAN.

31 30 00 EROSION CONTROL

A. THE GRADING PLAN REFLECTS LESS THAN 1 ACRE OF DISTURBED AREA. THE SITE IS THEREFORE EXEMPT FROM WISCONSIN DEPARTMENT OF NATURAL RESOURCES NR 216 NOTICE OF INTENT REQUIREMENTS. THE DESIGN ENGINEER SHALL PREPARE AN EROSION CONTROL PLAN TO MEET NR 151.105 CONSTRUCTION SITE PERFORMANCE STANDARDS FOR NON-PERMITTED SITES.
B. EROSION AND SEDIMENT CONTROL IMPLEMENTED DURING CONSTRUCTION SHALL STRICTLY COMPLY WITH THE GUIDELINES AND REQUIREMENTS SET FORTH IN WISCONSIN ADMINISTRATIVE CODE (W.A.C.) NR 151, THE STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES RUNOFF MANAGEMENT PERFORMANCE STANDARDS. TECHNICAL STANDARDS PUBLISHED BY THE WISCONSIN DNR SHALL ALSO BE UTILIZED TO IMPLEMENT THE REQUIRED PERFORMANCE STANDARDS. THE METHODS AND TYPES OF EROSION CONTROL WILL BE DEPENDENT ON THE LOCATION AND TYPE OF WORK INVOLVED. ALL SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION, AND INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. BELOW IS A LIST OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES TO ACHIEVE THE PERFORMANCE STANDARDS REQUIRED.
   1. SILT FENCE SHALL BE PLACED ON SITE AT LOCATIONS SHOWN ON THE EROSION CONTROL PLAN. SILT FENCE SHALL ALSO BE PROVIDED AROUND THE PERIMETER OF ALL SOIL STOCKPILES THAT WILL EXIST FOR MORE THAN 7 DAYS. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1056 (CURRENT EDITION).
   2. DITCH CHECKS SHALL BE PROVIDED TO REDUCE THE VELOCITY OF WATER FLOWING IN DITCH BOTTOMS. PLACE AT LOCATIONS SHOWN ON THE EROSION CONTROL PLAN. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1062 (CURRENT EDITION).
   3. STONE TRACKING PADS AND TRACKOUT CONTROL PRACTICES SHALL BE PLACED AT ALL CONSTRUCTION SITE ENTRANCES AND SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE CONSTRUCTION SITE. SEE THE EROSION CONTROL PLAN FOR LOCATIONS. THE AGGREGATE USED FOR THE STONE TRACKING PAD SHALL BE 3/8" TO 3 INCH CLEAR OR WASHED STONE AND SHALL BE PLACED IN A LAYER AT LEAST 12 INCHES THICK. THE STONE SHALL BE UNDERLAIN WITH A WISDOT TYPE R GEOTEXTILE FABRIC AS NEEDED. THE TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT (25 MIN WIDTH) AND SHALL BE A MINIMUM OF 50 FEET LONG. SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. OTHER TRACKOUT CONTROL PRACTICES INCLUDING STABILIZED WORK SURFACES, MANUFACTURED TRACKOUT CONTROL DEVICES, TIRE WASHING, AND STREET/PAVEMENT CLEANING SHALL BE IMPLEMENTED AS NECESSARY TO MITIGATE THE TRACKOUT OF SEDIMENT OFFSITE. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1057 (CURRENT EDITION).
   4. STORM DRAIN INLET PROTECTION SHALL BE PROVIDED FOR ALL NEW AND DOWNSTREAM STORM CATCH BASINS AND CURB INLETS. TYPE B OR C PROTECTION SHOULD BE PROVIDED AND SHALL BE IN CONFORMANCE WITH WISCONSIN DNR TECHNICAL STANDARD 1060 (CURRENT EDITION).
   5. DUST CONTROL MEASURES SHALL BE PROVIDED TO REDUCE OR PREVENT THE SURFACE AND AIR TRANSPORT OF DUST DURING CONSTRUCTION. CONTROL MEASURES INCLUDE APPLYING MULCH AND ESTABLISHING VEGETATION, WATER SPRAYING, SURFACE ROUGHENING, APPLYING POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES, AND BARRIERS. SOME SITES MAY REQUIRE AN APPROACH THAT UTILIZES A COMBINATION OF MEASURES FOR DUST CONTROL. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1068 (CURRENT EDITION).
   6. THE USE, STORAGE, AND DISPOSAL OF CHEMICALS, CEMENT, AND OTHER COMPOUNDS AND MATERIALS USED ON SITE SHALL BE MANAGED DURING THE CONSTRUCTION PERIOD TO PREVENT THEIR TRANSPORT BY RUNOFF INTO WATERS OF THE STATE.
   7. CONTRACTOR SHALL PROVIDE AN OPEN AGGREGATE CONCRETE TRUCK WASHOUT AREA ON SITE. CONTRACTOR TO ENSURE THAT CONCRETE WASHOUT SHALL BE CONTAINED TO THIS DESIGNATED AREA AND NOT BE ALLOWED TO RUN INTO STORM INLETS OR INTO THE OVERLAND STORMWATER DRAINAGE SYSTEM. WASHOUT AREA SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION.
   8. TEMPORARY SITE RESTORATION SHALL TAKE PLACE IN DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE OR ON WHICH LAND DISTURBING ACTIVITIES WILL NOT BE PERFORMED FOR A PERIOD GREATER THAN 14 DAYS AND REQUIRES VEGETATIVE COVER FOR LESS THAN ONE YEAR. THIS TEMPORARY SITE RESTORATION REQUIREMENT ALSO APPLIES TO SOIL STOCKPILES THAT EXIST FOR MORE THAN 7 DAYS. PERMANENT RESTORATION APPLIES TO AREAS WHERE PERENNIAL VEGETATIVE COVER IS NEEDED TO PERMANENTLY STABILIZE AREAS OF EXPOSED SOIL. PERMANENT STABILIZATION SHALL OCCUR WITHIN 3 WORKING DAYS OF FINAL GRADING. TOPSOIL, SEED, AND MULCH SHALL BE IN GENERAL CONFORMANCE WITH TECHNICAL STANDARDS 1058 AND 1059 AND SHALL MEET THE SPECIFICATIONS FOUND IN THE LANDSCAPING AND SITE STABILIZATION SECTION OF THIS CONSTRUCTION DOCUMENT. ANY SOIL EROSION THAT OCCURS AFTER FINAL GRADING AND/OR FINAL STABILIZATION MUST BE REPAIRED AND THE STABILIZATION WORK REDONE.
   9. IF SITE DEWATERING IS REQUIRED FOR PROPOSED CONSTRUCTION ACTIVITIES, ALL SEDIMENT LADEN WATER GENERATED DURING THE DEWATERING PROCESS SHALL BE TREATED TO REMOVE SEDIMENT PRIOR TO DISCHARGING OFF-SITE OR TO WATERS OF THE STATE. FOLLOW ALL PROCESS FOUND IN TECHNICAL STANDARD 1061.
   10. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION WORK OR A STORM EVENT SHALL BE CLEANED UP BY THE END OF EACH WORKING DAY. DUST CONTROL REQUIREMENTS SHALL BE FOLLOWED PER WI DNR TECHNICAL STANDARD 1068 (CURRENT EDITION); FLUSHING SHALL NOT BE ALLOWED.
C. ALL EROSION CONTROL DEVICES SHALL AT A MINIMUM BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24 HOUR PERIOD. MAINTENANCE SHALL BE PERFORMED PER WISCONSIN ADMINISTRATIVE CODE (W.A.C.) NR 151 STORMWATER MANAGEMENT TECHNICAL STANDARD REQUIREMENTS.
D. EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL THE AREA(S) SERVED HAVE ESTABLISHED VEGETATIVE COVER.
E. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL EROSION CONTROL PERMITS.

DIVISION 32 EXTERIOR IMPROVEMENTS

32 10 00 AGGREGATE BASE & ASPHALT PAVEMENT

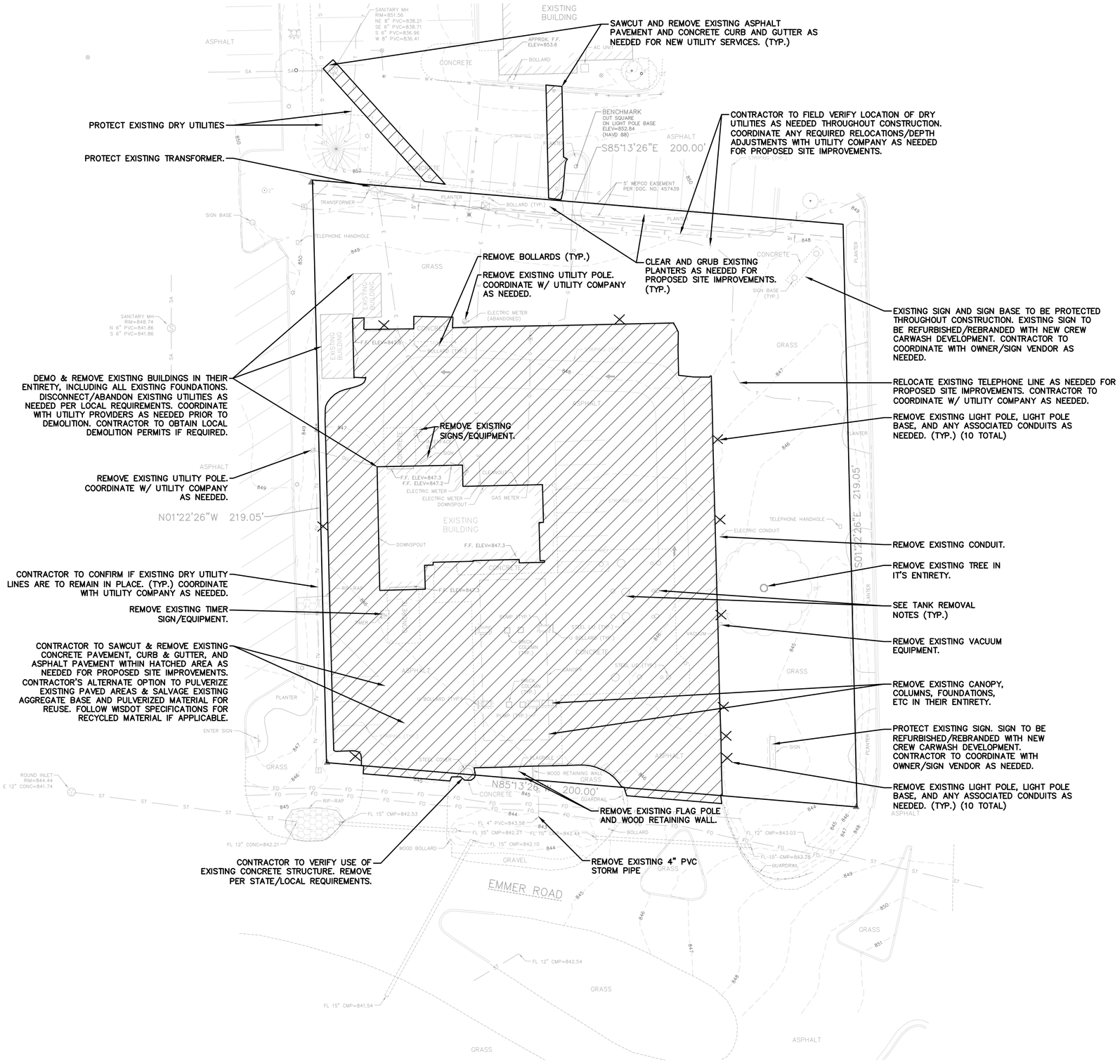
A. CONTRACTOR TO PROVIDE COMPACTED AGGREGATE BASE AND HOT MIX ASPHALT PAVEMENT WHERE INDICATED ON THE PLANS. ALL AGGREGATE PROVIDED MUST COMPLY WITH SECTION 305 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. PROVIDE HOT MIX ASPHALT MIXTURE TYPES PER SECTION 460 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. CONTRACTOR TO PROVIDE AGGREGATE BASE AND HOT MIX ASPHALT PAVEMENT TYPES TO MATCH THE EXISTING PAVEMENT SECTION WHERE REMOVAL AND REPLACEMENT IS REQUIRED IN ACCORDANCE WITH LOCAL STANDARDS.
B. CONTRACTOR TO COMPACT THE AGGREGATE BASE, ASPHALT BINDER COURSE, AND ASPHALT SURFACE COURSE TO AN AVERAGE DENSITY PER WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. ALL ASPHALT PAVEMENT AREAS SHALL BE PAVED TO WITHIN 0.05' OF DESIGN SURFACE GRADES WITH POSITIVE DRAINAGE BEING MAINTAINED IN ACCORDANCE WITH DESIGN PLANS.
C. HOT MIX ASPHALT CONSTRUCTION TO BE PROVIDED PER MORE STRINGENT REQUIREMENTS OF GEOTECHNICAL REPORT OR CONSTRUCTION DOCUMENTS.

32 20 00 CONCRETE AND AGGREGATE BASE

A. CONTRACTOR TO PROVIDE CRUSHED AGGREGATE BASE AND CONCRETE WHERE INDICATED ON THE PLANS.
B. ALL AGGREGATE PROVIDED MUST COMPLY WITH SECTION 305 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. CRUSHED MATERIAL MUST BE COMPACTED TO AN AVERAGE DENSITY PER WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
C. DESIGN AND CONSTRUCTION OF ALL CAST-IN-PLACE EXTERIOR CONCRETE FLAT WORK SHALL CONFORM TO ACI 330R-08 & ACI 318-08.
D. EXTERIOR CONCRETE FLAT WORK CONSTRUCTION TO BE PROVIDED PER MORE STRINGENT REQUIREMENTS OF THE GEOTECHNICAL REPORT OR THIS SPECIFICATION. CONCRETE FLAT WORK CONSTRUCTION IS AS FOLLOWS:
   1. SIDEWALK CONCRETE - 5" OF CONCRETE OVER 4" OF 3/4" CRUSHED AGGREGATE BASE. CONTRACTION JOINTS SHALL CONSIST OF 1/8" WIDE BY 1" DEEP TOOLED JOINT WHERE INDICATED ON THE PLANS.
   2. HEAVY DUTY CONCRETE - 6" OF CONCRETE OVER 6" OF 3/4" CRUSHED AGGREGATE. CONCRETE SHALL BE REINFORCED WITH #3 REBARS ON CHAIRS AT 3'-0" C. REBAR SHALL BE PLACED PLACED IN THE UPPER 1/3 TO ½ OF THE SLAB. CONTRACTION JOINTS SHALL BE SAWCUT 1.5" IN DEPTH AND BE SPACED A MAXIMUM OF 15' ON CENTER.
   3. DUMPSTER PAD/APRON CONCRETE - 8" OF CONCRETE OVER 6" OF AGGREGATE BASE.
      a. CONCRETE SHALL BE STEEL REINFORCED WITH THE FOLLOWING AND PLACED IN THE UPPER 1/3 TO ½ OF THE SLAB:
         1). TIE BARS AT ALL CONTRACTION JOINTS OF THE CONCRETE. TIE BARS SHALL BE #4 REBAR 30" LONG PLACED AT 30" O.C.
      b. DUMPSTER PAD CONCRETE JOINTING SHALL BE AS FOLLOWS:
         1). CONTRACTION SAWCUT JOINT - CONTRACTOR SHALL PROVIDE A SAWCUT JOINT AT MAXIMUM SPACING OF 15' ON CENTER. SAWCUT SHALL BE 2" IN DEPTH.
         2). TYPICAL POUR CONTROL JOINT - POUR CONTROL JOINT SHALL BE PROVIDED WITH 1-1/4" DIAMETER BY 20" LONG SMOOTH DOWEL PLACED AT 12" O.C. ONE HALF OF THE DOWEL SHALL BE GREASED. GREENSTREAK 9" SPEED DOWEL TUBES SHALL BE USED.
E. DESIGN MIXES SHALL BE IN ACCORDANCE WITH ASTM C94
   1. STRENGTH TO BE A MINIMUM OF 4,500 PSI AT 28 DAYS FOR EXTERIOR CONCRETE.
   2. MAXIMUM WATER/CEMENT RATIO SHALL BE 0.45.
   3. SLUMP SHALL NOT EXCEED 4" FOR EXTERIOR CONCRETE FLAT WORK
   4. SLUMP SHALL BE 2.5" OR LESS FOR SLIP-FORMED CURB AND GUTTER
   5. SLUMP SHALL BE BETWEEN 1.5" TO 3" FOR NON SLIP-FORMED CURB AND GUTTER.
   6. ALL EXTERIOR CONCRETE SHALL BE AIR ENTRAINED WITH 4% TO 7% AIR CONTENT. NO OTHER ADMIXTURES SHALL BE USED WITHOUT APPROVAL OF EXCEL ENGINEERING, INC. CALCIUM CHLORIDE SHALL NOT BE USED.
   7. MAXIMUM AGGREGATE SIZE FOR ALL EXTERIOR CONCRETE SHALL BE 0.75 INCHES.
F. VERIFY EQUIPMENT CONCRETE PAD SIZES WITH CONTRACTOR REQUIRING PAD. PADS SHALL HAVE FIBERMESH 300 FIBERS AT A RATE OF 1.5 LBS/CY). 10' OR 6.6-YH1.4 W1.4 WELDED WIRE MESH WITH MINIMUM 1 INCH COVER. EQUIPMENT PADS SHALL BE 5.5 INCHES THICK WITH 1 INCH CHAMFER UNLESS SPECIFIED OTHERWISE. COORDINATE ADDITIONAL PAD REQUIREMENTS WITH RESPECTIVE CONTRACTOR.
G. ALL CONCRETE FLAT WORK SURFACES AND CONCRETE CURB FLOWLINES SHALL BE CONSTRUCTED TO WITHIN 0.05' OF DESIGN SURFACE AND FLOWLINE GRADES ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE DESIGN PLANS.
H. CONCRETE FLAT WORK SHALL HAVE CONSTRUCTION JOINTS OR SAW CUT JOINTS PLACED AS INDICATED ON THE PLANS OR PER THIS SPECIFICATION. SAWCUTS SHALL BE DONE AS SOON AS POSSIBLE, BUT NO LATER THAN 24 HOURS AFTER CONCRETE IS PLACED. CONCRETE CURB AND GUTTER JOINTING SHALL BE PLACED EVERY 10' OR CLOSER (6' MIN.). IF CONCRETE PAVEMENT IS ADJACENT TO CONCRETE CURB, JOINTING IN THE PAVEMENT AND CURB SHALL ALIGN. ALL EXTERIOR CONCRETE SHALL HAVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE. A UNIFORM COAT OF A HIGH SOLIDS CURING COMPOUND MEETING ASTM C309 SHOULD BE APPLIED TO ALL EXPOSED CONCRETE SURFACES. ALL CONCRETE IS TO BE CURED FOR 7 DAYS. EXTERIOR CONCRETE SHALL BE SEPARATED FROM BUILDINGS WITH CONTINUOUS 0.5 INCH FIBER EXPANSION JOINT AND/OR 0.25 INCH FIBER EXPANSION JOINT AT DECORATIVE MASONRY UNITS.
I. ALL REINFORCING BARS SHALL BE ASTM A615 GRADE 60. THICKNESS OF CONCRETE COVER OVER REINFORCEMENT SHALL BE NOT LESS THAN 3" WHERE CONCRETE IS DEPOSITED AGAINST AND MANUAL AND STANDARD PRACTICES. THE REINFORCEMENT SHALL NOT BE PAINTED AND MUST BE FREE OF GREASE/OIL, DIRT OR DEEP RUST WHEN PLACED IN THE WORK. ALL WELDED WIRE FABRIC SHALL MEET THE REQUIREMENTS OF ASTM A 185. WELDED WIRE FABRIC SHALL BE PLACED 2" FROM TOP OF SLAB, UNLESS INDICATED OTHERWISE.
J. CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT TEST REPORTS DURING CONCRETE PLACEMENT. TESTS WILL BE PERFORMED ACCORDING TO ACI 301. CAST AND LABORATORY CURE ONE SET OF FOUR STANDARD CYLINDERS FOR EACH COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIX EXCEEDING 5 CU. YD., BUT LESS THAN 25 CU. YD. PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF. PERFORM COMPRESSIVE STRENGTH TESTS ACCORDING TO ASTM C 39. TEST TWO SPECIMENS AT 7 DAYS AND TWO SPECIMENS AT 28 DAYS. PERFORM SLUMP TESTING ACCORDING TO ASTM C 143. PROVIDE ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
K. PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. IN HOT, DRY, AND WINDY WEATHER, APPLY AN EVAPORATION-CONTROL COMPOUND ACCORDING TO MANUFACTURER'S INSTRUCTIONS AFTER SCREEDING AND BULL FLOATING, BUT BEFORE POWER FLOATING AND TROWELLING.
L. LIMIT MAXIMUM WATER-CEMENTITIOUS RATIO OF CONCRETE EXPOSED TO FREEZING, THAWING AND DEICING SALTS TO 0.45.
M. TEST RESULTS WILL BE REPORTED IN WRITING TO THE DESIGN ENGINEER, READY-MIX PRODUCER, AND CONTRACTOR WITHIN 24 HOURS AFTER TESTS. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING SERVICE, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN STRUCTURE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7-DAY TESTS AND 28-DAY TESTS.
N. CONTRACTOR TO PROVIDE 4" WIDE YELLOW OR WHITE (VERIFY WITH OWNER PRIOR TO STRIPING) PAINTED STRIPING FOR PARKING STALLS, TRAFFIC LANES, AND NO PARKING AREAS. PAINT MARKINGS SHALL ALSO BE PROVIDED FOR H.C. ACCESSIBLE SYMBOLS, TRAFFIC ARROWS, AND TRAFFIC MESSAGES.

DIVISION 32 LANDSCAPING AND SITE STABILIZATION

A. TOPSOIL: CONTRACTOR TO PROVIDE A MINIMUM OF 6" OF TOPSOIL FOR ALL DISTURBED OPEN AREAS, OTHER THAN AT LANDSCAPE ISLANDS WITHIN PAVEMENT AREAS WHERE A MINIMUM OF 10" OF TOPSOIL SHALL BE PROVIDED. REUSE SURFACE SOIL STOCKPILED ON SITE AND SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF SITE SOURCES WHEN QUANTITIES ARE INSUFFICIENT. EXCAVATOR SHALL BE RESPONSIBLE FOR ROUGH PLACEMENT OF TOPSOIL TO WITHIN 1" OF FINAL GRADE PRIOR TO LANDSCAPER FINAL GRADING. LANDSCAPER TO PROVIDE PULVERIZING AND FINAL GRADING OF TOPSOIL. PROVIDE SOIL ANALYSIS BY A QUALIFIED SOIL TESTING LABORATORY AS REQUIRED TO VERIFY THE SUITABILITY OF SOIL TO BE USED AS TOPSOIL AND TO DETERMINE THE NECESSARY SOIL AMENDMENTS. TEST SOIL FOR PRESENCE OF ATRAZINE AND IMPORM EXCEL ENGINEERING, INC. IF PRESENT PRIOR TO SPREADING PROJECT. TOPSOIL SHALL HAVE A PH RANGE OF 5.5 TO 8, CONTAIN A MINIMUM OF 5 PERCENT ORGANIC MATERIAL CONTENT, AND SHALL BE FREE OF STONES 1 INCH OR LARGER IN DIAMETER. ALL MATERIALS HARMFUL TO PLANT GROWTH SHALL ALSO BE REMOVED.
B. TOPSOIL INSTALLATION: LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 6 INCHES AND REMOVE STONES LARGER THAN 1" IN DIAMETER. ALSO REMOVE ANY STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND DISPOSE OF THEM OFF THE PROPERTY. SPREAD TOPSOIL TO A DEPTH OF 6" BUT NOT LESS THAN WHAT IS REQUIRED TO MEET FINISHED GRADES AFTER LIGHT ROLLING AND NATURAL SETTLEMENT. DO NOT SPREAD TOPSOIL IF SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET. GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN 0.05 FEET OF FINISHED GRADE ELEVATION.
C. SODDED LAWNS: PROVIDE SOD CONSISTING OF THE FOLLOWING GRASS SPECIES - 45% KENTUCKY BLUEGRASS, 20% PERENNIAL RYEGRASS, 15% FINE FESCUE. PROVIDE VIABLE SOD OF UNIFORM DENSITY, COLOR, AND TEXTURE. SOD SHOULD BE STRONGLY ROOTED AND CAPABLE OF VIGOROUS GROWTH AND DEVELOPMENT WHEN PLANTED. LAY SOD WITHIN 24 HOURS OF HARVESTING. DO NOT LAY SOD IF DORMANT OR IF GROUND IS FROZEN OR MUDDY. LAY SOD WITH TIGHTLY FITTED BUTT END AND SIDE JOINTS. DO NOT STRETCH OR OVERLAP. STAGGER SOD STRIPS TO OFFSET JOINTS IN ADJACENT COURSES. TAMP AND ROLL LIGHTLY TO ENSURE CONTACT WITH TOPSOIL. ANCHOR SOD ON SLOPES EXCEEDING 6:1 SLOPE. PROVIDE SLO



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

NOTE:
PROPERTY LINES AND EASEMENTS SHOWN ON THIS SURVEY WERE DRAFTED FROM INFORMATION CONTAINED IN TITLE COMMITMENT NO. 2237081, BY KNIGHT BARRY TITLE, INC., DATED SEPTEMBER 19, 2023.

NOTE:
SURFACE INDICATIONS OF UTILITIES ALONG WITH DIGGER'S HOTLINE MARKINGS PER TICKET NO. 20230306381 AND NO. 20234005120 HAVE BEEN SHOWN. SIZES AND ELEVATION OF UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD MEASUREMENTS OF VISIBLE STRUCTURES IN COMBINATION WITH AVAILABLE DATA PROVIDED TO EXCEL ENGINEERING. EXCEL ENGINEERING MAKES NO GUARANTEE THAT ALL THE EXISTING UTILITIES IN THE SURVEYED AREA HAVE BEEN SHOWN NOR THAT THEY ARE IN THE EXACT LOCATION INDICATED. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

DEMOLITION PLAN NOTES:

- DEMOLITION PLAN IS AN OVERVIEW OF DEMOLITION TO TAKE PLACE ON SITE. CONTRACTOR TO FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL REMOVE, OR DEMOLISH ITEMS AS NEEDED DURING CONSTRUCTION.
- PRIVATE LOCATE SHALL BE COMPLETED PRIOR TO CONSTRUCTION AND EXISTING UTILITY LOCATIONS AND DEPTHS SHALL BE FIELD VERIFIED AS NEEDED. PROPOSED DOWNSTREAM UTILITY CONNECTIONS SHALL BE VERIFIED PRIOR TO CONSTRUCTION. NOTIFY DESIGN ENGINEER OF CONFLICTS AND/OR DISCREPANCIES.

TANK REMOVAL NOTE:

NOTE THAT ALL FUELING EQUIPMENT AND UNDERGROUND FUEL STORAGE TANKS ARE TO BE COMPLETELY REMOVED BY THE SELLER AT THE SELLER'S EXPENSE PRIOR TO CONSTRUCTION OF CREW CARWASH. CONTRACTOR TO COORDINATE WITH OWNER IF ANY UNDERGROUND FUELING TANKS OR EQUIPMENT ARE DISCOVERED DURING CONSTRUCTION.

EXISTING SEWER/WATER LATERAL NOTE:

CONTRACTOR SHALL REMOVE EXISTING SEWER AND WATER SERVICE LATERALS TO THE PROPERTY LINE. CAP/ABANDON PER LOCAL REQUIREMENTS. COORDINATE WITH LOCAL UTILITY DEPARTMENTS AS NEEDED PRIOR TO ABANDONMENT.

NORTH

1" = 20' SCALE 20' 0 20' 40' 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

PROJECT INFORMATION

PROPOSED CAR WASH FOR:
CREW CARWASH
N96 W17500 COUNTY LINE RD • GERMANTOWN, WI 53022

PROFESSIONAL SEAL

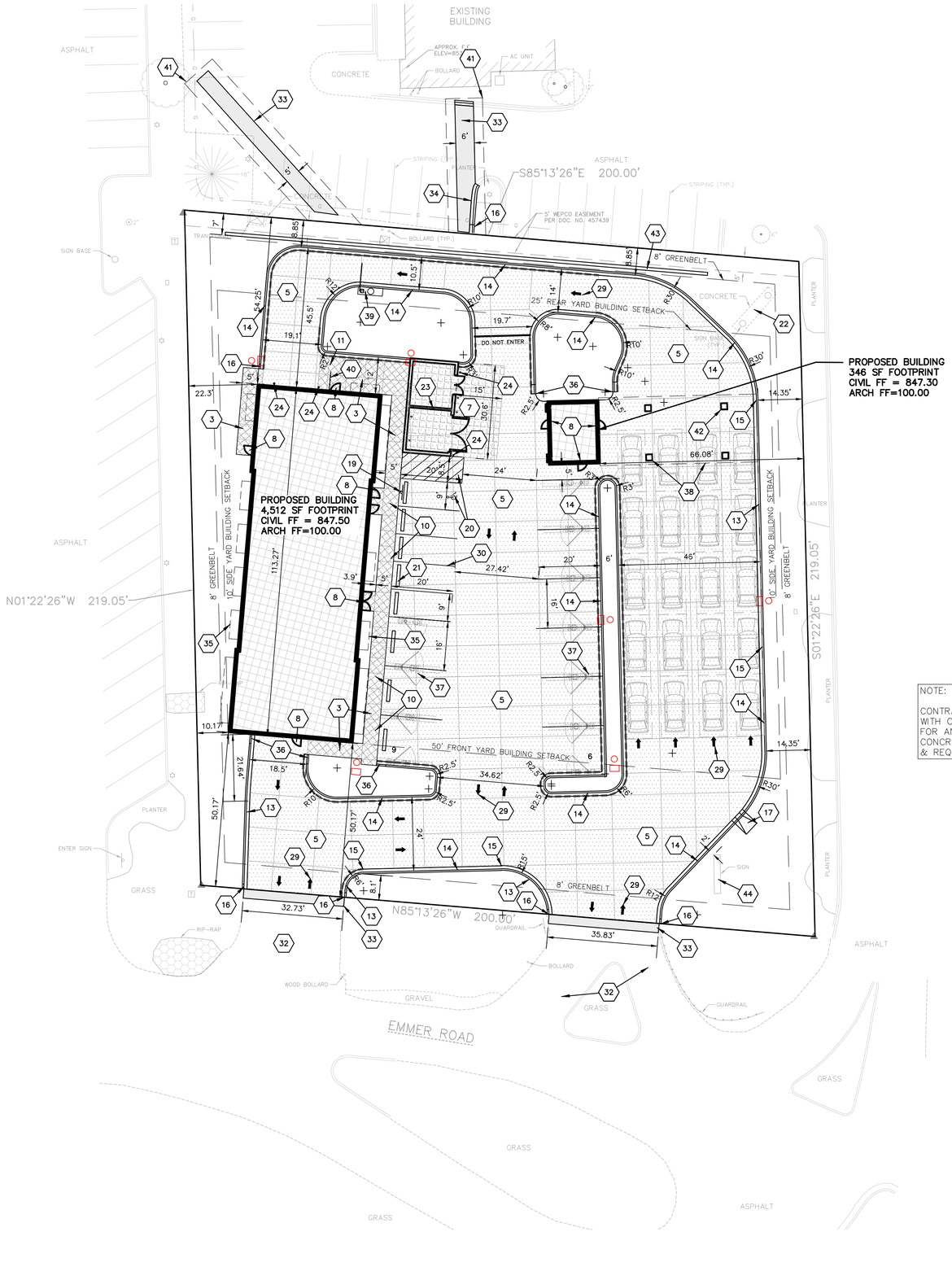
PRELIMINARY DATES
FEB. 12, 2024

NOT FOR CONSTRUCTION

JOB NUMBER
230022600

SHEET NUMBER
C1.0

2021 © EXCEL ENGINEERING, INC.



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

SITE INFORMATION:

PROPERTY ADDRESS: N96W17500 COUNTY LINE RD, GERMANTOWN WI

PARCEL ID NUMBER: 334990

PROPERTY AREA: 43,558 S.F. (1.00 ACRES).

EXISTING ZONING: B-5 W/ HIGHWAY INTERCHANGE AREA OVERLAY

PROPOSED ZONING: B-5 W/ HIGHWAY INTERCHANGE AREA OVERLAY

ADJACENT PROPERTY ZONING: B-5

PROPOSED USE: CONVEYOR-STYLE CARWASH

AREA OF SITE DISTURBANCE: 43,346 SF (0.995 AC)

SETBACKS: BUILDING: FRONT = 50'
SIDE = 10'
REAR = 25'

PAVEMENT: FRONT = 8'
SIDE = 8'
REAR = 8'

PROPOSED BUILDING HEIGHT: 35' TO TOP OF TOWER (MAX. HEIGHT ALLOWED: 35')

PARKING REQUIRED: NO CODIFIED REQUIREMENT FOR CARWASH USE; ADEQUATE SPACE FOR EMPLOYEES AND CUSTOMERS

PARKING PROVIDED: 14 TOTAL (5 STANDARD EMPLOYEE SPACES, 9 VACUUM SPACES)

HANDICAP STALLS REQUIRED: 1 REQUIRED, 1 PROVIDED

LANDSCAPE REQUIREMENTS: MIN. LANDSCAPE SURFACE RATIO = 20% OPEN AREA

EXISTING SITE DATA

	AREA (AC)	AREA (SF)	RATIO
PROJECT SITE	1.00	43,558	
BUILDING FLOOR AREA	0.06	2,627	6.0%
PAVEMENT (ASP. & CONC.)	0.50	21,843	50.1%
TOTAL IMPERVIOUS	0.56	24,470	56.2%
LANDSCAPE/ OPEN SPACE	0.44	19,088	43.8%

PROPOSED SITE DATA

	AREA (AC)	AREA (SF)	RATIO
PROJECT SITE	1.00	43,558	
BUILDING FLOOR AREA	0.11	4,858	11.2%
PAVEMENT (ASP. & CONC.)	0.59	25,648	58.9%
TOTAL IMPERVIOUS	0.70	30,506	70.0%
LANDSCAPE/ OPEN SPACE	0.30	13,052	30.0%

NOTE:
CONTRACTOR TO COORDINATE WITH OWNER AND MEP PLANS FOR ANY EXTERIOR HEATED CONCRETE SLAB LOCATIONS & REQUIREMENTS.

NOTE:
KNOX BOX TO BE PROVIDED AT PRIMARY ENTRANCE PER LOCAL REQUIREMENTS. CONTRACTOR TO COORDINATE W/ BUILDING INSPECTOR/FIRE DEPARTMENT FOR SPECIFIC REQUIREMENTS.

PAVEMENT HATCH KEY:
- ASPHALT
- HEAVY DUTY CONCRETE
- DUMPSTER PAD CONCRETE
- SIDEWALK CONCRETE

*SEE SHEET C0.1 FOR SECTION REQUIREMENTS

CURB & GUTTER MARKING KEY:
- INVERTED CURB & GUTTER
- SHEDDING CURB & GUTTER

SITE PLAN KEYNOTES

3	CONCRETE SIDEWALK (TYP.)
5	HEAVY DUTY CONCRETE (TYP.)
7	DUMPSTER PAD/APRON CONCRETE (TYP.)
8	CONCRETE STOOP (TYP.) SEE ARCH. PLANS FOR DETAILS.
10	FLUSH WALK (TYP.)
11	SIDEWALK RAMP, SEE SHEET C1.2. (TYP.)
13	18" ROLL CURB, 3" CURB HEIGHT (TYP.)
14	18" CURB & GUTTER (TYP.)
15	ROLL CURB/STANDARD CURB TRANSITION. (TYP.)
16	CURB TAPER (TYP.)
17	CURB CUT W/ 5" THICK CONCRETE PAD/FLUME WARPED TO MATCH CURB CUT (TYP.)
19	HANDICAP SIGN (TYP.)
20	HANDICAP STALL & STRIPING PER STATE CODES.
21	PRECAST CONCRETE WHEEL STOP PINNED TO PAVEMENT (9 TYP.)
22	EXISTING PYLON SIGN TO REMAIN AND BE RE-BRANDED. (DETAILS & APPROVAL BY SIGN VENDOR)
23	DUMPSTER/STORAGE ENCLOSURE. ROLL OUT DUMPSTERS REQUIRED FOR SERVICE. (SEE ARCH PLANS FOR DETAILS)
24	6" CONCRETE BOLLARDS (SEE DETAIL)
29	TRAFFIC FLOW ARROWS. COLOR TO MATCH PARKING STALL STRIPING.
30	PAINT STRIPING (TYP). COLOR TO MATCH PARKING STALL STRIPING.
32	EXISTING DRIVEWAY ENTRANCES TO REMAIN IN PLACE (TYP.)
33	REPLACE EXISTING ASPHALT PAVEMENT PER LOCAL STANDARDS. MATCH EXISTING PAVEMENT SECTION. (TYP.)
34	REPLACE CONCRETE CURB AND GUTTER TO MATCH EXISTING. (TYP.)
35	CANOPY. SEE ARCH PLANS. (TYP.)
36	TAPER CURB TO FLUSH IN 3' (TYP.)
37	OUTDOOR VACUUM EQUIPMENT. CONTRACTOR TO COORDINATE FINAL PRODUCTS, DETAILS, ETC WITH OWNER/DIRECTOR OF PROJECTS. VERIFY CONCRETE SLAB REQUIREMENTS WITH OWNER & EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.
38	ISLAND AND CANOPY TO BE PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR. CONTRACTOR TO VERIFY FINAL LOCATIONS, DETAILS, EQUIPMENT, ETC WITH OWNER AND EQUIPMENT SUPPLIERS PRIOR TO CONSTRUCTION.
39	BUG GATE (TYP.) CONTRACTOR TO VERIFY FINAL DETAILS AND REQUIREMENTS WITH OWNER AND EQUIPMENT SUPPLIER AS NEEDED.
40	6' OF RAILING/GUARDRAIL. FINAL COLOR/STYLE/DETAIL BY OWNER. (TYP.)
41	PRIVATE UTILITY EASEMENTS TO BE COMPLETED BY OTHERS AS A SEPARATE DOCUMENT. OWNER TO COORDINATE AS NEEDED. SEE SHEET C1.3 FOR UTILITY SERVICE EXTENSIONS.
42	COLUMN (TYP.) COORDINATE FINAL LOCATIONS W/ CANOPY SUPPLIER DRAWINGS.
43	157 LF OF VERSA LOK OR EQUIVALENT LANDSCAPE BLOCK RETAINING WALL. SEE SHEET C1.2 FOR WALL HEIGHTS. FINAL DESIGN DETAILS AND SPECIFICATIONS BY WALL SUPPLIER. CONTRACTOR TO COORDINATE DETAILS W/ WALL SUPPLIER & OWNER AS NEEDED.
44	EXISTING MONUMENT SIGN TO REMAIN AND BE RE-BRANDED. (DETAILS & APPROVAL BY SIGN VENDOR.)

NORTH

1"= 20' SCALE

20' 0 20' 40' FEET

CIVIL SITE PLAN

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Always a Better Plan
100 Camelot Drive
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N96 W17500 COUNTY LINE RD • GERMANTOWN, WI 53022

PROFESSIONAL SEAL

PRELIMINARY DATES
FEB. 12, 2024

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JOB NUMBER
230022600

SHEET NUMBER
C1.1

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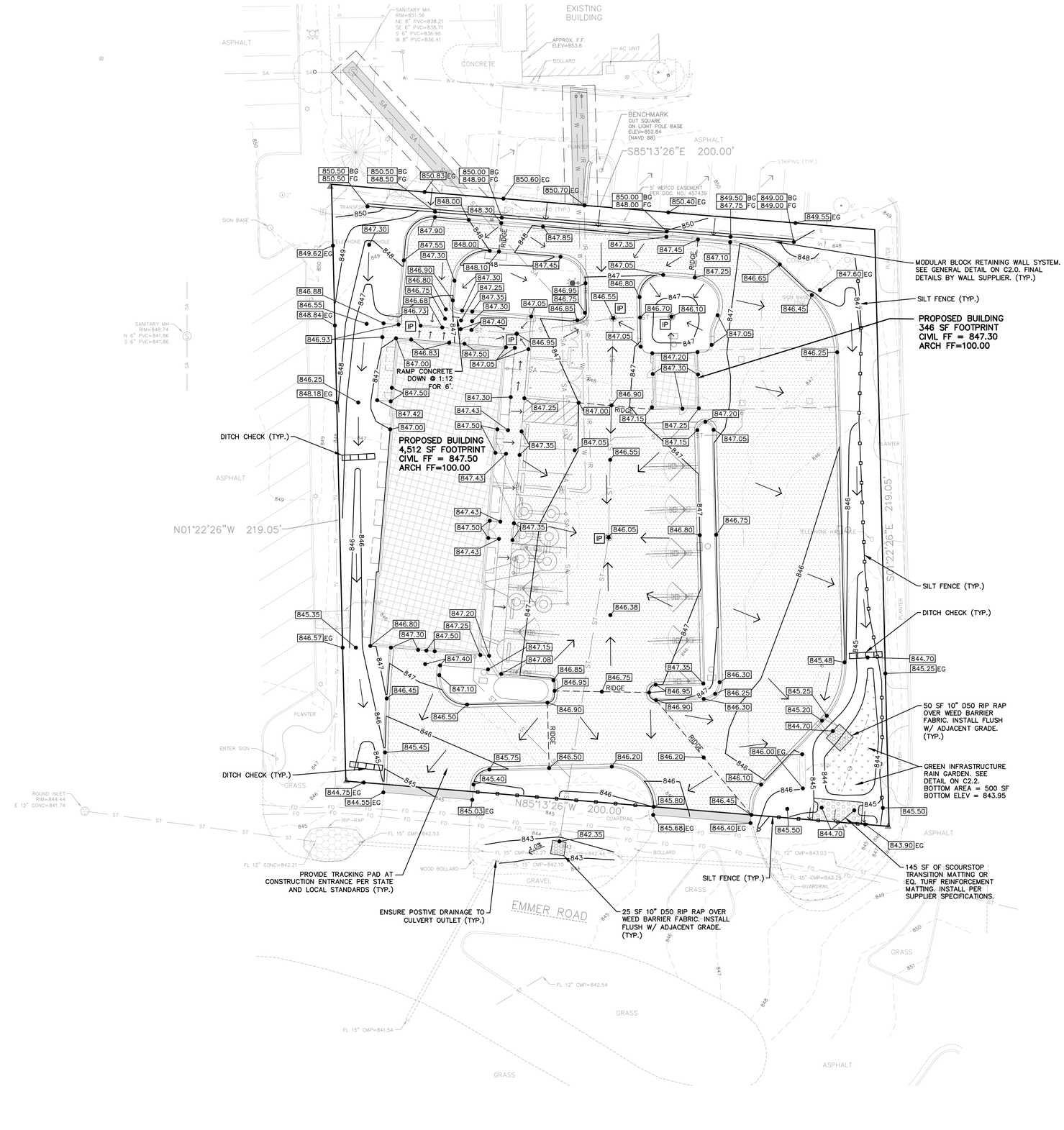

SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

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.

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.

SPOT ELEVATION NOTE:

ALL SPOT ELEVATIONS NOTED ON THE PLAN REPRESENT FLOW LINE OF CURB UNLESS SPECIFICALLY NOTED OTHERWISE.

GRADING NOTE:

CONTRACTOR SHALL COORDINATE PROPOSED SITE GRADING AT PERIMETER OF BUILDING AND AT TUNNEL ENTRANCE/EXIT WITH ARCH/STRUCT PLANS AS NEEDED.

EROSION CONTROL/SWM COST ESTIMATE
(FOR REFERENCE ONLY)

LAND DISTURBANCE APPROX. 0.99 AC

Itemized cost of Erosion Control:

Tracking Pad = $1500ea. x 1 = $1500
Inlet Protection = $75 x 5 = $375
Silt Fence = 325' x $2/ lin. ft = $650
Ditch Check = 3 x $100ea. = $300
Total Erosion Control Cost Estimate = $2,825

Itemized cost of Storm Water Management:

Rain Garden/Spillway = $10,000ea. x 1 = $10,000

Total Storm Water Cost = $10,000

NORTH

1"= 20' SCALE 20' 0 20' 40' FEET

CIVIL GRADING AND EROSION CONTROL PLAN

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100 Camelot Drive
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excelengineer.com

PROJECT INFORMATION

PROPOSED CAR WASH FOR:
CREW CARWASH
N96 W17500 COUNTY LINE RD • GERMANTOWN, WI 53022

PROFESSIONAL SEAL

PRELIMINARY DATES
FEB. 12, 2024

NOT FOR CONSTRUCTION

JOB NUMBER
230022600

SHEET NUMBER
C1.2

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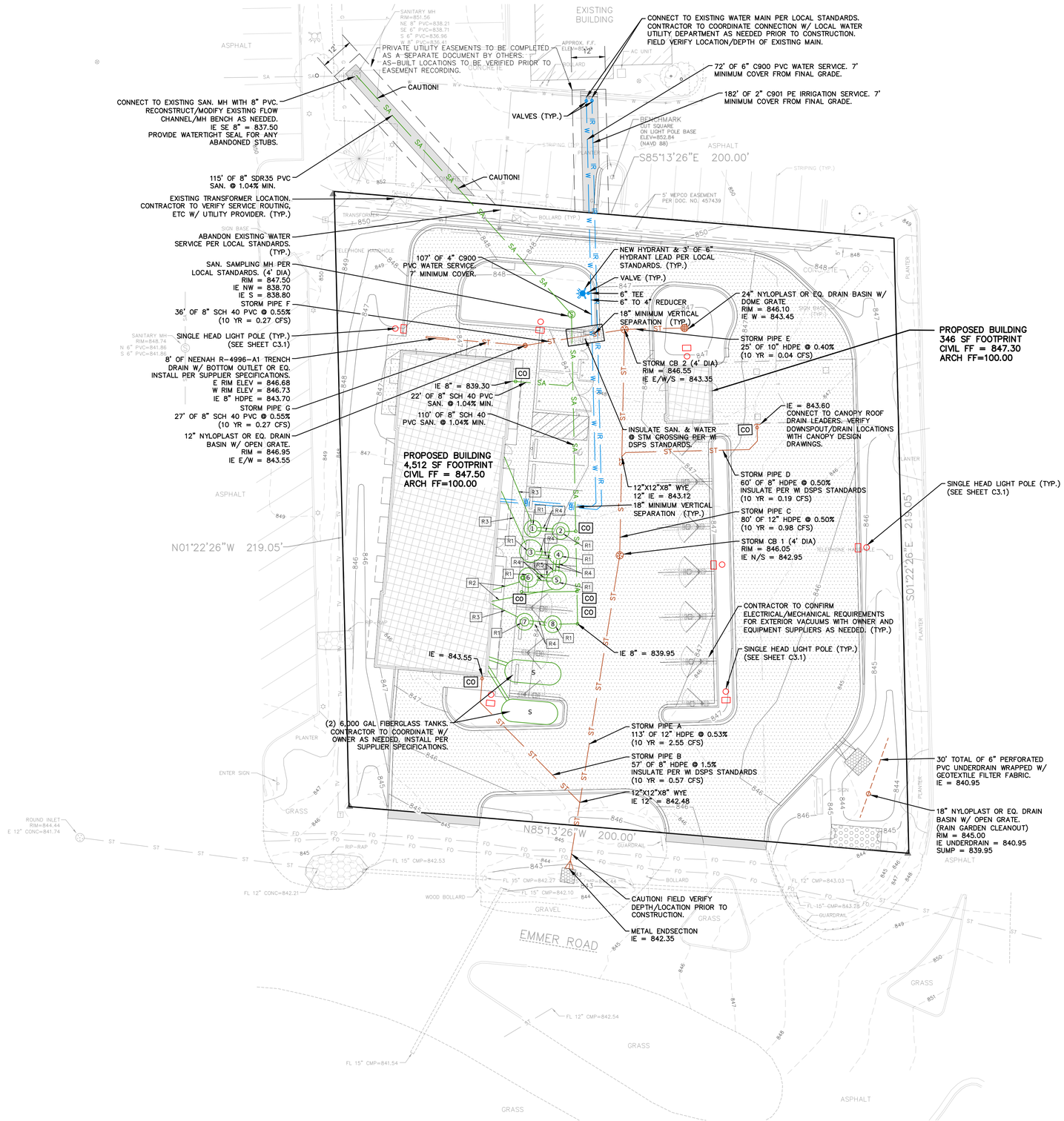

SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

CLEANOUT NOTE:

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

UTILITY NOTE:

CONTRACTOR TO VERIFY FINAL SIZE, DESIGN, AND LOCATIONS OF ALL EXTERIOR SITE UTILITIES WITH INTERNAL MEP DESIGN AND OWNER AS NEEDED.

UTILITY NOTE:

CONTRACTOR TO ENSURE ADEQUATE SEPARATION IS PROVIDED BETWEEN DOMESTIC WATER SERVICE AND SANITARY/STORM SERVICE PER WI DSPS PLUMBING CODE STANDARDS.

DRY UTILITY SERVICE NOTES:

CONTRACTOR SHALL COORDINATE DRY UTILITY SERVICE ROUTING FOR ELECTRIC, GAS, ETC WITH APPLICABLE SERVICE PROVIDERS AS NEEDED

WATER RECLAMATION SYSTEM NOTES (R):

R1. ACCESS RISER AND OPERATING 38" DIAMETER STEEL PLAT LID, MODEL PER OWNER SPECIFICATIONS. STRUCTURE TOP TO HAVE A 36" DIAMETER OPENING CASTING. LID TO BE ALIGNED WITH LADDER RUNGS IN MANHOLE.

R2. 8" PVC, SCHEDULE 40, TO RECLAIM PIT.

R3. 8" PVC, SCHEDULE 80 CONVEYOR TRENCH DRAIN. CONVEYOR TRENCH DRAINS MUST BE RUN IN STRAIGHT LINES WITH NO TURNS.

R4. 8" PVC CONNECTOR TO SLEEVES, REFER TO TABLE FOR INVERT ELEVATIONS.

R5. 4" PVC CONNECTOR SLEEVES.

GENERAL SYSTEM NOTES:

- CONTRACTOR SHALL VERIFY WATER RECLAMATION SYSTEM LAYOUT, COMPONENTS, INVERT ELEVATIONS, AND PIPE ROUTING WITH OWNER AND INTERNAL PLUMBING DESIGNER PRIOR TO ORDERING MATERIALS.
- CONTRACTOR SHALL READ AND REVIEW GEOTECHNICAL REPORT PREPARED FOR THE SITE. IF HIGH GROUNDWATER IS NOTED OR ENCOUNTERED DURING CONSTRUCTION, CONTRACTOR SHALL REVIEW WITH TANK SUPPLIER & OWNER TO DETERMINE IF ANTI-BUOYANCY ACTIONS SHALL BE TAKEN.
- CONTRACTOR SHALL INSULATE RECLAMATION SYSTEM CONNECTOR PIPES W/ POLYSTYRENE INSULATION BOARDS OR OTHER APPROVED METHOD PER WI DSPS STANDARDS.

WATER RECLAIM SYSTEM (GRIT PIT) STRUCTURE TABLE
FFE = 847.50

STRUCTURE NUMBER	STRUCTURE DIAMETER (IN)	RIM ELEV.	INVERT IN	INVERT OUT	SUMP	SUBGRADE	PROVIDED STORAGE (CU FT)	PROVIDED STORAGE (US GAL)
1	60	847.25	842.00	841.75	833.67	833.17	137.40	1028
2	60	846.87	841.75	841.50	833.67	833.17	132.54	991
3	84	847.22	842.00	841.75	833.67	833.17	298.25	2230
4	72	846.90	841.75	841.50	833.67	833.17	212.06	1586
5	72	846.87	841.50	841.25	833.67	833.17	205.00	1533
6	72	847.25	841.25	841.00	833.67	833.17	197.92	1480
7	60	847.13	842.00	841.75	833.67	833.17	142.35	1065
8	60	846.83	841.75	841.50	833.67	833.17	137.40	1028

NORTH
1"= 20' SCALE 20' 0 20' 40' FEET

CIVIL UTILITY PLAN

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PROJECT INFORMATION

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CREW CARWASH
N96 W17500 COUNTY LINE RD • GERMANTOWN, WI 53022

PROFESSIONAL SEAL

PRELIMINARY DATES
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JOB NUMBER
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SHEET NUMBER
C1.3

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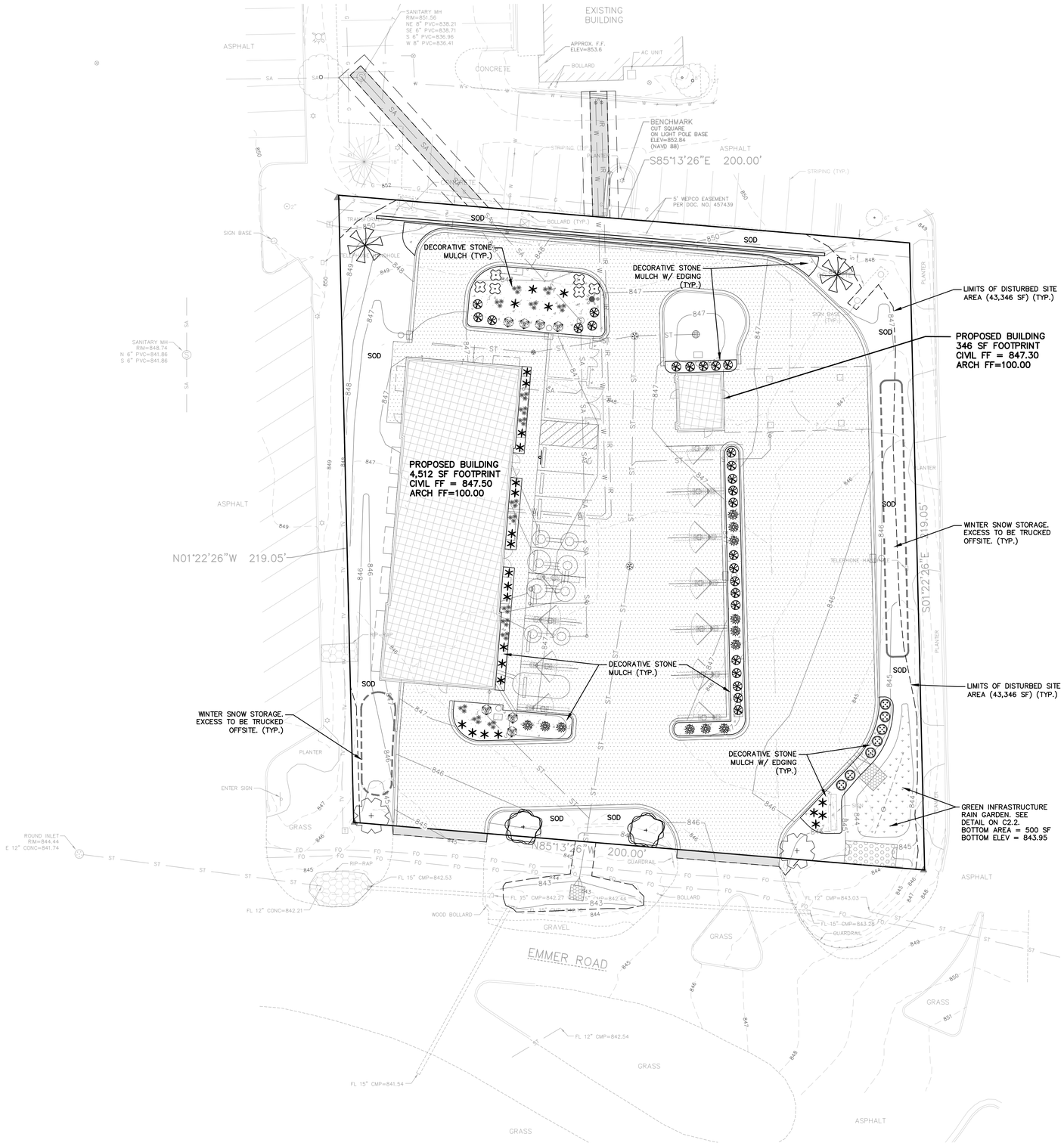


SPECIFICATION NOTE:
SEE SHEET C0.1 FOR PLAN SPECIFICATIONS AND REQUIREMENTS

LANDSCAPING PLANTING SCHEDULE

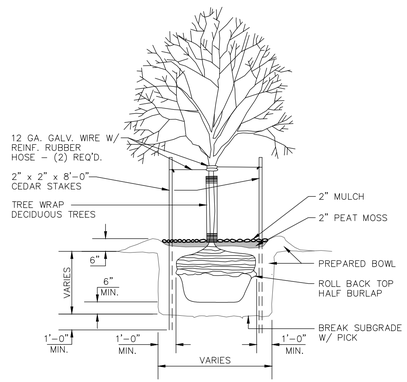
SYMBOL	COMMON NAME	BOTANICAL NAME	PLANTED SIZE	QUANTITY
	DECIDUOUS TREES			
	Princeton Sentry Ginkgo	Ginkgo biloba	3"	2
	Parkway Maple	Acer platanoides	3"	2
	Jack Flowering Pear (Ornamental)	Pyrus calleryana 'Jaczam'	1.5"	2
	DECIDUOUS SHRUBS			
	Gro-Low Fragrant Sumac	Rhus aromatica 'Gro Low'	18"	6
	Goldmound Spirea	Spiraea x bumalda 'Goldmound'	15"-18"	12
	Weigela Carnaval	Weigela Florida 'courtalor'	24"	7
	EVERGREEN SHRUBS			
	Taunton Yew	Tauntonii	24"	26
	Emerald Green Arborvitae	Thuja occidentalis 'Emerald Green'	36"	7
	PERENNIALS			
	Daylilies 'Stella de Oro'	Hemerocallis 'Stella de Oro'	1 gal pot	26
	Karl Foerster Reed Grass	Clamagrostis x acutiflora 'Karl Foerster'	1 gal pot	16

LANDSCAPING CALCULATIONS

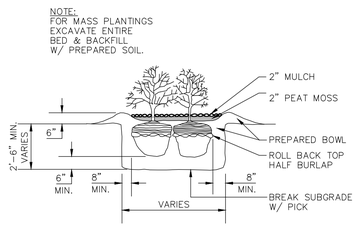
ZONE	REQ. PLANTS	PLANTS PROVIDED
STREET	1 PER 50 LF FRONTAGE 200 LF FRONTAGE = 4 TREES	4 PROVIDED
PARKING	1 TREE PER 10 SPACES 15 SPACES = 2 TREES	2 PROVIDED
TOTAL	6 TOTAL TREES REQ.	6 TOTAL TREES PROVIDED

IRRIGATION NOTE: PROVIDE IRRIGATION FOR ALL LAWN/LANDSCAPED AREAS IN ACCORDANCE WITH PLAN SPECIFICATIONS ON SHEET C0.1. DESIGN-BUILD LANDSCAPE/IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL DESIGN, LAYOUT, AND INSTALLATION. COORDINATE FINAL LAYOUT WITH OWNER/GC AS NEEDED.

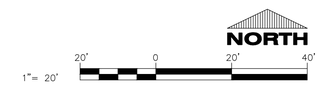
NOTE: LANDSCAPE CONTRACTOR SHALL REVIEW FINAL PLANTING LOCATIONS AND SPECIES WITH OWNER PRIOR TO INSTALLATION.



TREE PLANTING DETAIL
NO SCALE



SHRUB PLANTING DETAIL
NO SCALE



CIVIL LANDSCAPE AND RESTORATION PLAN

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100 Camelot Drive
Fond du Lac, WI 54935
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PROJECT INFORMATION

PROPOSED CAR WASH FOR:
CREW CARWASH
N96 W17500 COUNTY LINE RD • GERMANTOWN, WI 53022

PROFESSIONAL SEAL

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230022600

SHEET NUMBER
C1.4

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SPECIFICATION NOTE:
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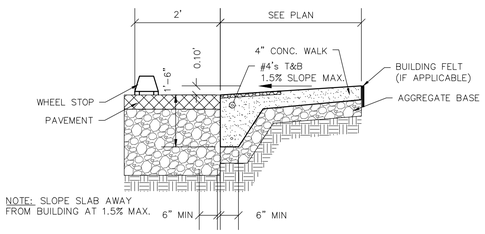
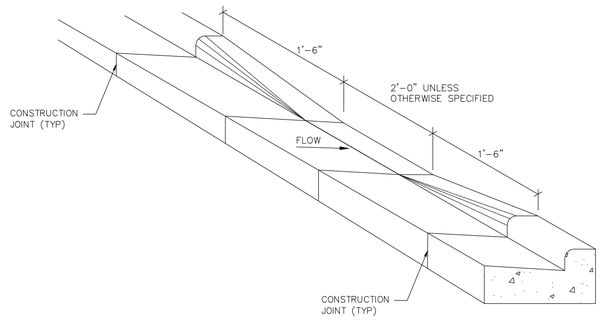


FLUSH WALK DETAIL
NO SCALE



CURB CUT DETAIL
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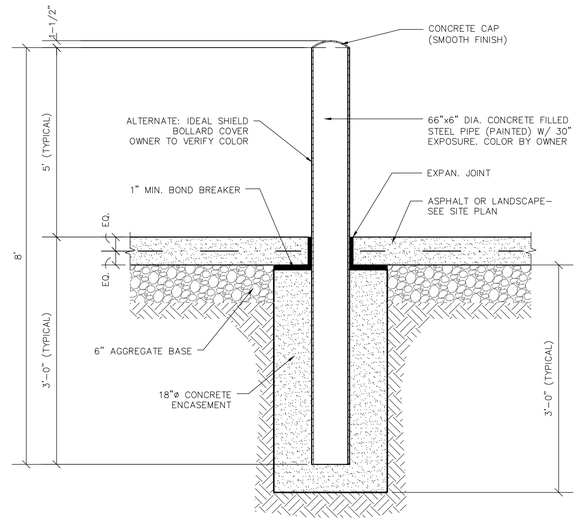
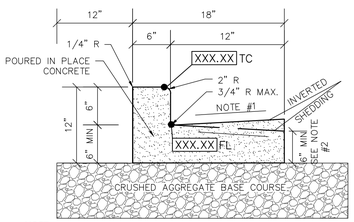


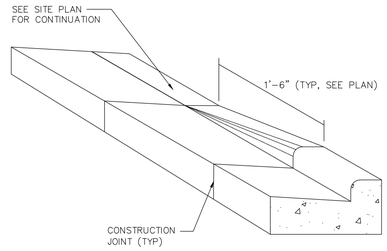
6" PIPE BOLLARD DETAIL
NO SCALE



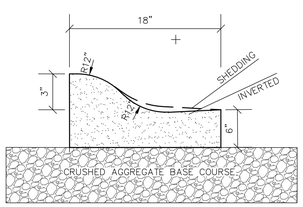
NOTE:

1. USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MIN. GUTTER THICKNESS IS MAINTAINED.
3. SEE SITE PLAN & GRADING PLAN FOR INVERTED & SHEDDING CURB LOCATIONS

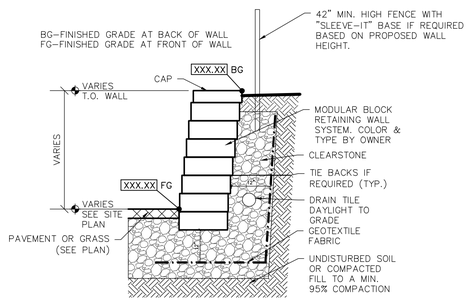
18" CONCRETE CURB & GUTTER DETAIL
NO SCALE



CURB TAPER DETAIL
NO SCALE



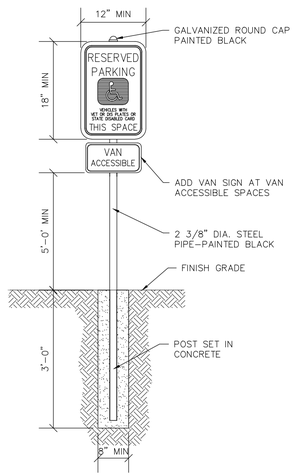
18" ROLLED CURB DETAIL
NO SCALE



NOTE:

THIS DETAIL IS INFORMATIONAL ONLY AND IS NOT FOR CONSTRUCTION PURPOSES. THE WALL MANUFACTURER/SUPPLIER IS RESPONSIBLE FOR FINAL DESIGN AND CONSTRUCTION DETAILS.

RETAINING WALL DETAIL
NO SCALE



HANDICAP SIGNAGE WITH CONCRETE BASE DETAIL
NO SCALE

CIVIL DETAILS

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100 Camelot Drive
Fond du Lac, WI 54935
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PROJECT INFORMATION

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CREW CARWASH
N96 W17500 COUNTY LINE RD • GERMANTOWN, WI 53022

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SPECIFICATION NOTE:
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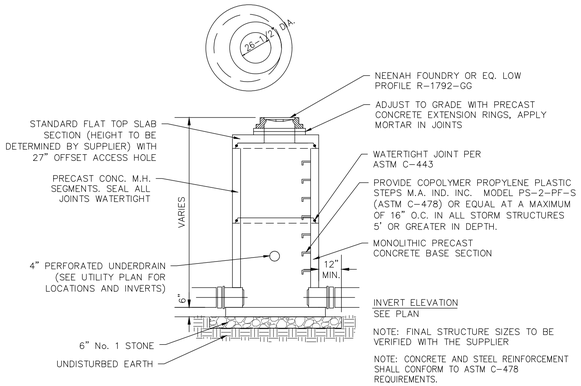

STORM CATCH BASIN DETAIL
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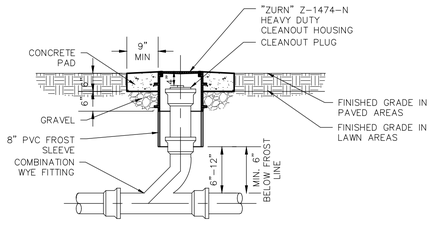

CLEANOUT TO GRADE DETAIL
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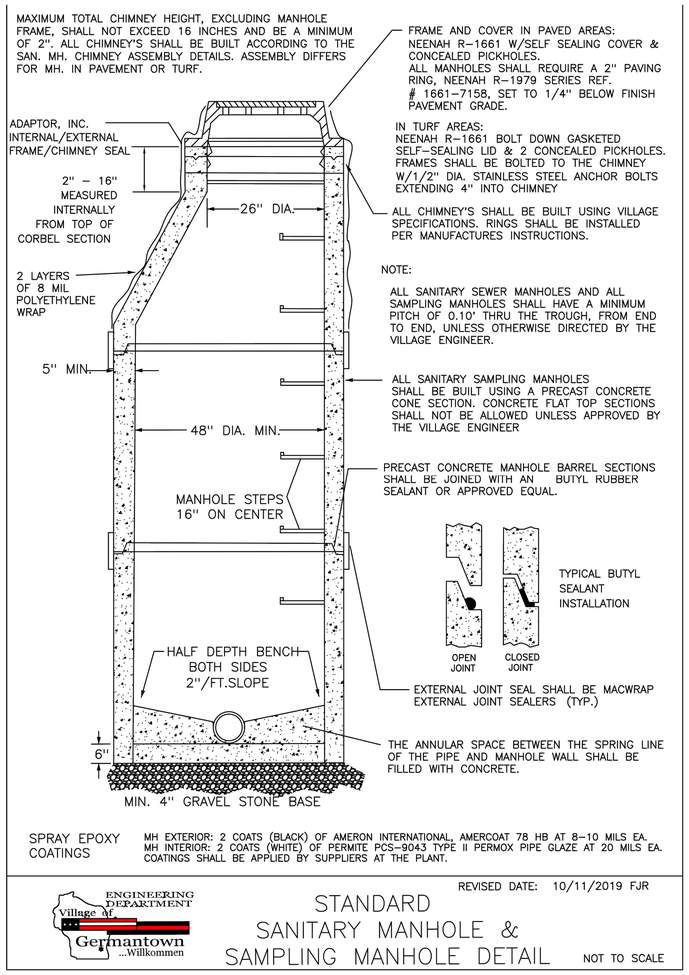


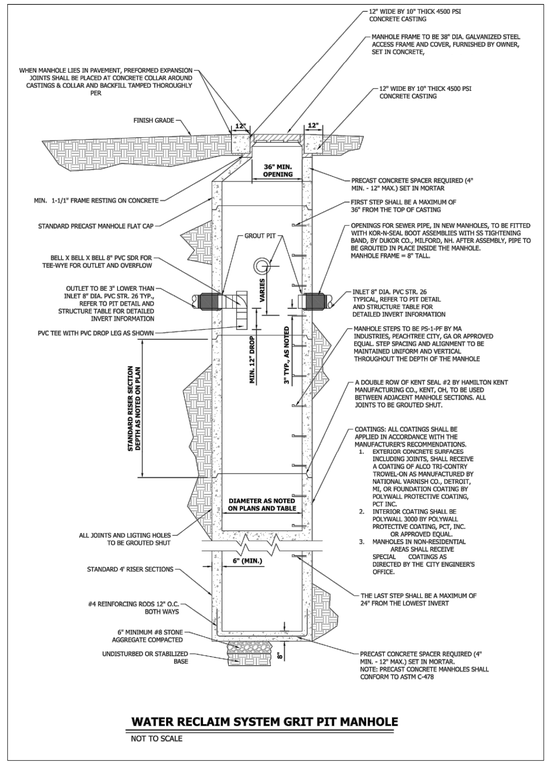
SPRAY EPOXY COATINGS

MH EXTERIOR: 2 COATS (BLACK) OF AMERON INTERNATIONAL, AMERCOAT 78 HB AT 8-10 MILS EA.
MH INTERIOR: 2 COATS (WHITE) OF PERMITE PCS-9043 TYPE II PERMOX PIPE GLAZE AT 20 MILS EA.
COATINGS SHALL BE APPLIED BY SUPPLIERS AT THE PLANT.

ENGINEERING DEPARTMENT Village Of Germantown ...Willkommen

REVISED DATE: 10/11/2019 FJR

STANDARD SANITARY MANHOLE & SAMPLING MANHOLE DETAIL
NOT TO SCALE



WATER RECLAIM SYSTEM GRIT PIT MANHOLE
NOT TO SCALE

CIVIL DETAILS

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Fond du Lac, WI 54935
920-926-9800
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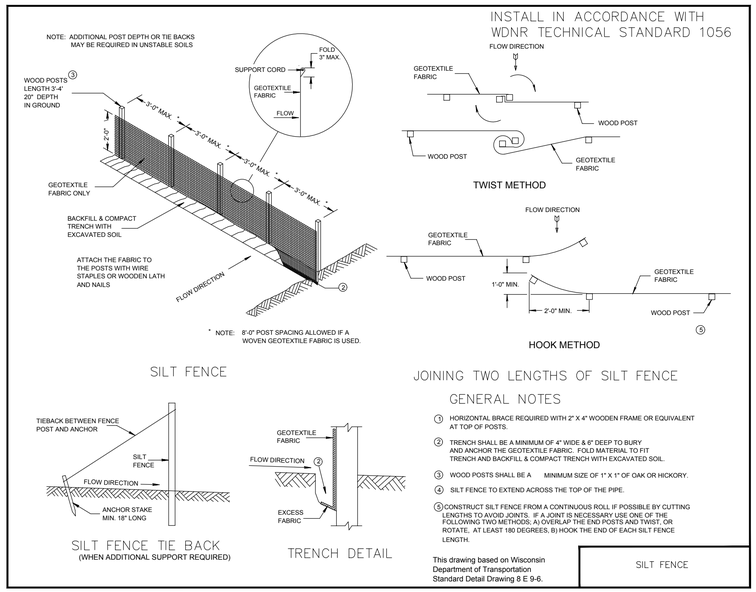
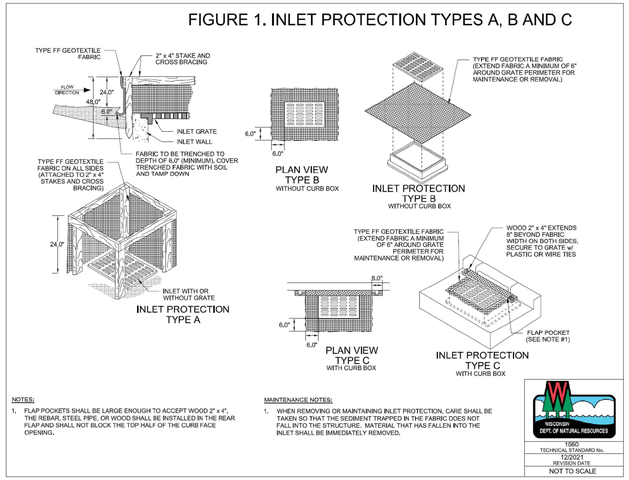


SILT FENCE – INSTALLATION DETAIL
NO SCALE



INLET PROTECTION DETAIL
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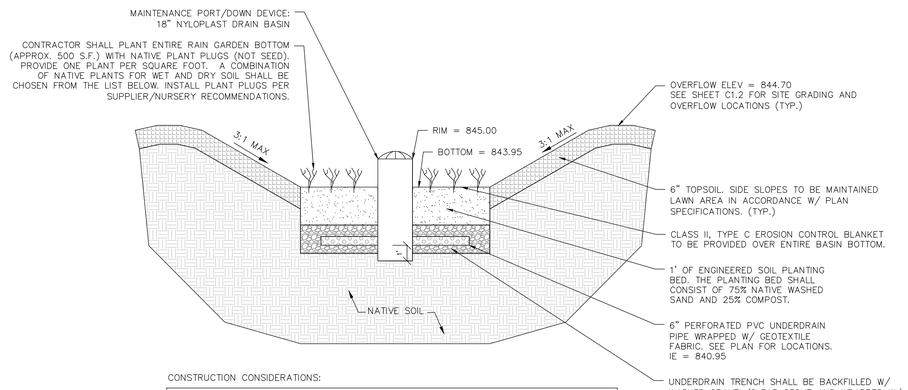


CONSTRUCTION CONSIDERATIONS:

NOTE:

AVOID COMPACTION WITHIN RAIN GARDEN DURING CONSTRUCTION. MINIMIZE OR AVOID USE OF HEAVY EQUIPMENT WITHIN THE BASIN THROUGHOUT CONSTRUCTION WHEN PRACTICAL. FINAL CONSTRUCTION OF THE RAIN GARDEN SHALL TAKE PLACE ONCE CONTRIBUTING DRAINAGE AREA IS STABILIZED TO AVOID SILTATION. REMOVE ANY SEDIMENT DEPOSITS FOLLOWING CONSTRUCTION AS NEEDED. IT IS RECOMMENDED THAT THE BOTTOM OF THE BASIN BE SCARIFIED AND RAKED TO PROMOTE PROPER INFILTRATION.

ENGINEERED SOIL:

THE NATIVE SAND SHALL BE WASHED USDA SAND, 0.02 TO 0.04 INCHES IN DIAMETER. THE COMPOST COMPONENT SHALL MEET THE REQUIREMENTS OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES SPECIFICATION S100. ENGINEERED SOIL MIX SHALL HAVE A PH BETWEEN 5.5 AND 8.0.

VEGETATION ESTABLISHMENT:

NATIVE PLANTINGS SHALL BE ESTABLISHED AT THE BOTTOM OF THE RAIN GARDEN BASIN. VEGETATION SHALL BE ESTABLISHED WITH NATIVE PLANT PLUGS. CLASS II TYPE C EROSION CONTROL BLANKET IS REQUIRED AT THE BOTTOM OF THE BASIN TO PREVENT WASHOUTS AND ENSURE PROPER ESTABLISHMENT. FOR NATIVE PLANT PLUGS, INSTALL EROSION CONTROL BLANKET PRIOR TO PLANTING AND CUT THROUGH TO INSTALL PLANT PLUGS AS NEEDED. FOLLOW WDNR TECH STANDARD 1009 FOR ADDITIONAL CONSTRUCTION RECOMMENDATIONS. LANDSCAPE CONTRACTOR SHALL COORDINATE FINAL PLANTINGS/ESTABLISHMENT METHODS WITH SUPPLIER. REGULAR WATERING SHALL OCCUR TO PROMOTE PROPER ESTABLISHMENT OF THE NATIVE VEGETATION.

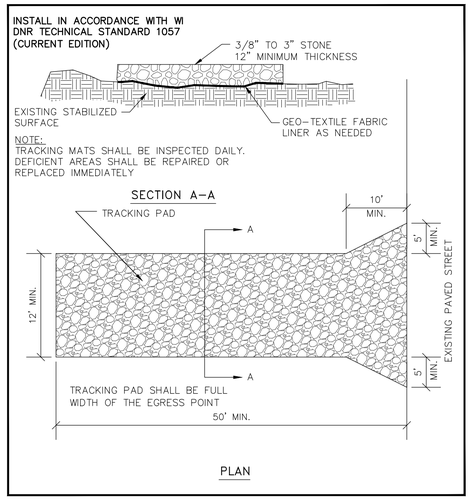
RECOMMENDED PLANT LIST:

A COMBINATION OF PLANTS SUITED FOR WET AND DRY SOIL IS RECOMMENDED TO ENSURE PROPER ESTABLISHMENT. THE LIST BELOW IS PROVIDED AS A REFERENCE FOR POTENTIAL SPECIES TO INCLUDE. FINAL SELECTIONS BY LANDSCAPER/SUPPLIER.

DRY SOIL: BUTTERFLY FLOWER, PURPLE PRAIRIE CLOVER, BEE BALM, LITTLE BLUESTEM SPIDERWORT, WHITE FALSE INDIGO, VIRGINIA WATERLEAF, SWEET BLACK-EYED SUSAN, BIG BLUSTEM, CUP PLANT, COMMON IRONWEED.

WET SOIL: GIANT HISSOP, CANADA ANEMONE, MARSH MILKWEED, NEW ENGLAND ASTER, TURTLEHEAD, JOE-PYE WEED, BONESET, BLUEFLAG IRIS, GREAT BLUE LOBELIA, SWITCHGRASS OBEDIENT PLANT, MOUNTAIN MINT, TALL MEADOW RUE, CULVER'S ROOT, GOLDEN ALEXANDER.

RAIN GARDEN DETAIL
NO SCALE



TRACKPAD DETAILS
NO SCALE

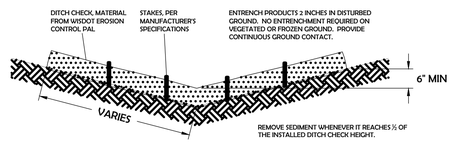
CONSTRUCTION SEQUENCE

PHASE	TYPE OF ACTION
1. PRE-CONSTRUCTION ACTION	1. CONTRACTOR TO CALL DIGGERS HOTLINE AT A MINIMUM OF 3 DAYS PRIOR TO CONSTRUCTION.
	2. CONTRACTOR TO FIELD VERIFY LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF DISCREPANCIES.
	3. PLACE ALL SILT FENCE AND INLET PROTECTION.
	4. CONSTRUCT TRACKING STONE ENTRANCES AND ANY TEMPORARY CONSTRUCTION ROADWAYS AS NEEDED.
	5. CONSTRUCT PERMANENT STORMWATER CONVEYANCE SYSTEMS.
	6. CONSTRUCT ANY TEMPORARY STORMWATER CONVEYANCE SYSTEMS AS NEEDED.
	7. STABILIZE ALL TEMPORARY AND PERMANENT EROSION CONTROL AND STORMWATER CONVEYANCE SYSTEMS BEFORE TOPSOIL CAN BE STRIPPED.
2. CONSTRUCTION ACTION	1. SITE DEMOLITION AS REQUIRED.
	2. STRIP AND RELOCATE TOPSOIL TO THE DESIGNATED TOPSOIL STOCKPILE. FINAL LOCATION BY CONTRACTOR/OWNER. PROVIDE PERIMETER SILT FENCE UNTIL STABILIZED.
	3. BEGIN MASS EARTH WORK FOR THE BUILDING PAD AND PAVEMENT AREAS.
	4. CONSTRUCT ANY REMAINING STORMWATER CONVEYANCE SYSTEMS, AND INSTALL ALL OTHER UTILITIES ON SITE.
	5. DIG AND POUR ALL BUILDING FOOTINGS.
	6. PLACE GRAVEL FOR ALL PROPOSED PAVEMENT AREAS.
	7. TOPSOIL, SEED, AND MULCH ALL DISTURBED AREAS OUTSIDE THE BUILDING AND PROPOSED PAVEMENT AREAS.
	8. CONSTRUCT BUILDING.
	9. PAVE DRIVEWAYS AND PARKING AREAS.
	10. TOPSOIL, SEED, AND MULCH ALL OTHER DISTURBED AREAS. PLACE EROSION MATTING AND RIP RAP AS NEEDED.
	11. ONCE SITE IS STABILIZED, FINALIZE CONSTRUCTION OF RAIN GARDEN.
3. POST CONSTRUCTION ACTION	1. CONTRACTOR TO REMOVE TEMPORARY EROSION CONTROL MEASURES UPON SITE STABILIZATION.
	2. SEE THE POST CONSTRUCTION MAINTENANCE PLAN FOR PERMANENT STORMWATER MANAGEMENT SYSTEMS.

CONTRACTOR TO FOLLOW THE EROSION CONTROL SPECIFICATIONS FOR CONSTRUCTION EROSION CONTROL INSPECTION AND MAINTENANCE.

DITCH CHECK DETAIL

LOG-TYPE DITCH CHECK



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

CIVIL DETAILS

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

PROJECT INFORMATION

PROPOSED CAR WASH FOR:
CREW CARWASH
N96 W17500 COUNTY LINE RD • GERMANTOWN, WI 53022

PROFESSIONAL SEAL

PRELIMINARY DATES
FEB. 12, 2024

NOT FOR CONSTRUCTION

JOB NUMBER
230022600

SHEET NUMBER
C2.2

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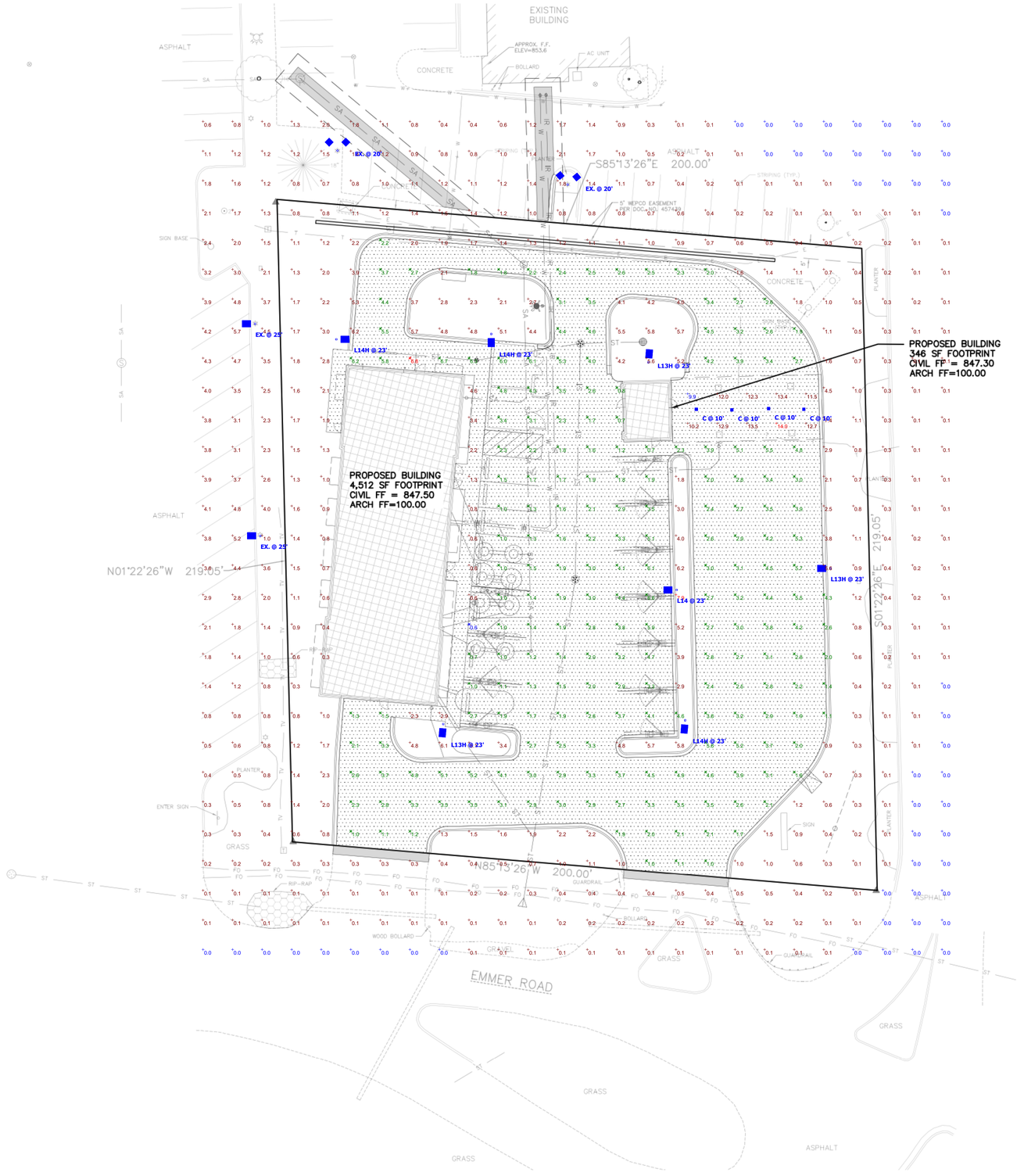
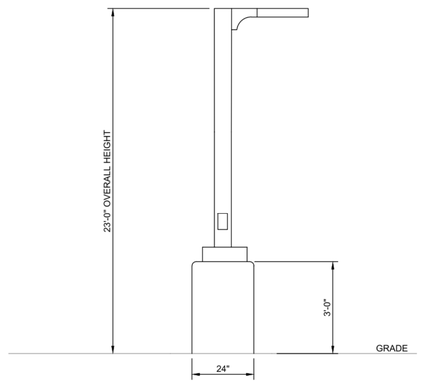




LIGHT POLE DETAIL

NO SCALE

OSQ Series

OSQ™ LED Area/Flood Luminaire featuring Patented NanoComfort™ Technology – Version C

Rev. Date: V7 11/01/2023

Product Description

The OSQ™ Area/Flood Luminaire blends extreme optical control, advanced thermal management and modern, clean aesthetics. Built to last, the housing is rugged cast aluminum with an integral, weathertight LED driver compartment. Versatile mounting configurations offer simple installation. Its slim, low-profile design minimizes wind load requirements and blends seamlessly into the site providing even, quality illumination. Medium is suitable upgrade for HID applications up to 400 Watts. Large is suitable upgrade for HID applications up to 1000 Watts. Extra Large is suitable upgrade for HID applications up to multiple 1000 Watts.
Applications: Parking lots, walkways, campuses, car dealerships, office complexes, pickleball courts, high-mast and internal roadways.

Performance Summary

- Utilizes Patented NanoComfort™ Technology
- Utilizes Cree TrueWhite® Technology on 5000K Luminaires
- Assembled in the USA by Cree Lighting from US and imported parts
- **Initial Delivered Lumens:** 4,000 - 85,000
- **Efficacy:** Up to 171 LPW
- **CRI:** Minimum 70 CRI (3000K, 4000K & 5700K); 90 CRI (5000K)
- **CCT:** 3000K, 4000K, 5000K, 5700K
- **Limited Warranty*:** 10 years for luminaire; 10 years for ColorFast DeltaGuard® finish; 5 years for BMS, sensor; up to 5 years for Spacer™ accessories; 1 year for luminaire accessories

*See https://creelighting.com/warranty/terms for warranty terms. For Synapse accessories, consult Synapse spec sheets for details on warranty terms.

Ordering Information

Fully assembled luminaire is composed of two components that must be ordered separately:
Example: **Mount:** OSQ-WL-C-AA-BK + **Luminaire:** OSQM-C-4L-30K7-3M-UL-WH-BK

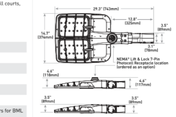
Mount (Luminaire must be ordered separately)*

OSQ-

Medium/Large Mounts	Extra Large Mounts	Color Options:	
OSQ-WL-C-AA Adjustable Arm	**OSQ-X-C-AA** Adjustable Arm	**BK** Black	**BZ** Bronze
OSQ-WL-C-DA Direct Arm	**OSQ-X-C-DA** Direct Arm		**WH** White
OSQ-WL-C-TN Trunnion Mount			

* Must specify color: BK (Black), BZ (Bronze), WH (White) or WH (White)

OSQM - AA Mount



Luminaire	Weight
OSQM	19.3 lbs. (8.8kg)

Note: For OSQL, OSQX and additional mounts, refer to drawings on page 27.

Luminaire (Mount must be ordered separately)

OSQ-

Family	Size	Series	Lumen Package*	CCT/CRI	Optic	Voltage	Mount	Color Options	Controls*	BMS	Options
OSQ	M Medium L Large XL Extra Large	C	**Medium** 2L 2,000 Lumens 3L 3,000 Lumens 4L 4,000 Lumens 5L 5,000 Lumens 7L 7,000 Lumens 8L 8,000 Lumens **Large** 10L 10,000 Lumens 14L 14,000 Lumens 18L 18,000 Lumens **Extra Large** 30L 30,000 Lumens 40L 40,000 Lumens 55L 55,000 Lumens 85L 85,000 Lumens	30K7 3000K, 70 CRI 40K7 4000K, 70 CRI 50K7 5000K, 70 CRI 57K7 5700K, 70 CRI	**Asymmetric** 4M** Type V Wide Forward Throw Installed 3M** Type V Wide Forward Throw Installed Backlight Shield (Available with all lumen packages except 8L) 4F** Type IV Automotive Front/Angle/Up** 3F** Type IV Wide Forward Throw Type IV Wide Forward Throw Installed Backlight Shield (Available with all lumen packages except 8L) **Symmetric** 3S Type V Wide Square 4S Type V Narrow Square	UL 120-277V, 50/60Hz HV 347-480V, 50/60Hz XH 347-480V Input (Available with 40L, 55L, 85L lumen packages)	WH No Mount (Standard on specific Cree fixtures, see above for mounting info)	BK Black BZ Bronze SV Silver WH White	**Bluetooth® Technology Enabled Multi-Level Sensor** - Utilizes a motion/ambient sensor to dim luminaire per desired settings. Sensor detects motion and ambient light levels and automatically dims luminaire to 50% or 30% output when no motion is detected. Not available with 0-10 V options or 347-480V input voltage. **SF Field Adjustable Output** - Offers full range adjustability from 10-100% via phone app or Bluetooth® Multi-Level Sensor. Not available with BML or U options. Not available with 7-Pin NEMA® receptacle. **SVF Field Adjustable Output w/10V Dimming** - Offers full range adjustability - Refer to page 3 for power and lumen values. Not available with BML or U options. Not available with 10V option as DP option. Not available with other controls. Not available with 347-480V input voltage.	BML	**Bluetooth® Technology Enabled Multi-Level Sensor** - Utilizes a motion/ambient sensor to dim luminaire per desired settings. Sensor detects motion and ambient light levels and automatically dims luminaire to 50% or 30% output when no motion is detected. Not available with 0-10 V options or 347-480V input voltage. **SF Field Adjustable Output** - Offers full range adjustability from 10-100% via phone app or Bluetooth® Multi-Level Sensor. Not available with BML or U options. **SVF Field Adjustable Output w/10V Dimming** - Offers full range adjustability - Refer to page 3 for power and lumen values. Not available with BML or U options. Not available with 10V option as DP option. Not available with other controls. Not available with 347-480V input voltage.	**10KV 10kV/5kA Surge Suppression** - Recommended for locations prone to surges or lightning. - Not available with the BML option as it is included when BML option is selected. **NEMA® LJ1 & Link 7-Pin Photocell Receptacle** - Includes cap. (Purge connector by others) - Available only with 120-277V input voltages - Not available with HZ option. **10KV/10kA Surge Suppression Protection** - Required for use of Intertek's Dec-Sky ARH42 - Available only with 10V and DP controls - Not available with HZ option. **Zhaga Book 18 Socket, bottom of luminaire** - Includes cap. (Purge connector by others) - Available only with 3L, 4L, 5L lumen packages - Available only with HL voltage - Available only with BLANK control option - Not available with HZ option. **Right** - Refer to NEMA, configuration diagram on page 27 for optic directionality - Not for use with symmetric optics. **Left** - Refer to NEMA, configuration diagram on page 27 for optic directionality - Not for use with symmetric optics.

* Lumen Package codes identify approximate light output only. Actual lumen output levels vary by CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values.
** Recessed with, recessed canopy, cut-reach, hook & cord and pendant mounts are also available. Refer to https://www.creelighting.com/products/outdoor/canopy-and-soffit/ for spec sheets for these additional mounts.

US: creelighting.com T (800) 236-4800
Canada: creelighting-canada.com T (800) 473-1234

CREE LIGHTING

CPY500™ Series

CPY500™ LED Canopy Luminaire - Direct Mount

Rev. Date: V10 09/25/2023

Product Description

The CPY500™ Series LED luminaire features a large 11" X 11" glass optic that delivers the best in visual comfort and performance. Diffused optics minimize glare and increase visual comfort while delivering top-of-category 175 LPW efficiency and high-performance light distribution. Its sleek and low-profile form blends into the canopy while still being easily serviceable from below. Above the canopy, its uniquely angled extruded aluminum driver housing allows the CPY500™ Series to easily install around existing structures, making it ideal for both retrofit or new construction applications. Optional bezels provide enhanced aesthetics and optical control to minimize uplight and diffract the eye of drivers.
Applications: Petroleum canopies, CNG fueling stations

Performance Summary

- Assembled in the USA by Cree Lighting from US and imported parts
- **Initial Delivered Lumens:** Up to 20,900
- **Efficacy:** Up to 175 LPW
- **CRI:** Minimum 70 CRI (L6M, 5OK, 57K); 80 CRI (30K); 90 CRI (L6M, 5OK)
- **CCT:** 3000K, 4000K, 5000K, 5700K
- **Limited Warranty*:** 10 years on luminaire/10 years on ColorFast DeltaGuard® finish/up to 5 years for Synapse™ accessories/1 year on field-installed accessories
- IP65 overall, IP66 optics/IP66 driver housing
- Class I, Division 2 Hazardous Location for select models

*See https://creelighting.com/warranty for warranty terms.

Accessories

Field-Installed Accessories

10" Square Sparkle Bezel
CPY-BZ-SQ-10 - For use with 10K or SPI controls)
14" Square Cut-Off Bezel
CPY-BZ-SQ-14 - For use with 10K or SPI controls)
14" Square Beauty Plate
Bezel will include backer plate)
CPY-BP-SQ-14
- May be used with bezel accessories
- Not for use with BML or 3T options

Retrofit Mounting Adapter Plate
CPY-RP-11 (With 2 slots for use with 10" canopies)
CPY-RP-14 (With 2 slots for use with 14" canopies)
- Field-customizable to upgrade most existing recessed mounted luminaires
- Not available with BML or 3T options
- May be used with bezel accessories
- Not for use with BML or 3T options

Wet Location Junction Box w/Mounting Bracket for Driver Extrusion
CPY-JBOX-KIT
- Suitable for use with standard and hazardous locations
- 4.5" (114mm) H x 2.75" (70mm) W x 2.5" (64mm) D die-cast aluminum w/ gray powdercoat
- 1/2" (13mm) hub in each end and in back

Synapse™ SimplyConnect™ 10V Interface
CPY-SYN-10V
- 120-277V
- Refer to Cooper Synapse components to complete system
- Refer to Synapse spec sheet for details

Canopy Mounting Plate
Sheet not include knockouts plated
CPY-MP-SQ-14 (For use with 14" canopies)
CPY-MP-10 (For use with 10" canopies)
- Field-customizable to upgrade most existing recessed mounted luminaires
- Not available with BML or 3T options

Adapter Plate for Double Skin Canopies
CPY-AP-DS-14
- Allows for full luminaire installation from below the canopy

Ordering Information

Example: CPY-11L-57K7-DF-UL-2M-WH-10V

CPY

Product	Lumen Package*	CCT/CRI	Optic	Voltage	Mounting**	Color Options	Controls (specify one)	Options
CPY	2L 2,000 Lumens 4L 4,000 Lumens 7L 7,000 Lumens 11L 11,000 Lumens 20L 20,900 Lumens	30K8 3000K, 80 CRI 40K7 4000K, 70 CRI 40K8 4000K, 80 CRI 50K7 5000K, 70 CRI 50K8 5000K, 80 CRI 57K7 5700K, 70 CRI	DF Direct Lumbertion (Standard) LF Lumbertion	UL 120-277V UH 347-480V (Available with 4L, 7L and 11L lumen packages)	2M Direct	BK Black BZ Bronze SV Silver WH White	10V 10V Dimming to 10% - Not available with other controls - Not available with 3T option **BML Bluetooth® Technology Enabled Multi-Level Sensor** - Utilizes a motion/ambient sensor to dim luminaire per desired settings. Sensor detects motion and ambient light levels and automatically dims luminaire to 50% or 30% output when no motion is detected. Not available with 0-10 V options or 347-480V input voltage. Not available with 3T option **3T Field Adjustable Output w/10V Dimming** - Offers full range adjustability - Refer to page 3 for power and lumen values. Not available with BML option. Not available with 10V option as DP option. Not available with other controls. Not available with 347-480V input voltage.	**10KV** 10kV/5kA Surge Suppression Protection - Recommended for locations prone to surges or lightning. - Not available with the BML option as it is included when BML option is selected **M Medium Base Location Certification** - Required for use of Intertek's Dec-Sky ARH42 - Available only with 10V and DP controls - Not available with HZ option **ZJ Zhaga Book 18 Socket, bottom of luminaire** - Includes cap. (Purge connector by others) - Available only with 2L, 4L, 7L, 11L lumen packages - Available only with HL voltage - Available only with BLANK control option - Not available with HZ option

* Lumen Package codes identify approximate light output only. Actual lumen output levels vary depending on CCT. Refer to Delivered Lumens tables for specific lumen values.
** For Synapse mounting accessories, consult Synapse spec sheets for details.

US: creelighting.com T (800) 236-4800
Canada: creelighting-canada.com T (800) 473-1234

CREE LIGHTING

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Wattage
	C	4	Cree Lighting	CPS-4L-57K7-DF-UL-xx-xx-xxx	CPS Canopy Luminaire, 8L Lumen Package, 5700K, 70 CRI, Diffuse Lambertian Distribution	1	8091	50.6
▫	L14	1	Cree Lighting	OSQL-C-22L-57K7-4M-Ux-xx-xx-xx CONFIGURED FROM OSQL-C-xxL-30K7-4M-UL-xx-xx-xx	CONFIGURED FROM OSQL-C Luminaire, 3000K, 70 CRI, Type IV Mid	1	20900	131
▫	L13H	3	Cree Lighting	OSQL-C-22L-57K7-3B-Ux-xx-xx-xx CONFIGURED FROM OSQL-C-40L-30K7-3B-UL-xx-xx-xx	CONFIGURED FROM OSQL-C Luminaire, 40L Lumen Package, 3000K, 70CRI, Type III Mid Optic w/Internal BLS	1	14375	131
▫	L14H	3	Cree Lighting	OSQL-C-22L-57K7-4B-Ux-xx-xx-xx CONFIGURED FROM OSQL-C-xxL-40K7-4B-UL-xx-xx-xx	CONFIGURED FROM OSQL-C Luminaire, 3000K, 70 CRI, Type IV Mid w-Internal BLS	1	13175	131

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
POS CANOPY	+	12.2 fc	14.0 fc	9.9 fc	1.4:1	1.2:1
Calc Zone #1	+	1.8 fc	7.9 fc	0.0 fc	N/A	N/A
PARKING LOT	X	3.0 fc	6.8 fc	0.6 fc	11.3:1	5.0:1

NORTH

1" = 20'

SCALE: 20' 0 20' 40' FEET

CIVIL SITE PHOTOMETRIC PLAN & DETAILS

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EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED CAR WASH FOR:

CREW CARWASH

N96 W17500 COUNTY LINE RD • GERMANTOWN, WI 53022

PROFESSIONAL SEAL

PRELIMINARY DATES

FEB. 12, 2024

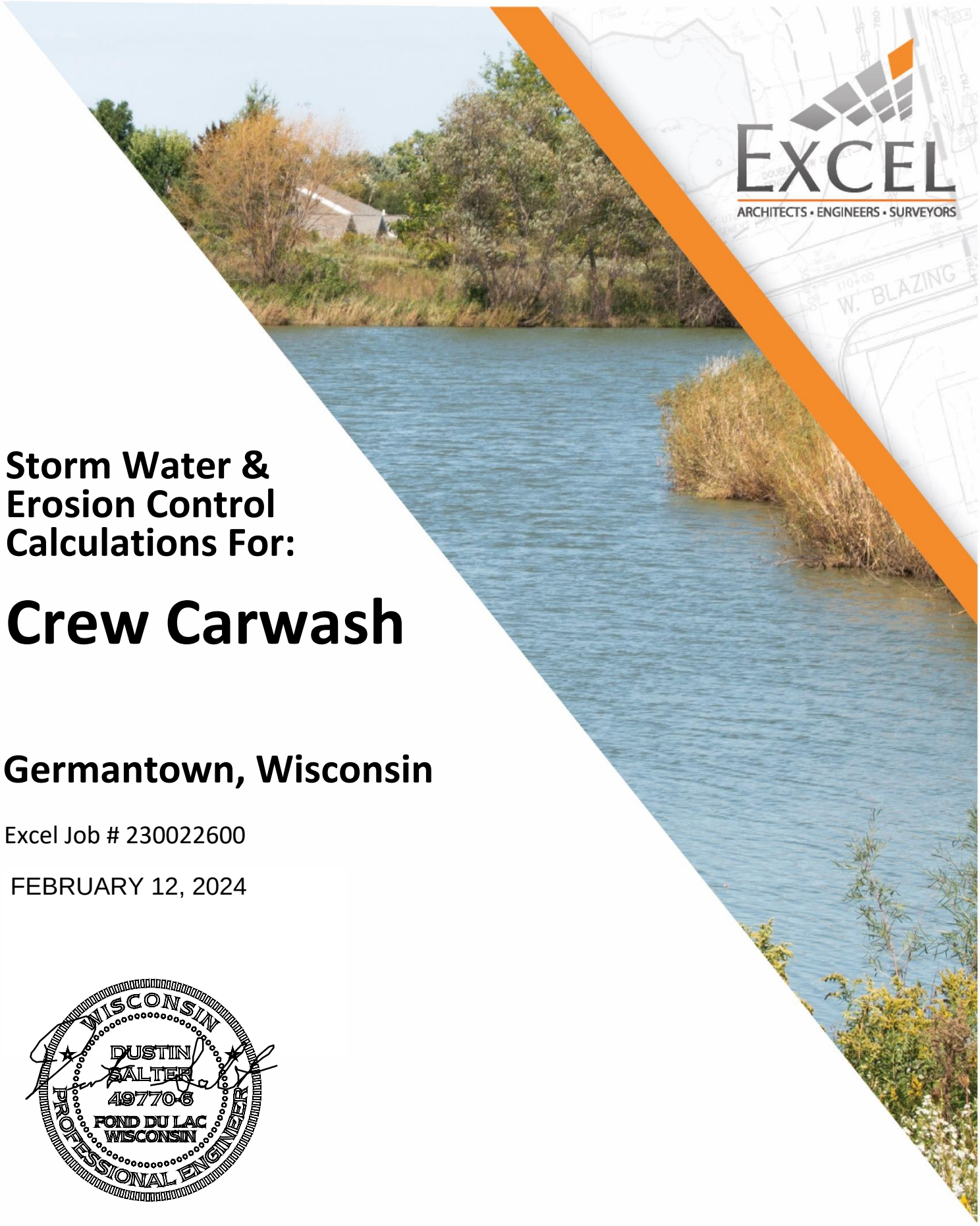
NOT FOR CONSTRUCTION

JOB NUMBER

230022600

SHEET NUMBER

C3.1



Storm Water & Erosion Control Calculations For:

Crew Carwash

Germantown, Wisconsin

Excel Job # 230022600

FEBRUARY 12, 2024

WISCONSIN
DUSTIN SALTER
49770-6
FOND DU LAC WISCONSIN
PROFESSIONAL ENGINEER

Prepared by Dustin Salter, PE
100 Camelot Drive • Fond du Lac, WI 54935
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0.3 Stormwater Management Applicability ____ 1

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2.3 Green Infrastructure ____ 3

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Appendices

Appendix A: Existing Drainage Patterns

Appendix B: Green Infrastructure Drainage Exhibit

Appendix C: Storm Pipe Calculations

Appendix D: Web Soil Survey Map

Appendix E: Post Construction Operation and Maintenance Plan

0.0 Introduction

0.1 Existing Conditions

The proposed redevelopment project site is located at N96W17500 County Line Road in the Village of Germantown, Wisconsin. The project site is approximately 1 acre in size. The site is bound by Emmer Road to the south and adjacent commercial properties to the north, east, and west. The existing site currently consists of a BP gas station along with a self-serve carwash and associated paved parking and drive lanes. The existing site will be completely razed as needed for the proposed new site improvements. The site currently sheet drains from north to south where stormwater is conveyed to a roadside ditch at the south end of the property. Stormwater is eventually conveyed via culverts to the Menomonee River located directly south of County Line Road. A representation of the existing site and current drainage patterns is provided in Appendix A.

0.2 Proposed Project Overview

The proposed redevelopment project consists of constructing a new Crew Carwash facility along with associated site improvements. Site improvements include concrete parking areas, sidewalks, and drive aisles. The proposed site improvements will result in approximately 43,346 square feet (0.995 acres) of disturbed site area. Proposed drainage patterns will match the existing site drainage patterns. Stormwater will be conveyed via sheet flow to various new inlet structures that will convey stormwater to the same discharge point as the current condition at the south end of the site. Refer to the construction plan set for a representation of the proposed site and final drainage patterns.

0.3 Stormwater Management Applicability

As previously mentioned, this project site is considered a redevelopment project site as defined by WDNR standards. Since the disturbed project area is less than one acre in total site disturbance, a construction site NOI is not required and the project is exempt from the WI DNR post construction stormwater management performance standards outlined in NR 151 for redevelopment sites. The project site will therefore be required to meet the local performance standards as required by the Village of Germantown and MMSD. Furthermore, since the redevelopment project site will disturb less than two acres of land and will add between 5,000 square feet and 21,780 square feet of new impervious area, the project site will be subject to meeting the green infrastructure requirements as defined by Chapter 13 of MMSD. The below sections of this report detail how the project site meets or exceeds the applicable requirements.

1.0 Design Criteria

1.1 Soils

Site specific geotechnical investigations have not yet been completed on the project site, therefore, soil characteristics were determined by utilizing available web soil survey information. See Table 1 below for a summary of the soils and hydrologic ratings indicated by the web soil survey map. Refer to Appendix D for the associated web soil survey map. Hydrologic soil group C soils were utilized for the site storm sewer sizing calculation.

Table 1: Web Soil Survey

MAP SYMBOL	SOIL TYPE	HYDROLOGIC RATING
Cw	Colwood silt loam	C/D
MtA	Mequon silt loam	C/D
OuB	Ozaukee silt loam	C

1.2 Rainfall Data

NOAA Atlas 14, Washington County rainfall depths with an MSE3 distribution were used for the site stormwater calculations. See Table 2 below for the rainfall data used.

Table 2: NOAA Atlas 14 24-hour Rainfall Depth

DESIGN STORM	RAINFALL DEPTH (INCHES)
10-YEAR	3.82

2.0 Stormwater Management Requirements

2.1 Wisconsin DNR Summary

As previously stated, the project site will result in 43,346 square feet (0.995 acres) of disturbed site area. Therefore, a construction site NOI will not be required by WI DNR. Therefore, the performance standards relating to peak discharge, TSS removal, infiltration, etc do not apply to the proposed redevelopment project.

2.2 Village of Germantown/MMSD Summary

Since the redevelopment project site will disturb less than two acres of land and will add between 5,000 square feet and 21,780 square feet of new impervious area, the project site will be subject to meeting the green infrastructure requirements as defined by Chapter 13.302(3)(c) of MMSD.

2.3 Green Infrastructure

The redevelopment project site will utilize a rain garden BMP to meet the green infrastructure requirements as defined by Chapter 13.302(3)(c) of MMSD. A total of 432 square feet of rain garden area is required based upon the new impervious area added. The proposed rain garden will total approximately 500 square feet, therefore exceeding this requirement. See Table 3 below for a summary of the green infrastructure requirements. Refer to Appendix B for a green infrastructure drainage area exhibit. Refer to the construction plan set for design details of the proposed rain garden BMP.

Table 3. Rain Garden

Green Infrastructure Summary		
Total New Added Impervious	6093	sf
Volume Required (1/2" x New Impervious Area)	254	cf
	1899	gal
Rain Garden Area Required (Per Section 13.302(4)(b) Table)	432	sf
Rain Garden Area Provided	500	sf

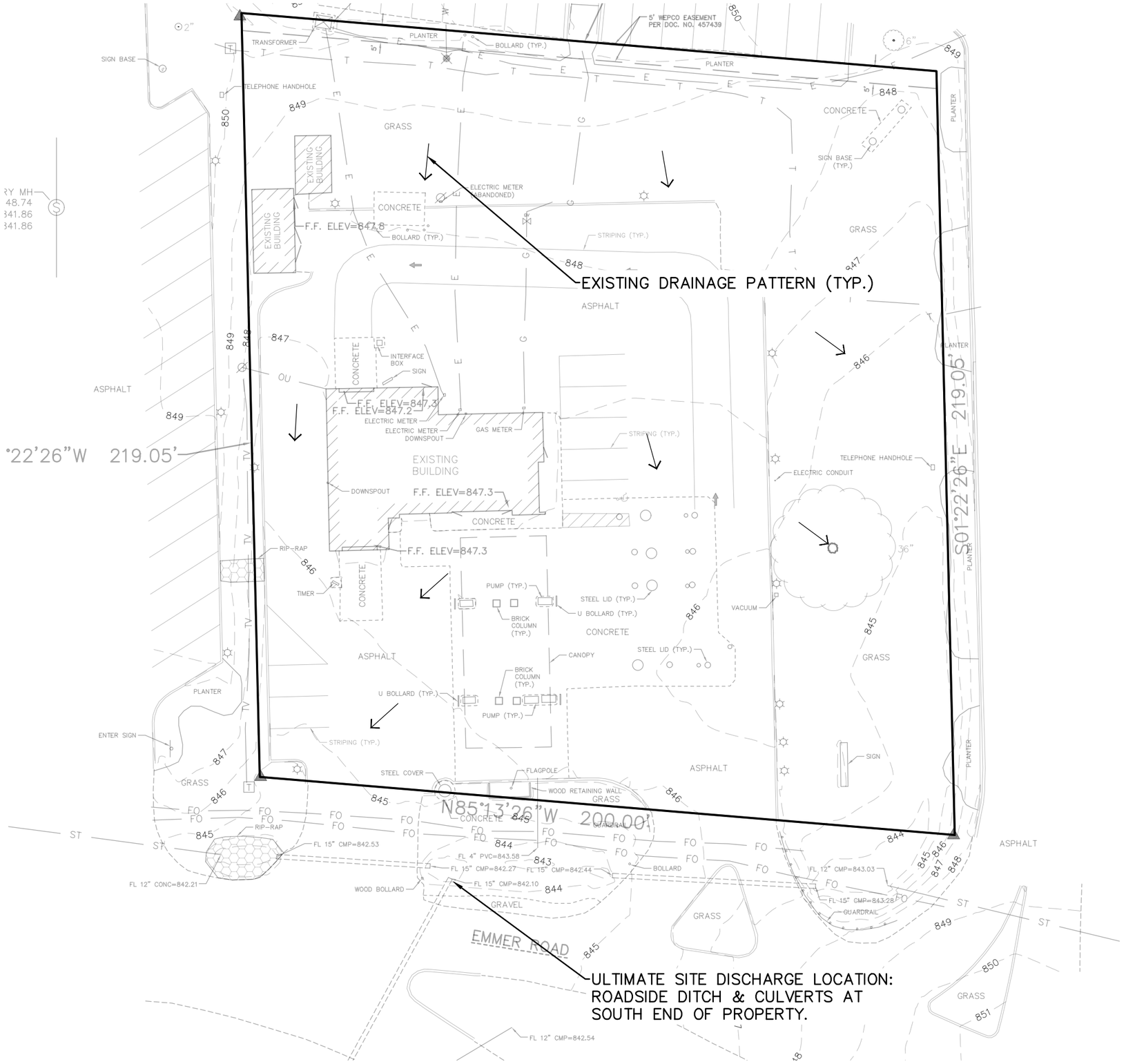
3.0 Storm Sewer Design

All storm sewer has been designed to convey the 10-year 24-hour post development storm. Additional capacity has been provided as a safety factor. See Appendix C, for pipe drainage areas and calculations

4.0 Erosion Control

The erosion control specifications, construction sequence, site stabilization notes, seeding notes, dewatering notes, and post construction and maintenance plan will be included on sheet C0.1, C1.2, and C2.2 of the construction plan set.

Appendix A: Existing Drainage Patterns



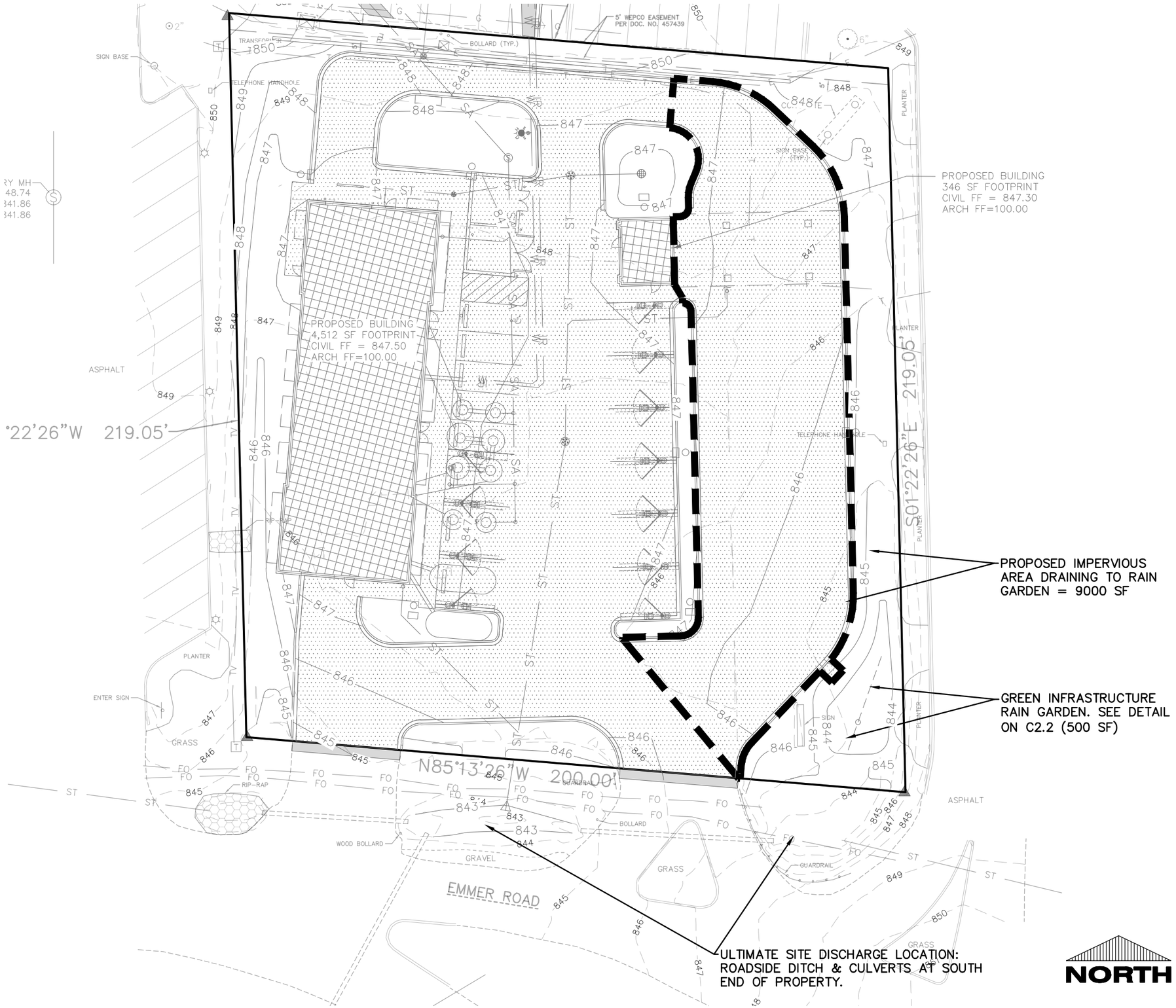
EXISTING SITE DRAINAGE PATTERNS

NORTH

1"= 30'

SCALE 30' 0 30' 60' FEET

Appendix B: Green Infrastructure Drainage Exhibit



RAIN GARDEN EXHIBIT

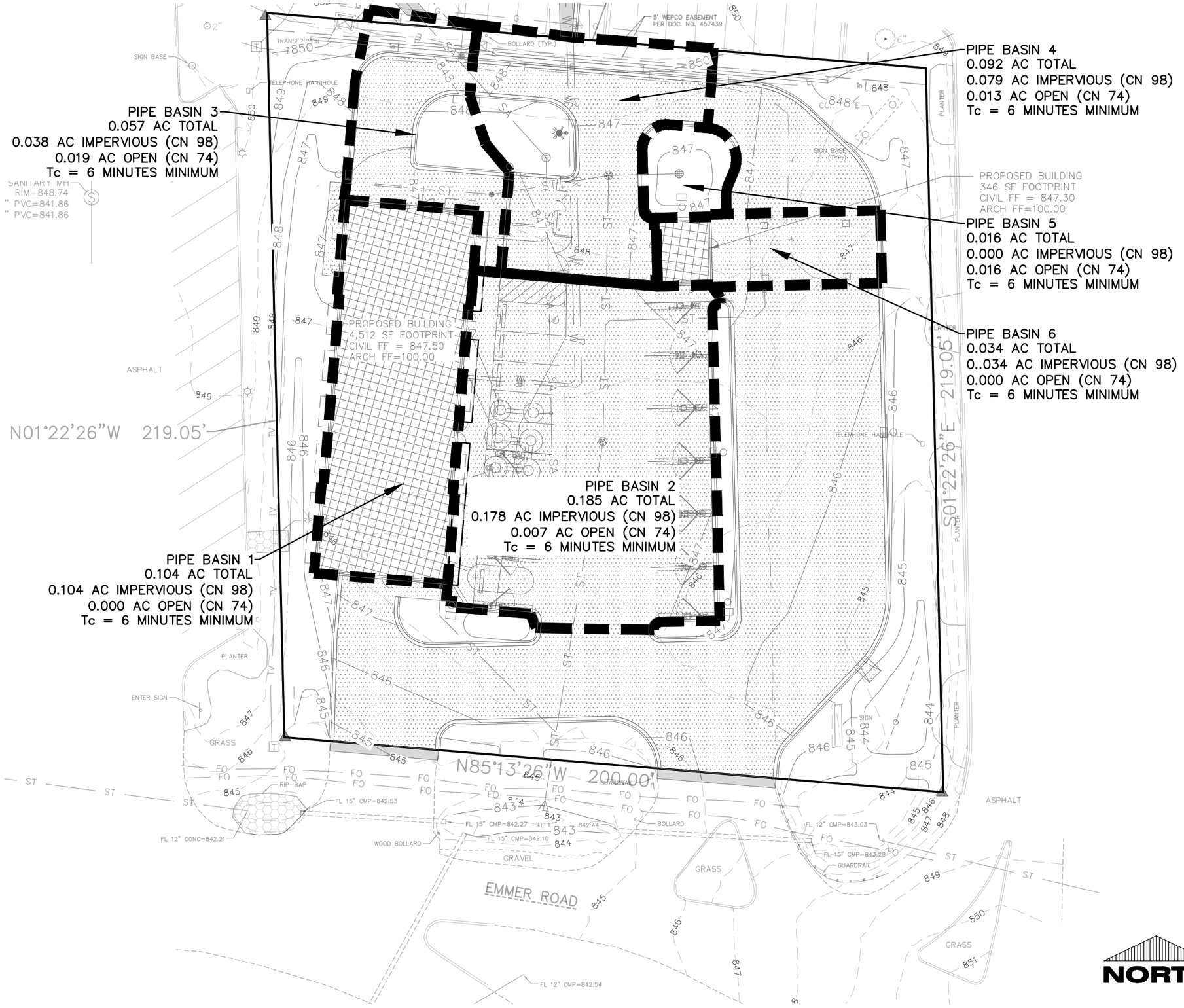
NORTH

1"= 30'

30' 0 30' 60'

SCALE FEET

Appendix C: Storm Pipe Calculations



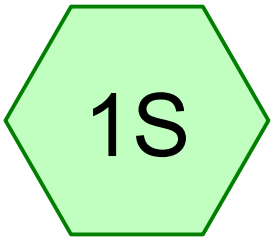
STORM SEWER BASIN MAP

NORTH

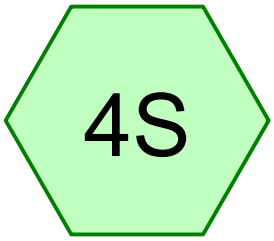
1"= 30'

30' 0 30' 60'

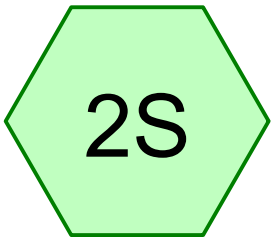
SCALE FEET



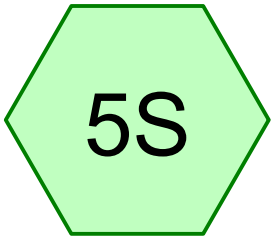
PIPE BASIN 1



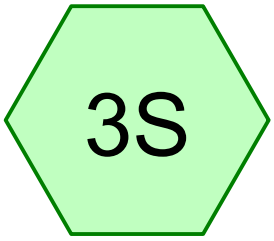
PIPE BASIN 4



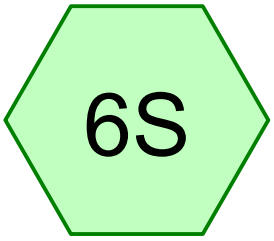
PIPE BASIN 2



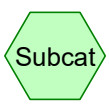
PIPE BASIN 5

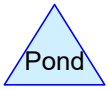


PIPE BASIN 3



PIPE BASIN 6





Routing Diagram for Pipe Calculations
Prepared by {enter your company name here}, Printed 2/12/2024
HydroCAD® 10.00-21 s/n 01178 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.433	98	(1S, 2S, 3S, 4S, 6S)
0.055	74	(2S, 3S, 4S, 5S)
0.488	**95**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: PIPE BASIN 1 Runoff Area=0.104 ac 100.00% Impervious Runoff Depth>3.58"
Tc=6.0 min CN=98 Runoff=0.57 cfs 0.031 af

Subcatchment2S: PIPE BASIN 2 Runoff Area=0.185 ac 96.22% Impervious Runoff Depth>3.47"
Tc=6.0 min CN=97 Runoff=1.00 cfs 0.054 af

Subcatchment3S: PIPE BASIN 3 Runoff Area=0.057 ac 66.67% Impervious Runoff Depth>2.75"
Tc=6.0 min CN=90 Runoff=0.27 cfs 0.013 af

Subcatchment4S: PIPE BASIN 4 Runoff Area=0.092 ac 85.87% Impervious Runoff Depth>3.25"
Tc=6.0 min CN=95 Runoff=0.48 cfs 0.025 af

Subcatchment5S: PIPE BASIN 5 Runoff Area=0.016 ac 0.00% Impervious Runoff Depth>1.47"
Tc=6.0 min CN=74 Runoff=0.04 cfs 0.002 af

Subcatchment6S: PIPE BASIN 6 Runoff Area=0.034 ac 100.00% Impervious Runoff Depth>3.58"
Tc=6.0 min CN=98 Runoff=0.19 cfs 0.010 af

Total Runoff Area = 0.488 ac Runoff Volume = 0.135 af Average Runoff Depth = 3.31"
11.27% Pervious = 0.055 ac 88.73% Impervious = 0.433 ac

Summary for Subcatchment 1S: PIPE BASIN 1

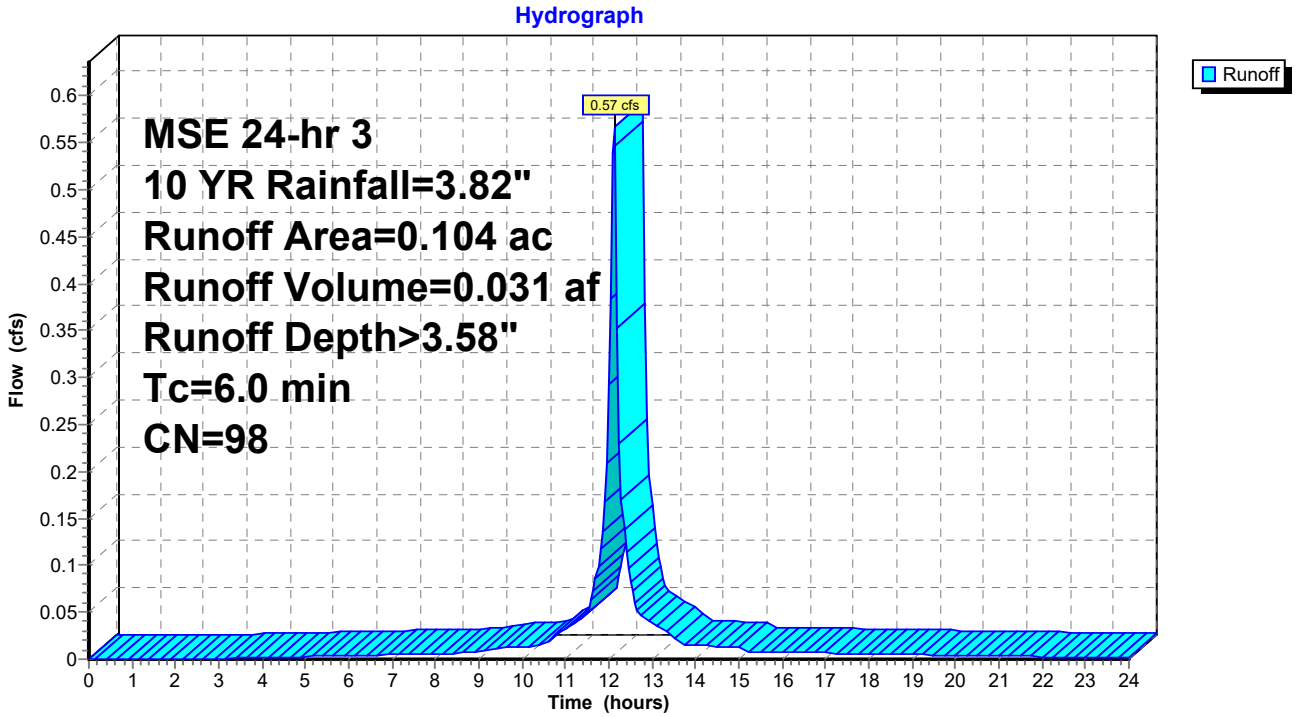
Runoff = 0.57 cfs @ 12.13 hrs, Volume= 0.031 af, Depth> 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	0.104	98	
	0.104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: PIPE BASIN 1



Summary for Subcatchment 2S: PIPE BASIN 2

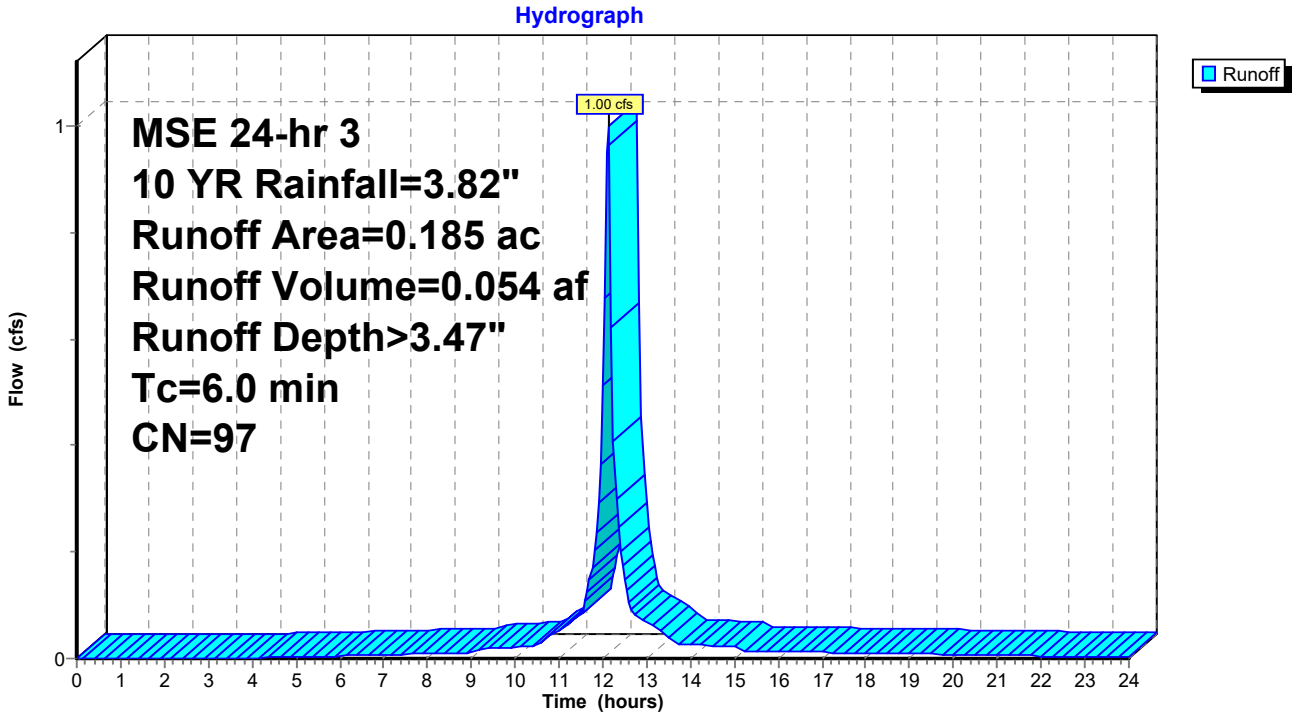
Runoff = 1.00 cfs @ 12.13 hrs, Volume= 0.054 af, Depth> 3.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	0.178	98	
*	0.007	74	
	0.185	97	Weighted Average
	0.007		3.78% Pervious Area
	0.178		96.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: PIPE BASIN 2



Summary for Subcatchment 3S: PIPE BASIN 3

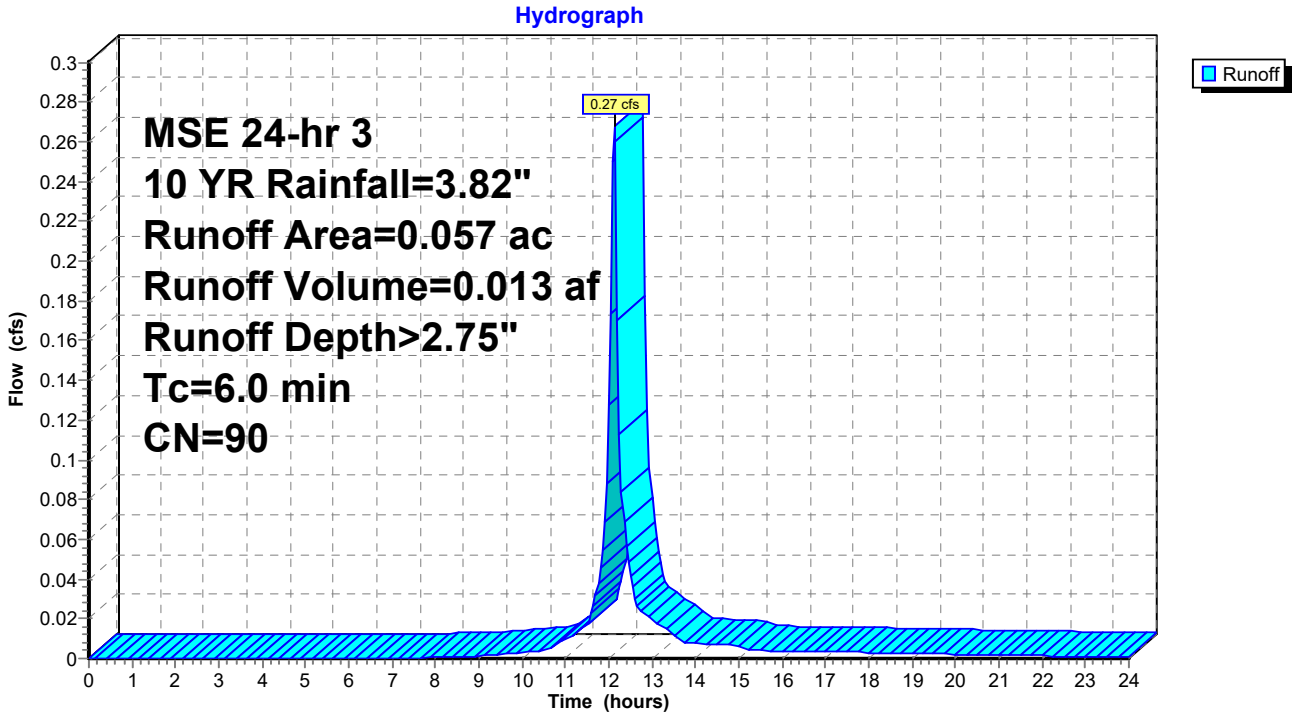
Runoff = 0.27 cfs @ 12.13 hrs, Volume= 0.013 af, Depth> 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	0.038	98	
*	0.019	74	
	0.057	90	Weighted Average
	0.019		33.33% Pervious Area
	0.038		66.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: PIPE BASIN 3



Summary for Subcatchment 4S: PIPE BASIN 4

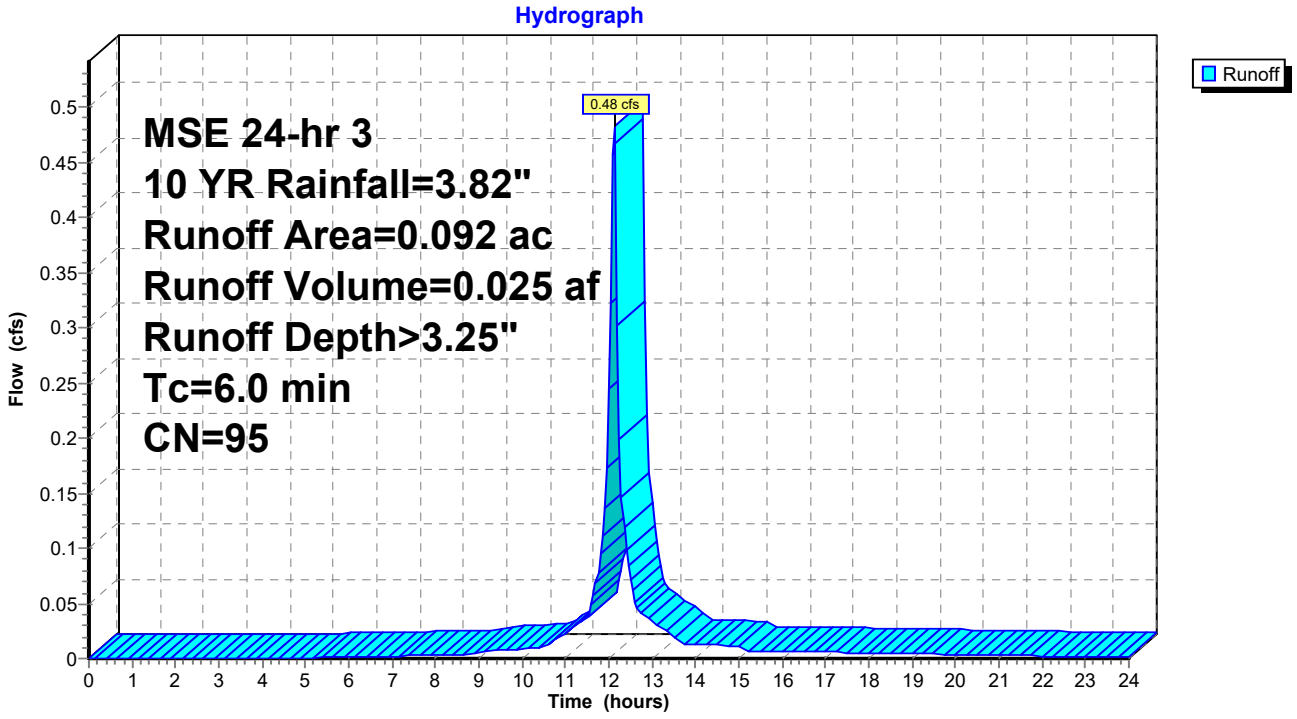
Runoff = 0.48 cfs @ 12.13 hrs, Volume= 0.025 af, Depth> 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	0.079	98	
*	0.013	74	
	0.092	95	Weighted Average
	0.013		14.13% Pervious Area
	0.079		85.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: PIPE BASIN 4



Summary for Subcatchment 5S: PIPE BASIN 5

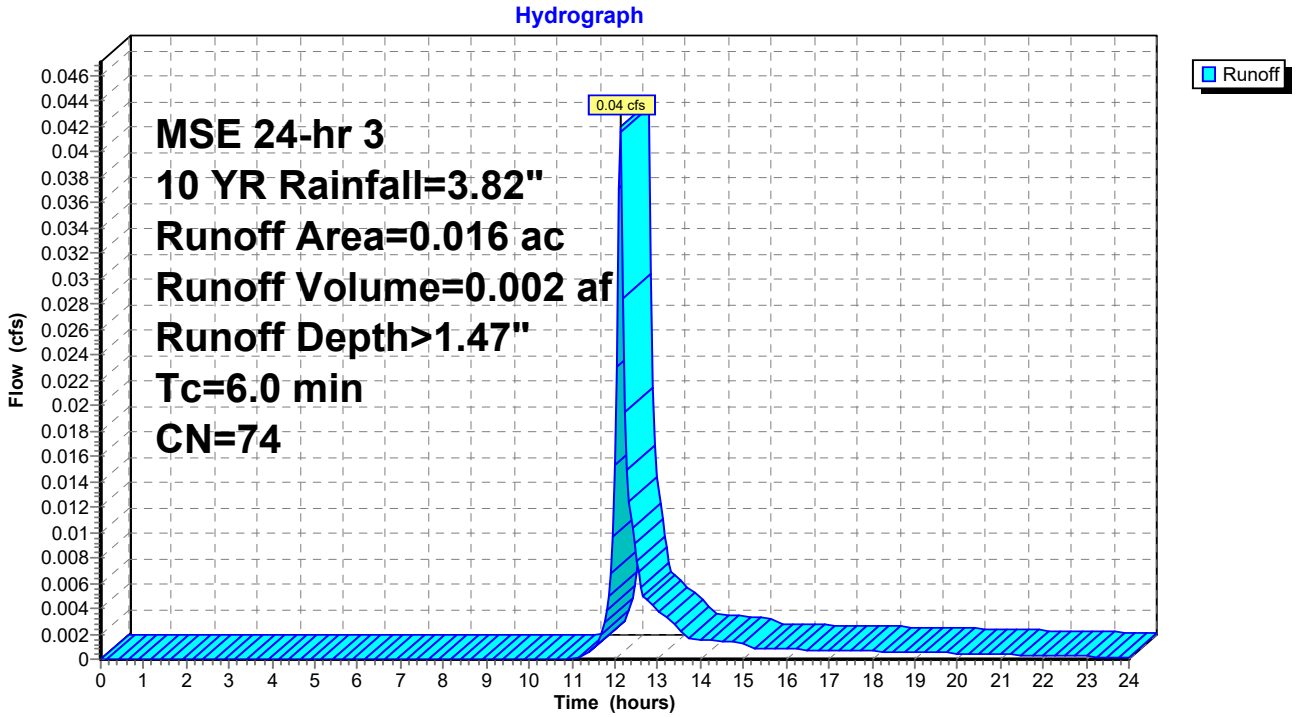
Runoff = 0.04 cfs @ 12.14 hrs, Volume= 0.002 af, Depth> 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	0.016	74	
	0.016		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: PIPE BASIN 5



Summary for Subcatchment 6S: PIPE BASIN 6

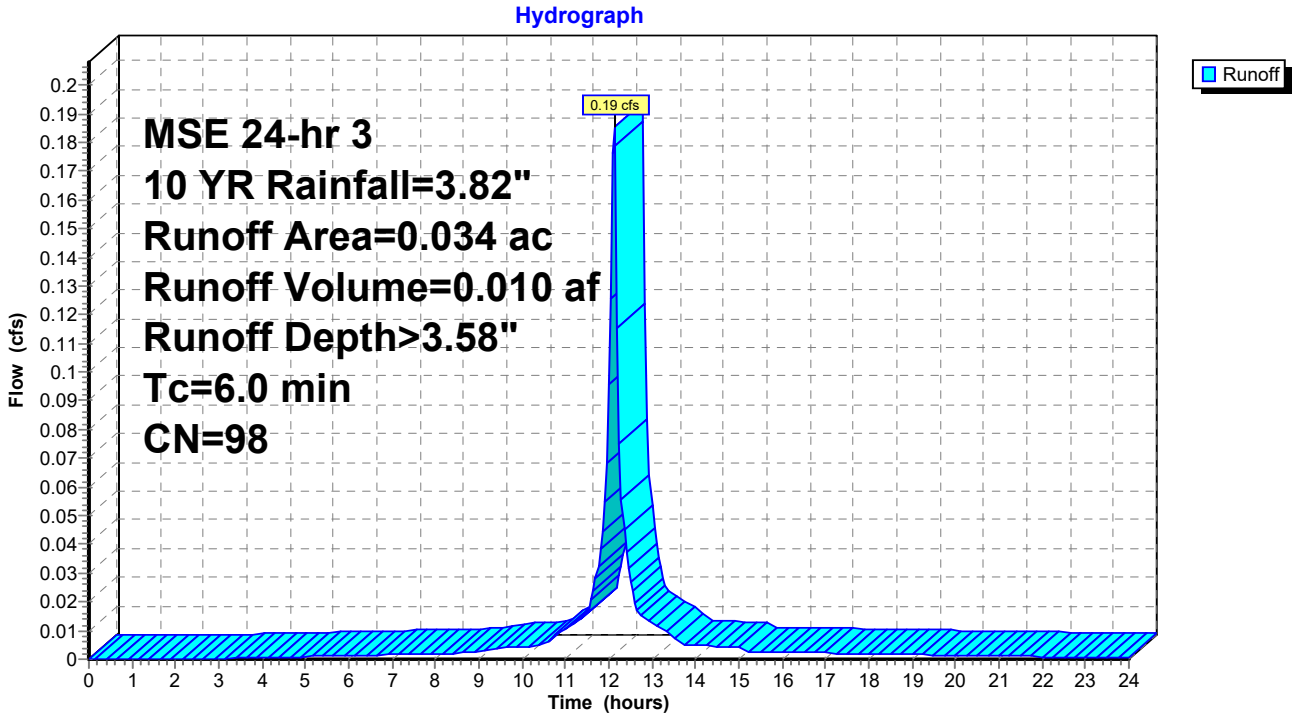
Runoff = 0.19 cfs @ 12.13 hrs, Volume= 0.010 af, Depth> 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10 YR Rainfall=3.82"

	Area (ac)	CN	Description
*	0.034	98	
	0.034		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: PIPE BASIN 6



Excel Engineering Project No. 230022600 Project Name Crew Carwash - Germantown

Pipe Data				Pipe Capacity (10-yr)				
Pipe ID	Diameter (FT)	Slope (FT/FT)	Manning's n	Contributing Basin Numbers	Total Flow (cfs)	Total Flow (gpm)	Full Flow Capacity (cfs)	Full Flow Capacity (gpm)
A	1	0.0053	0.012	1,2,3,4,5,6	2.55	1144	2.82	1264
B	0.67	0.0150	0.012	1	0.57	256	1.63	731
C	1	0.0050	0.012	3,4,5,6	0.98	440	2.74	1228
D	0.67	0.0050	0.012	6	0.19	85	0.94	422
E	0.83	0.0040	0.012	5	0.04	18	1.49	668
F	0.67	0.0055	0.012	3	0.27	121	0.99	443
G	0.67	0.0055	0.012	3	0.27	121	0.99	443

Full Flow Capacity based off Manning's Equation $Q = \frac{1.49}{n} R^{2/3} S^{1/2} a$

Where: Q = Full Flow Capacity of Pipe (cfs)
n = manning's roughness coefficient
R = hydraulic radius (ft) (D/4)
s = hydraulic gradient, slope (ft/ft)
a = flow area (sq. ft.)

Typical Manning's n	
HDPE	0.012
PVC	0.012
Concrete	0.013
CMP	0.024

Pipe Basin Number	10 Yr Flow (cfs)
1	0.57
2	1.00
3	0.27
4	0.48
5	0.04
6	0.19

*Total Flow calculated via TR-55 hydrologic calculations. Reference Storm Pipe Basin Map & TR-55 Calculations

Appendix D: Web Soil Survey Map

Map Scale: 1:507 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 20 40 80 120

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 23, Sep 8, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 4, 2022—Sep 13, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Cw	Colwood silt loam, 0 to 2 percent slopes	C/D	0.1	10.6%
MtA	Mequon silt loam, 1 to 3 percent slopes	C/D	1.1	89.0%
OuB	Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes	C	0.0	0.4%
Totals for Area of Interest			**1.2**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix E: Post Construction Operation and Maintenance Plan

The owner of the property affected shall inspect and maintain the following stormwater management systems frequently, especially after heavy rainfalls, but at least on an annual basis unless otherwise specified.	
STORMWATER FACILITY	**TYPE OF ACTION**
1. Lawn and Landscaped Areas	All lawn areas shall be kept clear of any materials that block the flow of stormwater. Rills and small gullies shall immediately be filled and seeded or have sod placed in them. The lawn shall be kept mowed, tree seedlings shall be removed, and litter shall be removed from landscaped areas.
2. Swales	All grassed swales showing signs of erosion, scour, or channelization shall be repaired, reinforced, and revegetated immediately. All swales shall be repaired to the original plan requirements. Mowing shall take place no less than twice per year at a height of no less than three inches. Grasses shall not be allowed to grow to a height that permits branching or bending. Mowing shall only take place when the ground is dry and able to support machinery.
3. Rip Rap	All rip rap showing signs of erosion or scour shall be repaired and reinforced immediately. Rip rap should be kept clean of vegetation and sediment. All rip rap shall be repaired to the construction plan requirements.
4. Catch Basin/Curb Inlet Grates	The grate openings to these structures must be kept cleared of any clogging or the blocking of stormwater flow.
5. Rain Garden	During the first 2-3 months of establishment, the garden will require, at a minimum, watering on a weekly basis depending on weather. Visual inspections of the garden shall be performed annually at a minimum and more frequently during establishment. Maintenance shall be required when standing water occurs 3 days after a rain event. Rain garden can be dewatered by utilizing a submersible pump in the maintenance port/drawdown device. Maintenance shall consist of the removal of sediment, and a 2 foot undercut. Replace the undercut material with 1/3 topsoil, 1/3 compost, and 1/3 sand. Restoration of plant material shall be by plugging 1 native perennial per square foot, not by seeding. In the spring of each growing year, dead vegetation shall be removed to allow for new growth. At least 2 times during the growing season, the garden should be weeded and additional hardwood mulch shall be added as needed to assist in weed suppression.
6. Record of Maintenance	The operation and maintenance plan shall remain onsite and be available for inspection when requested by the local governing agency. When requested, the owner shall make available for inspection all maintenance records to the department or agent for the life of the system.

Crew
CARWASH
Crew
CARWASH
9705
Clean Car Exit
Crew
CARWASH
Cashier
Cashier
Unlimited
Club
Unlimited
Club

Crew
CARWASH
Crew
CARWASH
9705
Clean Car Exit
Cashier
Cashier
Unlimited
Club
Unlimited
Club

Crew
CARWASH
Cashier
Cashier
Unlimited Club
Unlimited Club

Crew
CARWASH

Crew
CARWASH

Crew
CARWASH
Friendly

Village of Germantown ...Willkommen

Fee must accompany application

$275 Sign Review Fee

$ 75 Sign Face Replacement

Paid _____ Date_____

SIGN REVIEW APPLICATION

Pursuant to Section 17.46 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1

APPLICANT OR AGENT

SignCraft Industries
8816 Corporation Dr
Indianapolis, IN 46256
Insaller - TBD
Phone (317) 842-8664
Fax ( )
E-Mail mkelsey@signcraftind.com

PROPERTY OWNER

Crew Carwash
11650 Exit 5 Parkway
Fishers, IN 46037
Phone ( )

2

PROPERTY ADDRESS OR GENERAL LOCATION

N96 W 17500 County Line Rd, Germantown, WI 53022

3

SIGN INFORMATION

EC01

Sign Dimensions 5' height x 10' width Single/Multi Tenant (circle one)
Number of Sides 2 Building Frontage SF _____
Total Square Footage of Sign (include all sides) 100
Total height of the Sign 9.43'
Is the Sign to be illuminated x yes _____ no
Type of Sign Construction Materials Existing brick base, metal retainer, plactic face
Distance to Closest Property Line 10'

Are there any existing signs on the property Yes, monument sign
If yes, what is the total Square Footage of existing signs 50 sqft

What are the intentions for the existing signs: Take down _____ Remain and reface

4

SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Christina Blackwell 5/31/24
Applicant Date

_____
Owner Date

GERMANTOWN, WI

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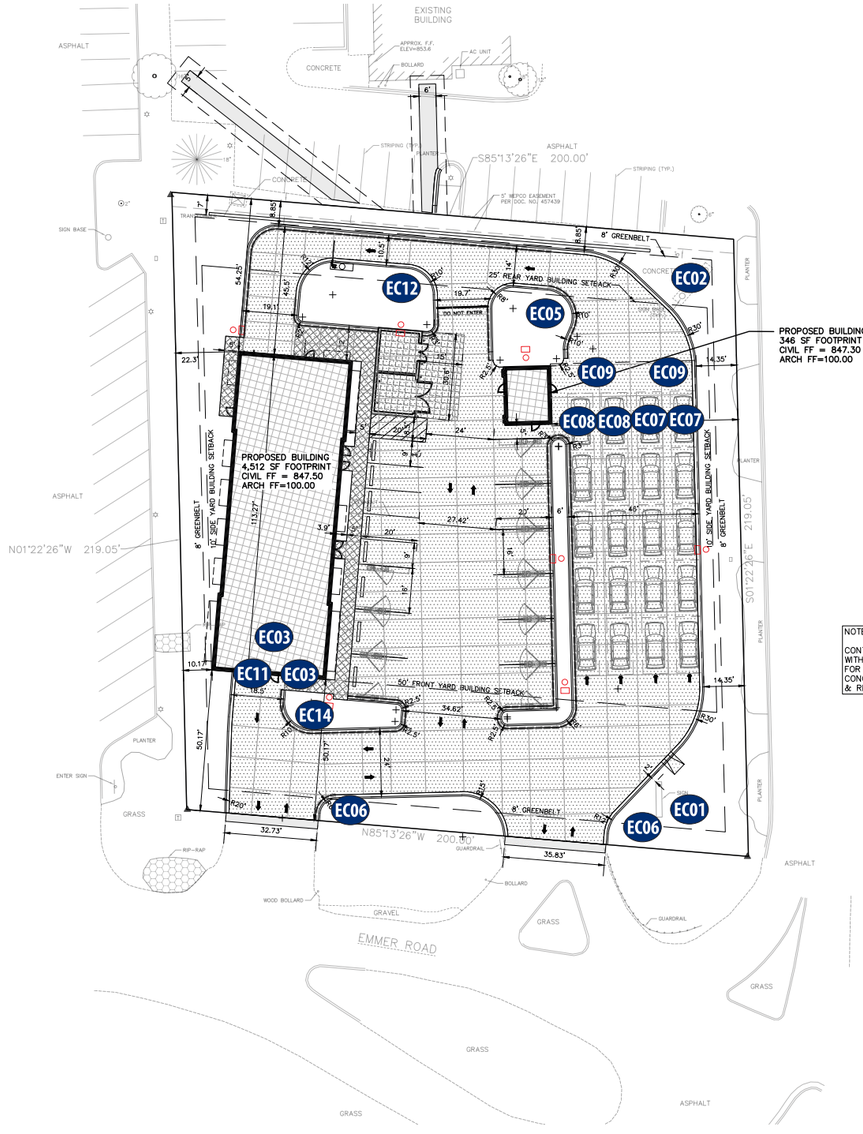
SITE MAP



NOTE:
CONTRACTOR TO COORDINATE WITH OWNER AND MEP PLANS FOR ANY EXTERIOR HEATED CONCRETE SLAB LOCATIONS & REQUIREMENTS.

NOTE:
KNOX BOX TO BE PROVIDED AT PRIMARY ENTRANCE PER LOCAL REQUIREMENTS. CONTRACTOR TO COORDINATE W/ BUILDING INSPECTOR/FIRE DEPARTMENT FOR SPECIFIC REQUIREMENTS.

PAVEMENT HATCH KEY:
- ASPHALT
- HEAVY DUTY CONCRETE
- DUMPSTER PAD CONCRETE
- SIDEWALK CONCRETE

*SEE SHEET C0.1 FOR SECTION REQUIREMENTS

CURB & GUTTER MARKING KEY:
- INVERTED CURB & GUTTER
- SHEDDING CURB & GUTTER

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

SITE INFORMATION:

PROPERTY ADDRESS: N96W17500 COUNTY LINE RD, GERMANTOWN WI

PARCEL ID NUMBER: 334990

PROPERTY AREA: 43,558 S.F. (1.00 ACRES).

EXISTING ZONING: B-5 W/ HIGHWAY INTERCHANGE AREA OVERLAY

PROPOSED ZONING: B-5 W/ HIGHWAY INTERCHANGE AREA OVERLAY

PROPOSED USE: CONVEYOR-STYLE CARWASH

AREA OF SITE DISTURBANCE: 43,346 SF (0.995 AC)

SETBACKS: BUILDING: FRONT = 50'
SIDE = 10'
REAR = 25'

PAVEMENT: FRONT = 8'
SIDE = 8'
REAR = 8'

PROPOSED BUILDING HEIGHT: 35' TO TOP OF TOWER (MAX. HEIGHT ALLOWED: 35')

PARKING REQUIRED: NO CODIFIED REQUIREMENT FOR CARWASH USE; ADEQUATE SPACE FOR EMPLOYEES AND CUSTOMERS

PARKING PROVIDED: 14 TOTAL (5 STANDARD EMPLOYEE SPACES, 9 VACUUM SPACES)

HANDICAP STALLS REQUIRED: 1 REQUIRED, 1 PROVIDED

LANDSCAPE REQUIREMENTS: MIN. LANDSCAPE SURFACE RATIO = 20% OPEN AREA

NORTH
1"= 20' SCALE 20' 0 20' 40' FEET

CIVIL SITE PLAN

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

PROJECT INFORMATION

PROPOSED CAR WASH FOR:
CREW CARWASH
N96 W17500 COUNTY LINE RD • GERMANTOWN, WI 53022

PROFESSIONAL SEAL

PRELIMINARY DATES
FEB. 1, 2024
FEB. 5, 2024

NOT FOR CONSTRUCTION

JOB NUMBER
230022600

SHEET NUMBER
C1.1

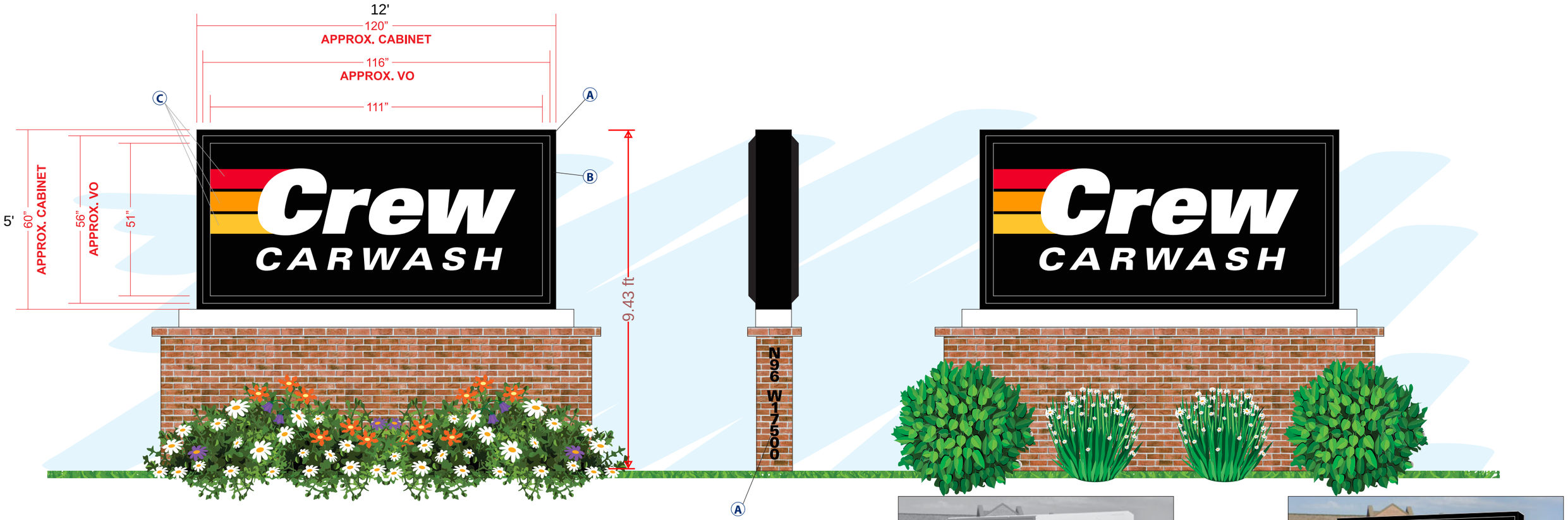
2021 © EXCEL ENGINEERING, INC.

SIGN SPECIFICATIONS

EC01	EXISTING MONUMENT
EC02	EXISTING PYLON
EC03	2 CHANNEL LETTERS
~~EC04~~	~~EXIT CHANNEL LETTERS~~
EC05	DIGITAL MENU BOARD
EC06	2 DIRECTIONAL SIGNS
EC07	2 UNLIMITED CLUB SETS
EC08	2 CASHIER SETS
EC09	4 SNAP FRAMES
EC10	2 SPECIAL SERVICE SIGNS
EC11	CLEAN CAR EXIT
EC12	WE ARE RESPONSIBLE SIGN
EC13	CLEARANCE BAR
EC14	VACUUMS SIGN
EC15	COMING SOON SITE SIGN

A
B
C
D
E
F
G
H
I
J

EC01



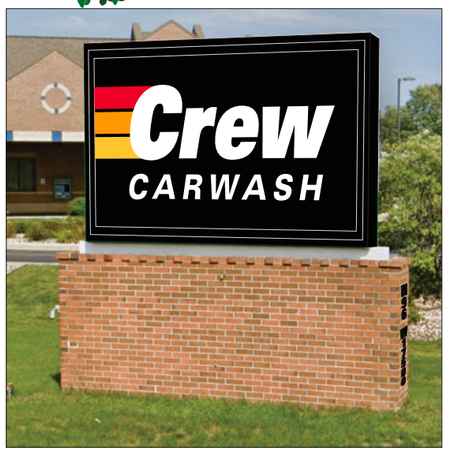


PHOTO SCALE: 3/16" = 1' - 0"

***NOTE: BRICK BASE AND CABINET ARE EXISTING**

***NOTE: A SURVEY IS NEEDED TO DETERMINE SIZE OF NEW FACES**

***NOTE: CABINET TO BE REPAINTED BLACK**

FABRICATE AND INSTALL QTY 2 NEW FACES FOR EXISTING D/F MONUMENT SIGN
Area: 50 sqft

FACES

MATERIAL - PAN FORMED, EMBOSSED PLASTIC TO MATCH SPECS

FLANGE - 2 1/2"

PAN DEPTH - 2"

INSTALLATION - MOUNTED INTO RIGID RETAINERS

FABRICATE AND INSTALL QTY 2 NEW SETS OF ADDRESS NUMBERS

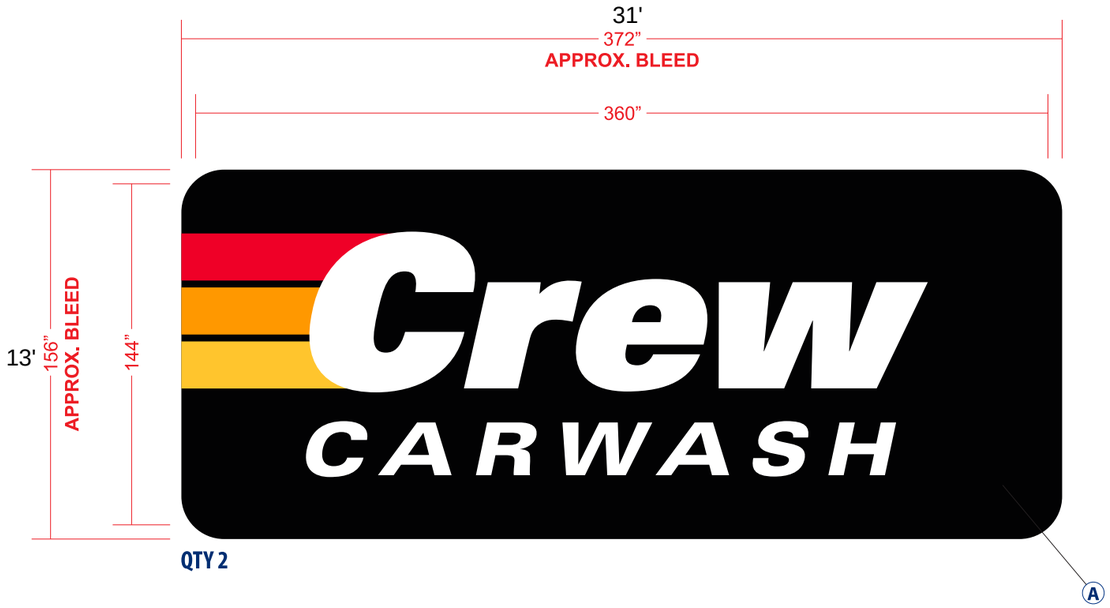
FACES - 1/2" BLACK PVC PAINTED TO MATCH SPECS

INSTALLATION - MOUNTED FLUSH TO EXISTING BRICK BASE

Ⓐ
Ⓑ
Ⓒ
Ⓓ
Ⓔ
Ⓕ
Ⓖ
Ⓗ
Ⓘ
Ⓙ

ART SCALE: 3/8" = 1' - 0"

EC02



QTY 2

PHOTO SCALE: 1/16” = 1’ - 0”

***NOTE: A SURVEY IS NEEDED TO DETERMINE SIZE OF NEW FACES**

***NOTE: PYLON TO BE REPAINTED BLACK**

Area: 360 sqft

FABRICATE AND INSTALL QTY 2 NEW FACES FOR EXISTING D/F PYLON SIGN

FACES
MATERIAL - FLEX FACE MATERIAL PRINTED TO MATCH SPECS

INSTALLATION - MOUNTED INTO EXISTING RIGID RETAINERS

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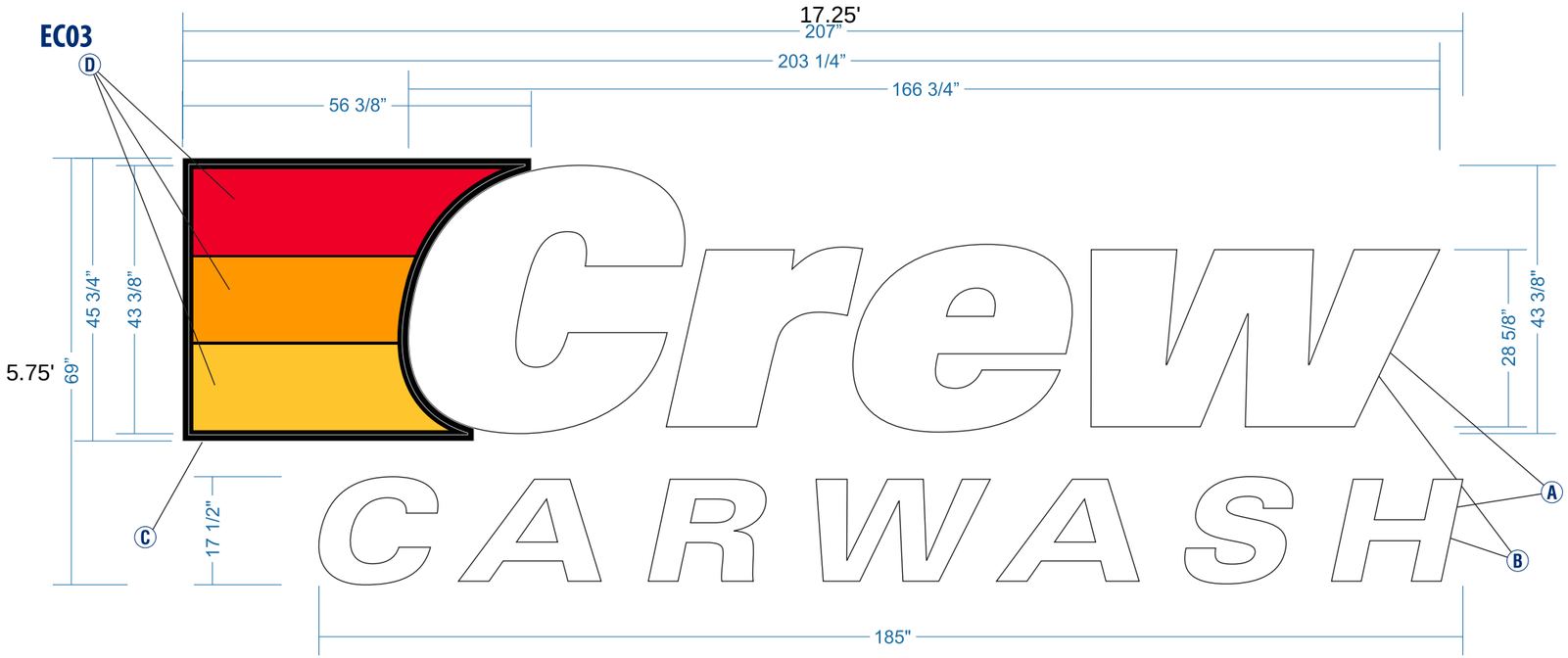
ART SCALE: 3/16” = 1’ - 0”

EC03



99.19 SQ FT PER SIGN (198.38 SQ FT TOTAL)
FABRICATE AND INSTALL QTY 2 INTERNALLY ILLUMINATED FACE-LIT BUILDING SIGNS

RIBBON CABINET
BODY - 1” ALUMINUM ANGLE SKINNED IN .090 ALUMINUM
RETURNS - 3”TO MATCH SPECS
RETAINERS - 1” RIGID RETAINERS TO MATCH SPECS
LEDS - WHITE - **ADD EXTRA LEDS**

INSTALLATION - MOUNTED FLUSH TO FASCIA

RIBBON FACES
MATERIAL - PAN FORMED, EMBOSSED PLASTIC PAINTED SECOND SURFACE TO MATCH SPECS
FLANGE - 1 1/4”
PAN DEPTH - 1”

INSTALLATION - MOUNTED INTO RIGID RETAINERS

“CREW” & “CARWASH”
FACES - 1/8” 2447 WHITE ACRYLIC
RETURNS - 4”TO MATCH SPECS
TRIM CAPS - 1”TO MATCH SPECS
BACKS - .063 ALUMINUM
LEDS - WHITE

INSTALLATION - MOUNTED FLUSH TO FASCIA

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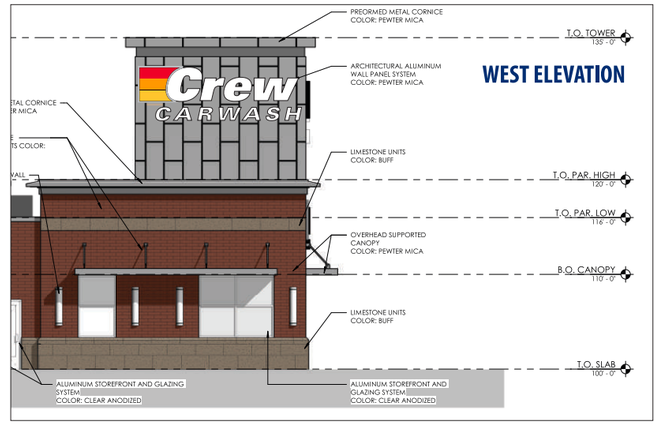


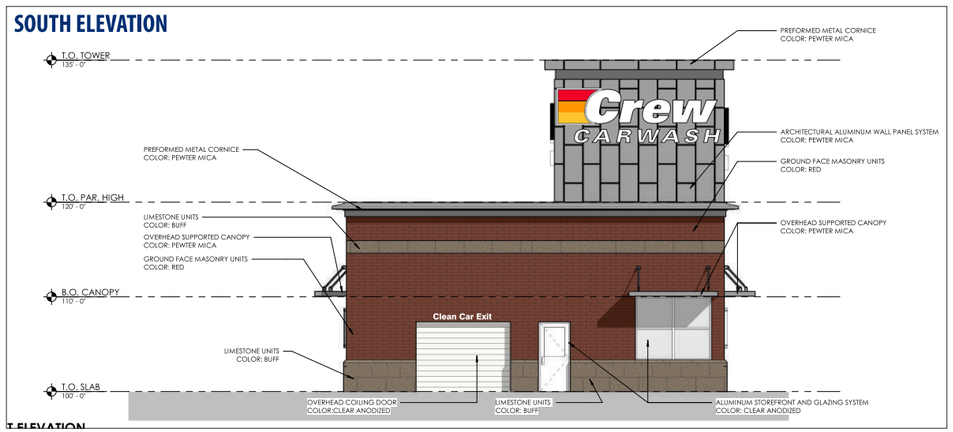
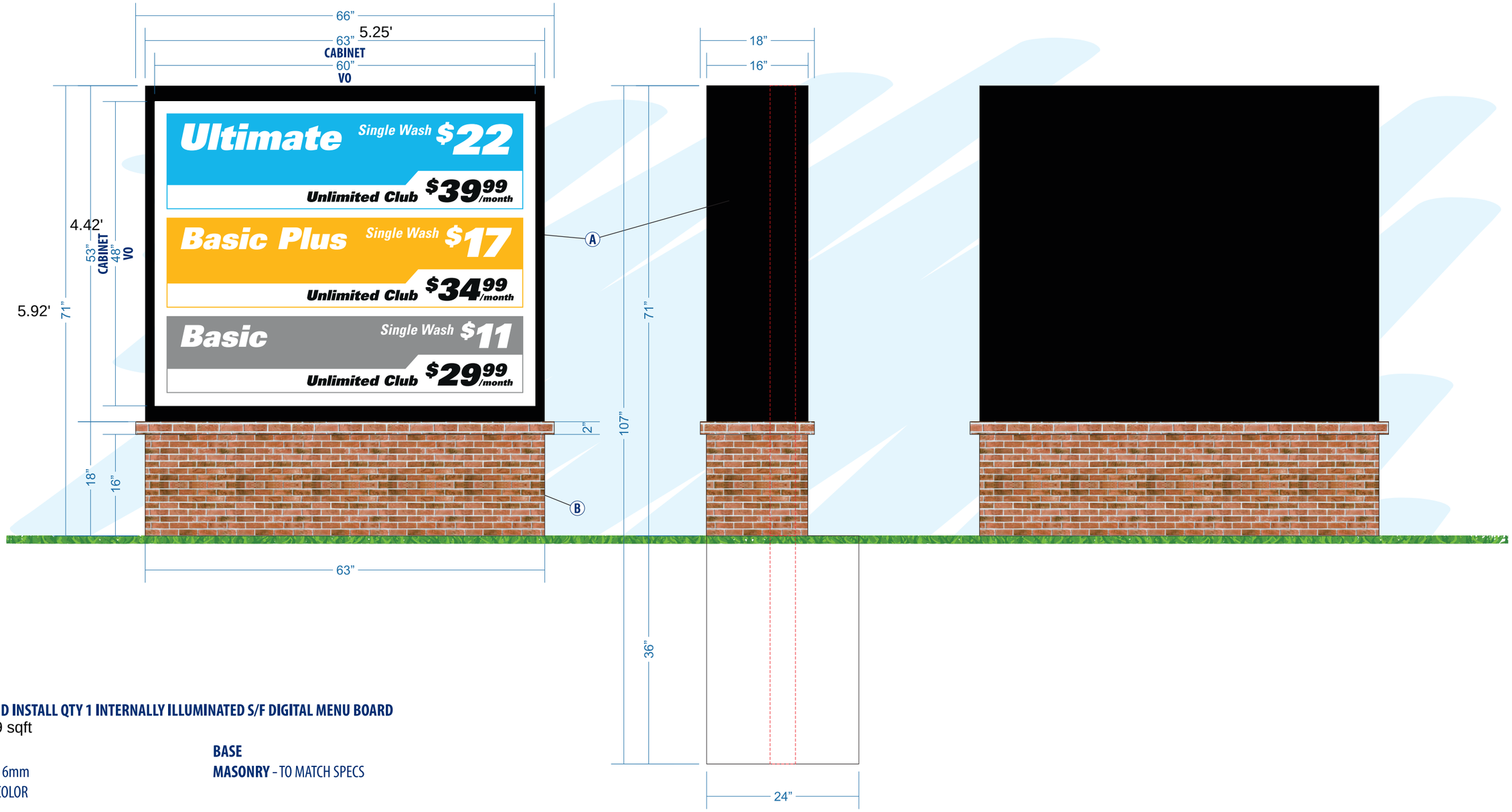


PHOTO SCALE: 1/16” = 1’ - 0”

ART SCALE: 1/2” = 1’ - 0”

EC05



FABRICATE AND INSTALL QTY 1 INTERNALLY ILLUMINATED S/F DIGITAL MENU BOARD
Area: 23.19 sqft

EMC
RESOLUTION - 6mm
COLOR - FULL COLOR
DEPTH - 5”

BASE
MASONRY - TO MATCH SPECS

INSTALLATION - MOUNTED TO SIGN BASE & POST

INSTALLATION - MOUNTED AROUND 4” SCH 40 PIPE BURIED INTO GRADE

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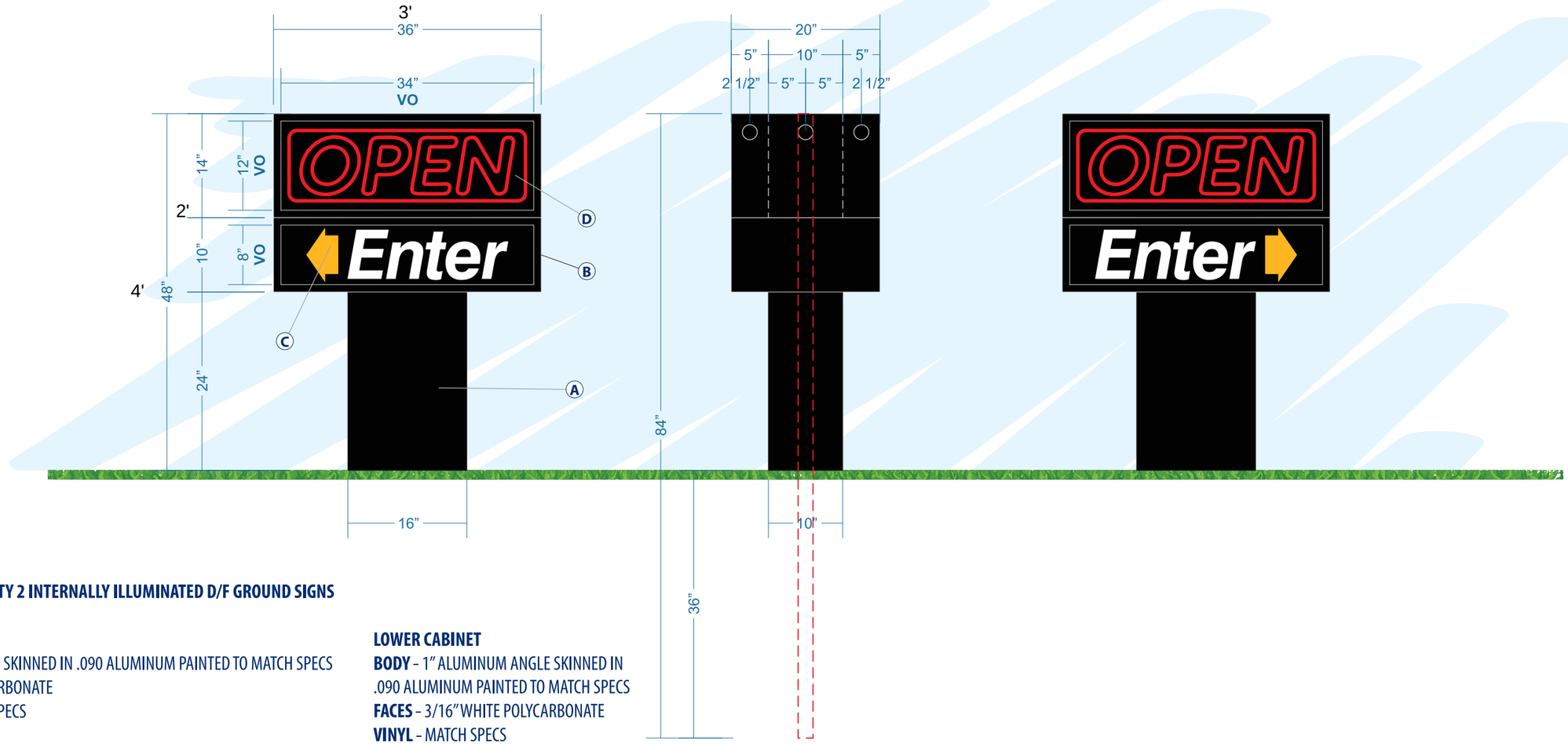
ART SCALE: 3/4” = 1’ - 0”

EC06



6 SQ FT
FABRICATE AND INSTALL QTY 2 INTERNALLY ILLUMINATED D/F GROUND SIGNS

UPPER CABINET
BODY - 1" ALUMINUM ANGLE SKINNED IN .090 ALUMINUM PAINTED TO MATCH SPECS
FACES - 3/16" CLEAR POLYCARBONATE
RETAINERS - 1"TO MATCH SPECS
NEON - 12 MM RED

INSTALLATION - BAFFLE & DIVIDER NEEDED BETWEEN TOP AND BOTTOM CABINETS

BASE
BODY - 1" ALUMINUM ANGLE SKINNED IN .090 ALUMINUM PAINTED TO MATCH SPECS

INSTALLATION - INSTALLED AROUND 2" SQ ALUMINUM POST BURIED INTO GRADE

LOWER CABINET
BODY - 1" ALUMINUM ANGLE SKINNED IN .090 ALUMINUM PAINTED TO MATCH SPECS
FACES - 3/16"WHITE POLYCARBONATE
VINYL - MATCH SPECS
RETAINERS - 1"TO MATCH SPECS

INSTALLATION - MOUNTED TO BASE & POST

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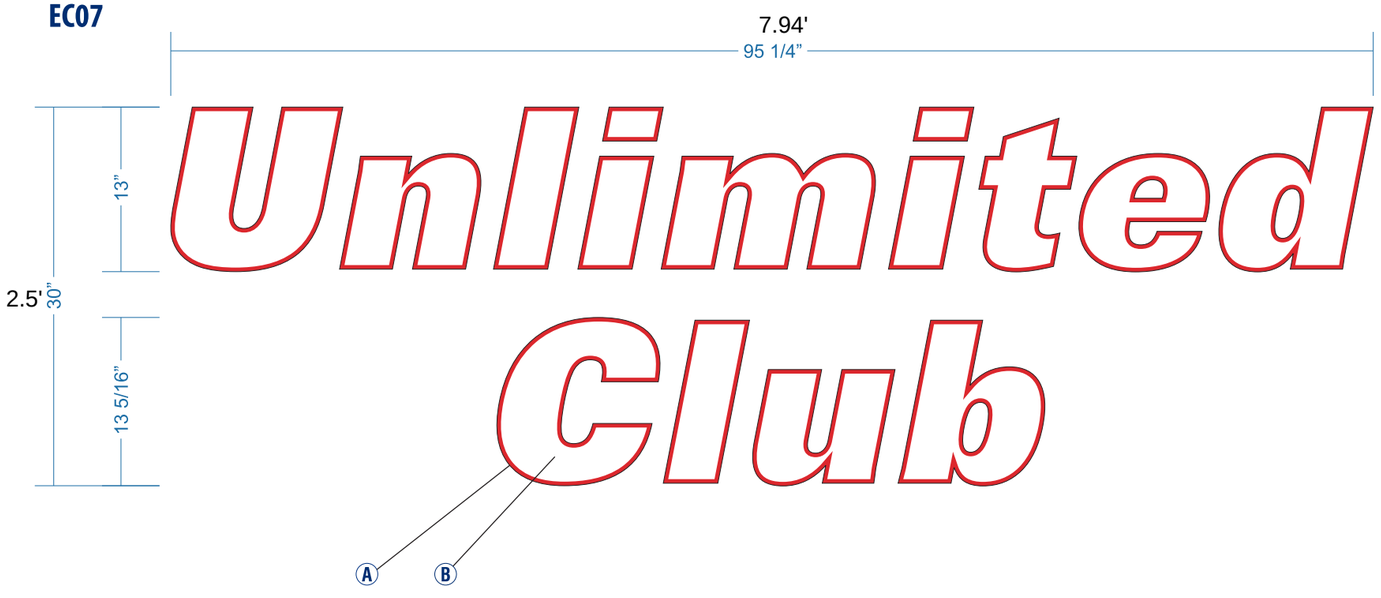
ART SCALE: 3/4" = 1' - 0"

EC07



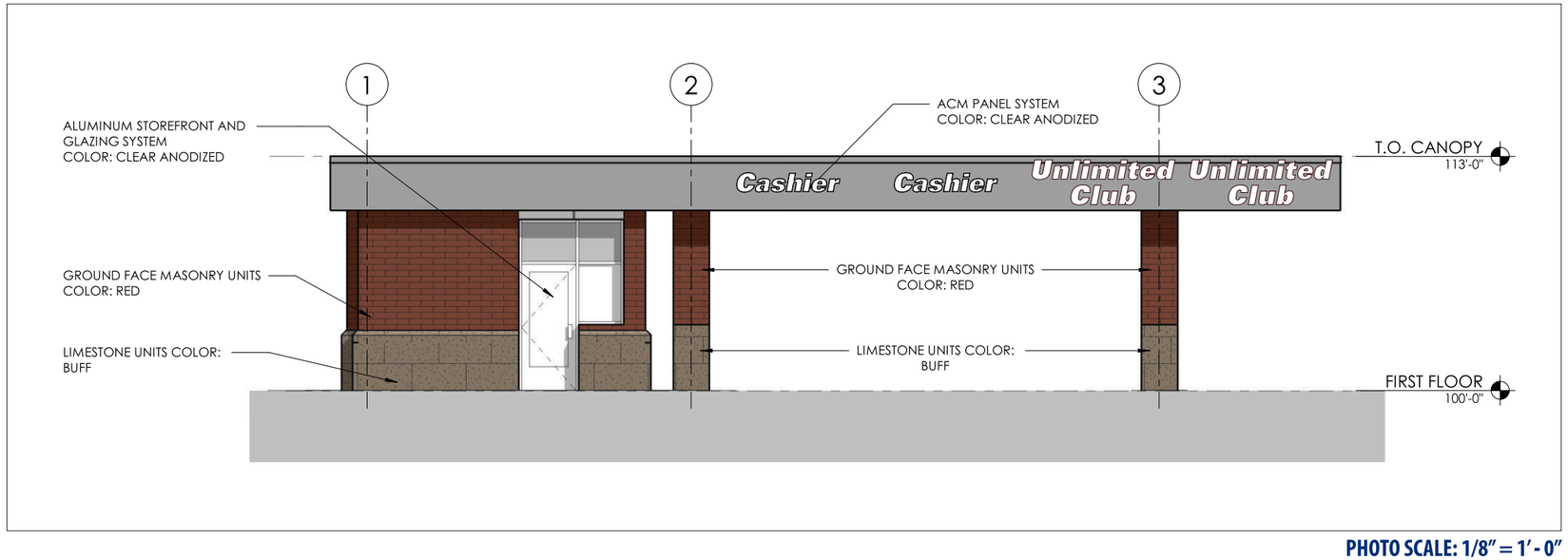


PHOTO SCALE: 1/8" = 1' - 0"

FABRICATE AND INSTALL QTY 2 NON-ILLUMINATED LETTER SETS

FACES - 1" WHITE PVC PAINTED TO MATCH SPECS
VINYL - MATCH SPECS

INSTALLATION - MOUNTED FLUSH TO CANOPY

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ART SCALE: 1" = 1' - 0"

EC08

FABRICATE AND INSTALL QTY 2 NON-ILLUMINATED LETTER SETS

FACES - 1” WHITE PVC PAINTED TO MATCH SPECS
VINYL - MATCH SPECS

INSTALLATION - MOUNTED FLUSH TO CANOPY

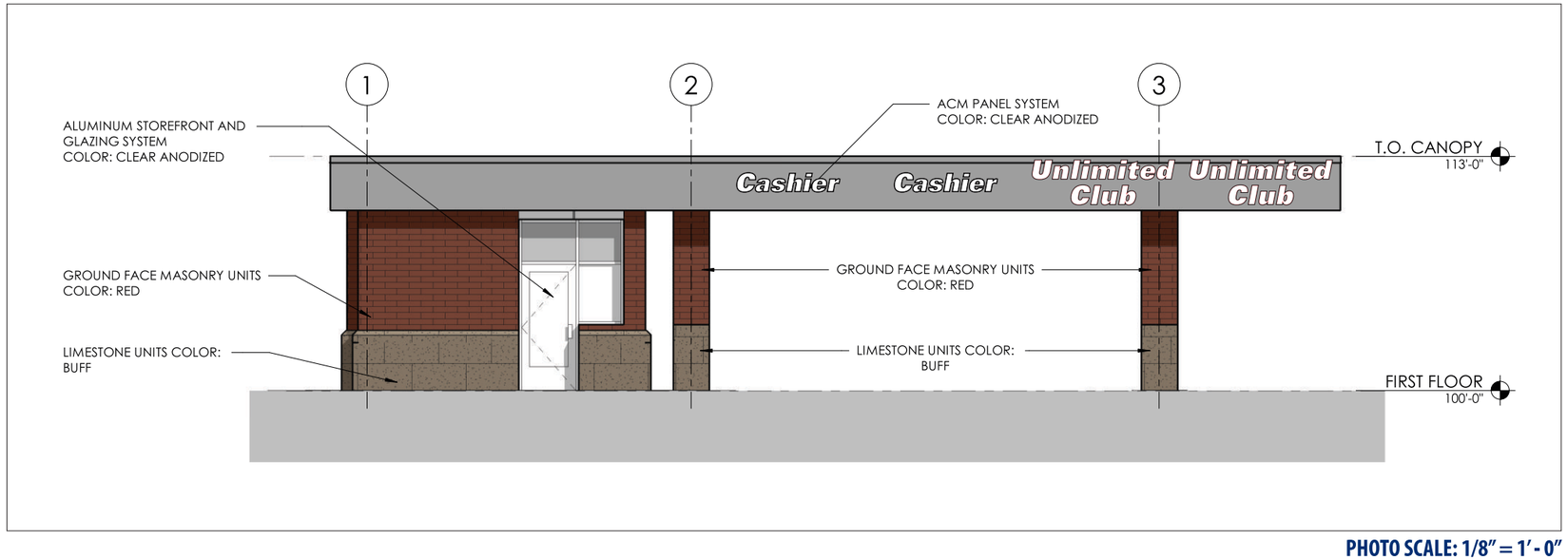

PHOTO SCALE: 1/8” = 1’ - 0”

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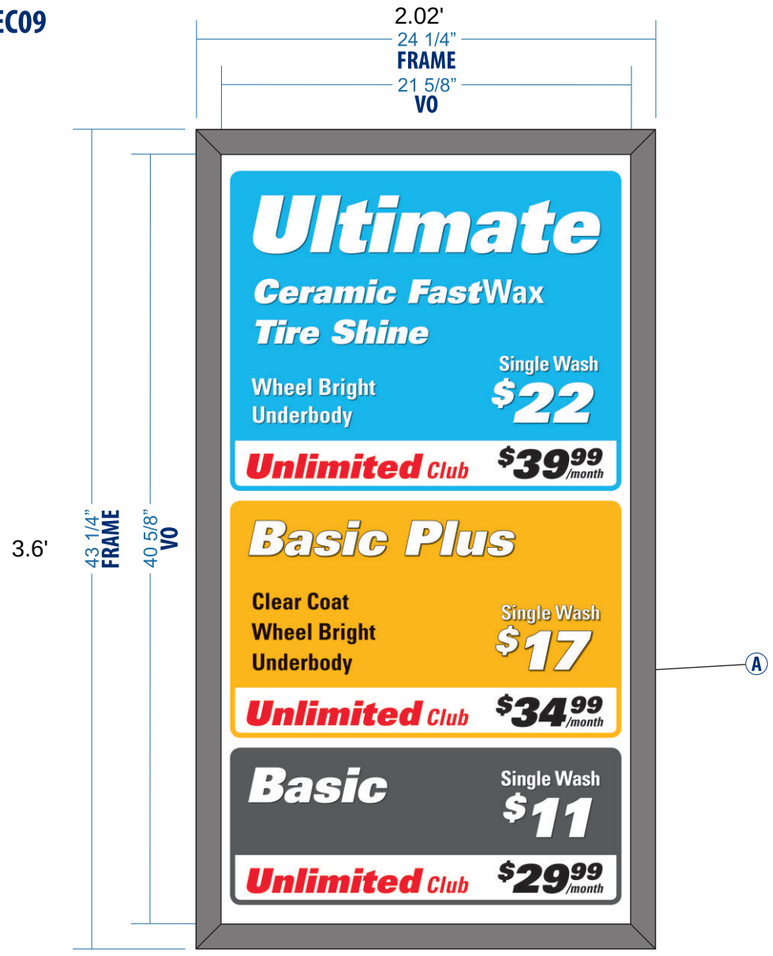
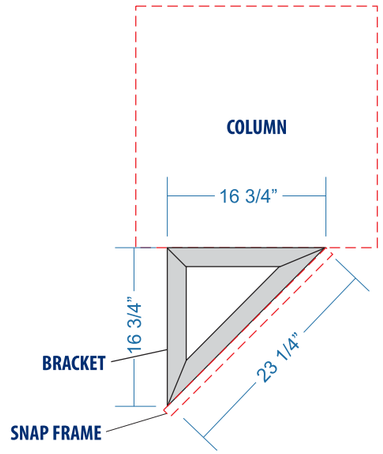
ART SCALE: 1” = 1’ - 0”

EC09



ASSEMBLED SIGN

DIBOND FACE ONLY



FABRICATE AND INSTALL QTY 4 SNAP FRAMES

BODY
SIGN COMP KIT - 1899 & 1869A PAINTED TO MATCH SPECS

INSTALLATION - QTY 2 FRAMES FLUSH MOUNTED TO COLUMNS, QTY 2 FRAMES ANGLED OFF COLUMNS

FACES
MATERIAL - 3MM WHITE DIBOND
VINYL - MATCH SPECS

INSTALLATION - MOUNTED INTO SNAP FRAMES

ANGLED BRACKETS
BODY - 2" ALUMINUM ANGLE

INSTALLATION - MOUNTED TO SNAP FRAME AND COLUMN

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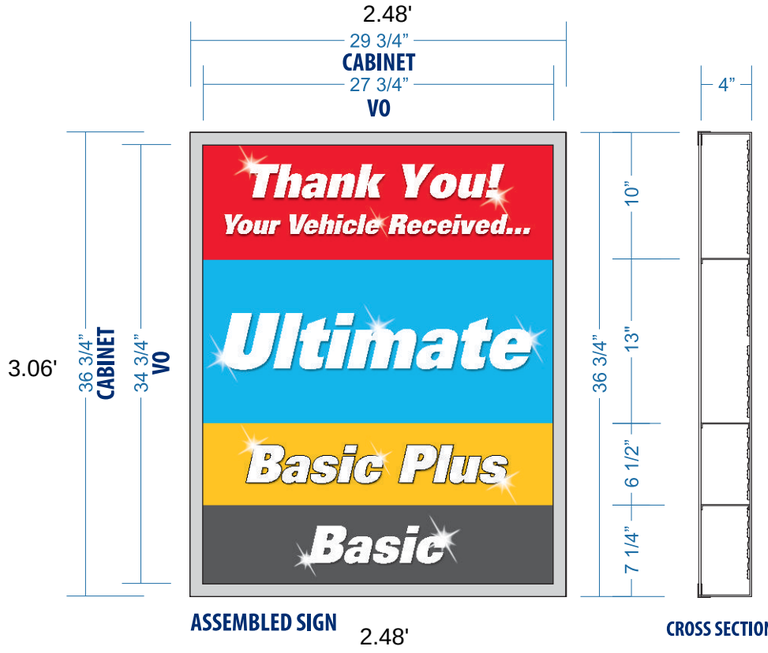
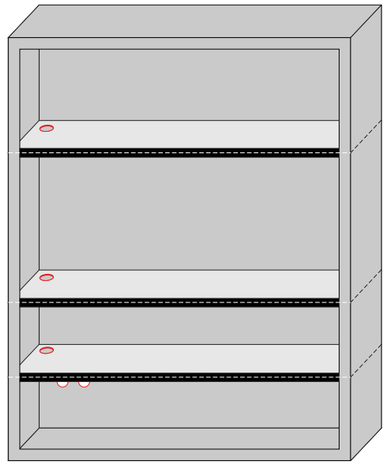
ART SCALE: 1-1/2" = 1' - 0"

EC10

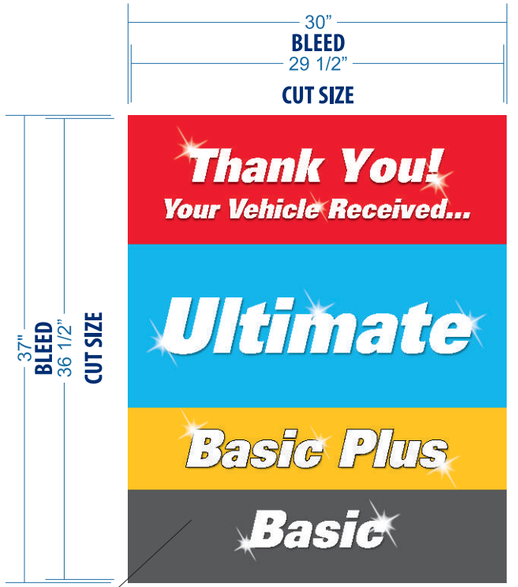


ASSEMBLED SIGN

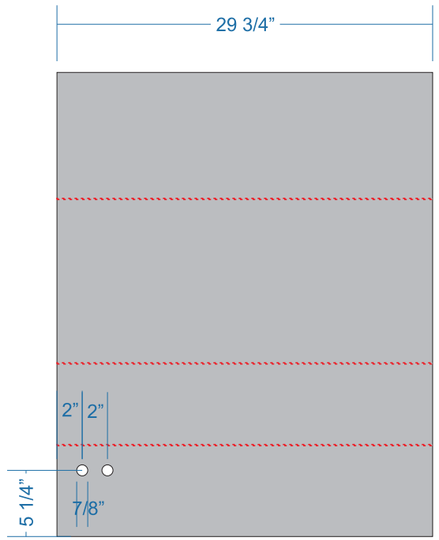
CROSS SECTION



NOT TO SCALE
ISOMETRIC VIEW OF TUNNEL CABINET SIGNS

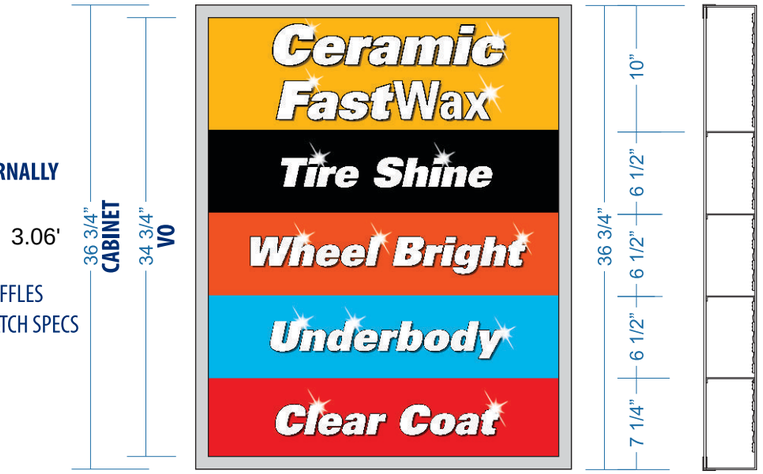


TUNNEL A FACE - QTY 1



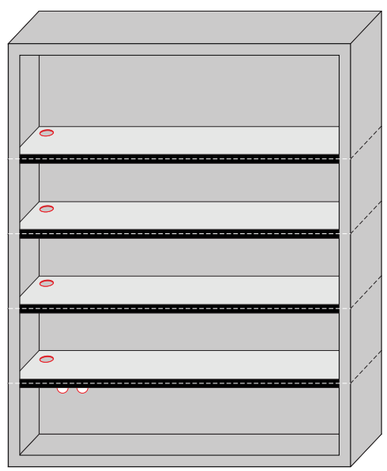
TUNNEL A BACK - QTY 1

TUNNEL A & B DIVIDERS TOP VIEW - QTY 7

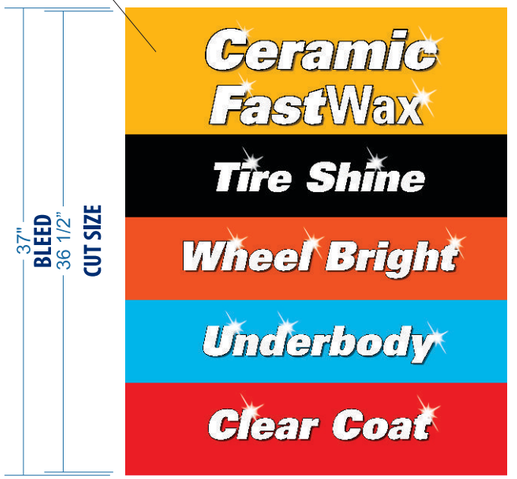


ASSEMBLED SIGN

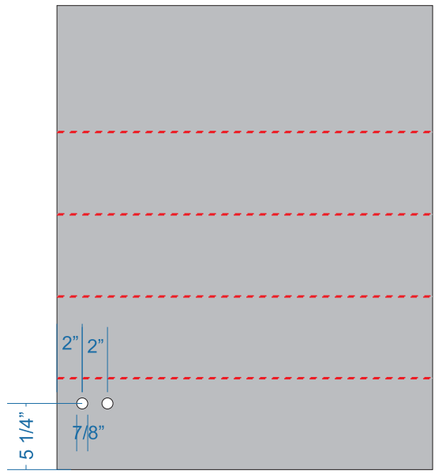
CROSS SECTION



NOT TO SCALE
ISOMETRIC VIEW OF TUNNEL CABINET SIGNS



TUNNEL B FACE - QTY 1



TUNNEL B BACK - QTY 1

FABRICATE AND DELIVER QTY 2 INTERNALLY ILLUMINATED S/F CABINET SIGNS

STRUCTURE
BODY - STAINLESS STEEL BODY WITH BAFFLES
RETAINERS - 1" STAINLESS STEEL TO MATCH SPECS
DEPTH - 5"
LEDS - PRINCIPLE IP68 WHITE

FACES
MATERIAL - 3/16" CLEAR ACRYLIC
VINYL - MATCH SPECS

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ART SCALE: 1" = 1' - 0"

EC11

FABRICATE AND INSTALL QTY 1 NON-ILLUMINATED LETTER SET

FACES - 1”WHITE PVC PAINTED TO MATCH SPECS

INSTALLATION - MOUNTED FLUSH TO FASCIA

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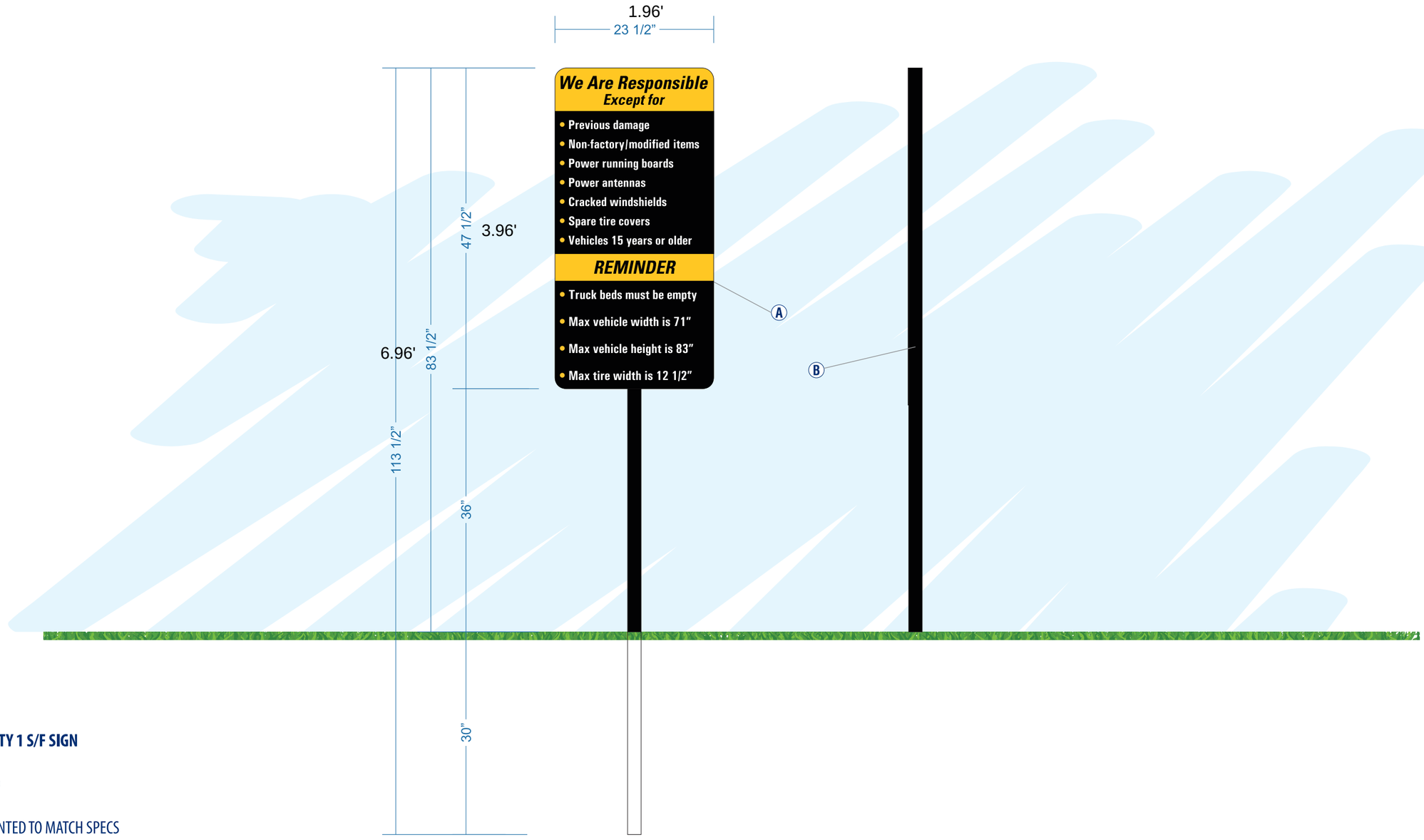
SW ELEVATION

PHOTO SCALE: 1/16” = 1’ - 0”

ART SCALE: 1-1/2” = 1’ - 0”

EC12



FABRICATE AND INSTALL QTY 1 S/F SIGN

FACES - 3MM BLACK DIBOND
VINYL - MATCH SPECS
POST - 2” SQ ALUMINUM PAINTED TO MATCH SPECS

INSTALLATION - FACE MOUNTED TO POST, POST BURIED INTO GRADE

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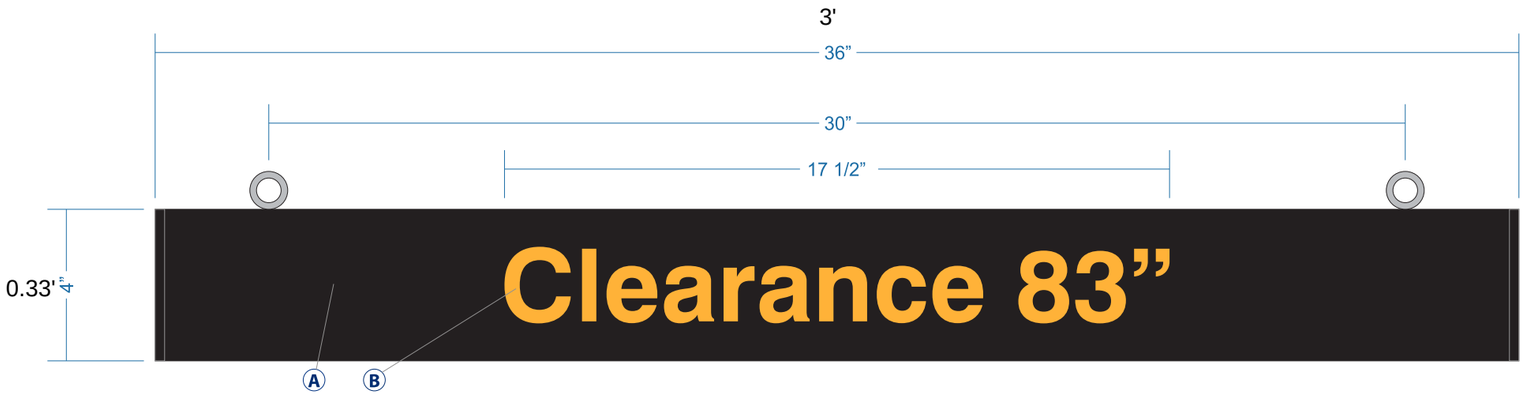
ART SCALE: 3/4” = 1’ - 0”

EC13



FABRICATE AND INSTALL QTY 1 S/F CLEARANCE BAR

MATERIAL - 4” ROUND PVC PIPE WITH CAPS ON ENDS AND PAINTED TO MATCH SPECS
EYE HOOKS - STAINLESS STEEL
VINYL - TO MATCH SPECS

INSTALLATION - HUNG WITH AIRCRAFT CABLE 83” ABOVE GRADE

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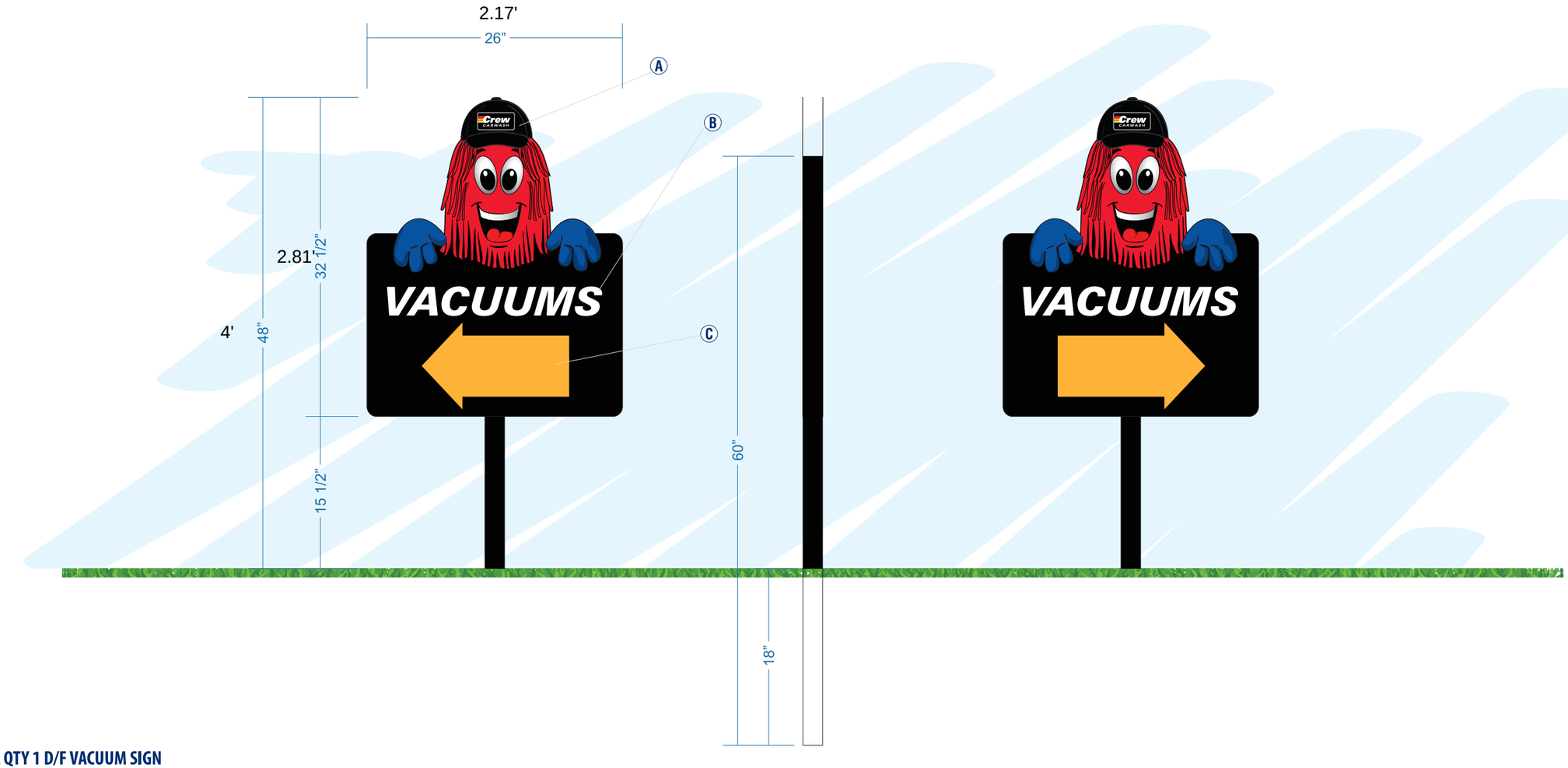
ART SCALE: 3” = 1’ - 0”

EC14



5.87 SQ FT
FABRICATE AND INSTALL QTY 1 D/F VACUUM SIGN

FACES - 3MM BLACK DIBOND PRINTED TO MATCH SPECS
VINYL - MATCH SPECS
POST - 2” SQ ALUMINUM PAINTED TO MATCH SPECS

INSTALLATION - FACES MOUNTED TO POST, POST BURIED INTO GRADE

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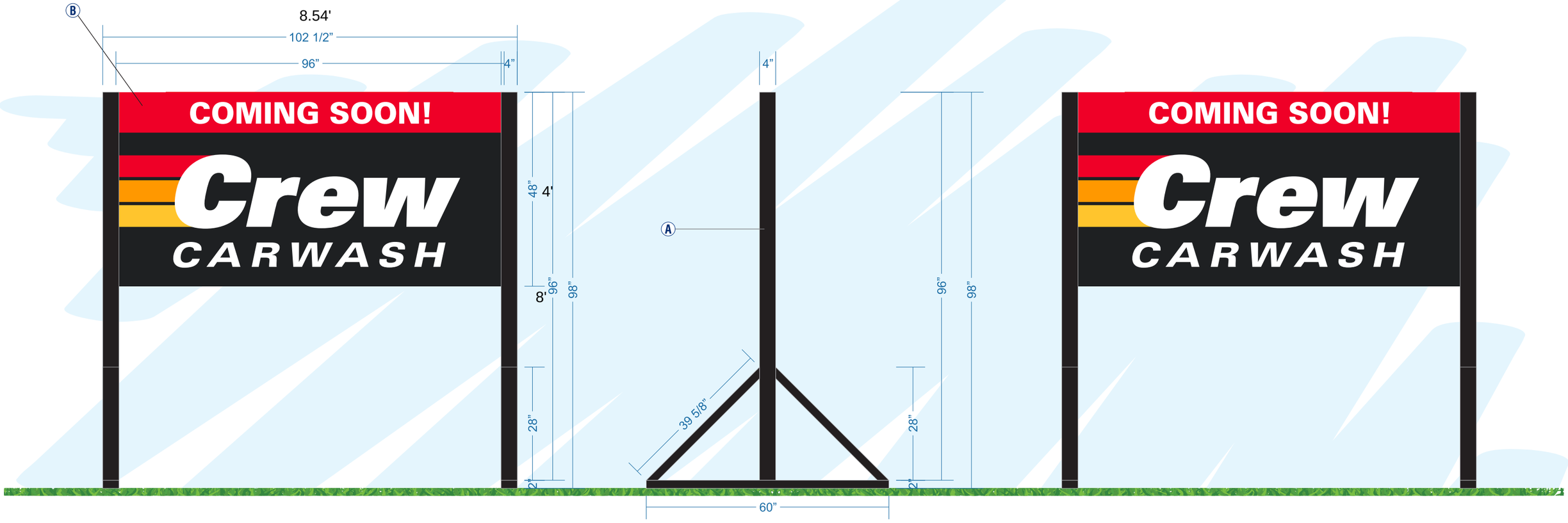
ART SCALE: 1” = 1’ - 0”

EC15



FABRICATE AND INSTALL QTY 1 D/F STANDING SIGN POSTS W/ SANDBAGS

FACES - 1/2” ALUMCORE PRINTED TO MATCH SPECS

POSTS - QTY 3 - 10’ 2x4 TREATED WOOD PAINTED TO MATCH SPECS
QTY 2 - 8’ 4x4 POSTS PAINTED TO MATCH SPECS

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ART SCALE: 1/2” = 1’ - 0”